

## wwPDB EM Validation Summary Report (i)

## Mar 24, 2025 - 02:33 pm GMT

PDB ID : 8R59EMDB ID : EMD-18904 Title : Structure of the Co(II) triggered TRAP (S33HK35H) protein cage (levo form) : Biela, A.P.; Heddle, J.G. Authors Deposited on 2023-11-16 : Resolution 2.86 Å(reported) : Based on initial model 4v4f :

This is a wwPDB EM Validation Summary Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org* A user guide is available at https://www.wwpdb.org/validation/2017/EMValidationReportHelp with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (1)) were used in the production of this report:

:	0.0.1.dev117
:	4.02b-467
:	20231227.v01 (using entries in the PDB archive December 27th 2023)
:	1.9.13
:	Engh & Huber (2001)
:	Parkinson et al. (1996)
:	2.41.5
	: : : :

## 1 Overall quality at a glance (i)

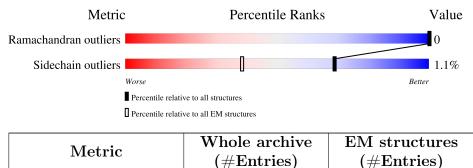
The following experimental techniques were used to determine the structure:  $ELECTRON\ MICROSCOPY$ 

The reported resolution of this entry is 2.86 Å.

Ramachandran outliers

Sidechain outliers

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.



207382

206894

The table below summarises the geometric issues observed across the polymeric chains and their fit
to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues
that contain outliers for $>=3, 2, 1$ and 0 types of geometric quality criteria respectively. A grey
segment represents the fraction of residues that are not modelled. The numeric value for each
fraction is indicated below the corresponding segment, with a dot representing fractions $<=5\%$
The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM
map (all-atom inclusion $< 40\%$ ). The numeric value is given above the bar.

16835

16415

Mol	Chain	Length	Quality of chain	
1	0	74	95%	5%
1	0A	74	93%	• 5%
1	$0\mathrm{B}$	74	93%	• 5%
1	$0\mathrm{C}$	74	93%	• 5%
1	1	74	93%	• 5%
1	1A	74	93%	• 5%
1	1B	74	93%	• 5%
1	1C	74	93%	• 5%
1	2	74	95%	5%



Mol	Chain	Length	Quality of chain	
1	2A	74	93%	• 5%
1	2B	74	93%	• 5%
1	$2\mathrm{C}$	74	93%	• 5%
1	3	74	95%	5%
1	3A	74	93%	• 5%
1	3B	74	<b>•</b> 93%	• 5%
1	3C	74	93%	• 5%
1	4	74	• 95%	5%
1	4A	74	93%	• 5%
1	4A 4B	74	93% 93%	• 5%
1	4D 4C			
		74	93%	• 5%
1	5	74	95%	5%
1	5A	74	95%	5%
1	5B	74	93%	• 5%
1	5C	74	93%	• 5%
1	6	74	95%	5%
1	6A	74	93%	• 5%
1	6B	74	93%	• 5%
1	6C	74	93%	• 5%
1	7	74	95%	5%
1	7A	74	93%	• 5%
1	7B	74	93%	• 5%
1	7C	74	93%	• 5%
1	8	74	95%	5%
1	8A	74	93%	• 5%



Mol	Chain	<i>i</i> previous Length	Quality of chain	
1	8B	74	93%	• 5%
1	8C	74	93%	• 5%
1	9	74	95%	5%
1	9A	74	95%	5%
1	9B	74	93%	• 5%
1	9C	74	93%	• 5%
1	A	74	92%	•• 5%
1	AA	74	95%	5%
1	AB	74	93%	• 5%
1	AC	74	93%	• 5%
1	AD	74	93%	• 5%
1	В	74	95%	5%
1	BA	74	95%	5%
1	BB	74	95%	5%
1	BC	74	93%	• 5%
1	BD	74	93%	• 5%
1	С	74	95%	5%
1	CA	74	95%	5%
1	СВ	74	93%	• 5%
1	CC	74	93%	• 5%
1	CD	74		• 5%
			93%	• 5%
1	D	74	93%	
1	DA	74	95%	5%
1	DB	74	93%	• 5%
1	DC	74	93% Continued on	• 5%



	nued fron	n previous		
Mol	Chain	Length	Quality of chain	
1	DD	74	92%	• 5%
1	Ε	74	93%	• 5%
1	EA	74	95%	5%
1	EB	74	95%	5%
1	$\mathbf{EC}$	74	93%	• 5%
1	ED	74	93%	• 5%
1	F	74	93%	• 5%
1	FA	74	95%	5%
1	FB	74	95%	5%
1	FC	74	93%	• 5%
1	FD	74	93%	• 5%
1	G	74	95%	5%
1	GA	74	95%	5%
1	GB	74	93%	• 5%
1	$\operatorname{GC}$	74	93%	• 5%
1	GD	74	93%	• 5%
1	Н	74	93%	• 5%
1	НА	74	95%	5%
1	HB	74	95%	5%
1	HC	74	93%	• 5%
1	HD	74	93%	• 5%
1	Ι	74	<b>•</b> 95%	5%
1	IA	74	95%	5%
1	IB	74	93%	• 5%
1	IC	74	93%	• 5%



Mol	Chain	Length	Quality of chain	
1	ID	74	93%	• 5%
1	J	74	93%	• 5%
1	JA	74	95%	5%
1	JB	74	93%	• 5%
1	JC	74	93%	• 5%
1	JD	74	93%	• 5%
1	K	74	93%	• 5%
1	KA	74	95%	5%
1	KB	74	93%	• 5%
1	KC	74	95%	5%
1	KD	74	93%	• 5%
1	L	74	92%	• 5%
1	LA	74	95%	5%
1	LB	74	93%	• 5%
1	LC	74	95%	5%
1	LD	74	93%	• 5%
1	М	74	93%	• 5%
1	MA	74	95%	5%
1	MB	74	<b>•</b> 93%	• 5%
1	MC	74	• 95%	5%
1	MD	74	93%	• 5%
1	Ν	74	93%	• 5%
1	NA	74	95%	5%
1	NB	74	93%	• 5%
1	NC	74	• 95%	5%



		n previous		
Mol	Chain	Length	Quality of chain	
1	ND	74	92%	• 5%
1	0	74	93%	• 5%
1	OA	74	95%	5%
1	OB	74	95%	5%
1	OC	74	95%	5%
1	OD	74	93%	• 5%
1	Р	74	92%	• 5%
1	PA	74	95%	5%
1	PB	74	95%	5%
1	PC	74	95%	5%
1	PD	74	93%	• 5%
1	Q	74	93%	• 5%
1	QA	74	95%	5%
1	QB	74	93%	• 5%
1	QC	74	95%	5%
1	QD	74	92%	• 5%
1	R	74	92%	• 5%
1	RA	74	95%	5%
1	RB	74	95%	5%
1	RC	74	95%	5%
1	S	74	92%	• 5%
1	SA	74	95%	5%
1	SB	74	93%	• 5%
1	SC	74	95%	5%
1	Т	74	92%	• 5%

Mol	Chain	Length	Quality of chain	
			•	
1	TA	74	93%	• 5%
1	ТВ	74	95%	5%
1	TC	74	95%	5%
1	U	74	93%	• 5%
1	UA	74	93%	• 5%
1	UB	74	93%	• 5%
1	UC	74	<b>•</b> 95%	5%
1	V	74	93%	• 5%
1	VA	74	93%	• 5%
1	VB	74	95%	5%
1	VC	74	95%	5%
1	W	74	92%	• 5%
1	WA	74	93%	• 5%
1	WB	74	95%	5%
1	WC	74	95%	5%
1	XA	74	93%	• 5%
1	XB	74	95%	5%
1	XC	74	95%	5%
1	Y	74	92%	•• 5%
1	YA	74	93%	• 5%
1	YB	74	95%	5%
1	YC	74	95%	5%
1	Z	74	92%	•• 5%
1	ZA	74	<b>•</b> 93%	• 5%
1	ZB	74	92%	• 5%



Mol	Chain	l previous Length	Quality of chain	
1	ZC	74	95%	5%
1	a	74	92%	•• 5%
1	aA	74	93%	• 5%
1	aB	74	95%	5%
1	aC	74	<b>•</b> 95%	5%
1	b	74	92%	• 5%
1	bA	74	93%	• 5%
1	bB	74	95%	5%
1	bC	74	95%	5%
1	с	74	93%	• 5%
1	cA	74	93%	• 5%
1	cB	74	95%	5%
1	cC	74	95%	5%
1	d	74	93%	• 5%
1	dA	74	93%	• 5%
1	dB	74	95%	5%
1	dC	74	• 95%	5%
1	e	74	93%	• 5%
1	eA	74	93%	• 5%
1	eB	74	95%	5%
1	eC	74	95%	5%
1	f	74	92%	•• 5%
1	fA	74	93%	• 5%
1	fB	74	95%	5%
1	fC	74	<b>●</b> 95%	5%
-		• •		d on nert nage



Mol	Chain	Length	Quality of chain	
1	g	74	93%	• 5%
1	gA	74	93%	• 5%
1	gB	74	95%	5%
1	gC	74	95%	5%
1	h	74	93%	• 5%
1	hA	74	93%	• 5%
1	hB	74	95%	5%
1	hC	74	<b>9</b> 5%	5%
1	i	74	92%	•• 5%
1	iA	74	●93%	• 5%
1	iB	74	95%	5%
1	iC	74	95%	5%
1	j	74	93%	• 5%
1	jA	74	•	• 5%
1		74	93%	
	jB ;C		95%	5%
1	jC	74	93%	• 5%
1	k	74	95%	5%
1	kA	74	93%	• 5%
1	kB	74	95%	5%
1	kC	74	93%	• 5%
1	1	74	93%	• 5%
1	lA	74	93%	• 5%
1	lB	74	95%	5%
1	lC	74	93%	• 5%
1	m	74	95%	5%

Continued from previous page...MolChainLength



mA mB	74	93%	
mB			• 5%
	74	95%	5%
mC	74	93%	• 5%
		•	• 5%
		•	• 5%
			5%
nC	74	93%	• 5%
0	74	93%	• 5%
oA	74	93%	• 5%
oВ	74	95%	5%
oC	74	93%	• 5%
р	74	93%	• 5%
рА	74	93%	• 5%
pВ	74	95%	5%
		•	• 5%
		•	• 5%
		93%	• 5%
	74	95%	5%
qC	74	93%	• 5%
r	74	93%	• 5%
rA	74	93%	• 5%
rB	74	95%	5%
rC	74	93%	• 5%
s	74	95%	5%
			• 5%
	oA oB oC p pA pB pC q qA qA qA qB qC r rA rB rB rC	nA74nB74nC74o74oA74oB74oC74p74pA74pB74pC74q74q74qA74qB74r74qB74r74	n       74       93%         nA       74       93%         nB       74       95%         nC       74       93%         o       74       93%         o       74       93%         oA       74       93%         oA       74       93%         oA       74       93%         oB       74       93%         oC       74       93%         oB       74       93%         oC       74       93%         p       74       93%         pA       74       93%         pA       74       93%         pC       74       93%         qA       74       93%         qA       74       93%         qC       74       93%         r       74       93%         rA       74       93%         rA       74       93%         r       74       93%         r       74       93%         rA       74       93%         rB       74       93%         rA       74

Continued from previous page...

 Mol
 Chain
 Length



Mol	Chain	Length	Quality of chain	
1	sB	74	95%	5%
1	sC	74	93%	• 5%
1	t	74	93%	• 5%
1	tA	74	95%	5%
1	tB	74	95%	5%
1	tC	74	95%	5%
1	u	74	93%	• 5%
1	uA	74	93%	• 5%
1	uB	74	95%	5%
1	uC	74	93%	• 5%
1	V	74	95%	5%
1	vA	74	93%	• 5%
1	vB	74	95%	5%
1	vC	74	93%	• 5%
1	W	74	95%	5%
1	wA	74	93%	• 5%
1	wB	74	95%	5%
1	wC	74	93%	• 5%
1	x	74	95%	5%
1	xA	74	95%	5%
1	xB	74	93%	• 5%
1	xC	74	93%	• 5%
1	у	74	93%	• 5%
1	yA	74	95%	5%
1	yB	74	• 93%	• 5%

Continued from previous page...MolChainLength



Conti		n previous	page	
Mol	Chain	Length	Quality of chain	
1	уC	74	93%	• 5%
1	Z	74	95%	5%
1	zA	74	93%	• 5%
1	zB	74	93%	• 5%
1	zC	74	93%	• 5%



## 2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 144528 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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.

$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0 0 0 0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0 0 0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	0
547 341 102 104	0
	0
Total C N O	
$ \begin{vmatrix} 1 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$	0
Total C N O	0
$ \begin{vmatrix} 1 \\ V \\ V \end{vmatrix} = \begin{bmatrix} 70 \\ 547 \\ 341 \\ 102 \\ 104 \end{vmatrix} = \begin{bmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$	0
1 W 70 Total C N O	0
$ \begin{vmatrix} 1 \\ W \\ 70 \\ 547 \\ 341 \\ 102 \\ 104 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$	0
Total C N O	0
$ \begin{vmatrix} 1 \\ Y \\ 70 \\ 547 \\ 341 \\ 102 \\ 104 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$	0
1 7 Total C N O 0	0
$ \begin{vmatrix} 1 \\ 2 \\ -70 \\ -547 \\ -341 \\ 102 \\ 104 \\ -0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ $	0
1 70 Total C N O 0	
$\begin{bmatrix} 1 & a & 70 & 547 & 341 & 102 & 104 \\ & 547 & 341 & 102 & 104 \end{bmatrix} = 0 = 0$	0
1 b 70 Total C N O 0	0
$\begin{bmatrix} 1 \\ b \\ 70 \\ 547 \\ 341 \\ 102 \\ 104 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$	0

• Molecule 1 is a protein called Transcription attenuation protein MtrB.



Continued from previous page...

$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Mol	Chain	Residues	<i>J</i> =	Ato	ms		AltConf	Trace
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$			70	Total	С	Ν	Ο	0	0
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		С	70	547	341	102	104	0	0
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	- 1	1	70	Total	С	Ν		0	0
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	1	d	70	547	341	102	104	0	0
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1		70	Total	С	Ν	0	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		е	70	547	341	102	104	0	0
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1	ſ	70	Total	С	Ν	0	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		I	70	547	341	102	104	0	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1		70	Total	С	Ν	0	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		g	70	547	341	102	104	0	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	1	70	Total	С	Ν	0	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		n	70	547	341	102	104	0	0
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	1	<u>.</u>	70	Total	С	Ν	Ο	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		1	70	547	341	102	104	0	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1	р	70	Total	С	Ν	0	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	В	70	547	341	102	104	0	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	:	70	Total	С	Ν	Ο	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		J	70	547	341	102	104	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	1-	70	Total	С	Ν	Ο	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		K	70	547	341	102	104	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	1	70	Total	С	Ν	Ο	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		1	70	547	341	102	104	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	200	70	Total	С	Ν	Ο	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	III	70	547	341	102	104	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	n	70	Total	С	Ν	0	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	11	70	547	341	102	104	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	0	70	Total	С	Ν	Ο	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	0	70	547	341	102	104	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	n	70	Total		Ν	Ο	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	р	70	547	341	102	104	0	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	a	70	Total	С	Ν	Ο	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	Ч	10	547	341	102	104	0	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	r	70	Total	С	Ν	Ο	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	1	10	547	341	102	104	0	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	g	70	Total	С	Ν	0	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		a	10	547	341	102	104	0	U
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	+	70				0	0	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		U	10	547			104		0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	11	70			N	0	0	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		u	10						0
547 341 102 104	1	v	70				-	0	0
		v	10	547	341	102			



Continued from previous page...

Mol	Chain	Residues	-	Ato	ms		AltConf	Trace
1			Total	С	Ν	0	0	0
1	W	70	547	341	102	104	0	0
		70	Total	С	Ν	Ο	0	0
1	Х	70	547	341	102	104	0	0
1		70	Total	С	Ν	0	0	0
1	У	70	547	341	102	104	0	0
1		70	Total	С	Ν	0	0	0
1	Z	70	547	341	102	104	0	0
1	0	70	Total	С	Ν	0	0	0
1	0	70	547	341	102	104	0	0
1	1	70	Total	С	Ν	0	0	0
1	1	70	547	341	102	104	0	0
1	0	70	Total	С	Ν	Ο	0	0
1	2	70	547	341	102	104	0	0
1	ი	70	Total	С	Ν	Ο	0	0
1	3	70	547	341	102	104	0	0
1	4	70	Total	С	Ν	Ο	0	0
1	4	70	547	341	102	104	0	0
1	5	70	Total	С	Ν	Ο	0	0
1	5	70	547	341	102	104	0	0
1	С	70	Total	С	Ν	Ο	0	0
1	U	70	547	341	102	104	0	0
1	6	70	Total	С	Ν	Ο	0	0
1	0	70	547	341	102	104	0	0
1	7	70	Total	С	Ν	Ο	0	0
T	1	10	547	341	102	104	0	0
1	8	70	Total	С	Ν	Ο	0	0
T	0	10	547	341	102	104	0	0
1	9	70	Total	С	Ν	Ο	0	0
T	5	10	547	341	102	104	0	0
1	AA	70	Total	С	Ν	Ο	0	0
T	ΠΠ	10	547	341	102	104	0	0
1	ВА	70	Total	С	Ν	Ο	0	0
T	DA	10	547	341	102	104	0	0
1	CA	70	Total	С	Ν	Ο	0	0
		10	547	341	102	104	0	0
1	DA	70	Total	С	Ν	Ο	0	0
1		10	547	341	102	104	U	0
1	EA	70	Total	$\mathbf{C}$	Ν	Ο	0	0
1		10	547	341	102	104		0
1	FA	70	Total	С	Ν	0	0	0
1	111	10	547	341	102	$\frac{104}{C_{\text{outtin}}}$		0



Continued from	n previous	page
Continued from	i previous	page

Mol	Chain	n previous pa		Ato	ms		AltConf	Trace
			Total	С	Ν	0	0	
1	GA	70	547	341	102	104	0	0
1	TTA	70	Total	С	Ν	Ο	0	0
1	HA	70	547	341	102	104	0	0
1	IA	70	Total	С	Ν	Ο	0	0
	IA	70	547	341	102	104	0	0
1	JA	70	Total	С	Ν	Ο	0	0
	JA	10	547	341	102	104	0	0
1	KA	70	Total	С	Ν	Ο	0	0
1	1111	10	547	341	102	104	0	0
1	LA	70	Total	$\mathbf{C}$	Ν	Ο	0	0
	171	10	547	341	102	104	0	0
1	МА	70	Total	$\mathbf{C}$	Ν	Ο	0	0
-		10	547	341	102	104		0
1	NA	70	Total	$\mathbf{C}$	Ν	Ο	0	0
		• •	547	341	102	104		
1	OA	70	Total	С	Ν	0	0	0
			547 341 102 104		_	_		
1	PA	70	Total	С	N	0	0	0
		• •	547	341	102	104		
1	QA	70	Total	С	N	0	0	0
	Ŭ		547	341	102	104		
1	RA	70	Total	C	N 100	0	0	0
			547	341	102 N	104		
1	SA	70	Total	C 241	N 100	0	0	0
			547	341 C	102 N	104 O		
1	D	70	Total 547	341	102	104	0	0
			547 Total	C 341	<u>102</u> N	$\frac{104}{0}$		
1	TA	70	547	341	102	104	0	0
			Total	C 541	<u> </u>	0		
1	UA	70	547	341	102	104	0	0
			Total	C	<u> </u>	0		
1	VA	70	547	341	102	104	0	0
			Total	C 041	<u> </u>	0		
1	WA	70	547	341	102	104	0	0
			Total	C 041	<u> </u>	0		
1	XA	70	547	341	102	104	0	0
			Total	C	N	0		+
1	YA	70	547	341	102	104	0	0
			Total	C	<u> </u>	0	_	-
1	ZA	70	547	341	102	104	0	0
			<u> </u>	<u> </u>		Contin		



Conti	nued from	n previous pa	ge
Mol	Chain	Residues	Δ

Mol	Chain	<i>i previous pa</i> <b>Residues</b>	90	Ato	ms		AltConf	Trace
			Total	С	N	0		
1	aA	70	547	341	102	104	0	0
	1.4	-	Total	С	Ν	0	0	-
1	bA	70	547	341	102	104	0	0
1		70	Total	С	Ν	0	0	0
1	cA	70	547	341	102	104	0	0
1	dA	70	Total	С	Ν	Ο	0	0
1	uA	70	547	341	102	104	0	0
1	eA	70	Total	С	Ν	Ο	0	0
T	СЛ	10	547	341	102	104	0	0
1	fA	70	Total	С	Ν	Ο	0	0
T	17.1	10	547	341	102	104	0	0
1	gA	70	Total	$\mathbf{C}$	Ν	Ο	0	0
1	811	10	547	341	102	104	0	
1	hA	70	Total	$\mathbf{C}$	Ν	Ο	0	0
-		• •	547	341	102	104		
1	iA	70	Total	С	N	0	0	0
			547	341	102	104	_	-
1	jА	70	Total	С	N	0	0	0
	5		547	341	102	104	_	-
1	kA	70	Total	C	N	0	0	0
			547	341	102	104		
1	lA	70	Total	C 241	N 100	0	0	0
			547 Tatal	341 C	102 N	104 O		
1	mA	70	Total 547	341	102	104	0	0
			Total	C 341	<u>102</u> N	$\frac{104}{0}$		
1	nA	70	547	341	102	104	0	0
			Total	C	<u> </u>	0		
1	oA	70	547	341	102	104	0	0
			Total	C	<u>N</u>	0		
1	pА	70	547	341	102	104	0	0
			Total	C	N	0		
1	Ε	70	547	341	102	104	0	0
			Total	C	N	0	-	
1	qA	70	547	341	102	104	0	0
-1		70	Total	С	N	0	0	0
1	rA	70	547	341	102	104		0
1		70	Total	С	Ν	0	0	0
1	sA	70	547	341	102	104	0	0
1	<u>۲</u> ۸	70	Total	С	Ν	0	0	0
1	tA	70	547	341	102	104	0	0
						Contin		



Mol	Chain	<i>i previous pa</i> Residues		Ato	ms		AltConf	Trace
			Total	С	N	0		
1	uA	70	547	341	102	104	0	0
1	vA	70	Total	С	Ν	0	0	0
	VA	10	547	341	102	104	0	0
1	wA	70	Total	С	Ν	0	0	0
	WII	10	547	341	102	104		
1	xA	70	Total	C	N	0	0	0
			547	341	102	104		
1	yА	70	Total	C 241	N 109	0 104	0	0
			547	341 C	102 N	104 O		
1	zA	70	Total 547	341	102	104	0	0
			Total	C 541	<u> </u>	0		
1	0A	70	547	341	102	104	0	0
			Total	C	<u>N</u>	0		
1	1A	70	547	341	102	104	0	0
	2.1	-	Total	С	N	0	0	
1	2A	70	547	341	102	104	0	0
1	2.4	70	Total	С	Ν	Ο	0	0
1	3A	70	547	341	102	104	0	0
1	4A	70	Total	С	Ν	Ο	0	0
	4A	10	547	341	102	104	0	0
1	5A	70	Total	С	Ν	Ο	0	0
	57	10	547	341	102	104	0	0
1	6A	70	Total	С	Ν	0	0	0
	011	10	547	341	102	104		
1	7A	70	Total	С	Ν	0	0	0
			547	341	102	104	_	
1	8A	70	Total	C	N 100	0	0	0
			547	341	102 N	104		
1	9A	70	Total 547	C 341	N 102	O 104	0	0
			Total	C 341	<u>102</u> N	$\frac{104}{0}$		
1	AB	70	547	341	102	104	0	0
			Total	C 041	<u> </u>	0		
1	BB	70	547	341	102	104	0	0
	~~	-	Total	C	N	$\frac{101}{0}$	+	
1	CB	70	547	341	102	104	0	0
1	- D	70	Total	С	N	0		
1	F	70	547	341	102	104	0	0
1	סס	70	Total	С	Ν	0	0	0
1	DB	70	547	341	102	104	0	0

Continued from previous page...

 Mol
 Chain
 Residues



Mol	Chain	Residues	5	Ato	ms		AltConf	Trace
1	БD	70	Total	С	Ν	0	0	0
1	EB	70	547	341	102	104	0	0
1	FD	70	Total	С	Ν	Ο	0	0
1	FB	70	547	341	102	104	0	0
1	GB	70	Total	С	Ν	Ο	0	0
1	GD	10	547	341	102	104	0	0
1	HB	70	Total	С	Ν	Ο	0	0
1	IID	10	547	341	102	104	0	0
1	IB	70	Total	С	Ν	Ο	0	0
1	ID	10	547	341	102	104	0	0
1	JB	70	Total	С	Ν	Ο	0	0
1	<u> 10</u>	10	547	341	102	104	0	0
1	KB	70	Total	С	Ν	Ο	0	0
	ND	10	547	341	102	104	0	0
1	LB	70	Total	С	Ν	Ο	0	0
-		10	547	341	102	104	0	0
1	MB	70	Total	$\mathbf{C}$	Ν	Ο	0	0
		10	547	341	102	104	0	0
1	NB	70	Total	$\mathbf{C}$	Ν	Ο	0	0
	T(D)	10	547	341	102	104	0	0
1	OB	70	Total	С	Ν	0	0	0
	0.5		547	341	102	104	Ŭ	
1	PB	70	Total	С	Ν	0	0	0
		• •	547	341	102	104		
1	QB	70	Total	С	Ν	0	0	0
	~~		547	341	102	104		
1	RB	70	Total	С	N	0	0	0
	-		547	341	102	104	_	
1	SB	70	Total	С	N	0	0	0
			547	341	102	104		
1	ΤB	70	Total	C	N	0	0	0
			547	341	102	104		
1	UB	70	Total	C	N	0	0	0
			547	341	102	104		
1	VB	70	Total	C 241	N 109	0	0	0
			547 Tetal	341	102 N	104		
1	WB	70	Total	C 241	N 102	0 104	0	0
			547 Tatal	341	102 N	104		ļ
1	XB	70	Total	C 241	N 102	0 104	0	0
			547 Total	341 C	102 N	$\frac{104}{O}$		
1	YB	70	Total 547			-	0	0
			547	341	102	$\frac{104}{Contin}$		



$\alpha$ $\cdot$ $\cdot$ $\cdot$	C	•	
Continued	trom	previous	page
	J	1	I = J

Mol	Chain	<i>i previous pa</i> Residues	90	Ato	ms		AltConf	Trace
			Total	С	N	0		
1	ZB	70	547	341	102	104	0	0
1	G	70	Total	С	Ν	0	0	0
	G	10	547	341	102	104	0	0
1	aB	70	Total	С	Ν	0	0	0
-			547	341	102	104		
1	bB	70	Total	С	N	0	0	0
			547	341	102	104		
1	cB	70	Total	C 241	N 109	0 104	0	0
			547 Tetal	341 C	102 N	104 O		
1	dB	70	Total 547	341	102	104	0	0
			Total	C 341	N	$\frac{104}{0}$		
1	eB	70	547	341	102	104	0	0
			Total	C	N	0		
1	fB	70	547	341	102	104	0	0
	5	-	Total	C	N	0		
1	gВ	70	547	341	102	104	0	0
1		70	Total	С	Ν	Ο	0	0
1	hB	70	547	341	102	104	0	0
1	iB	70	Total	С	Ν	Ο	0	0
1	ID	10	547	341	102	104	0	0
1	jВ	70	Total	С	Ν	Ο	0	0
1		10	547	341	102	104	0	0
1	kB	70	Total	С	Ν	0	0	0
			547	341	102	104		
1	lB	70	Total	С	N	0	0	0
			547	341	102	104		
1	mB	70	Total	C 241	N 100	0	0	0
			547	341	102 N	104		
1	nB	70	Total 547	C 341	N 102	O 104	0	0
			Total	$\frac{341}{C}$	<u>102</u> N	$\frac{104}{0}$		
1	oB	70	547	341	102	104	0	0
			Total	C	<u> </u>	0		
1	pВ	70	547	341	102	104	0	0
			Total	C	N	0		
1	qB	70	547	341	102	104	0	0
		=0	Total	С	N	0		
1	rB	70	547	341	102	104	0	0
1	дD	70	Total	С	Ν	0	0	0
1	$\mathrm{sB}$	70	547	341	102	104	0	0
						Contin	7	



$\alpha$ $\cdot$ $\cdot$ $\cdot$	C		
Continued	trom	previous	page
	1	1	1 5

Mol	Chain	Residues	<i>J</i> =	Ato	ms		AltConf	Trace
		-	Total	С	Ν	0		
1	tB	70	547	341	102	104	0	0
1	D	70	Total	С	Ν	0	0	0
1	uB	70	547	341	102	104	0	0
1	П	70	Total	С	Ν	0	0	0
1	vB	70	547	341	102	104	0	0
1	D	70	Total	С	Ν	Ο	0	0
1	wB	70	547	341	102	104	0	0
1	Н	70	Total	С	Ν	Ο	0	0
1	п	70	547	341	102	104	0	0
1	хB	70	Total	С	Ν	Ο	0	0
1	хD	10	547	341	102	104	0	0
1	yB	70	Total	С	Ν	Ο	0	0
1	уD	10	547	341	102	104	0	0
1	zB	70	Total	С	Ν	Ο	0	0
L	ZD	10	547	341	102	104	0	0
1	$0\mathrm{B}$	70	Total	С	Ν	Ο	0	0
	010	10	547	341	102	104	0	0
1	1B	70	Total	С	Ν	Ο	0	0
		10	547	341	102	104	0	0
1	$2\mathrm{B}$	70	Total	С	Ν	Ο	0	0
	20	10	547	341	102	104	0	0
1	3B	70	Total	С	Ν	0	0	0
	012	10	547	341	102	104	0	
1	$4\mathrm{B}$	70	Total	С	Ν	0	0	0
		10	547	341	102	104		
1	$5\mathrm{B}$	70	Total	$\mathbf{C}$	Ν	Ο	0	0
	02	• •	547	341	102	104	Ŭ	
1	6B	70	Total	С	Ν	0	0	0
			547	341	102	104		
1	$7\mathrm{B}$	70	Total	С	N	0	0	0
			547	341	102	104	_	_
1	$8\mathrm{B}$	70	Total	С	N	0	0	0
			547	341	102	104		
1	9B	70	Total	C	N	0	0	0
			547	341	102	104		
1	AC	70	Total	C	N 100	0	0	0
			547	341	102	104		
1	BC	70	Total	C	N 100	0	0	0
			547	341	102 N	104		
1	CC	70	Total	C	N 100	0	0	0
			547	341	102	$\frac{104}{Contin}$		



$\alpha$ $\cdot$ $\cdot$ $\cdot$	C		
Continued	trom	previous	page
	J	1	1 5

Mol	Chain	<i>i previous pa</i> Residues	90	Ato	ms		AltConf	Trace
		-	Total	С	Ν	0	0	
1	DC	70	547	341	102	104	0	0
1	EC	70	Total	С	Ν	Ο	0	0
1	EC	10	547	341	102	104	0	0
1	FC	70	Total	С	Ν	Ο	0	0
L	ТU	10	547	341	102	104	0	0
1	GC	70	Total	С	Ν	Ο	0	0
		10	547	341	102	104	0	0
1	HC	70	Total	С	Ν	Ο	0	0
			547	341	102	104		
1	IC	70	Total	С	Ν	0	0	0
		••	547	341	102	104		
1	JC	70	Total	С	N	0	0	0
			547	341	102	104	_	
1	Ι	70	Total	C	N	0	0	0
			547	341	102	104		
1	KC	70	Total	C	N 100	0	0	0
			547	341	102 N	104		
1	LC	70	Total	C	N 100	0	0	0
			547 Tetal	341 C	102 N	104		
1	MC	70	Total		N 109	O 104	0	0
			547 Total	341 C	102 N	104 O		
1	NC	70	547	341	102	104	0	0
			Total	C 341	<u>102</u> N	$\frac{104}{0}$		
1	OC	70	547	341	102	104	0	0
			Total	C	<u> </u>	0		
1	PC	70	547	341	102	104	0	0
			Total	C	N	0		
1	QC	70	547	341	102	104	0	0
			Total	C	N	0		
1	RC	70	547	341	102	104	0	0
	aa	-	Total	С	Ν	0		
1	SC	70	547	341	102	104	0	0
-1	та	70	Total	С	Ν	0	0	0
1	TC	70	547	341	102	104		0
1	UC	70	Total	С	Ν	0	0	0
1	UC	70	547	341	102	104		0
1	VC	70	Total	С	Ν	0	0	
1	vC	70	547	341	102	104	0	0
1	WC	70	Total	С	Ν	0	0	0
	WU	10	547	341	102	104	U	U
						Contin	7	



$\alpha$ $\cdot$ $\cdot$ $\cdot$	C		
Continued	from	previous	page
		1	1 0

Mol	Chain	<i>i previous pa</i> Residues	90	Ato	ms		AltConf	Trace
			Total	С	N	0		
1	XC	70	547	341	102	104	0	0
1	YC	70	Total	С	Ν	0	0	0
			547	341	102	104		
1	ZC	70	Total	C 241	N 100	0	0	0
			547 Total	341 C	102 N	104 O		
1	aC	70	547	341	102	104	0	0
			Total	C	<u> </u>	0		
1	bC	70	547	341	102	104	0	0
1	Do.	70	Total	С	Ν	0	0	0
1	cC	70	547	341	102	104	0	0
1	dC	70	Total	С	Ν	Ο	0	0
	ue	10	547	341	102	104	0	0
1	eC	70	Total	C	N	0	0	0
			547	341	102 N	104		
1	fC	70	Total 547	C 341	N 102	O 104	0	0
			Total	C 341	<u>102</u> N	$\frac{104}{0}$		
1	gC	70	547	341	102	104	0	0
	-		Total	C	N	0		
1	J	70	547	341	102	104	0	0
1	hC	70	Total	С	Ν	0	0	0
	nC	70	547	341	102	104	0	0
1	iC	70	Total	С	Ν	Ο	0	0
	10	10	547	341	102	104	0	0
1	jС	70	Total	С	N	0	0	0
	5		547	341	102 N	104		
1	kC	70	Total 547	C 341	N 102	O 104	0	0
			Total	C 341	<u>102</u> N	$\frac{104}{0}$		
1	lC	70	547	341	102	104	0	0
	~		Total	C	N	0		
1	mC	70	547	341	102	104	0	0
1	nC	70	Total	С	Ν	0	0	0
		10	547	341	102	104	0	U
1	oC	70	Total	C	N	0	0	0
			547	341	102 N	104		
1	pC	70	Total 547	C 241	N 102	0 104	0	0
			547 Total	341 C	102 N	$\frac{104}{O}$		
1	qC	70	547	341	102	104	0	0
			011	011	104	Contin	L	



$\alpha$ $\cdot$ $\cdot$ $\cdot$	C		
Continued	trom	previous	page
	5	1	1 0

Mol	Chain	<i>i previous pa</i> Residues	90	Ato	ms		AltConf	Trace
			Total	С	Ν	0	0	
1	rC	70	547	341	102	104	0	0
1	- C	70	Total	С	Ν	Ο	0	0
1	sC	10	547	341	102	104	0	0
1	tC	70	Total	С	Ν	Ο	0	0
L	ιU	10	547	341	102	104	0	0
1	uC	70	Total	С	Ν	Ο	0	0
	uU	10	547	341	102	104	0	0
1	vC	70	Total	С	Ν	0	0	0
		10	547	341	102	104		
1	wC	70	Total	С	Ν	0	0	0
		••	547	341	102	104	Ŭ	
1	xC	70	Total	С	N	0	0	0
			547	341	102	104	_	
1	уC	70	Total	С	N	0	0	0
			547	341	102	104		
1	zC	70	Total	C	N	0	0	0
			547	341	102	104		
1	0C	70	Total	C	N 100	0	0	0
			547	341 C	102 N	104		
1	1C	70	Total		N 109	0 104	0	0
			547 Total	341 C	102 N	104 O		
1	2C	70	547	341	102	104	0	0
			Total	C 341	<u>102</u> N	$\frac{104}{0}$		
1	3C	70	547	341	102	104	0	0
			Total	C 041	<u> </u>	0		
1	K	70	547	341	102	104	0	0
			Total	C	N	0		
1	4C	70	547	341	102	104	0	0
			Total	C	N	0		
1	5C	70	547	341	102	104	0	0
		-	Total	С	Ν	0	0	
1	6C	70	547	341	102	104	0	0
1	70	70	Total	С	Ν	0	0	0
1	7C	70	547	341	102	104		0
1	20	70	Total	С	Ν	0	0	0
1	8C	70	547	341	102	104		0
1	9C	70	Total	С	Ν	0	0	0
	90	10	547	341	102	104	0	0
1	AD	70	Total	С	Ν	0	0	0
	AD	10	547	341	102	104	U	U
						Contin	1	,



Mol	Chain	<i>i</i> previous pa <b>Residues</b>	<i>y</i> e	Ato	ms		AltConf	Trace
		70	Total	С	Ν	Ο	0	0
1	BD	70	547	341	102	104	0	0
1	CD	70	Total	С	Ν	Ο	0	0
1	CD	70	547	341	102	104	0	0
1	DD	70	Total	С	Ν	Ο	0	0
1	עע	70	547	341	102	104	0	0
1	ED	70	Total	С	Ν	Ο	0	0
1		70	547	341	102	104	0	0
1	FD	70	Total	С	Ν	Ο	0	0
1	ΓD	10	547	341	102	104	0	0
1	GD	70	Total	С	Ν	Ο	0	0
	GD	10	547	341	102	104	0	0
1	HD	70	Total	С	Ν	0	0	0
		10	547	341	102	104	0	0
1	ID	70	Total	С	Ν	0	0	0
			547	341	102	104		, , , , , , , , , , , , , , , , , , ,
1	JD	70	Total	С	Ν	0	0	0
	02		547	341	102	104		
1	KD	70	Total	С	Ν	0	0	0
			547	341	102	104		
1	LD	70	Total	С	N	0	0	0
			547	341	102	104		
1	MD	70	Total	C	N	0	0	0
			547	341	102 N	104		
1	ND	70	Total	C 241	N 109	0	0	0
			547 Tetal	341 C	102 N	104 O		
1	OD	70	Total 547	341	IN 102	0 104	0	0
			Total	$\frac{541}{C}$	<u>102</u> N	$\frac{104}{0}$		
1	PD	70	10tai 547	341	IN 102	0 104	0	0
			Total	C 341	<u>102</u> N	$\frac{104}{0}$		
1	QD	70	547	341	102	104	0	0
			041	041	104	104		

There are 528 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	33	HIS	SER	engineered mutation	UNP Q9X6J6
А	35	HIS	LYS	engineered mutation	UNP Q9X6J6
L	33	HIS	SER	engineered mutation	UNP Q9X6J6
L	35	HIS	LYS	engineered mutation	UNP Q9X6J6
М	33	HIS	SER	engineered mutation	UNP Q9X6J6
М	35	HIS	LYS	engineered mutation	UNP Q9X6J6
N	33	HIS	SER	engineered mutation	UNP Q9X6J6



Chain	Residue	Modelled	Actual	Comment	Reference
N	35	HIS	LYS	engineered mutation	UNP Q9X6J6
0	33	HIS	SER	engineered mutation	UNP Q9X6J6
0	35	HIS	LYS	engineered mutation	UNP Q9X6J6
Р	33	HIS	SER	engineered mutation	UNP Q9X6J6
Р	35	HIS	LYS	engineered mutation	UNP Q9X6J6
Q	33	HIS	SER	engineered mutation	UNP Q9X6J6
Q	35	HIS	LYS	engineered mutation	UNP Q9X6J6
R	33	HIS	SER	engineered mutation	UNP Q9X6J6
R	35	HIS	LYS	engineered mutation	UNP Q9X6J6
S	33	HIS	SER	engineered mutation	UNP Q9X6J6
S	35	HIS	LYS	engineered mutation	UNP Q9X6J6
Т	33	HIS	SER	engineered mutation	UNP Q9X6J6
Т	35	HIS	LYS	engineered mutation	UNP Q9X6J6
U	33	HIS	SER	engineered mutation	UNP Q9X6J6
U	35	HIS	LYS	engineered mutation	UNP Q9X6J6
V	33	HIS	SER	engineered mutation	UNP Q9X6J6
V	35	HIS	LYS	engineered mutation	UNP Q9X6J6
W	33	HIS	SER	engineered mutation	UNP Q9X6J6
W	35	HIS	LYS	engineered mutation	UNP Q9X6J6
Y	33	HIS	SER	engineered mutation	UNP Q9X6J6
Y	35	HIS	LYS	engineered mutation	UNP Q9X6J6
Ζ	33	HIS	SER	engineered mutation	UNP Q9X6J6
Ζ	35	HIS	LYS	engineered mutation	UNP Q9X6J6
a	33	HIS	SER	engineered mutation	UNP Q9X6J6
a	35	HIS	LYS	engineered mutation	UNP Q9X6J6
b	33	HIS	SER	engineered mutation	UNP Q9X6J6
b	35	HIS	LYS	engineered mutation	UNP Q9X6J6
с	33	HIS	SER	engineered mutation	UNP Q9X6J6
с	35	HIS	LYS	engineered mutation	UNP Q9X6J6
d	33	HIS	SER	engineered mutation	UNP Q9X6J6
d	35	HIS	LYS	engineered mutation	UNP Q9X6J6
е	33	HIS	SER	engineered mutation	UNP Q9X6J6
е	35	HIS	LYS	engineered mutation	UNP Q9X6J6
f	33	HIS	SER	engineered mutation	UNP Q9X6J6
f	35	HIS	LYS	engineered mutation	UNP Q9X6J6
g	33	HIS	SER	engineered mutation	UNP Q9X6J6
g	35	HIS	LYS	engineered mutation	UNP Q9X6J6
h	33	HIS	SER	engineered mutation	UNP Q9X6J6
h	35	HIS	LYS	engineered mutation	UNP Q9X6J6
i	33	HIS	SER	engineered mutation	UNP Q9X6J6
i	35	HIS	LYS	engineered mutation	UNP Q9X6J6
В	33	HIS	SER	engineered mutation	UNP Q9X6J6



Chain	Residue	Modelled	Actual	Comment	Reference
В	35	HIS	LYS	engineered mutation	UNP Q9X6J6
j	33	HIS	SER	engineered mutation	UNP Q9X6J6
j	35	HIS	LYS	engineered mutation	UNP Q9X6J6
k	33	HIS	SER	engineered mutation	UNP Q9X6J6
k	35	HIS	LYS	engineered mutation	UNP Q9X6J6
1	33	HIS	SER	engineered mutation	UNP Q9X6J6
1	35	HIS	LYS	engineered mutation	UNP Q9X6J6
m	33	HIS	SER	engineered mutation	UNP Q9X6J6
m	35	HIS	LYS	engineered mutation	UNP Q9X6J6
n	33	HIS	SER	engineered mutation	UNP Q9X6J6
n	35	HIS	LYS	engineered mutation	UNP Q9X6J6
0	33	HIS	SER	engineered mutation	UNP Q9X6J6
0	35	HIS	LYS	engineered mutation	UNP Q9X6J6
р	33	HIS	SER	engineered mutation	UNP Q9X6J6
р	35	HIS	LYS	engineered mutation	UNP Q9X6J6
q	33	HIS	SER	engineered mutation	UNP Q9X6J6
q	35	HIS	LYS	engineered mutation	UNP Q9X6J6
r	33	HIS	SER	engineered mutation	UNP Q9X6J6
r	35	HIS	LYS	engineered mutation	UNP Q9X6J6
s	33	HIS	SER	engineered mutation	UNP Q9X6J6
s	35	HIS	LYS	engineered mutation	UNP Q9X6J6
t	33	HIS	SER	engineered mutation	UNP Q9X6J6
t	35	HIS	LYS	engineered mutation	UNP Q9X6J6
u	33	HIS	SER	engineered mutation	UNP Q9X6J6
u	35	HIS	LYS	engineered mutation	UNP Q9X6J6
V	33	HIS	SER	engineered mutation	UNP Q9X6J6
V	35	HIS	LYS	engineered mutation	UNP Q9X6J6
W	33	HIS	SER	engineered mutation	UNP Q9X6J6
W	35	HIS	LYS	engineered mutation	UNP Q9X6J6
X	33	HIS	SER	engineered mutation	UNP Q9X6J6
x	35	HIS	LYS	engineered mutation	UNP Q9X6J6
У	33	HIS	SER	engineered mutation	UNP Q9X6J6
У	35	HIS	LYS	engineered mutation	UNP Q9X6J6
Z	33	HIS	SER	engineered mutation	UNP Q9X6J6
Z	35	HIS	LYS	engineered mutation	UNP Q9X6J6
0	33	HIS	SER	engineered mutation	UNP Q9X6J6
0	35	HIS	LYS	engineered mutation	UNP Q9X6J6
1	33	HIS	SER	engineered mutation	UNP Q9X6J6
1	35	HIS	LYS	engineered mutation	UNP Q9X6J6
2	33	HIS	SER	engineered mutation	UNP Q9X6J6
2	35	HIS	LYS	engineered mutation	UNP Q9X6J6
3	33	HIS	SER	engineered mutation	UNP Q9X6J6



Chain	Residue	Modelled	Actual	Comment	Reference
3	35	HIS	LYS	engineered mutation	UNP Q9X6J6
4	33	HIS	SER	engineered mutation	UNP Q9X6J6
4	35	HIS	LYS	engineered mutation	UNP Q9X6J6
5	33	HIS	SER	engineered mutation	UNP Q9X6J6
5	35	HIS	LYS	engineered mutation	UNP Q9X6J6
С	33	HIS	SER	engineered mutation	UNP Q9X6J6
С	35	HIS	LYS	engineered mutation	UNP Q9X6J6
6	33	HIS	SER	engineered mutation	UNP Q9X6J6
6	35	HIS	LYS	engineered mutation	UNP Q9X6J6
7	33	HIS	SER	engineered mutation	UNP Q9X6J6
7	35	HIS	LYS	engineered mutation	UNP Q9X6J6
8	33	HIS	SER	engineered mutation	UNP Q9X6J6
8	35	HIS	LYS	engineered mutation	UNP Q9X6J6
9	33	HIS	SER	engineered mutation	UNP Q9X6J6
9	35	HIS	LYS	engineered mutation	UNP Q9X6J6
AA	33	HIS	SER	engineered mutation	UNP Q9X6J6
AA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
BA	33	HIS	SER	engineered mutation	UNP Q9X6J6
BA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
CA	33	HIS	SER	engineered mutation	UNP Q9X6J6
CA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
DA	33	HIS	SER	engineered mutation	UNP Q9X6J6
DA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
EA	33	HIS	SER	engineered mutation	UNP Q9X6J6
EA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
FA	33	HIS	SER	engineered mutation	UNP Q9X6J6
FA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
GA	33	HIS	SER	engineered mutation	UNP Q9X6J6
GA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
HA	33	HIS	SER	engineered mutation	UNP Q9X6J6
HA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
IA	33	HIS	SER	engineered mutation	UNP Q9X6J6
IA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
JA	33	HIS	SER	engineered mutation	UNP Q9X6J6
JA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
KA	33	HIS	SER	engineered mutation	UNP Q9X6J6
KA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
LA	33	HIS	SER	engineered mutation	UNP Q9X6J6
LA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
MA	33	HIS	SER	engineered mutation	UNP Q9X6J6
MA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
NA	33	HIS	SER	engineered mutation	UNP Q9X6J6



Chain	Residue	Modelled	Actual	Comment	Reference
NA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
OA	33	HIS	SER	engineered mutation	UNP Q9X6J6
OA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
PA	33	HIS	SER	engineered mutation	UNP Q9X6J6
PA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
QA	33	HIS	SER	engineered mutation	UNP Q9X6J6
QA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
RA	33	HIS	SER	engineered mutation	UNP Q9X6J6
RA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
SA	33	HIS	SER	engineered mutation	UNP Q9X6J6
SA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
D	33	HIS	SER	engineered mutation	UNP Q9X6J6
D	35	HIS	LYS	engineered mutation	UNP Q9X6J6
TA	33	HIS	SER	engineered mutation	UNP Q9X6J6
TA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
UA	33	HIS	SER	engineered mutation	UNP Q9X6J6
UA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
VA	33	HIS	SER	engineered mutation	UNP Q9X6J6
VA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
WA	33	HIS	SER	engineered mutation	UNP Q9X6J6
WA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
XA	33	HIS	SER	engineered mutation	UNP Q9X6J6
XA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
YA	33	HIS	SER	engineered mutation	UNP Q9X6J6
YA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
ZA	33	HIS	SER	engineered mutation	UNP Q9X6J6
ZA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
aA	33	HIS	SER	engineered mutation	UNP Q9X6J6
aA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
bA	33	HIS	SER	engineered mutation	UNP Q9X6J6
bA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
cA	33	HIS	SER	engineered mutation	UNP Q9X6J6
cA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
dA	33	HIS	SER	engineered mutation	UNP Q9X6J6
dA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
eA	33	HIS	SER	engineered mutation	UNP Q9X6J6
eA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
fA	33	HIS	SER	engineered mutation	UNP Q9X6J6
fA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
gA	33	HIS	SER	engineered mutation	UNP Q9X6J6
gA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
hA	33	HIS	SER	engineered mutation	UNP Q9X6J6



Chain	Residue	Modelled	Actual	Comment	Reference
hA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
iA	33	HIS	SER	engineered mutation	UNP Q9X6J6
iA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
jА	33	HIS	SER	engineered mutation	UNP Q9X6J6
jА	35	HIS	LYS	engineered mutation	UNP Q9X6J6
kA	33	HIS	SER	engineered mutation	UNP Q9X6J6
kA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
lA	33	HIS	SER	engineered mutation	UNP Q9X6J6
lA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
mA	33	HIS	SER	engineered mutation	UNP Q9X6J6
mA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
nA	33	HIS	SER	engineered mutation	UNP Q9X6J6
nA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
oA	33	HIS	SER	engineered mutation	UNP Q9X6J6
oA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
pА	33	HIS	SER	engineered mutation	UNP Q9X6J6
pА	35	HIS	LYS	engineered mutation	UNP Q9X6J6
E	33	HIS	SER	engineered mutation	UNP Q9X6J6
E	35	HIS	LYS	engineered mutation	UNP Q9X6J6
qA	33	HIS	SER	engineered mutation	UNP Q9X6J6
qA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
rA	33	HIS	SER	engineered mutation	UNP Q9X6J6
rA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
sA	33	HIS	SER	engineered mutation	UNP Q9X6J6
sA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
tA	33	HIS	SER	engineered mutation	UNP Q9X6J6
tA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
uA	33	HIS	SER	engineered mutation	UNP Q9X6J6
uA	35	HIS	LYS	engineered mutation	-
vA	33	HIS	SER	engineered mutation	UNP Q9X6J6
vA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
wA	33	HIS	SER	engineered mutation	UNP Q9X6J6
wA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
xA	33	HIS	SER	engineered mutation	UNP Q9X6J6
xA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
yА	33	HIS	SER	engineered mutation	UNP Q9X6J6
yА	35	HIS	LYS	engineered mutation	UNP Q9X6J6
zA	33	HIS	SER	engineered mutation	UNP Q9X6J6
zA	35	HIS	LYS	engineered mutation	UNP Q9X6J6
0A	33	HIS	SER	engineered mutation	UNP Q9X6J6
0A	35	HIS	LYS	engineered mutation	UNP Q9X6J6
1A	33	HIS	SER	engineered mutation	UNP Q9X6J6



Chain	Residue	Modelled	Actual	Comment	Reference
1A	35	HIS	LYS	engineered mutation	UNP Q9X6J6
2A	33	HIS	SER	engineered mutation	UNP Q9X6J6
2A	35	HIS	LYS	engineered mutation	UNP Q9X6J6
3A	33	HIS	SER	engineered mutation	UNP Q9X6J6
3A	35	HIS	LYS	engineered mutation	UNP Q9X6J6
4A	33	HIS	SER	engineered mutation	UNP Q9X6J6
4A	35	HIS	LYS	engineered mutation	UNP Q9X6J6
5A	33	HIS	SER	engineered mutation	UNP Q9X6J6
5A	35	HIS	LYS	engineered mutation	UNP Q9X6J6
6A	33	HIS	SER	engineered mutation	UNP Q9X6J6
6A	35	HIS	LYS	engineered mutation	UNP Q9X6J6
7A	33	HIS	SER	engineered mutation	UNP Q9X6J6
7A	35	HIS	LYS	engineered mutation	UNP Q9X6J6
8A	33	HIS	SER	engineered mutation	UNP Q9X6J6
8A	35	HIS	LYS	engineered mutation	UNP Q9X6J6
9A	33	HIS	SER	engineered mutation	UNP Q9X6J6
9A	35	HIS	LYS	engineered mutation	UNP Q9X6J6
AB	33	HIS	SER	engineered mutation	UNP Q9X6J6
AB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
BB	33	HIS	SER	engineered mutation	UNP Q9X6J6
BB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
CB	33	HIS	SER	engineered mutation	UNP Q9X6J6
CB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
F	33	HIS	SER	engineered mutation	UNP Q9X6J6
F	35	HIS	LYS	engineered mutation	UNP Q9X6J6
DB	33	HIS	SER	engineered mutation	UNP Q9X6J6
DB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
EB	33	HIS	SER	engineered mutation	UNP Q9X6J6
EB	35	HIS	LYS	engineered mutation	-
FB	33	HIS	SER	engineered mutation	UNP Q9X6J6
FB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
GB	33	HIS	SER	engineered mutation	UNP Q9X6J6
GB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
HB	33	HIS	SER	engineered mutation	UNP Q9X6J6
HB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
IB	33	HIS	SER	engineered mutation	UNP Q9X6J6
IB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
JB	33	HIS	SER	engineered mutation	UNP Q9X6J6
JB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
KB	33	HIS	SER	engineered mutation	UNP Q9X6J6
KB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
LB	33	HIS	SER	engineered mutation	UNP Q9X6J6



Chain	Residue	Modelled	Actual	Comment	Reference
LB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
MB	33	HIS	SER	engineered mutation	UNP Q9X6J6
MB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
NB	33	HIS	SER	engineered mutation	UNP Q9X6J6
NB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
OB	33	HIS	SER	engineered mutation	UNP Q9X6J6
OB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
PB	33	HIS	SER	engineered mutation	UNP Q9X6J6
PB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
QB	33	HIS	SER	engineered mutation	UNP Q9X6J6
QB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
RB	33	HIS	SER	engineered mutation	UNP Q9X6J6
RB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
SB	33	HIS	SER	engineered mutation	UNP Q9X6J6
SB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
TB	33	HIS	SER	engineered mutation	UNP Q9X6J6
TB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
UB	33	HIS	SER	engineered mutation	UNP Q9X6J6
UB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
VB	33	HIS	SER	engineered mutation	UNP Q9X6J6
VB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
WB	33	HIS	SER	engineered mutation	UNP Q9X6J6
WB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
XB	33	HIS	SER	engineered mutation	UNP Q9X6J6
XB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
YB	33	HIS	SER	engineered mutation	UNP Q9X6J6
YB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
ZB	33	HIS	SER	engineered mutation	UNP Q9X6J6
ZB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
G	33	HIS	SER	engineered mutation	UNP Q9X6J6
G	35	HIS	LYS	engineered mutation	UNP Q9X6J6
aB	33	HIS	SER	engineered mutation	UNP Q9X6J6
aB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
bB	33	HIS	SER	engineered mutation	UNP Q9X6J6
bB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
cB	33	HIS	SER	engineered mutation	UNP Q9X6J6
cB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
dB	33	HIS	SER	engineered mutation	UNP Q9X6J6
dB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
eB	33	HIS	SER	engineered mutation	UNP Q9X6J6
eB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
fB	33	HIS	SER	engineered mutation	UNP Q9X6J6



Chain	Residue	Modelled	Actual	Comment	Reference
fB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
gB	33	HIS	SER	engineered mutation	UNP Q9X6J6
gB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
hB	33	HIS	SER	engineered mutation	UNP Q9X6J6
hB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
iB	33	HIS	SER	engineered mutation	UNP Q9X6J6
iB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
jВ	33	HIS	SER	engineered mutation	UNP Q9X6J6
jВ	35	HIS	LYS	engineered mutation	UNP Q9X6J6
kB	33	HIS	SER	engineered mutation	UNP Q9X6J6
kB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
lB	33	HIS	SER	engineered mutation	UNP Q9X6J6
lB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
mB	33	HIS	SER	engineered mutation	UNP Q9X6J6
mB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
nB	33	HIS	SER	engineered mutation	UNP Q9X6J6
nB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
oB	33	HIS	SER	engineered mutation	UNP Q9X6J6
oB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
pB	33	HIS	SER	engineered mutation	UNP Q9X6J6
pВ	35	HIS	LYS	engineered mutation	UNP Q9X6J6
qB	33	HIS	SER	engineered mutation	UNP Q9X6J6
qB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
rB	33	HIS	SER	engineered mutation	UNP Q9X6J6
rB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
sB	33	HIS	SER	engineered mutation	UNP Q9X6J6
sB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
tB	33	HIS	SER	engineered mutation	UNP Q9X6J6
tB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
uB	33	HIS	SER	engineered mutation	UNP Q9X6J6
uB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
vB	33	HIS	SER	engineered mutation	UNP Q9X6J6
vB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
wB	33	HIS	SER	engineered mutation	UNP Q9X6J6
wB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
H	33	HIS	SER	engineered mutation	UNP Q9X6J6
Н	35	HIS	LYS	engineered mutation	UNP Q9X6J6
xB	33	HIS	SER	engineered mutation	UNP Q9X6J6
xB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
yВ	33	HIS	SER	engineered mutation	UNP Q9X6J6
yВ	35	HIS	LYS	engineered mutation	UNP Q9X6J6
zB	33	HIS	SER	engineered mutation	UNP Q9X6J6



Chain	Residue	Modelled	Actual	Comment	Reference
zB	35	HIS	LYS	engineered mutation	UNP Q9X6J6
0B	33	HIS	SER	engineered mutation	UNP Q9X6J6
0B	35	HIS	LYS	engineered mutation	UNP Q9X6J6
1B	33	HIS	SER	engineered mutation	UNP Q9X6J6
1B	35	HIS	LYS	engineered mutation	UNP Q9X6J6
2B	33	HIS	SER	engineered mutation	UNP Q9X6J6
2B	35	HIS	LYS	engineered mutation	UNP Q9X6J6
3B	33	HIS	SER	engineered mutation	UNP Q9X6J6
3B	35	HIS	LYS	engineered mutation	UNP Q9X6J6
4B	33	HIS	SER	engineered mutation	UNP Q9X6J6
4B	35	HIS	LYS	engineered mutation	UNP Q9X6J6
5B	33	HIS	SER	engineered mutation	UNP Q9X6J6
5B	35	HIS	LYS	engineered mutation	UNP Q9X6J6
6B	33	HIS	SER	engineered mutation	UNP Q9X6J6
6B	35	HIS	LYS	engineered mutation	UNP Q9X6J6
7B	33	HIS	SER	engineered mutation	UNP Q9X6J6
7B	35	HIS	LYS	engineered mutation	UNP Q9X6J6
8B	33	HIS	SER	engineered mutation	UNP Q9X6J6
8B	35	HIS	LYS	engineered mutation	UNP Q9X6J6
9B	33	HIS	SER	engineered mutation	UNP Q9X6J6
9B	35	HIS	LYS	engineered mutation	UNP Q9X6J6
AC	33	HIS	SER	engineered mutation	UNP Q9X6J6
AC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
BC	33	HIS	SER	engineered mutation	UNP Q9X6J6
BC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
CC	33	HIS	SER	engineered mutation	UNP Q9X6J6
CC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
DC	33	HIS	SER	engineered mutation	UNP Q9X6J6
DC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
EC	33	HIS	SER	engineered mutation	UNP Q9X6J6
EC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
FC	33	HIS	SER	engineered mutation	UNP Q9X6J6
FC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
GC	33	HIS	SER	engineered mutation	UNP Q9X6J6
GC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
HC	33	HIS	SER	engineered mutation	UNP Q9X6J6
HC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
IC	33	HIS	SER	engineered mutation	UNP Q9X6J6
IC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
JC	33	HIS	SER	engineered mutation	UNP Q9X6J6
JC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
Ι	33	HIS	SER	engineered mutation	UNP Q9X6J6



Chain	Residue	vious page           Modelled	Actual	Comment	Reference
Ι	35	HIS	LYS	engineered mutation	UNP Q9X6J6
KC	33	HIS	SER	engineered mutation	UNP Q9X6J6
KC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
LC	33	HIS	SER	engineered mutation	UNP Q9X6J6
LC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
MC	33	HIS	SER	engineered mutation	UNP Q9X6J6
MC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
NC	33	HIS	SER	engineered mutation	UNP Q9X6J6
NC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
OC	33	HIS	SER	engineered mutation	UNP Q9X6J6
OC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
PC	33	HIS	SER	engineered mutation	UNP Q9X6J6
PC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
QC	33	HIS	SER	engineered mutation	UNP Q9X6J6
QC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
RC	33	HIS	SER	engineered mutation	UNP Q9X6J6
RC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
SC	33	HIS	SER	engineered mutation	UNP Q9X6J6
SC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
TC	33	HIS	SER	engineered mutation	UNP Q9X6J6
TC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
UC	33	HIS	SER	engineered mutation	UNP Q9X6J6
UC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
VC	33	HIS	SER	engineered mutation	UNP Q9X6J6
VC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
WC	33	HIS	SER	engineered mutation	UNP Q9X6J6
WC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
XC	33	HIS	SER	engineered mutation	UNP Q9X6J6
XC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
YC	33	HIS	SER	engineered mutation	UNP Q9X6J6
YC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
ZC	33	HIS	SER	engineered mutation	UNP Q9X6J6
ZC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
aC	33	HIS	SER	engineered mutation	UNP Q9X6J6
aC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
bC	33	HIS	SER	engineered mutation	UNP Q9X6J6
bC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
cC	33	HIS	SER	engineered mutation	UNP Q9X6J6
cC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
dC	33	HIS	SER	engineered mutation	UNP Q9X6J6
dC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
eC	33	HIS	SER	engineered mutation	UNP Q9X6J6



Chain	Residue	Modelled	Actual	Comment	Reference
eC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
fC	33	HIS	SER	engineered mutation	UNP Q9X6J6
fC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
gC	33	HIS	SER	engineered mutation	UNP Q9X6J6
gC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
J	33	HIS	SER	engineered mutation	UNP Q9X6J6
J	35	HIS	LYS	engineered mutation	UNP Q9X6J6
hC	33	HIS	SER	engineered mutation	UNP Q9X6J6
hC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
iC	33	HIS	SER	engineered mutation	UNP Q9X6J6
iC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
jС	33	HIS	SER	engineered mutation	UNP Q9X6J6
jС	35	HIS	LYS	engineered mutation	UNP Q9X6J6
kC	33	HIS	SER	engineered mutation	UNP Q9X6J6
kC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
lC	33	HIS	SER	engineered mutation	UNP Q9X6J6
lC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
mC	33	HIS	SER	engineered mutation	UNP Q9X6J6
mC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
nC	33	HIS	SER	engineered mutation	UNP Q9X6J6
nC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
oC	33	HIS	SER	engineered mutation	UNP Q9X6J6
oC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
pC	33	HIS	SER	engineered mutation	UNP Q9X6J6
pC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
qC	33	HIS	SER	engineered mutation	UNP Q9X6J6
qC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
rC	33	HIS	SER	engineered mutation	UNP Q9X6J6
rC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
sC	33	HIS	SER	engineered mutation	UNP Q9X6J6
sC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
tC	33	HIS	SER	engineered mutation	UNP Q9X6J6
tC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
uC	33	HIS	SER	engineered mutation	UNP Q9X6J6
uC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
vC	33	HIS	SER	engineered mutation	UNP Q9X6J6
vC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
wC	33	HIS	SER	engineered mutation	UNP Q9X6J6
wC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
xC	33	HIS	SER	engineered mutation	UNP Q9X6J6
xC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
yC	33	HIS	SER	engineered mutation	UNP Q9X6J6

Continued from previous page...



Chain	Residue	Modelled	Actual	Comment	Reference
yC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
zC	33	HIS	SER	engineered mutation	UNP Q9X6J6
zC	35	HIS	LYS	engineered mutation	UNP Q9X6J6
0C	33	HIS	SER	engineered mutation	UNP Q9X6J6
0C	35	HIS	LYS	engineered mutation	UNP Q9X6J6
1C	33	HIS	SER	engineered mutation	UNP Q9X6J6
1C	35	HIS	LYS	engineered mutation	UNP Q9X6J6
2C	33	HIS	SER	engineered mutation	UNP Q9X6J6
2C	35	HIS	LYS	engineered mutation	UNP Q9X6J6
3C	33	HIS	SER	engineered mutation	UNP Q9X6J6
3C	35	HIS	LYS	engineered mutation	UNP Q9X6J6
K	33	HIS	SER	engineered mutation	UNP Q9X6J6
K	35	HIS	LYS	engineered mutation	UNP Q9X6J6
4C	33	HIS	SER	engineered mutation	UNP Q9X6J6
4C	35	HIS	LYS	engineered mutation	UNP Q9X6J6
5C	33	HIS	SER	engineered mutation	UNP Q9X6J6
5C	35	HIS	LYS	engineered mutation	UNP Q9X6J6
6C	33	HIS	SER	engineered mutation	UNP Q9X6J6
6C	35	HIS	LYS	engineered mutation	UNP Q9X6J6
7C	33	HIS	SER	engineered mutation	UNP Q9X6J6
7C	35	HIS	LYS	engineered mutation	UNP Q9X6J6
8C	33	HIS	SER	engineered mutation	UNP Q9X6J6
8C	35	HIS	LYS	engineered mutation	UNP Q9X6J6
9C	33	HIS	SER	engineered mutation	UNP Q9X6J6
9C	35	HIS	LYS	engineered mutation	UNP Q9X6J6
AD	33	HIS	SER	engineered mutation	UNP Q9X6J6
AD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
BD	33	HIS	SER	engineered mutation	UNP Q9X6J6
BD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
CD	33	HIS	SER	engineered mutation	UNP Q9X6J6
CD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
DD	33	HIS	SER	engineered mutation	UNP Q9X6J6
DD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
ED	33	HIS	SER	engineered mutation	UNP Q9X6J6
ED	35	HIS	LYS	engineered mutation	UNP Q9X6J6
FD	33	HIS	SER	engineered mutation	UNP Q9X6J6
FD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
GD	33	HIS	SER	engineered mutation	UNP Q9X6J6
GD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
HD	33	HIS	SER	engineered mutation	UNP Q9X6J6
HD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
ID	33	HIS	SER	engineered mutation	UNP Q9X6J6

Continued from previous page...



Chain	Residue	Modelled	Actual	Comment	Reference
ID	35	HIS	LYS	engineered mutation	UNP Q9X6J6
JD	33	HIS	SER	engineered mutation	UNP Q9X6J6
JD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
KD	33	HIS	SER	engineered mutation	UNP Q9X6J6
KD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
LD	33	HIS	SER	engineered mutation	UNP Q9X6J6
LD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
MD	33	HIS	SER	engineered mutation	UNP Q9X6J6
MD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
ND	33	HIS	SER	engineered mutation	UNP Q9X6J6
ND	35	HIS	LYS	engineered mutation	UNP Q9X6J6
OD	33	HIS	SER	engineered mutation	UNP Q9X6J6
OD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
PD	33	HIS	SER	engineered mutation	UNP Q9X6J6
PD	35	HIS	LYS	engineered mutation	UNP Q9X6J6
QD	33	HIS	SER	engineered mutation	UNP Q9X6J6
QD	35	HIS	LYS	engineered mutation	UNP Q9X6J6

Continued from previous page...

• Molecule 2 is COBALT (II) ION (three-letter code: CO) (formula: Co) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	AltConf
2	F	1	Total Co 1 1	0
2	DB	1	Total Co 1 1	0
2	EB	1	Total Co 1 1	0
2	FB	1	Total Co 1 1	0
2	GB	1	Total Co 1 1	0
2	HB	1	Total Co 1 1	0
2	IB	1	Total Co 1 1	0
2	JB	1	Total Co 1 1	0
2	KB	1	Total Co 1 1	0
2	LB	1	Total Co 1 1	0



$\alpha$ $\cdots$ $1$	e		
Continued	trom	previous	page
	9	1	1 0

		<i>i</i> previous pa <b>Residues</b>	Atoms	AltConf
2	MB	1	Total Co	0
2	NB	1	1 1 Total Co	0
2	OB	1	1 1 Total Co	0
2	PB	1	1 1 Total Co	
			1 1 Total Co	0
2	QB	1	1 1 Total Co	0
2	RB	1	1 1	0
2	SB	1	Total Co 1 1	0
2	ΤВ	1	Total Co 1 1	0
2	UB	1	Total Co 1 1	0
2	VB	1	Total Co 1 1	0
2	WB	1	Total Co 1 1	0
2	XB	1	Total Co 1 1	0
2	YB	1	Total Co 1 1	0
2	ZB	1	Total Co 1 1	0
2	G	1	Total Co 1 1	0
2	aB	1	Total Co 1 1	0
2	bB	1	Total Co 1 1	0
2	cB	1	Total Co 1 1	0
2	dB	1	Total Co 1 1	0
2	eB	1	Total Co 1 1	0
2	fB	1	TotalCo11	0



Continued from previous page...

Mol	*	n previous pa Residues	Atoms	AltConf
2	gB	1	Total Co 1 1	0
2	hB	1	Total Co 1 1	0
2	iB	1	Total Co 1 1	0
2	jВ	1	Total Co 1 1	0
2	kB	1	Total Co 1 1	0
2	lB	1	Total Co 1 1	0
2	mB	1	Total Co 1 1	0
2	nB	1	Total Co 1 1	0
2	oB	1	Total Co 1 1	0
2	pВ	1	Total Co 1 1	0
2	qB	1	Total Co 1 1	0
2	rB	1	Total Co 1 1	0
2	sB	1	Total Co 1 1	0
2	tB	1	Total Co 1 1	0
2	uB	1	Total Co 1 1	0
2	vB	1	Total Co 1 1	0
2	wB	1	Total Co 1 1	0
2	Ι	1	Total Co 1 1	0
2	KC	1	Total Co 1 1	0
2	LC	1	Total Co 1 1	0
2	MC	1	Total Co 1 1	0



$\alpha$ $\cdot$ $\cdot$ $\cdot$	C	•	
Continued	trom	previous	page
	J	1	1 5

		n previous pa Residues	Atoms	AltConf
			Total Co	
2	NC	1	1 1	0
2	00	1	Total Co	0
	OC	1	1 1	0
2	PC	1	Total Co	0
	10	1	1 1	0
2	QC	1	Total Co	0
	~~~		1 1	0
2	RC	1	Total Co	0
		-	1 1	Ŭ
2	$\mathbf{SC}$	1	Total Co	0
			1 1	
2	TC	1	Total Co	0
			1 1	
2	UC	1	Total Co	0
			1 1	
2	VC	1	Total Co	0
			1 1	
2	WC	1	Total Co	0
			1 1	
2	XC	1	Total Co	0
			1 1 Tutal Ca	
2	YC	1	Total Co	0
			1 1 Total Ca	
2	ZC	1	Total Co	0
			1 1 Total Co	
2	aC	1	Total Co 1 1	0
			Total Co	
2	bC	1	1  1	0
			Total Co	
2	cC	1	1 1 1	0
			Total Co	
2	dC	1	1  1	0
			Total Co	
2	eC	1	1  1	0
			Total Co	
2	fC	1	1  1	0
			Total Co	
2	gC	1	1  1	0
	-		Total Co	
2	J	1	1 1	0
L			~ ~	



$\alpha$ $\cdots$ $1$	e		
Continued	trom	previous	page
	9	1	1 0

		<i>i</i> previous pa <b>Residues</b>	Atoms	AltConf
2	hC	1	Total Co 1 1	0
2	iC	1	Total Co 1 1	0
2	jС	1	Total Co 1 1	0
2	kC	1	Total Co 1 1	0
2	lC	1	Total Co 1 1	0
2	mC	1	Total Co 1 1	0
2	nC	1	Total Co 1 1	0
2	oC	1	Total Co 1 1	0
2	pC	1	Total Co 1 1	0
2	qC	1	Total Co 1 1	0
2	rC	1	Total Co 1 1	0
2	sC	1	Total Co 1 1	0
2	tC	1	Total Co 1 1	0
2	uC	1	Total Co 1 1	0
2	vC	1	Total Co 1 1	0
2	wC	1	Total Co 1 1	0
2	xC	1	Total Co 1 1	0
2	yC	1	Total Co 1 1	0
2	zC	1	Total Co 1 1	0
2	$0\mathrm{C}$	1	Total Co 1 1	0
2	1C	1	Total Co 1 1	0



$\alpha$ $\cdot$ $\cdot$ $\cdot$	C	•	
Continued	trom	previous	page
	J	1	1 5

		<i>i previous pa</i> <b>Residues</b>	Atoms	AltConf
			Total Co	
2	2C	1	1 1	0
	20		Total Co	
2	3C	1	1 1	0
	T.7		Total Co	
2	К	1	1 1	0
	10	1	Total Co	0
2	$4\mathrm{C}$	1	1 1	0
0	50	1	Total Co	0
2	$5\mathrm{C}$	1	1 1	0
		1	Total Co	0
2	6C	1	1 1	0
	- ~		Total Co	
2	$7\mathrm{C}$	1	1 1	0
			Total Co	
2	8C	1	1 1	0
			Total Co	
2	9C	1	1 1	0
			Total Co	
2	AD	1	1 1	0
			Total Co	
2	BD	1	1 1	0
			Total Co	
2	CD	1	1 1	0
			Total Co	
2	DD	1	1 1	0
			Total Co	
2	ED	1	1 1	0
			Total Co	
2	FD	1	1  1  1	0
2	GD	1	Total Co 1 1	0
2	HD	1	Total Co	0
			1 1	
2	ID	1	Total Co	0
			1 1	
2	JD	1	Total Co	0
			1 1	
2	KD	1	Total Co	0
		_	1 1	
2	LD	1	Total Co	0
_		-	1 1	



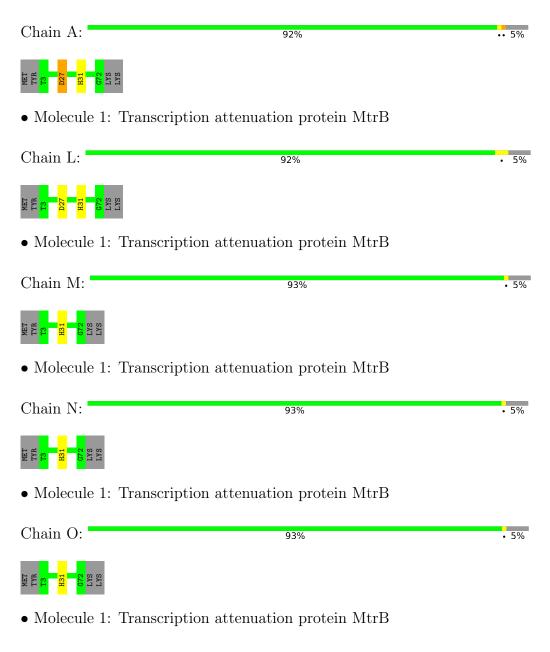
Continued from previous page...

Mol	Chain	Residues	Atoms	AltConf
2	MD	1	Total Co 1 1	0
2	ND	1	Total Co 1 1	0
2	OD	1	Total Co 1 1	0
2	PD	1	Total Co 1 1	0
2	QD	1	Total Co 1 1	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 atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.



Chain P:	92%	• 5%
NET TTR D27 D27 D27 D27 D27 D27 D27 C72 LYS LYS		
• Molecule 1: Transcript	ion attenuation protein MtrB	
Chain Q:	93%	• 5%
MET TYR T3 H31 G72 LYS LYS		
• Molecule 1: Transcript	ion attenuation protein MtrB	
Chain R:	92%	• 5%
MET TYR D27 D27 LYS LYS LYS		
• Molecule 1: Transcript	ion attenuation protein MtrB	
Chain S:	92%	• 5%
MET TYR D27 D27 LYS LYS LYS		
• Molecule 1: Transcript	ion attenuation protein MtrB	
Chain T:	92%	• 5%
MET T3 D27 D27 C7 C7 LYS LYS		
• Molecule 1: Transcript	ion attenuation protein MtrB	
Chain U:	93%	• 5%
MET TYR H31 LYS LYS		
• Molecule 1: Transcript	ion attenuation protein MtrB	
Chain V:	93%	• 5%
MET TYR 13 H31 LYS LYS LYS		
• Molecule 1: Transcript	ion attenuation protein MtrB	



Chain W:	92%	• 5%
MET TYR T3 D27 D27 H31 C72 C72 LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain Y:	92%	•• 5%
MET TYR 13 13 13 13 13 14 14 14 17 17 17 17 17 17 17 17 17 17 17		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain Z:	92%	•• 5%
MET TYR 13 13 13 14 14 15 17 17 17 17 17 17 17 17 17 17 17 17 17		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain a:	92%	•• 5%
MET TYR T3 D27 D27 G72 LYS LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain b:	92%	• 5%
MET TYR 13 D27 D27 C2 H31 C72 C72 C72 C72 C72 C72 C72 C72 C72		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain c:	93%	• 5%
MGT TYR 13 H31 G72 LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain d:	93%	• 5%
MET TYR T3 H3 G72 LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	

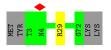


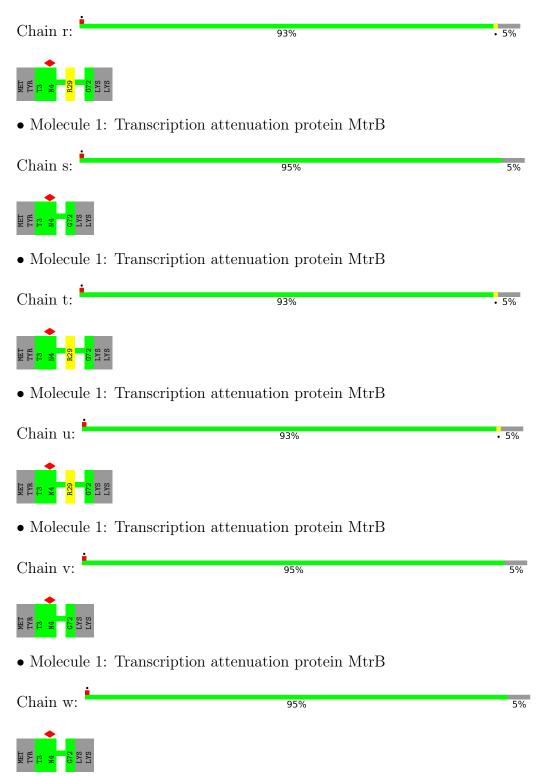
Chain e:	93%	• 5%
MET TYR 13 13 13 143 152 152 152 152 155		
• Molecule 1: Transcript	tion attenuation protein MtrB	
Chain f:	92%	•• 5%
MET TYR 17 12 12 12 13 1 13 1 17 12 17 17 17 17 17 17 17 17 17 17 17 17 17		
• Molecule 1: Transcript	tion attenuation protein MtrB	
Chain g:	93%	• 5%
MET TYR 13 13 14 12 17 17 17 17 17 17 17 17 17 17 17 17 17		
• Molecule 1: Transcript	tion attenuation protein MtrB	
Chain h:	93%	• 5%
MET TYR 13 13 13 14 12 12 12 12 12 12 12 12 12 12 12 12 12		
• Molecule 1: Transcript	tion attenuation protein MtrB	
Chain i:	92%	•• 5%
MET TYR T3 D27 C72 LYS LYS LYS		
• Molecule 1: Transcript	tion attenuation protein MtrB	
Chain B:	95%	5%
MET TYR T3 MA G72 LYS LVS		
• Molecule 1: Transcript	tion attenuation protein MtrB	
Chain j:	93%	• 5%
MET TYR 173 M4 M4 672 C72 LYS LYS LYS		
• Molecule 1: Transcript	tion attenuation protein MtrB	



Chain k:	95%	5%
MET TYR T3 H4 G72 LYS LYS LYS		
• Molecule 1: Tr	anscription attenuation protein MtrB	
Chain l:	93%	• 5%
TYR T3 N4 R29 C72 C72 LYS LYS		
• Molecule 1: Tr	anscription attenuation protein MtrB	
Chain m:	95%	5%
MET TYR T3 H4 G72 LYS LYS LYS		
• Molecule 1: Tr	anscription attenuation protein MtrB	
Chain n:	93%	• 5%
MET TYR 13 N4 N4 N4 C2 C72 LYS LYS		
• Molecule 1: Tr	anscription attenuation protein MtrB	
Chain o:	93%	• 5%
MET TYR T3 N4 N4 R29 C72 LYS LYS		
• Molecule 1: Tr	anscription attenuation protein MtrB	
Chain p:	93%	• 5%
MET TYR T3 N4 R29 R29 C72 LYS LYS		
• Molecule 1: Tr	anscription attenuation protein MtrB	
Chain q:	93%	• 5%









Chain x:	95%	5%
MET TYR T3 N4 G72 LYS LYS		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain y:	93%	• 5%
MET TYR T3 N4 R29 G72 G72 C72 C72	2	
• Molecule 1:	Transcription attenuation protein MtrB	
Chain z:	95%	5%
MET TYR T3 N4 072 C72 LYS		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain 0:	95%	5%
MET TYR T3 N4 G72 LYS LYS		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain 1:	93%	• 5%
MET TYR 13 N4 R29 G72 G72 LYS	2	
• Molecule 1:	Transcription attenuation protein MtrB	
Chain 2:	95%	5%
MET TYR T3 N4 G72 LYS LYS		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain 3:	95%	5%
MET TYR T3 N4 G72 LYS LYS		

WORLDWIDE PROTEIN DATA BANK

• Molecule 1: Transcription attenuation protein MtrB Chain 4: 95% 5% TYR • Molecule 1: Transcription attenuation protein MtrB Chain 5: 95% 5% LYS • Molecule 1: Transcription attenuation protein MtrB Chain C: 5% 95% LYS THE REL • Molecule 1: Transcription attenuation protein MtrB Chain 6: 5% 95% • Molecule 1: Transcription attenuation protein MtrB Chain 7: 95% 5% MET TYR LYS • Molecule 1: Transcription attenuation protein MtrB Chain 8: 95% 5% LYS • Molecule 1: Transcription attenuation protein MtrB Chain 9: 5% 95%



- Molecule 1: Transcription attenuation protein MtrB Chain AA: 95% 5% • Molecule 1: Transcription attenuation protein MtrB Chain BA: 5% 95% LYS LYS • Molecule 1: Transcription attenuation protein MtrB Chain CA: 95% 5% LYS LYS • Molecule 1: Transcription attenuation protein MtrB Chain DA: 5% 95% LYS LYS • Molecule 1: Transcription attenuation protein MtrB Chain EA: 95% 5% LYS LYS • Molecule 1: Transcription attenuation protein MtrB Chain FA: 5% 95% TYR LYS LYS • Molecule 1: Transcription attenuation protein MtrB Chain GA: 95% 5%
- Molecule 1: Transcription attenuation protein MtrB

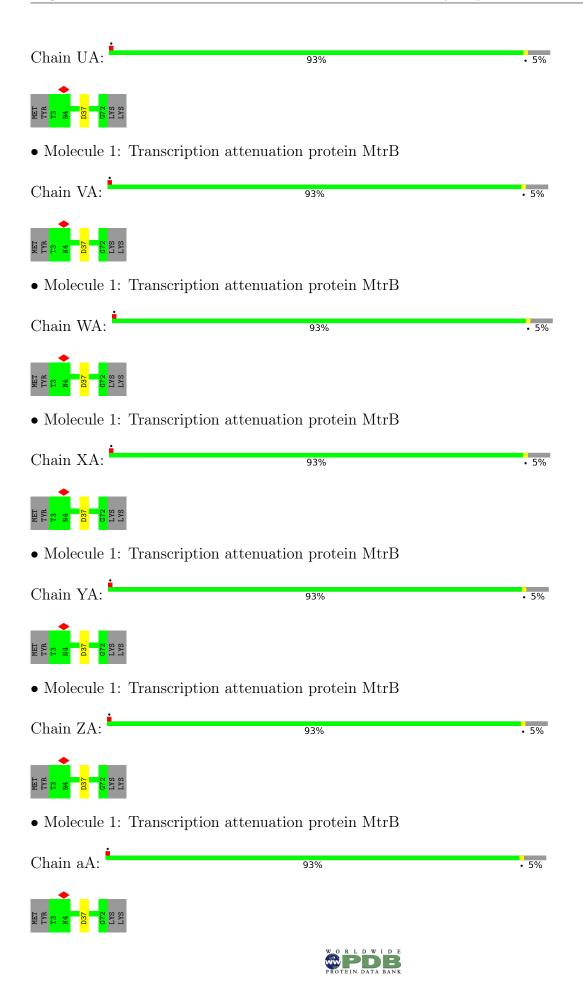


Chain HA:	95%	5%
MET TYR T3 G72 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain IA:	95%	5%
MET TYR 13 672 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain JA:	95%	5%
MET TYR 13 672 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain KA:	95%	5%
MET TYR T3 G72 LYS LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain LA:	95%	5%
MET TYR 13 672 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain MA:	95%	5%
MET TYR 13 G72 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain NA:	95%	5%
MET TYR T3 G72 LYS LYS		



Chain OA:	95%	5%
MET TYR 173 173 173 173 173 173 173 173 173 173		
• Molecule 1: Transcription	n attenuation protein MtrB	
Chain PA:	95%	5%
MET TYR 672 LYS LYS		
• Molecule 1: Transcription	n attenuation protein MtrB	
Chain QA:	95%	5%
MET TYR 672 LVS LVS		
• Molecule 1: Transcription	n attenuation protein MtrB	
Chain RA:	95%	5%
MET T3 G72 LYS LYS		
• Molecule 1: Transcription	n attenuation protein MtrB	
Chain SA:	95%	5%
MET TYR G72 LYS LYS		
• Molecule 1: Transcription	n attenuation protein MtrB	
Chain D:	93%	• 5%
MET 17 18 19 19 19 17 17 17 17 17 17 17 17		
• Molecule 1: Transcription	n attenuation protein MtrB	
Chain TA:	93%	• 5%
MET TYR 113 Ma Ma D37 C72 LYS LYS		
• Molecule 1: Transcription	n attenuation protein MtrB	

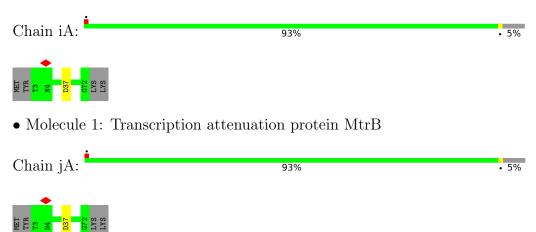




• Molecule 1: Transcription attenuation protein MtrB Chain bA: 93% • 5% TYF • Molecule 1: Transcription attenuation protein MtrB Chain cA: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain dA: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain eA: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain fA: 93% • 5% TYR • Molecule 1: Transcription attenuation protein MtrB Chain gA: 93% • 5% MET • Molecule 1: Transcription attenuation protein MtrB Chain hA: 93% • 5%







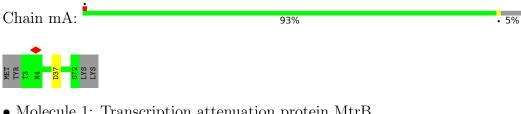
• Molecule 1: Transcription attenuation protein MtrB

Chain kA:	93%	• 5%
MET TYR Ma Da7 CT LYS LYS LIYS		

• Molecule 1: Transcription attenuation protein MtrB

Chain lA:	93%	• 5%
MET T3 M4 M4 D37 LY5 LY5 LY5		

• Molecule 1: Transcription attenuation protein MtrB



• Molecule 1: Transcription attenuation protein MtrB

Chain nA:	93%	• 5%
MET TYR H4 M4 C7 LVS LVS LVS		



Chain oA:	93%	• 5%
MET TYR H4 N4 C72 LYS LYS		
• Molecule 1: Transcripti	ion attenuation protein MtrB	
Chain pA:	93%	• 5%
TYR T3 N4 C72 LVS LVS LVS		
• Molecule 1: Transcripti	ion attenuation protein MtrB	
Chain E:	93%	• 5%
TTYR TTYR D15 D15 LYS LYS		
• Molecule 1: Transcripti	ion attenuation protein MtrB	
Chain qA:	93%	• 5%
TYR TYR D37 CVS LVS LVS		
• Molecule 1: Transcripti	ion attenuation protein MtrB	
Chain rA:	93%	• 5%
TYR TYR D3 D3 LYS LYS LYS		
	ion attenuation protein MtrB	
Chain sA:	93%	• 5%
MET TYR TYR D37 G72 LYS LYS		
• Molecule 1: Transcripti	ion attenuation protein MtrB	
Chain tA:	95%	5%
MET TYR TYR C72 LYS LYS LYS		
• Molecule 1: Transcripti	ion attenuation protein MtrB	



Chain uA:	93%	• 5%
MET TYR T3 D15 C17 C17S L7S L7S		
• Molecule 1: Transcrip	tion attenuation protein MtrB	
Chain vA:	93%	• 5%
MET TYR T3 D37 G72 LYS LYS		
• Molecule 1: Transcrip	tion attenuation protein MtrB	
Chain wA:	93%	• 5%
MET TYR TJR DI5 DI5 C TYS LYS LYS		
• Molecule 1: Transcrip	tion attenuation protein MtrB	
Chain xA:	95%	5%
MET TYR 13 672 LYS LYS LYS		
• Molecule 1: Transcrip	tion attenuation protein MtrB	
Chain yA:	95%	5%
MET TR 173 672 LYS LYS		
• Molecule 1: Transcrip	tion attenuation protein MtrB	
Chain zA:	93%	• 5%
MET TYR D37 C72 LYS LYS		
• Molecule 1: Transcrip	tion attenuation protein MtrB	
Chain 0A:	93%	• 5%
MET T3 D37 C1 C1 LYS LYS		
• Molecule 1: Transcrip	tion attenuation protein MtrB	



Chain 1A:	93%	• 5%
MET TYR T3 D15 D15 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain 2A:	93%	• 5%
MET TYR T3 D15 C7 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain 3A:	93%	• 5%
MET TYR 13 D15 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain 4A:	93%	• 5%
MET TYR T3 D37 G72 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain 5A:	95%	5%
MET TYR T3 C72 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain 6A:	93%	• 5%
MET TYR 13 D37 G7 2 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain 7A:	93%	• 5%
MET TYR T3 D37 G72 LYS LYS		



Chain 8A:	93%	• 5%
MET TYR 13 D15 G72 LYS	TVS	
• Molecule	1: Transcription attenuation protein MtrB	
Chain 9A:	95%	5%
MET TYR T3 672 LYS LYS		
• Molecule	1: Transcription attenuation protein MtrB	
Chain AB:	93%	• 5%
MET TYR T3 D15 C72 LYS	LYS	
• Molecule	1: Transcription attenuation protein MtrB	
Chain BB:	95%	5%
MET TYR T3 G72 LYS LYS		
• Molecule	1: Transcription attenuation protein MtrB	
Chain CB:	93%	• 5%
MET TYR T3 B37 C72 LYS	LYS	
• Molecule	1: Transcription attenuation protein MtrB	
Chain F:	93%	• 5%
MET TYR T3 H31 G72 LVS	LYS	
• Molecule	1: Transcription attenuation protein MtrB	
Chain DB:	93%	• 5%
MET TYR T3 H31 G72 LYS	LYS	



Chain EB:		95%	5%
MET TYR T3 G72 LYS LYS			
• Molecule 1:	Transcription attenuation	protein MtrB	
Chain FB:		95%	5%
MET TYR T3 G72 LYS LYS			
• Molecule 1:	Transcription attenuation	protein MtrB	
Chain GB:		93% .	5%
MET TYR T3 D37 C7 C7 LYS LYS			
• Molecule 1:	Transcription attenuation	protein MtrB	
Chain HB:		95%	5%
MET TYR T3 672 LYS LYS			
• Molecule 1:	Transcription attenuation	protein MtrB	
Chain IB:	9	3% • 5	%
MET TYR T3 D37 G72 LYS LYS			
• Molecule 1:	Transcription attenuation	protein MtrB	
Chain JB:	2	3% • 5	5%
MET TYR D37 C72 LYS LYS			
• Molecule 1:	Transcription attenuation	protein MtrB	
Chain KB:		93% •	5%
MET TYR T3 H3 H3 C72 LYS LYS			



Chain LB:	93%	• 5%
MET TPR H31 G72 LVS LVS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain MB:	93%	• 5%
MET TYR MA MA H3 LYS LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain NB:	93%	• 5%
MET TYR D37 D37 C C T2 LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain OB:	95%	5%
MET TYR T3 G72 LYS LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain PB:	95%	5%
MET TYR TJ CT2 LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain QB:	93%	• 5%
MET TYR T3 D37 G72 LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain RB:	95%	5%
MET TYR 13 14 14 172 LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	



Chain SB:	93%	• 5%
MET TYR 13 N4 N4 C2 C72 LYS LYS LYS		
• Molecule 1: Transcription at	tenuation protein MtrB	
Chain TB:	95%	5%
MET TYR T3 C72 LYS LYS		
• Molecule 1: Transcription att	tenuation protein MtrB	
Chain UB:	93%	• 5%
MET TYR 13 13 13 13 17 17 17 17 17 17 17 17 17 17 17 17 17		
• Molecule 1: Transcription at	tenuation protein MtrB	
Chain VB:	95%	5%
MET TTR M4 GT 2 LVS LVS		
• Molecule 1: Transcription at	tenuation protein MtrB	
Chain WB:	95%	5%
MET TYR 173 LYS LYS LYS		
• Molecule 1: Transcription at	tenuation protein MtrB	
Chain XB:	95%	5%
MET TYR LYS LYS LYS		
• Molecule 1: Transcription at	tenuation protein MtrB	
Chain YB:	95%	5%
MET T.R N.4 G72 LYS LYS		
• Molecule 1: Transcription at	tenuation protein MtrB	



Chain ZB:	92%	• 5%
MET TYR T3 H31 D37 G72	SA1	
• Molecule 1	: Transcription attenuation protein MtrB	
Chain G:	95%	5%
MET TYR T3 G72 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain aB:	95%	5%
MET TYR T3 G7 2 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain bB:	95%	5%
MET TYR 13 672 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain cB:	95%	5%
MET TYR T3 G7 2 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain dB:	95%	5%
MET TYR T3 G72 LYS LYS		
• Molecule 1	: Transcription attenuation protein MtrB	
Chain eB:	95%	5%
MET TYR T3 G72 LYS LYS		



Chain fB:	95%	5%
MET TYR 13 13 17 17 17 17 17 17 17 17 17		
• Molecule 1: Transcription	n attenuation protein MtrB	
Chain gB:	95%	5%
MET TYR 13 13 14 17 14 17 17 17 17 17 17 17		
• Molecule 1: Transcription	n attenuation protein MtrB	
Chain hB:	95%	5%
MET TYR 13 G72 LYS LVS		
• Molecule 1: Transcription	n attenuation protein MtrB	
Chain iB:	95%	5%
MET TYR 13 672 LYS LYS		
• Molecule 1: Transcription	n attenuation protein MtrB	
Chain jB:	95%	5%
MET TYR C72 LYS LYS		
• Molecule 1: Transcription	n attenuation protein MtrB	
Chain kB:	95%	5%
MET TYR 672 LYS LYS LYS		
• Molecule 1: Transcription	n attenuation protein MtrB	
Chain lB:	95%	5%
MET TYR 13 17 17 17 17 17 17 17 17 17		
• Molecule 1: Transcription	n attenuation protein MtrB	

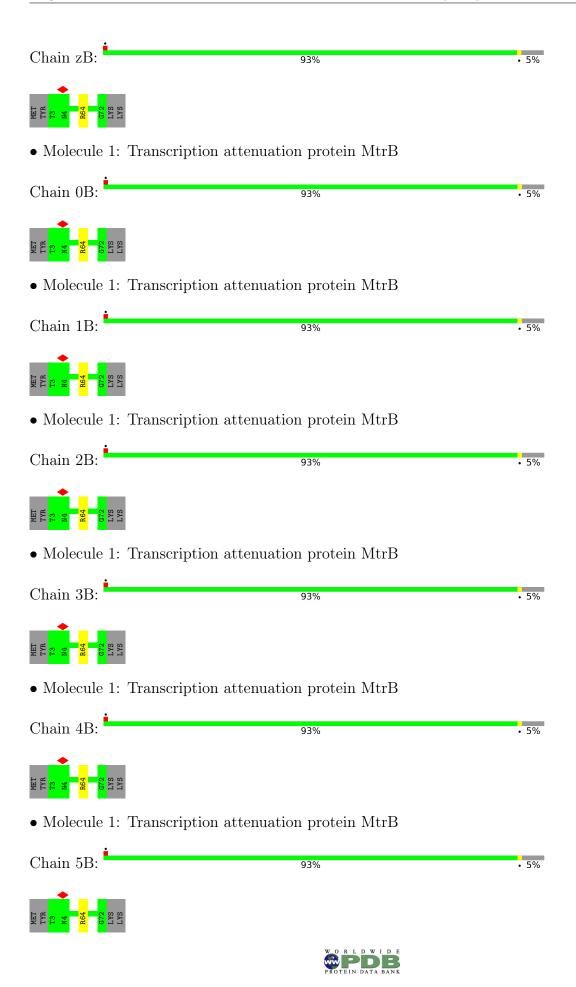


Chain mB:	95%	5%
MET TYR 73 672 LVS LVS		
• Molecule 1: Transcript	ion attenuation protein MtrB	
Chain nB:	95%	5%
MET TYR 13 13 17 17 17 17 17 17 17 17		
• Molecule 1: Transcript.	ion attenuation protein MtrB	
Chain oB:	95%	5%
MET TYR 13 14 17 17 17 17 17 17 17 17		
• Molecule 1: Transcript:	ion attenuation protein MtrB	
Chain pB:	95%	5%
MET TYR 13 13 072 LYS LYS		
• Molecule 1: Transcript	ion attenuation protein MtrB	
Chain qB:	95%	5%
MET 17R 178 173 672 LVS LVS		
• Molecule 1: Transcript	ion attenuation protein MtrB	
Chain rB:	95%	5%
MET TYR 13 C12 LYS LYS		
• Molecule 1: Transcript	ion attenuation protein MtrB	
Chain sB:	95%	5%
MET TYR T 13 C/ 2 LYS LYS		
• Molecule 1: Transcript:	ion attenuation protein MtrB	



Chain tB:	95%	5%
MET TYR 13 C72 LYS LYS LYS		
• Molecule 1: Transcriptio	on attenuation protein MtrB	
Chain uB:	95%	5%
MET TYR 13 13 17 17 17 17 17 17 17 17		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain vB:	95%	5%
MET TYR 17 072 LVS LVS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain wB:	95%	5%
MET TYR 73 672 LVS LVS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain H:	93%	• 5%
MET TYR T3 N4 R64 G72 LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain xB:	93%	• 5%
MET TYR 13 N4 N4 R64 C7 LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	
Chain yB:	93%	• 5%
MET TYR 13 N4 R64 C7 LYS LYS		
• Molecule 1: Transcription	on attenuation protein MtrB	

WORLDWIDE PROTEIN DATA BANK

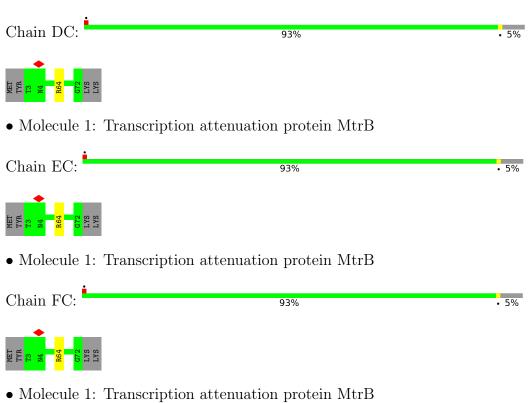


• Molecule 1: Transcription attenuation protein MtrB Chain 6B: 93% • 5% TYF • Molecule 1: Transcription attenuation protein MtrB Chain 7B: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain 8B: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain 9B: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain AC: 93% • 5% TYR • Molecule 1: Transcription attenuation protein MtrB Chain BC: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain CC: 93% • 5%





• Molecule 1: Transcription attenuation protein MtrB



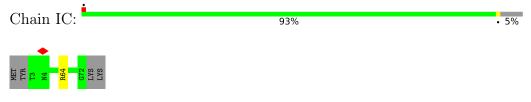
Chain GC:	93%	• 5%



• Molecule 1: Transcription attenuation protein MtrB

Chain HC:	93%	• 5%
MET TYR N4 N4 R64 C2 LYS LYS LYS		

• Molecule 1: Transcription attenuation protein MtrB

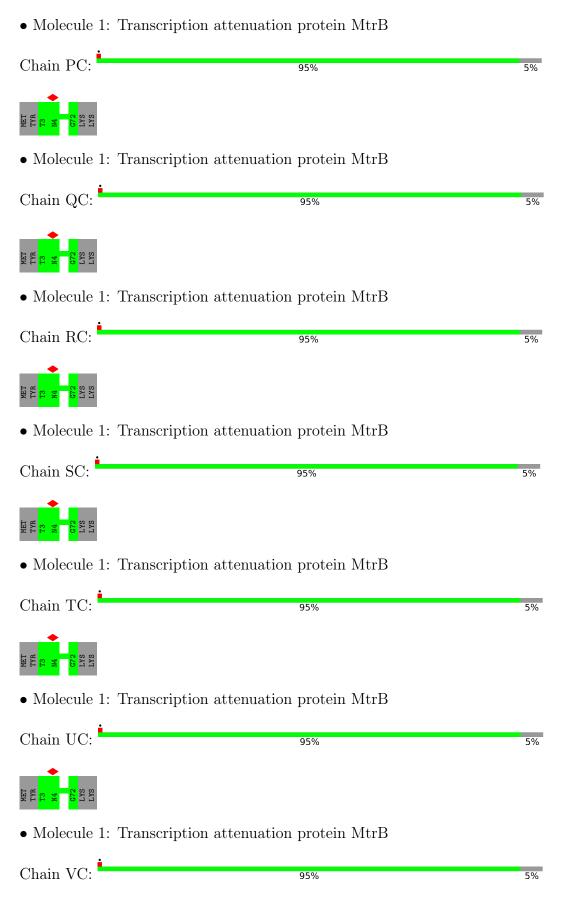


• Molecule 1: Transcription attenuation protein MtrB

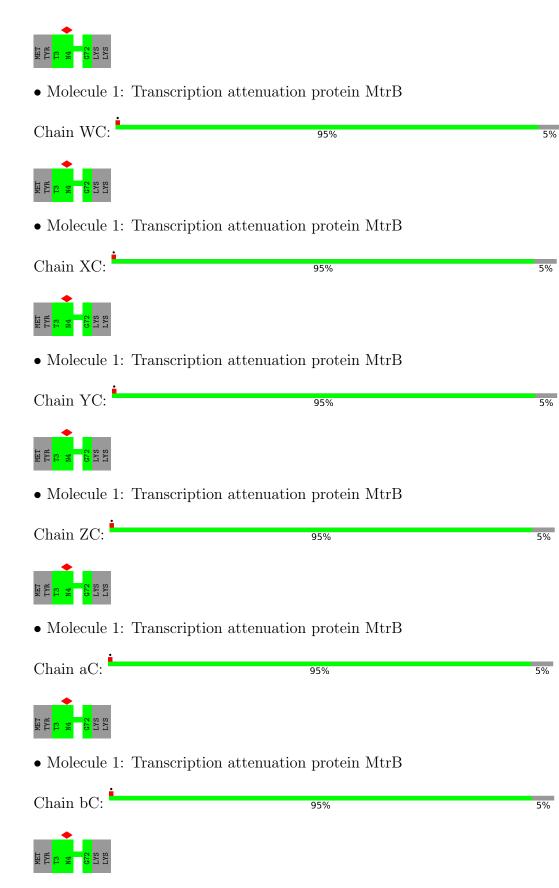


Chain JC:	93%	• 5%
MET TYR 13 N4 N4 CS CS LYS LYS		
• Molecule 1: Transcripti	ion attenuation protein MtrB	
Chain I:	95%	5%
MET TYR 13 NA 672 LYS LYS		
• Molecule 1: Transcripti	ion attenuation protein MtrB	
Chain KC:	95%	5%
MET TYR 13 M4 G72 LYS LYS LYS		
• Molecule 1: Transcripti	ion attenuation protein MtrB	
Chain LC:	95%	5%
MET TYR 173 N4 G72 LYS LYS		
• Molecule 1: Transcripti	ion attenuation protein MtrB	
Chain MC:	95%	5%
MET TYR 13 NA G72 LYS LYS		
• Molecule 1: Transcripti	ion attenuation protein MtrB	
Chain NC:	95%	5%
MET TYR 13 MA G72 LYS LYS LYS		
• Molecule 1: Transcripti	ion attenuation protein MtrB	
Chain OC:	95%	5%
MET TYR T3 N4 G72 LYS LYS LYS		

WORLDWIDE PROTEIN DATA BANK

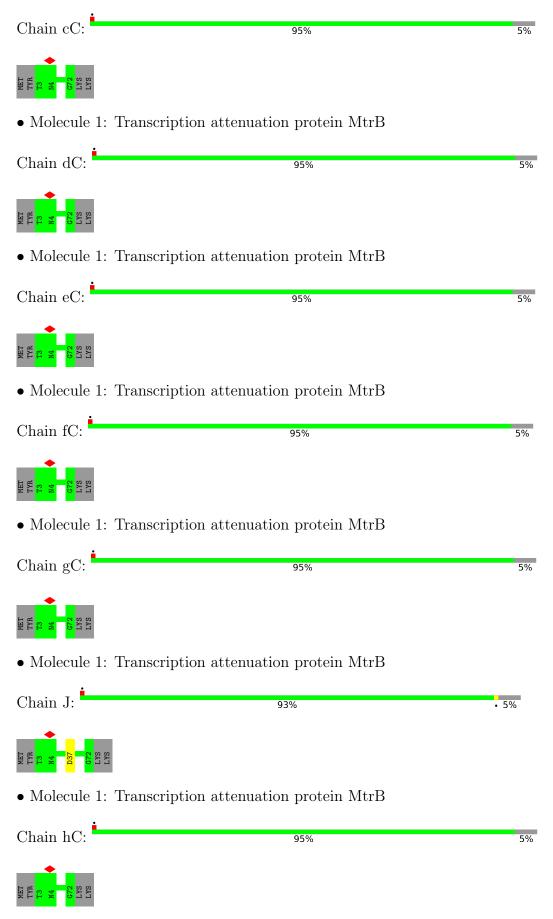






• Molecule 1: Transcription attenuation protein MtrB







• Molecule 1: Transcription attenuation protein MtrB Chain iC: 95% 5% • Molecule 1: Transcription attenuation protein MtrB Chain jC: • 5% 93% LYS • Molecule 1: Transcription attenuation protein MtrB Chain kC: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain lC: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain mC: 93% • 5% T R • Molecule 1: Transcription attenuation protein MtrB Chain nC: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain oC: 93% • 5%

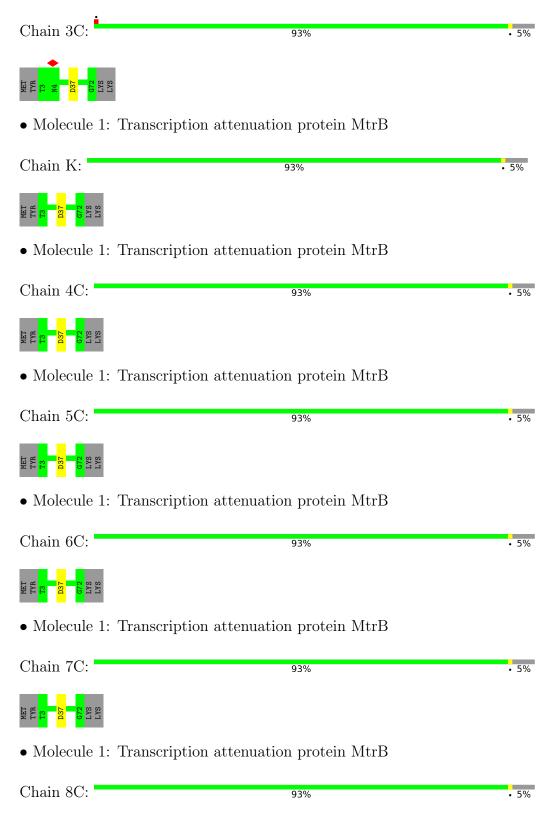
• Molecule 1: Transcription attenuation protein MtrB Chain pC: 93% • 5% MET • Molecule 1: Transcription attenuation protein MtrB Chain qC: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain rC: • 5% 93% MET LYS • Molecule 1: Transcription attenuation protein MtrB Chain sC: • 5% 93% • Molecule 1: Transcription attenuation protein MtrB Chain tC: 95% 5% • Molecule 1: Transcription attenuation protein MtrB Chain uC: 93% • 5% LYS • Molecule 1: Transcription attenuation protein MtrB Chain vC: 93% • 5%

• Molecule 1: Transcription attenuation protein MtrB Chain wC: 93% • 5% TYF • Molecule 1: Transcription attenuation protein MtrB Chain xC: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain yC: • 5% 93% • Molecule 1: Transcription attenuation protein MtrB Chain zC: 93% • 5% LY • Molecule 1: Transcription attenuation protein MtrB Chain 0C: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain 1C: 93% • 5% • Molecule 1: Transcription attenuation protein MtrB Chain 2C: 93% • 5%





• Molecule 1: Transcription attenuation protein MtrB







 $\bullet$  Molecule 1: Transcription attenuation protein MtrB

Chain 9C:	93%	• 5%
MET TYR 13 13 13 13 13 13 13 13 12 12 12 12 12 12		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain AD:	93%	• 5%
MET TYR 13 13 13 13 13 13 13 13 13 14 14 14 14 14 14 14 14 14 14 14 14 14		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain BD:	93%	• 5%
MET TYR 13 13 13 13 13 13 13 12 12 12 12 12 12		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain CD:	93%	• 5%
MET TYR 13 13 13 13 13 13 13 13 12 17 2 17 2 17		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain DD:	92%	• 5%
MET TYR T3 D37 E40 G72 LYS	TAS	
• Molecule 1:	Transcription attenuation protein MtrB	
Chain ED:	93%	• 5%
MET TYR 13 13 13 13 13 13 13 13 13 13 13 13 13		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain FD:	93%	• 5%





 $\bullet$  Molecule 1: Transcription attenuation protein MtrB

Chain GD:	93%	• 5%
MET TYR 13 13 13 13 13 13 13 13 13 13 14 14 14 14 14 14 14 14 14 14 14 14 14		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain HD:	93%	• 5%
MET TYR 13 13 13 13 13 13 13 13 13 13 14 14 14 14 14 14 14 14 14 14 14 14 14		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain ID:	93%	• 5%
MET TYR 13 13 13 13 13 13 13 13 13 12 12 12 12 12 12		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain JD:	93%	• 5%
MET TYR 13 13 13 13 13 13 13 13 13 13 14 14 14 14 14 14 14 14 14 14 14 14 14		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain KD:	93%	• 5%
MET TYR 13 13 13 13 14 17 17 17 17 17 17 17 17 17 17 17 17 17		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain LD:	93%	• 5%
MET TYR 13 13 13 13 13 13 13 13 12 12 12 12 12		
• Molecule 1:	Transcription attenuation protein MtrB	
Chain MD:	93%	• 5%





 $\bullet$  Molecule 1: Transcription attenuation protein MtrB

Chain ND:	92%	• 5%
MET TYR D37 C72 LYS LYS LYS		
• Molecule 1: Transcription attenuation	n protein MtrB	
Chain OD:	93%	• 5%
MET TYR D37 C72 LYS LYS		
• Molecule 1: Transcription attenuation	n protein MtrB	
Chain PD:	93%	• 5%
MET TYR D37 LYS LYS LYS		
• Molecule 1: Transcription attenuation	n protein MtrB	
Chain QD:	92%	• 5%
MET TYR 13 13 13 14 17 17 17 17 17 17 17 17 17 17 17 17 17		



# 4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, O	Depositor
Number of particles used	157100	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{\AA}^2)$	40	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 $(6k \ge 4k)$	Depositor
Maximum map value	5.123	Depositor
Minimum map value	-2.557	Depositor
Average map value	0.028	Depositor
Map value standard deviation	0.278	Depositor
Recommended contour level	0.493	Depositor
Map size (Å)	387.0, 387.0, 387.0	wwPDB
Map dimensions	450, 450, 450	wwPDB
Map angles $(^{\circ})$	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.86, 0.86, 0.86	Depositor



## 5 Model quality (i)

## 5.1 Standard geometry (i)

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

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).

<b>N T</b> 1	<u> </u>	Bond	lengths	B	ond angles
Mol	Chain	RMSZ	# Z  > 5	RMSZ	# Z  > 5
1	0	0.31	0/556	0.55	0/749
1	0A	0.30	0/556	0.54	0/749
1	0B	0.31	0/556	0.55	0/749
1	$0\mathrm{C}$	0.30	0/556	0.55	0/749
1	1	0.31	0/556	0.55	0/749
1	1A	0.30	0/556	0.54	0/749
1	1B	0.30	0/556	0.55	0/749
1	1C	0.30	0/556	0.54	0/749
1	2	0.30	0/556	0.55	0/749
1	2A	0.31	0/556	0.54	0/749
1	2B	0.30	0/556	0.55	0/749
1	$2\mathrm{C}$	0.30	0/556	0.54	0/749
1	3	0.31	0/556	0.55	0/749
1	3A	0.30	0/556	0.55	0/749
1	3B	0.31	0/556	0.55	0/749
1	3C	0.30	0/556	0.55	0/749
1	4	0.31	0/556	0.55	0/749
1	4A	0.30	0/556	0.54	0/749
1	4B	0.30	0/556	0.55	0/749
1	4C	0.30	0/556	0.55	0/749
1	5	0.30	0/556	0.55	0/749
1	5A	0.30	0/556	0.54	0/749
1	5B	0.30	0/556	0.56	0/749
1	$5\mathrm{C}$	0.32	0/556	0.54	0/749
1	6	0.30	0/556	0.55	0/749
1	6A	0.30	0/556	0.54	0/749
1	6B	0.30	0/556	0.55	0/749
1	6C	0.30	0/556	0.54	0/749
1	7	0.31	0/556	0.55	0/749
1	7A	0.30	0/556	0.54	0/749
1	7B	0.30	0/556	0.56	0/749
1	7C	0.31	0/556	0.55	0/749



<b>N</b> <i>T</i> - 1		Bond	lengths	B	ond angles
Mol	Chain	RMSZ	# Z  > 5	RMSZ	# Z  > 5
1	8	0.30	0/556	0.55	0/749
1	8A	0.30	0/556	0.54	0/749
1	8B	0.30	0/556	0.56	0/749
1	8C	0.31	0/556	0.55	0/749
1	9	0.31	0/556	0.55	0/749
1	9A	0.30	0/556	0.55	0/749
1	9B	0.30	0/556	0.56	0/749
1	9C	0.31	0/556	0.55	0/749
1	А	0.30	0/556	0.59	1/749~(0.1%)
1	AA	0.31	0/556	0.55	0/749
1	AB	0.30	0/556	0.54	0/749
1	AC	0.30	0/556	0.56	0/749
1	AD	0.31	0/556	0.55	0/749
1	В	0.30	0/556	0.55	0/749
1	BA	0.31	0/556	0.56	0/749
1	BB	0.30	0/556	0.54	0/749
1	BC	0.30	0/556	0.55	0/749
1	BD	0.30	0/556	0.54	0/749
1	С	0.31	0/556	0.55	0/749
1	CA	0.31	0/556	0.56	0/749
1	CB	0.30	0/556	0.54	0/749
1	CC	0.30	0/556	0.56	0/749
1	CD	0.30	0/556	0.54	0/749
1	D	0.30	0/556	0.55	0/749
1	DA	0.31	0/556	0.56	0/749
1	DB	0.31	0/556	0.54	0/749
1	DC	0.30	0/556	0.56	0/749
1	DD	0.31	0/556	0.55	0/749
1	Е	0.30	0/556	0.54	0/749
1	EA	0.31	0/556	0.55	0/749
1	EB	0.31	0/556	0.54	0/749
1	EC	0.30	0/556	0.56	0/749
1	ED	0.30	0/556	0.54	0/749
1	F	0.31	0/556	0.54	0/749
1	FA	0.31	0/556	0.56	0/749
1	FB	0.31	0/556	0.54	0/749
1	FC	0.30	0/556	0.56	0/749
1	FD	0.31	0/556	0.55	0/749
1	G	0.31	0/556	0.55	0/749
1	GA	0.31	0/556	0.55	0/749
1	GB	0.31	0/556	0.54	0/749
1	GC	0.31	0/556	0.56	0/749
1	GD	0.31	0/556	0.55	0/749



Mal	Chain	Bond	lengths	B	ond angles
Mol	Chain	RMSZ	# Z  > 5	RMSZ	# Z  > 5
1	Н	0.30	0/556	0.56	0/749
1	HA	0.31	0/556	0.55	0/749
1	HB	0.31	0/556	0.54	0/749
1	HC	0.30	0/556	0.55	0/749
1	HD	0.31	0/556	0.55	0/749
1	Ι	0.30	0/556	0.56	0/749
1	IA	0.31	0/556	0.55	0/749
1	IB	0.31	0/556	0.54	0/749
1	IC	0.30	0/556	0.55	0/749
1	ID	0.31	0/556	0.55	0/749
1	J	0.30	0/556	0.55	0/749
1	JA	0.31	0/556	0.55	0/749
1	JB	0.31	0/556	0.54	0/749
1	JC	0.31	0/556	0.56	0/749
1	JD	0.31	0/556	0.55	0/749
1	K	0.31	0/556	0.54	0/749
1	KA	0.31	0/556	0.55	0/749
1	KB	0.31	0/556	0.55	0/749
1	KC	0.30	0/556	0.55	0/749
1	KD	0.32	0/556	0.54	0/749
1	L	0.30	0/556	0.58	1/749~(0.1%)
1	LA	0.31	0/556	0.55	0/749
1	LB	0.31	0/556	0.54	0/749
1	LC	0.30	0/556	0.55	0/749
1	LD	0.31	0/556	0.55	0/749
1	М	0.30	0/556	0.54	0/749
1	MA	0.30	0/556	0.55	0/749
1	MB	0.31	0/556	0.54	0/749
1	MC	0.31	0/556	0.56	0/749
1	MD	0.30	0/556	0.54	0/749
1	N	0.30	0/556	0.57	0/749
1	NA	0.31	0/556	0.55	0/749
1	NB	0.31	0/556	0.54	0/749
1	NC	0.30	0/556	0.56	0/749
1	ND	0.31	0/556	0.54	0/749
1	0	0.30	0/556	0.54	0/749
1	OA	0.30	0/556	0.55	0/749
1	OB	0.31	0/556	0.54	0/749
1	OC	0.30	0/556	0.55	0/749
1	OD	0.31	0/556	0.55	0/749
1	Р	0.30	0/556	0.58	1/749~(0.1%)
1	PA	0.31	0/556	0.55	0/749
1	PB	0.31	0/556	0.54	0/749



$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	5
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	.%)
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	,
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	.%)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	,
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	.%)
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	,
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
1         UC         0.31         0/556         0.55         0/749           1         V         0.30         0/556         0.57         0/749           1         VA         0.30         0/556         0.55         0/749           1         VA         0.30         0/556         0.55         0/749	
1         V         0.30         0/556         0.57         0/749           1         VA         0.30         0/556         0.55         0/749	
1 VA 0.30 0/556 0.55 0/749	
$\begin{bmatrix} 1 & VB & 0.31 & 0/556 & 0.54 & 0/749 \end{bmatrix}$	
1 VC 0.31 0/556 0.56 0/749	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	.%)
1 WA 0.30 0/556 0.55 0/749	,
1 WB 0.31 0/556 0.54 0/749	
1 WC 0.30 0/556 0.55 0/749	
1 XA 0.30 0/556 0.55 0/749	
1 XB 0.31 0/556 0.54 0/749	
1 XC 0.30 0/556 0.56 0/749	
1 Y 0.30 0/556 0.58 1/749 (0.1	.%)
1 YA 0.30 0/556 0.55 0/749	,
1 YB 0.31 0/556 0.54 0/749	
1 YC 0.30 0/556 0.56 0/749	
1 Z 0.30 0/556 0.58 1/749 (0.1	.%)
1 ZA 0.30 0/556 0.55 0/749	,
1 ZB 0.31 0/556 0.54 0/749	
1 ZC 0.30 0/556 0.55 0/749	
1 a $0.30$ $0/556$ $0.59$ $1/749$ (0.1	.%)



		Bond	lengths	B	ond angles
Mol	Chain	RMSZ	# Z  > 5	RMSZ	# Z  > 5
1	aA	0.30	0/556	0.55	0/749
1	aB	0.31	0/556	0.54	0/749
1	aC	0.30	0/556	0.55	0/749
1	b	0.30	0/556	0.58	1/749~(0.1%)
1	bA	0.30	0/556	0.55	0/749
1	bB	0.30	0/556	0.55	0/749
1	bC	0.30	0/556	0.56	0/749
1	с	0.30	0/556	0.54	0/749
1	cA	0.30	0/556	0.55	0/749
1	cB	0.31	0/556	0.55	0/749
1	cC	0.30	0/556	0.55	0/749
1	d	0.30	0/556	0.54	0/749
1	dA	0.30	0/556	0.55	0/749
1	dB	0.31	0/556	0.55	0/749
1	dC	0.30	0/556	0.56	0/749
1	е	0.30	0/556	0.54	0/749
1	eA	0.30	0/556	0.55	0/749
1	eB	0.31	0/556	0.55	0/749
1	eC	0.30	0/556	0.56	0/749
1	f	0.30	0/556	0.59	1/749~(0.1%)
1	fA	0.30	0/556	0.55	0/749
1	fB	0.31	0/556	0.55	0/749
1	fC	0.30	0/556	0.56	0/749
1	g	0.30	0/556	0.54	0/749
1	gA	0.30	0/556	0.55	0/749
1	gB	0.31	0/556	0.55	0/749
1	gC	0.31	0/556	0.56	0/749
1	h	0.30	0/556	0.54	0/749
1	hA	0.30	0/556	0.55	0/749
1	hB	0.30	0/556	0.55	0/749
1	hC	0.30	0/556	0.54	0/749
1	i	0.30	0/556	0.59	1/749~(0.1%)
1	iA	0.30	0/556	0.55	0/749
1	iB	0.31	0/556	0.55	0/749
1	iC	0.30	0/556	0.55	0/749
1	j	0.30	0/556	0.56	0/749
1	jА	0.30	0/556	0.55	0/749
1	jВ	0.31	0/556	0.54	0/749
1	jС	0.30	0/556	0.54	0/749
1	k	0.30	0/556	0.55	0/749
1	kA	0.30	0/556	0.55	0/749
1	kB	0.31	0/556	0.55	0/749
1	kC	0.30	0/556	0.54	0/749



	Clasin	Bond	lengths	B	ond angles
Mol	Chain	RMSZ	# Z  > 5	RMSZ	# Z  > 5
1	1	0.30	0/556	0.56	0/749
1	lA	0.30	0/556	0.55	0/749
1	lB	0.31	0/556	0.55	0/749
1	lC	0.30	0/556	0.54	0/749
1	m	0.30	0/556	0.55	0/749
1	mA	0.30	0/556	0.55	0/749
1	mB	0.31	0/556	0.55	0/749
1	mC	0.30	0/556	0.54	0/749
1	n	0.30	0/556	0.56	0/749
1	nA	0.30	0/556	0.55	0/749
1	nB	0.31	0/556	0.55	0/749
1	nC	0.30	0/556	0.54	0/749
1	0	0.30	0/556	0.56	0/749
1	oA	0.30	0/556	0.55	0/749
1	oB	0.31	0/556	0.55	0/749
1	oC	0.30	0/556	0.55	0/749
1	р	0.30	0/556	0.55	0/749
1	pА	0.30	0/556	0.55	0/749
1	pВ	0.31	0/556	0.55	0/749
1	pC	0.30	0/556	0.54	0/749
1	q	0.30	0/556	0.55	0/749
1	qA	0.30	0/556	0.54	0/749
1	qB	0.30	0/556	0.55	0/749
1	qC	0.30	0/556	0.55	0/749
1	r	0.30	0/556	0.56	0/749
1	rA	0.30	0/556	0.54	0/749
1	rB	0.31	0/556	0.55	0/749
1	rC	0.30	0/556	0.54	0/749
1	s	0.31	0/556	0.55	0/749
1	sA	0.30	0/556	0.54	0/749
1	sB	0.31	0/556	0.55	0/749
1	sC	0.30	0/556	0.54	0/749
1	t	0.30	0/556	0.55	0/749
1	tA	0.30	0/556	0.54	0/749
1	tB	0.30	0/556	0.55	0/749
1	tC	0.30	0/556	0.54	0/749
1	u	0.30	0/556	0.55	0/749
1	uA	0.31	0/556	0.55	0/749
1	uB	0.31	0/556	0.55	0/749
1	uC	0.30	0/556	0.54	0/749
1	V	0.31	0/556	0.56	0/749
1	vA	0.30	0/556	0.54	0/749
1	vB	0.31	0/556	0.55	0/749



Mol	Chain	Bond	lengths	E	Bond angles
	Unam	RMSZ	# Z  > 5	RMSZ	# Z  > 5
1	vC	0.30	0/556	0.53	0/749
1	W	0.31	0/556	0.55	0/749
1	wA	0.30	0/556	0.54	0/749
1	wB	0.31	0/556	0.54	0/749
1	wC	0.30	0/556	0.54	0/749
1	Х	0.30	0/556	0.55	0/749
1	xA	0.31	0/556	0.55	0/749
1	xB	0.30	0/556	0.55	0/749
1	xC	0.30	0/556	0.55	0/749
1	У	0.31	0/556	0.56	0/749
1	yА	0.31	0/556	0.55	0/749
1	yВ	0.30	0/556	0.56	0/749
1	yC	0.30	0/556	0.54	0/749
1	Z	0.30	0/556	0.55	0/749
1	zA	0.30	0/556	0.54	0/749
1	zB	0.30	0/556	0.55	0/749
1	zC	0.30	0/556	0.54	0/749
All	All	0.30	0/146784	0.55	13/197736~(0.0%)

There are no bond length outliers.

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

Mol	Chain	Res	Type	Atoms	Ζ	$Observed(^{o})$	$Ideal(^{o})$
1	Ζ	27	ASP	CB-CG-OD1	5.68	123.41	118.30
1	f	27	ASP	CB-CG-OD1	5.67	123.40	118.30
1	i	27	ASP	CB-CG-OD1	5.65	123.39	118.30
1	a	27	ASP	CB-CG-OD1	5.64	123.38	118.30
1	Т	27	ASP	CB-CG-OD1	5.63	123.37	118.30

There are no chirality outliers.

There are no planarity outliers.

#### 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 PDB entries followed by that with respect to all EM entries.

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	Perce	ntiles
1	0	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	0A	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	0B	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	$0\mathrm{C}$	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	1	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	1A	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	1B	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	1C	68/74~(92%)	68 (100%)	0	0	100	100
1	2	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	2A	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	2B	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	$2\mathrm{C}$	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	3	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	3A	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	3B	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	3C	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	4	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	4A	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	4B	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	$4\mathrm{C}$	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	5	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	5A	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	5B	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	$5\mathrm{C}$	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	6	68/74~(92%)	66 (97%)	2 (3%)	0	100	100



Mol	Chain	Analysed	Favoured	Allowed	Outliers	Perce	ntiles
1	6A	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	6B	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	$6\mathrm{C}$	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	7	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	7A	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	7B	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	$7\mathrm{C}$	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	8	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	8A	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	8B	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	8C	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	9	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	9A	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	9B	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	9C	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	А	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	AA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	AB	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	AC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	AD	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	В	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	BA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	BB	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	BC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	BD	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	С	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	CA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	CB	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	CC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	CD	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	D	68/74~(92%)	67 (98%)	1 (2%)	0	100	100



Continued from previous page...

1         DA         668/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         DB         668/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         DC         668/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         DD         668/74 (92%)         65 (96%)         3 (4%)         0         100         100           1         EA         668/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         EB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         ED         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FA <td< th=""><th>Mol</th><th>Chain</th><th>Analysed</th><th>Favoured</th><th>Allowed</th><th>Outliers</th><th>Perce</th><th>ntiles</th></td<>	Mol	Chain	Analysed	Favoured	Allowed	Outliers	Perce	ntiles
1DC $68/74$ (92%) $66$ (97%) $2$ (3%)01001001DD $68/74$ (92%) $67$ (98%) $1$ (2%)01001001E $68/74$ (92%) $65$ (96%) $3$ (4%)01001001EA $68/74$ (92%) $66$ (97%) $2$ (3%)01001001EB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001EC $68/74$ (92%) $66$ (97%) $2$ (3%)01001001ED $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FA $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FA $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FD $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FD $68/74$ (92%) $66$ (97%) $2$ (3%)01001001GA $68/74$ (92%) $66$ (97%) $2$ (3%)01001001GB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001GB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001GB $68/74$ (92%) $66$ (97%) $2$ (3%) <td< td=""><td>1</td><td>DA</td><td>68/74~(92%)</td><td>66~(97%)</td><td>2 (3%)</td><td>0</td><td>100</td><td>100</td></td<>	1	DA	68/74~(92%)	66~(97%)	2 (3%)	0	100	100
1         DD         68/74 (92%)         67 (98%)         1 (2%)         0         100           1         E         68/74 (92%)         65 (96%)         3 (4%)         0         100         100           1         EA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         EB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         EB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         EC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         <	1	DB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1E $68/74$ (92%) $65$ (96%) $3$ (4%)01001001EA $68/74$ (92%) $66$ (97%) $2$ (3%)01001001EB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001EC $68/74$ (92%) $66$ (97%) $2$ (3%)01001001EC $68/74$ (92%) $66$ (97%) $2$ (3%)01001001ED $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FA $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FD $68/74$ (92%) $66$ (97%) $2$ (3%)01001001GA $68/74$ (92%) $66$ (97%) $2$ (3%)01001001GB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001GD $68/74$ (92%) $66$ (97%) $2$ (3%)01001001HA $68/74$ (92%) $66$ (97%) $2$ (3%) <td< td=""><td>1</td><td>DC</td><td>68/74~(92%)</td><td>66 (97%)</td><td>2(3%)</td><td>0</td><td>100</td><td>100</td></td<>	1	DC	68/74~(92%)	66 (97%)	2(3%)	0	100	100
1EA $68/74$ (92%) $66$ (97%) $2$ (3%)01001001EB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001EC $68/74$ (92%) $66$ (97%) $2$ (3%)01001001ED $68/74$ (92%) $67$ (98%) $1$ (2%)01001001F $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FA $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FD $68/74$ (92%) $66$ (97%) $2$ (3%)01001001FD $68/74$ (92%) $66$ (97%) $2$ (3%)01001001GA $68/74$ (92%) $66$ (97%) $2$ (3%)01001001GB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001GB $68/74$ (92%) $66$ (97%) $2$ (3%)01001001GD $68/74$ (92%) $66$ (97%) $2$ (3%)01001001HA $68/74$ (92%) $66$ (97%) $2$ (3%) <td< td=""><td>1</td><td>DD</td><td>68/74~(92%)</td><td>67 (98%)</td><td>1 (2%)</td><td>0</td><td>100</td><td>100</td></td<>	1	DD	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1         EB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         EC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         ED         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GB         68/7	1	Ε	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
I         EC         68/74 (92%)         66 (97%)         2 (3%)         0         100           1         ED         68/74 (92%)         67 (98%)         1 (2%)         0         100         100           1         FD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GB         68/74 (92%)	1	EA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
I         ED         68/74 (92%)         67 (98%)         1 (2%)         0         100           1         F         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GD         68/74 (92%)         <	1	EB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
I         F         68/74 (92%)         66 (97%)         2 (3%)         0         100           1         FA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         G         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%) <t< td=""><td>1</td><td>EC</td><td>68/74~(92%)</td><td>66 (97%)</td><td>2 (3%)</td><td>0</td><td>100</td><td>100</td></t<>	1	EC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1         FA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FC         68/74 (92%)         67 (98%)         1 (2%)         0         100         100           1         FD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/7	1	ED	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1         FB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         G         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         H         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74	1	F	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1         FC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         FD         68/74 (92%)         67 (98%)         1 (2%)         0         100         100           1         G         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HB         68/74	1	FA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1         FD         68/74 (92%)         67 (98%)         1 (2%)         0         100           1         G         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         G         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         H         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HB         68/74 (92%) <td< td=""><td>1</td><td><math>\operatorname{FB}</math></td><td>68/74~(92%)</td><td>66 (97%)</td><td>2 (3%)</td><td>0</td><td>100</td><td>100</td></td<>	1	$\operatorname{FB}$	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1         G         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         H         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HC         68/74	1	$\mathbf{FC}$	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
Image: Constraint of the second sec	1	$\mathrm{FD}$	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1         GB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GD         68/74 (92%)         67 (98%)         1 (2%)         0         100         100           1         H         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         IA         68/74	1	G	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1         GC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         GD         68/74 (92%)         67 (98%)         1 (2%)         0         100         100           1         H         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         H         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         H         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         IA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         IB         68/74 (	1	GA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1         GD         68/74 (92%)         67 (98%)         1 (2%)         0         100           1         H         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HB         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HC         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         HD         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         IA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         IA         68/74 (92%)         66 (97%)         2 (3%)         0         100         100           1         IB         68/74 (92%)         <	1	GB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1       H       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       HA       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       HB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       HB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       HB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       HC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       HD       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       I       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IA       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1 <t< td=""><td>1</td><td>GC</td><td>68/74~(92%)</td><td>66 (97%)</td><td>2 (3%)</td><td>0</td><td>100</td><td>100</td></t<>	1	GC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1HA68/74 (92%)66 (97%)2 (3%)01001001HB68/74 (92%)66 (97%)2 (3%)01001001001HC68/74 (92%)66 (97%)2 (3%)01001001001HD68/74 (92%)66 (97%)2 (3%)01001001001HD68/74 (92%)66 (97%)2 (3%)01001001001IA68/74 (92%)66 (97%)2 (3%)01001001001IA68/74 (92%)66 (97%)2 (3%)01001001001IB68/74 (92%)66 (97%)2 (3%)01001001001IB68/74 (92%)66 (97%)2 (3%)01001001001IB68/74 (92%)66 (97%)2 (3%)01001001001ID68/74 (92%)66 (97%)2 (3%)01001001001J68/74 (92%)66 (97%)2 (3%)01001001001J68/74 (92%)667 (98%)1 (2%)01001001001J68/74 (92%)67 (98%)1 (2%)01001001001J68/74 (92%)67 (98%)1 (2%)0100100100	1	GD	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1       HB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       HC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       HD       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       HD       68/74 (92%)       67 (98%)       1 (2%)       0       100       100         1       I       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IA       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IA       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       ID       68/74 (92%)       66 (97%)       1 (2%)       0       100       100         1       <	1	Н	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1       HC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       HD       68/74 (92%)       67 (98%)       1 (2%)       0       100       100         1       HD       68/74 (92%)       67 (98%)       1 (2%)       0       100       100         1       I       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IA       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IA       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       ID       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       ID       68/74 (92%)       67 (98%)       1 (2%)       0       100       100         1       <	1	НА	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1       HD       68/74 (92%)       67 (98%)       1 (2%)       0       100       100         1       I       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       IA       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       IA       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       IB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       IB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       IC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       IC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100	1	HB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1       I       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IA       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       IA       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       IB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       IC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       IC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       ID       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       ID       68/74 (92%)       667 (98%)       1 (2%)       0       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100	1	HC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1       IA       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       IB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100       100         1       IC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       ID       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       ID       68/74 (92%)       66 (97%)       1 (2%)       0       100       100         1       J       68/74 (92%)       67 (98%)       1 (2%)       0       100       100         1       J       68/74 (92%)       67 (98%)       1 (2%)       0       100       100	1	HD	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1       IB       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       IC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       ID       68/74 (92%)       67 (98%)       1 (2%)       0       100       100         1       J       68/74 (92%)       67 (98%)       1 (2%)       0       100       100	1	Ι	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1       IC       68/74 (92%)       66 (97%)       2 (3%)       0       100       100         1       ID       68/74 (92%)       67 (98%)       1 (2%)       0       100       100         1       J       68/74 (92%)       67 (98%)       1 (2%)       0       100       100	1	IA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1       ID       68/74 (92%)       67 (98%)       1 (2%)       0       100       100         1       J       68/74 (92%)       67 (98%)       1 (2%)       0       100       100	1	IB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1 J 68/74 (92%) 67 (98%) 1 (2%) 0 100 100	1	IC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
	1	ID	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1 JA 68/74 (92%) 66 (97%) 2 (3%) 0 100 100	1	J	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
	1	JA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100



Continued	from	previous	<i>paae</i>

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Perce	ntiles
1	JB	68/74~(92%)	66~(97%)	2 (3%)	0	100	100
1	JC	68/74~(92%)	66~(97%)	2(3%)	0	100	100
1	JD	68/74~(92%)	67~(98%)	1 (2%)	0	100	100
1	Κ	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	KA	68/74~(92%)	66~(97%)	2 (3%)	0	100	100
1	KB	68/74~(92%)	66~(97%)	2 (3%)	0	100	100
1	KC	68/74~(92%)	66~(97%)	2 (3%)	0	100	100
1	KD	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	L	68/74~(92%)	66~(97%)	2 (3%)	0	100	100
1	LA	68/74~(92%)	66~(97%)	2 (3%)	0	100	100
1	LB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	LC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	LD	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	М	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	MA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	MB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	MC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	MD	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	Ν	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	NA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	NB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	NC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	ND	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	О	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	OA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	OB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	OC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	OD	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	Р	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	PA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	PB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100



Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percer	ntiles
1	PC	68/74~(92%)	66~(97%)	2(3%)	0	100	100
1	PD	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	Q	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	QA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	QB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	QC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	QD	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	R	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	RA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	RB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	RC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	S	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	SA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	SB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	$\mathbf{SC}$	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	Т	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	ТА	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	TB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	TC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	U	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	UA	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	UB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	UC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	V	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	VA	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	VB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	VC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	W	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	WA	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	WB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	WC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100

Continued from previous page...



1

1

1

1

1

1

1

1

1

1

1

1

1

1

bBbC

 $\mathbf{c}$ 

 $\mathbf{c}\mathbf{A}$ 

cB

cC

d

dA

 $\mathrm{dB}$ 

 $\mathrm{dC}$ 

е

eA

eB

eC

Percentiles

100

100

100

100

100

100

100

100

100 100

100

100

100

100

100 100

100

100

100

100

100

100

100

100

100

100

100

100

100 100

100

100

100

100

100 100

100

100 100

100

100

100

100

100

100

100

100

100

100

100

100

100 100

100

100

100

100

100

100

100

100

100

0

0

0

0

0

0

0

0

0

0

0

0

0

0

Conti	Continued from previous page								
Mol	Chain	Analysed	Favoured	Allowed	Outliers				
1	XA	68/74~(92%)	67~(98%)	1 (2%)	0				
1	XB	68/74~(92%)	66~(97%)	2(3%)	0				
1	XC	68/74~(92%)	66~(97%)	2(3%)	0				
1	Y	68/74~(92%)	66~(97%)	2(3%)	0				
1	YA	68/74~(92%)	67~(98%)	1 (2%)	0				
1	YB	68/74~(92%)	66~(97%)	2(3%)	0				
1	YC	68/74~(92%)	66~(97%)	2(3%)	0				
1	Z	68/74~(92%)	66~(97%)	2(3%)	0				
1	ZA	68/74~(92%)	67~(98%)	1 (2%)	0				
1	ZB	68/74~(92%)	66~(97%)	2(3%)	0				
1	ZC	68/74~(92%)	66~(97%)	2 (3%)	0				
1	a	68/74~(92%)	66~(97%)	2(3%)	0				
1	aA	68/74~(92%)	67~(98%)	1 (2%)	0				
1	aB	68/74~(92%)	66~(97%)	2(3%)	0				
1	aC	68/74~(92%)	66~(97%)	2(3%)	0				
1	b	68/74~(92%)	66~(97%)	2(3%)	0				
1	bA	68/74~(92%)	67~(98%)	1 (2%)	0				

68/74 (92%)

68/74 (92%)

68/74 (92%)

68/74 (92%)

68/74 (92%)

68/74 (92%)

68/74 (92%)

68/74 (92%)

68/74 (92%)

68/74 (92%)

68/74 (92%)

68/74 (92%)

68/74 (92%)

68/74 (92%)

 $\sim$ . . : . 1 0

Continued on next page...



66 (97%)

66 (97%)

66 (97%)

67 (98%)

66 (97%)

67 (98%)

66 (97%)

67 (98%)

66 (97%)

66 (97%)

66 (97%)

67 (98%)

67 (98%)

66 (97%)

2(3%)

2(3%)

2(3%)

1(2%)

2(3%)

1(2%)

2(3%)

1(2%)

2(3%)

2(3%)

2(3%)

1(2%)

1(2%)

2(3%)

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Perce	ntiles
1	f	68/74~(92%)	66~(97%)	2(3%)	0	100	100
1	fA	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	fB	68/74~(92%)	67~(98%)	1 (2%)	0	100	100
1	fC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	g	68/74~(92%)	66 (97%)	2(3%)	0	100	100
1	gA	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	gΒ	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	gC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	h	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	hA	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	hB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	hC	68/74~(92%)	68 (100%)	0	0	100	100
1	i	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	iA	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	iB	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	iC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	j	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	jА	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	jВ	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	jС	68/74~(92%)	68 (100%)	0	0	100	100
1	k	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	kA	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	kB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	kC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	1	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	lA	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	lB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	lC	68/74~(92%)	68 (100%)	0	0	100	100
1	m	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	mA	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	mB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100



Continued	from	nrevious	naae
Continucu	JION	previous	page

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Perce	ntiles
1	mC	68/74~(92%)	67~(98%)	1 (2%)	0	100	100
1	n	68/74~(92%)	67~(98%)	1 (2%)	0	100	100
1	nA	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	nB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	nC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	О	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	oA	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	oB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	oC	68/74~(92%)	68 (100%)	0	0	100	100
1	р	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	рА	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	pВ	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	pC	68/74~(92%)	68 (100%)	0	0	100	100
1	q	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	qA	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	qB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	qC	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	r	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	rA	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	rB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	rC	68/74~(92%)	68 (100%)	0	0	100	100
1	s	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	sA	68/74~(92%)	65~(96%)	3 (4%)	0	100	100
1	sB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	$\mathbf{sC}$	68/74~(92%)	68 (100%)	0	0	100	100
1	t	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	tA	68/74~(92%)	65 (96%)	3 (4%)	0	100	100
1	tB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	tC	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	u	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
1	uA	68/74~(92%)	65 (96%)	3 (4%)	0	100	100



Mol	Chain	Analysed	Favoured	Allowed	Outliers	Perce	ntiles
1	uB	68/74~(92%)	66~(97%)	2(3%)	0	100	100
1	uC	68/74~(92%)	66~(97%)	2(3%)	0	100	100
1	V	68/74~(92%)	67~(98%)	1 (2%)	0	100	100
1	vA	68/74~(92%)	66~(97%)	2 (3%)	0	100	100
1	vB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	vC	68/74~(92%)	67~(98%)	1 (2%)	0	100	100
1	W	68/74~(92%)	67~(98%)	1 (2%)	0	100	100
1	wA	68/74~(92%)	65~(96%)	3 (4%)	0	100	100
1	wB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	wC	68/74~(92%)	67~(98%)	1 (2%)	0	100	100
1	x	68/74~(92%)	67~(98%)	1 (2%)	0	100	100
1	xA	68/74~(92%)	65~(96%)	3 (4%)	0	100	100
1	xB	68/74~(92%)	66~(97%)	2 (3%)	0	100	100
1	xC	68/74~(92%)	67~(98%)	1 (2%)	0	100	100
1	У	68/74~(92%)	67~(98%)	1 (2%)	0	100	100
1	yА	68/74~(92%)	65~(96%)	3 (4%)	0	100	100
1	yB	68/74~(92%)	66~(97%)	2 (3%)	0	100	100
1	yC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	Z	68/74~(92%)	67~(98%)	1 (2%)	0	100	100
1	zA	68/74~(92%)	65~(96%)	3 (4%)	0	100	100
1	zB	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
1	zC	68/74~(92%)	66 (97%)	2 (3%)	0	100	100
All	All	17952/19536~(92%)	17507 (98%)	445 (2%)	0	100	100

Continued from previous page...

There are no Ramachandran outliers to report.

#### 5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent side chain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the side chain conformation was analysed, and the total number of residues.



Mol	Chain	Analysed	Rotameric	Outliers	Perce	ntiles
1	0	58/62~(94%)	58 (100%)	0	100	100
1	0A	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	0B	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	0C	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	1	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	1A	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	1B	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	1C	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	2	58/62~(94%)	58 (100%)	0	100	100
1	2A	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	2B	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	2C	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	3	58/62~(94%)	58 (100%)	0	100	100
1	3A	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	3B	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	3C	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	4	58/62~(94%)	58 (100%)	0	100	100
1	4A	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	4B	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	4C	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	5	58/62~(94%)	58 (100%)	0	100	100
1	5A	58/62~(94%)	58 (100%)	0	100	100
1	5B	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	$5\mathrm{C}$	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	6	58/62~(94%)	58 (100%)	0	100	100
1	6A	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	6B	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	6C	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	7	58/62~(94%)	58 (100%)	0	100	100
1	7A	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	7B	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	7C	58/62~(94%)	57 (98%)	1 (2%)	56	78



Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Perce	ntiles
1	8	58/62~(94%)	58 (100%)	0	100	100
1	8A	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	8B	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	$8\mathrm{C}$	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	9	58/62~(94%)	58 (100%)	0	100	100
1	9A	58/62~(94%)	58 (100%)	0	100	100
1	9B	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	$9\mathrm{C}$	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	А	58/62~(94%)	56 (97%)	2(3%)	32	57
1	AA	58/62~(94%)	58 (100%)	0	100	100
1	AB	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	AC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	AD	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	В	58/62~(94%)	58 (100%)	0	100	100
1	BA	58/62~(94%)	58 (100%)	0	100	100
1	BB	58/62~(94%)	58 (100%)	0	100	100
1	BC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	BD	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	С	58/62~(94%)	58 (100%)	0	100	100
1	CA	58/62~(94%)	58 (100%)	0	100	100
1	CB	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	CC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	CD	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	D	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	DA	58/62~(94%)	58 (100%)	0	100	100
1	DB	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	DC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	DD	58/62~(94%)	56 (97%)	2 (3%)	32	57
1	Е	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	EA	58/62~(94%)	58 (100%)	0	100	100
1	EB	58/62~(94%)	58 (100%)	0	100	100



$\alpha$ $\cdot$ $\cdot$ $\cdot$	C		
Continued	trom	previous	page
• • • • • • • • • • • • •	J	<i>r</i> · · · · · · · · · · · · · · · · · · ·	r

Mol	Chain	Analysed	Rotameric	Outliers	Perce	ntiles
1	EC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	ED	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	F	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	FA	58/62~(94%)	58 (100%)	0	100	100
1	$\operatorname{FB}$	58/62~(94%)	58 (100%)	0	100	100
1	$\mathbf{FC}$	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	$\mathrm{FD}$	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	G	58/62~(94%)	58 (100%)	0	100	100
1	GA	58/62~(94%)	58 (100%)	0	100	100
1	GB	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	$\operatorname{GC}$	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	GD	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	Н	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	НА	58/62~(94%)	58 (100%)	0	100	100
1	HB	58/62~(94%)	58 (100%)	0	100	100
1	HC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	HD	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	Ι	58/62~(94%)	58 (100%)	0	100	100
1	IA	58/62~(94%)	58 (100%)	0	100	100
1	IB	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	IC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	ID	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	J	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	JA	58/62~(94%)	58 (100%)	0	100	100
1	JB	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	JC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	JD	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	К	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	KA	58/62~(94%)	58 (100%)	0	100	100
1	KB	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	KC	58/62~(94%)	58 (100%)	0	100	100



Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	KD	58/62~(94%)	57~(98%)	1 (2%)	56 78
1	L	58/62~(94%)	57~(98%)	1 (2%)	56 78
1	LA	58/62~(94%)	58 (100%)	0	100 100
1	LB	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	LC	58/62~(94%)	58 (100%)	0	100 100
1	LD	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	М	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	MA	58/62~(94%)	58 (100%)	0	100 100
1	MB	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	MC	58/62~(94%)	58 (100%)	0	100 100
1	MD	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	Ν	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	NA	58/62~(94%)	58 (100%)	0	100 100
1	NB	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	NC	58/62~(94%)	58 (100%)	0	100 100
1	ND	58/62~(94%)	56 (97%)	2(3%)	32 57
1	О	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	OA	58/62~(94%)	58 (100%)	0	100 100
1	OB	58/62~(94%)	58 (100%)	0	100 100
1	OC	58/62~(94%)	58 (100%)	0	100 100
1	OD	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	Р	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	PA	58/62~(94%)	58 (100%)	0	100 100
1	PB	58/62~(94%)	58 (100%)	0	100 100
1	PC	58/62~(94%)	58 (100%)	0	100 100
1	PD	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	Q	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	QA	58/62~(94%)	58 (100%)	0	100 100
1	QB	58/62~(94%)	57 (98%)	1 (2%)	56 78
1	QC	58/62~(94%)	58 (100%)	0	100 100
1	QD	58/62~(94%)	56 (97%)	2 (3%)	32 57



Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Perce	ntiles
1	R	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	RA	58/62~(94%)	58 (100%)	0	100	100
1	RB	58/62~(94%)	58 (100%)	0	100	100
1	RC	58/62~(94%)	58 (100%)	0	100	100
1	S	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	SA	58/62~(94%)	58 (100%)	0	100	100
1	SB	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	$\mathbf{SC}$	58/62~(94%)	58 (100%)	0	100	100
1	Т	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	ТА	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	TB	58/62~(94%)	58 (100%)	0	100	100
1	TC	58/62~(94%)	58 (100%)	0	100	100
1	U	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	UA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	UB	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	UC	58/62~(94%)	58 (100%)	0	100	100
1	V	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	VA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	VB	58/62~(94%)	58 (100%)	0	100	100
1	VC	58/62~(94%)	58 (100%)	0	100	100
1	W	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	WA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	WB	58/62~(94%)	58 (100%)	0	100	100
1	WC	58/62~(94%)	58 (100%)	0	100	100
1	XA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	XB	58/62~(94%)	58 (100%)	0	100	100
1	XC	58/62~(94%)	58 (100%)	0	100	100
1	Y	58/62~(94%)	56 (97%)	2 (3%)	32	57
1	YA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	YB	58/62~(94%)	58 (100%)	0	100	100
1	YC	58/62~(94%)	58 (100%)	0	100	100



Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Perce	ntiles
1	Ζ	58/62~(94%)	56~(97%)	2(3%)	32	57
1	ZA	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	ZB	58/62~(94%)	56 (97%)	2 (3%)	32	57
1	ZC	58/62~(94%)	58 (100%)	0	100	100
1	a	58/62~(94%)	56 (97%)	2 (3%)	32	57
1	aA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	aB	58/62~(94%)	58 (100%)	0	100	100
1	aC	58/62~(94%)	58 (100%)	0	100	100
1	b	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	bA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	bB	58/62~(94%)	58 (100%)	0	100	100
1	bC	58/62~(94%)	58 (100%)	0	100	100
1	с	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	cA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	cB	58/62~(94%)	58 (100%)	0	100	100
1	cC	58/62~(94%)	58 (100%)	0	100	100
1	d	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	dA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	dB	58/62~(94%)	58 (100%)	0	100	100
1	dC	58/62~(94%)	58 (100%)	0	100	100
1	е	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	eA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	eB	58/62~(94%)	58 (100%)	0	100	100
1	eC	58/62~(94%)	58 (100%)	0	100	100
1	f	58/62~(94%)	56 (97%)	2 (3%)	32	57
1	fA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	fB	58/62~(94%)	58 (100%)	0	100	100
1	fC	58/62~(94%)	58 (100%)	0	100	100
1	g	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	gA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	gB	58/62~(94%)	58 (100%)	0	100	100



$\alpha$ $\cdot$ $\cdot$ $\cdot$	C	•	
Continued	trom	previous	<i>paae</i>
• • • • • • • • • • • •	J	<i>r</i> · · · · · · · · · · · · · · · · · · ·	r ~g ····

1         gC         58/62 (94%)         58 (100%)         0         100         100           1         hA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         hB         58/62 (94%)         57 (98%)         1 (2%)         50         78           1         hB         58/62 (94%)         58 (100%)         0         100         100         100           1         hC         58/62 (94%)         56 (97%)         2 (3%)         32         57           1         iA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         iB         58/62 (94%)         58 (100%)         0         100         100           1         iC         58/62 (94%)         58 (100%)         0         100         100           1         jB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kB         58/62 (94%)	Mol	Chain	Analysed	Rotameric	Outliers	Perce	ntiles
1         hA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         hB         58/62 (94%)         58 (100%)         0         100         100           1         hC         58/62 (94%)         58 (100%)         0         100         100           1         iA         58/62 (94%)         56 (97%)         2 (3%)         32         57           1         iA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         iB         58/62 (94%)         58 (100%)         0         100         100         100           1         iC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         58 (100%)         0         100         100           1         jC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         k         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         k         58/62 (94%)         <	1	$\mathrm{gC}$	58/62~(94%)	58 (100%)	0	100	100
1         hB         58/62 (94%)         58 (100%)         0         100         100           1         hC         58/62 (94%)         58 (100%)         0         100         100           1         hC         58/62 (94%)         56 (97%)         2 (3%)         32         57           1         iA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         iB         58/62 (94%)         58 (100%)         0         100         100           1         iC         58/62 (94%)         58 (100%)         0         100         100           1         jA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         58 (100%)         0         100         100           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kA         58/62 (94%)         57 (98%)	1	h	58/62~(94%)	57 (98%)	1 (2%)	56	78
hC         58/62 (94%)         58 (100%)         0         100         100           1         i         58/62 (94%)         56 (97%)         2 (3%)         32         57           1         iA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         iB         58/62 (94%)         58 (100%)         0         100         100           1         iC         58/62 (94%)         58 (100%)         0         100         100           1         jC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kA         58/62 (94%)         57 (98%)         1 (2%) </td <td>1</td> <td>hA</td> <td>58/62~(94%)</td> <td>57 (98%)</td> <td>1 (2%)</td> <td>56</td> <td>78</td>	1	hA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1         i         58/62 (94%)         56 (97%)         2 (3%)         32         57           1         iA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         iB         58/62 (94%)         58 (100%)         0         100         100           1         iC         58/62 (94%)         58 (100%)         0         100         100           1         jZ         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jE         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         k         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         hK         58/62 (94%)         57 (98%)	1	hB	58/62~(94%)	58 (100%)	0	100	100
1         iA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         iB         58/62 (94%)         58 (100%)         0         100         100           1         iC         58/62 (94%)         58 (100%)         0         100         100           1         jC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         k         58/62 (94%)         58 (100%)         0         100         100           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         lA         58/62 (94%)         57 (98%)	1	hC	58/62~(94%)	58 (100%)	0	100	100
1         iB         58/62 (94%)         58 (100%)         0         100         100           1         iC         58/62 (94%)         58 (100%)         0         100         100           1         jC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         k         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         k         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         lA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         lB         58/62 (94%)         57 (98%)	1	i	58/62~(94%)	56 (97%)	2 (3%)	32	57
1         iC         58/62 (94%)         58 (100%)         0         100         100           1         jA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         58 (100%)         0         100         100           1         jC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         k         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         lA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         lB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         mA         58/62 (94%)         57 (98%)	1	iA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1         j         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         jB         58/62 (94%)         58 (100%)         0         100         100           1         jB         58/62 (94%)         58 (100%)         0         100         100           1         jC         58/62 (94%)         58 (100%)         0         100         100           1         k         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         lA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         lA         58/62 (94%)         58 (100%)         0         100         100           1         mA         58/62 (94%)         57 (98%)	1	iB	58/62~(94%)	58 (100%)	0	100	100
1       jA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       jB       58/62 (94%)       58 (100%)       0       100       100         1       jC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       k       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       k       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       kA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       kB       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       kC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       1       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       1A       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       1B       58/62 (94%)       58 (100%)       0       100       100         1       mA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       mA       58/62 (94%)       57 (	1	iC	58/62~(94%)	58 (100%)	0	100	100
1         jB         58/62 (94%)         58 (100%)         0         100         100           1         jC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         k         58/62 (94%)         58 (100%)         0         100         100           1         kA         58/62 (94%)         58 (100%)         0         100         100           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1A         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1B         58/62 (94%)         58 (100%)         0         100         100           1         mA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         mA         58/62 (94%)         57 (98%)	1	j	58/62~(94%)	57 (98%)	1 (2%)	56	78
1         jC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         k         58/62 (94%)         58 (100%)         0         100         100           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kB         58/62 (94%)         58 (100%)         0         100         100           1         kC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1A         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1B         58/62 (94%)         58 (100%)         0         100         100           1         1C         58/62 (94%)         58 (100%)         0         100         100           1         mA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         mA         58/62 (94%)         57 (98%)	1	jА	58/62~(94%)	57 (98%)	1 (2%)	56	78
1         k         58/62 (94%)         58 (100%)         0         100         100           1         kA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         kB         58/62 (94%)         58 (100%)         0         100         100           1         kB         58/62 (94%)         58 (100%)         0         100         100         100           1         kC         58/62 (94%)         57 (98%)         1 (2%)         56         78         1           1         1         58/62 (94%)         57 (98%)         1 (2%)         56         78         1           1         1A         58/62 (94%)         57 (98%)         1 (2%)         56         78         1           1         1B         58/62 (94%)         58 (100%)         0         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100	1	jВ	58/62~(94%)	58 (100%)	0	100	100
1       kA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       kB       58/62 (94%)       58 (100%)       0       100       100         1       kC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       kC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       1       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       1A       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       1B       58/62 (94%)       58 (100%)       0       100       100         1       1C       58/62 (94%)       58 (100%)       0       100       100         1       m       58/62 (94%)       58 (100%)       0       100       100         1       mA       58/62 (94%)       58 (100%)       0       100       100         1       mA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       mB       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       57 (98%)<	1	jС	58/62~(94%)	57 (98%)	1 (2%)	56	78
1         kB         58/62 (94%)         58 (100%)         0         100         100           1         kC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1A         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1B         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1B         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         m         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         mA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         mB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         mC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         nA         58/62 (94%)         57 (98%)	1	k	58/62~(94%)	58 (100%)	0	100	100
1         kC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1A         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1A         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1B         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         1B         58/62 (94%)         58 (100%)         0         100         100           1         m         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         mA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         mA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         mB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         nA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         nA         58/62 (94%)         57 (98%) <td>1</td> <td>kA</td> <td>58/62~(94%)</td> <td>57 (98%)</td> <td>1 (2%)</td> <td>56</td> <td>78</td>	1	kA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1       1       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       1A       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       1B       58/62 (94%)       58 (100%)       0       100       100         1       1C       58/62 (94%)       58 (100%)       0       100       100         1       1C       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       m       58/62 (94%)       58 (100%)       0       100       100         1       mA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       mA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       mB       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       mC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       58 (100%)       0       100       100         1       nB       58/62 (94%)       58 (100	1	kB	58/62~(94%)	58 (100%)	0	100	100
1       IA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       IB       58/62 (94%)       58 (100%)       0       100       100         1       IC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       IC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       m       58/62 (94%)       58 (100%)       0       100       100         1       mA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       mA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       mB       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       mC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       58 (100%)       0       100       100         1       nB       58/62 (94%)       58 (	1	kC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1IB58/62 (94%)58 (100%)01001001IC58/62 (94%)57 (98%)1 (2%)56781m58/62 (94%)58 (100%)01001001mA58/62 (94%)57 (98%)1 (2%)56781mB58/62 (94%)58 (100%)01001001mB58/62 (94%)57 (98%)1 (2%)56781mC58/62 (94%)57 (98%)1 (2%)56781nA58/62 (94%)57 (98%)1 (2%)56781nA58/62 (94%)57 (98%)1 (2%)56781nB58/62 (94%)57 (98%)1 (2%)56781nB58/62 (94%)57 (98%)1 (2%)56781nB58/62 (94%)57 (98%)1 (2%)56781nC58/62 (94%)57 (98%)1 (2%)56781nB58/62 (94%)57 (98%)1 (2%)56781nC58/62 (94%)57 (98%)1 (2%)56781o58/62 (94%)57 (98%)1 (2%)56781o58/62 (94%)57 (98%)1 (2%)5678	1	1	58/62~(94%)	57 (98%)	1 (2%)	56	78
1         IC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         m         58/62 (94%)         58 (100%)         0         100         100           1         mA         58/62 (94%)         58 (100%)         0         100         100           1         mA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         mB         58/62 (94%)         58 (100%)         0         100         100           1         mB         58/62 (94%)         58 (100%)         0         100         100           1         mC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         n         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         nA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         nA         58/62 (94%)         58 (100%)         0         100         100           1         nB         58/62 (94%)         58 (100%)         0         100         100           1         nC         58/62 (94%)         57 (98%)	1	lA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1         m         58/62 (94%)         58 (100%)         0         100         100           1         mA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         mB         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         mB         58/62 (94%)         58 (100%)         0         100         100           1         mB         58/62 (94%)         58 (100%)         0         100         100           1         mC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         n         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         nA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         nA         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         nB         58/62 (94%)         58 (100%)         0         100         100           1         nC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         o         58/62 (94%)         57 (98%)	1	lB	58/62~(94%)	58 (100%)	0	100	100
1       mA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       mB       58/62 (94%)       58 (100%)       0       100       100         1       mC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       mC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       n       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nB       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nB       58/62 (94%)       58 (100%)       0       100       100         1       nC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       o       58/62 (94%)       57 (98%)       1 (2%)       56       78	1	lC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1       mB       58/62 (94%)       58 (100%)       0       100       100         1       mC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       n       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       n       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nB       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nB       58/62 (94%)       58 (100%)       0       100       100         1       nC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       o       58/62 (94%)       57 (98%)       1 (2%)       56       78	1	m	58/62~(94%)	58 (100%)	0	100	100
1       mC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       n       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nB       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nB       58/62 (94%)       58 (100%)       0       100       100         1       nC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       o       58/62 (94%)       57 (98%)       1 (2%)       56       78	1	mA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1       n       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nB       58/62 (94%)       58 (100%)       0       100       100         1       nC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       o       58/62 (94%)       57 (98%)       1 (2%)       56       78	1	mB	58/62~(94%)	58 (100%)	0	100	100
1       nA       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nB       58/62 (94%)       58 (100%)       0       100       100         1       nC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       nC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       o       58/62 (94%)       57 (98%)       1 (2%)       56       78	1	mC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1       nB       58/62 (94%)       58 (100%)       0       100       100         1       nC       58/62 (94%)       57 (98%)       1 (2%)       56       78         1       o       58/62 (94%)       57 (98%)       1 (2%)       56       78	1	n	58/62~(94%)	57 (98%)	1 (2%)	56	78
1         nC         58/62 (94%)         57 (98%)         1 (2%)         56         78           1         o         58/62 (94%)         57 (98%)         1 (2%)         56         78	1	nA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1         o         58/62 (94%)         57 (98%)         1 (2%)         56         78	1	nB	58/62~(94%)	58 (100%)	0	100	100
	1	nC	58/62~(94%)	57 (98%)	1 (2%)	56	78
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1	0	58/62~(94%)	57 (98%)	1 (2%)	56	78
	1	oA	58/62~(94%)	57 (98%)	1 (2%)	56	78



Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Perce	ntiles
1	oB	58/62~(94%)	58 (100%)	0	100	100
1	oC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	р	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	рА	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	pВ	58/62~(94%)	58 (100%)	0	100	100
1	pC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	q	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	qA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	qB	58/62~(94%)	58 (100%)	0	100	100
1	qC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	r	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	rA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	rB	58/62~(94%)	58 (100%)	0	100	100
1	rC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	s	58/62~(94%)	58 (100%)	0	100	100
1	sA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	sB	58/62~(94%)	58 (100%)	0	100	100
1	$\mathbf{sC}$	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	t	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	tA	58/62~(94%)	58 (100%)	0	100	100
1	tB	58/62~(94%)	58 (100%)	0	100	100
1	tC	58/62~(94%)	58 (100%)	0	100	100
1	u	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	uA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	uB	58/62~(94%)	58 (100%)	0	100	100
1	uC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	V	58/62~(94%)	58 (100%)	0	100	100
1	vA	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	vB	58/62~(94%)	58 (100%)	0	100	100
1	vC	58/62~(94%)	57 (98%)	1 (2%)	56	78
1	W	58/62~(94%)	58 (100%)	0	100	100



Mol	Chain	Analysed	Rotameric	Outliers	Perce	ntiles
1	wA	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	wB	58/62~(94%)	58 (100%)	0	100	100
1	wC	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	х	58/62~(94%)	58 (100%)	0	100	100
1	хA	58/62~(94%)	58 (100%)	0	100	100
1	хB	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	xC	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	У	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	yА	58/62~(94%)	58 (100%)	0	100	100
1	yВ	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	yC	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	Z	58/62~(94%)	58 (100%)	0	100	100
1	zA	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	zB	58/62~(94%)	57~(98%)	1 (2%)	56	78
1	zC	58/62~(94%)	57~(98%)	1 (2%)	56	78
All	All	15312/16368~(94%)	15143 (99%)	169 (1%)	69	85

Continued from previous page...

 $5~{\rm of}~169$  residues with a non-rotameric side chain are listed below:

Mol	Chain	Res	Type
1	EC	64	ARG
1	4C	37	ASP
1	IC	64	ARG
1	rC	37	ASP
1	BD	37	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 93 such sidechains are listed below:

Mol	Chain	Res	Type
1	5A	31	HIS
1	KB	31	HIS
1	7A	31	HIS
1	EB	31	HIS
1	OB	31	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 oligosaccharides in this entry.

### 5.6 Ligand geometry (i)

Of 120 ligands modelled in this entry, 120 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

# 5.7 Other polymers (i)

There are no such residues in this entry.

### 5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.



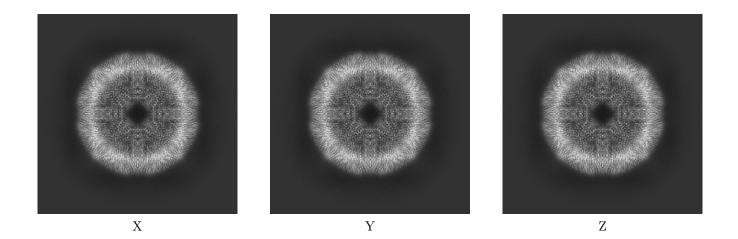
# 6 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-18904. These allow visual inspection of the internal detail of the map and identification of artifacts.

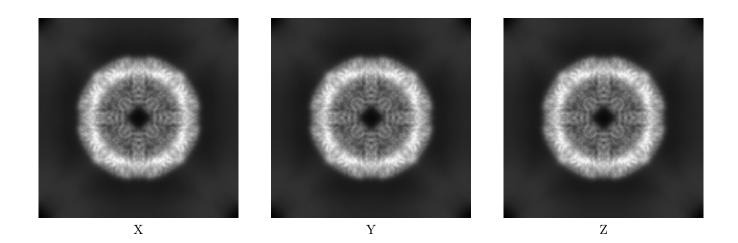
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

# 6.1 Orthogonal projections (i)

### 6.1.1 Primary map



6.1.2 Raw map

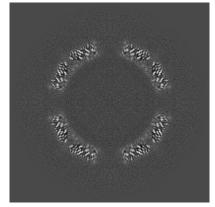


The images above show the map projected in three orthogonal directions.

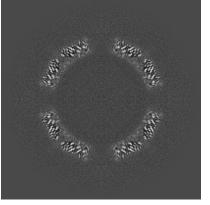


# 6.2 Central slices (i)

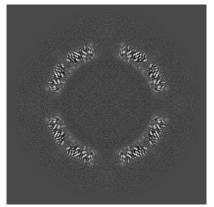
## 6.2.1 Primary map



X Index: 225

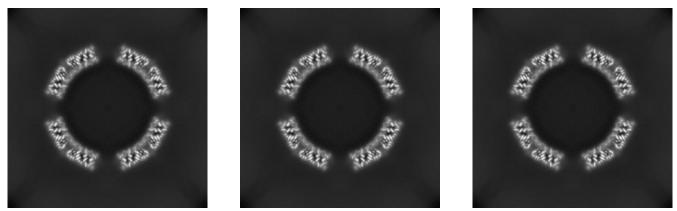


Y Index: 225



Z Index: 225

### 6.2.2 Raw map



X Index: 225

Y Index: 225

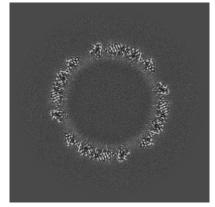
Z Index: 225

The images above show central slices of the map in three orthogonal directions.

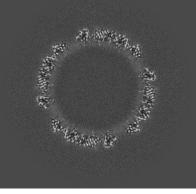


# 6.3 Largest variance slices (i)

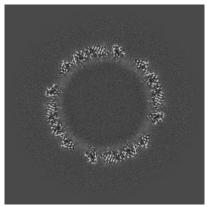
# 6.3.1 Primary map



X Index: 262

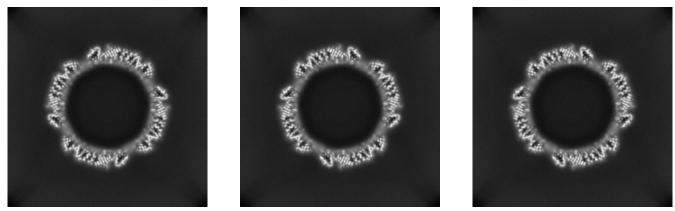


Y Index: 262



Z Index: 188

### 6.3.2 Raw map



X Index: 262

Y Index: 188

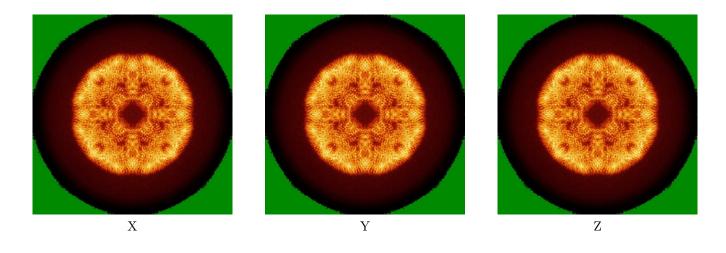


The images above show the largest variance slices of the map in three orthogonal directions.

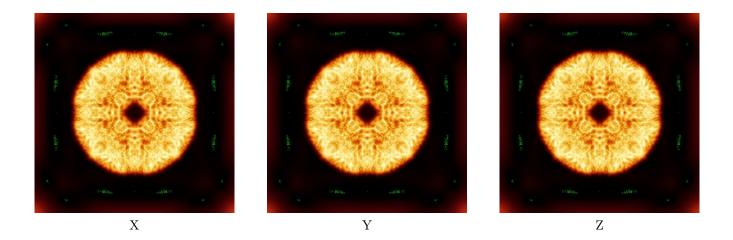


# 6.4 Orthogonal standard-deviation projections (False-color) (i)

### 6.4.1 Primary map



6.4.2 Raw map

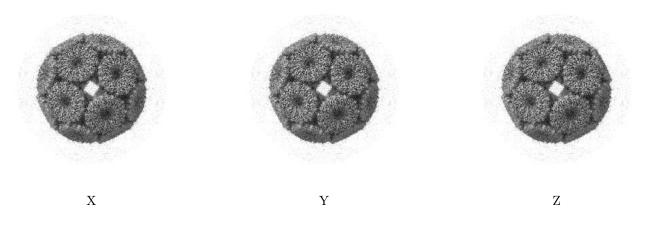


The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.



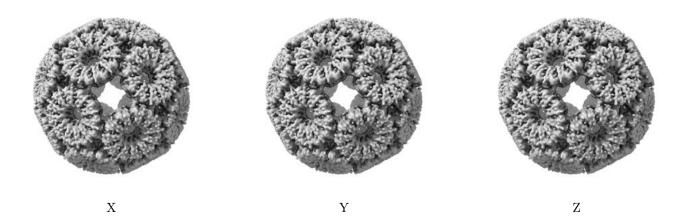
## 6.5 Orthogonal surface views (i)

#### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.493. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

#### 6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

## 6.6 Mask visualisation (i)

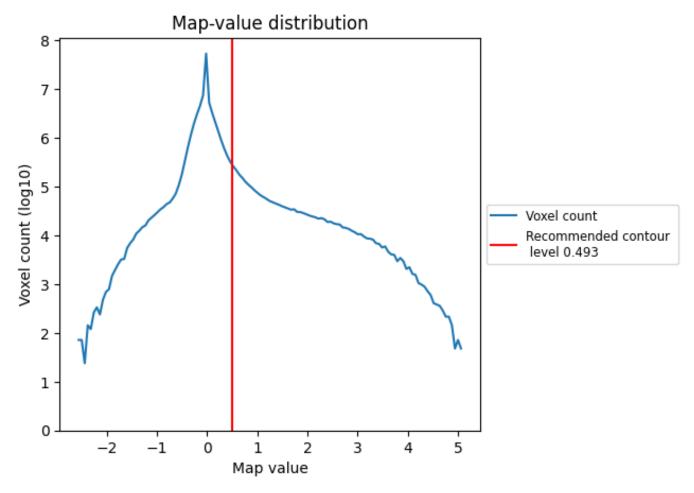
This section was not generated. No masks/segmentation were deposited.



# 7 Map analysis (i)

This section contains the results of statistical analysis of the map.

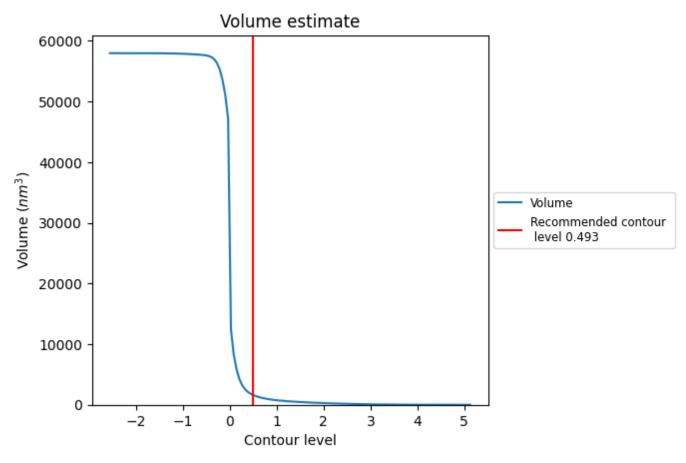
# 7.1 Map-value distribution (i)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.



# 7.2 Volume estimate (i)

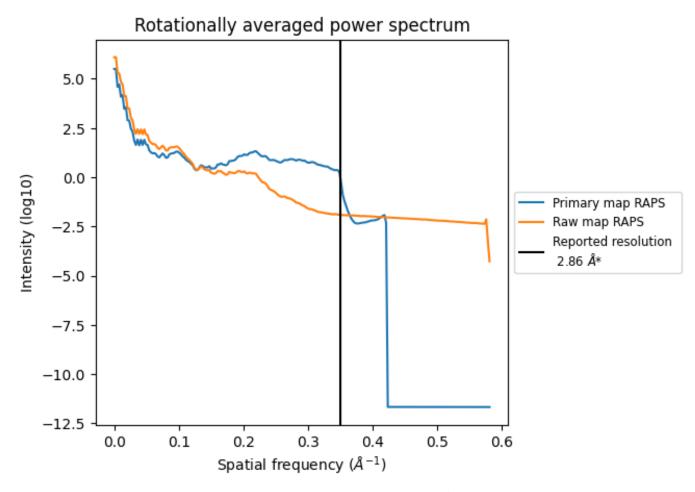


The volume at the recommended contour level is  $1626 \text{ nm}^3$ ; this corresponds to an approximate mass of 1469 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.



# 7.3 Rotationally averaged power spectrum (i)



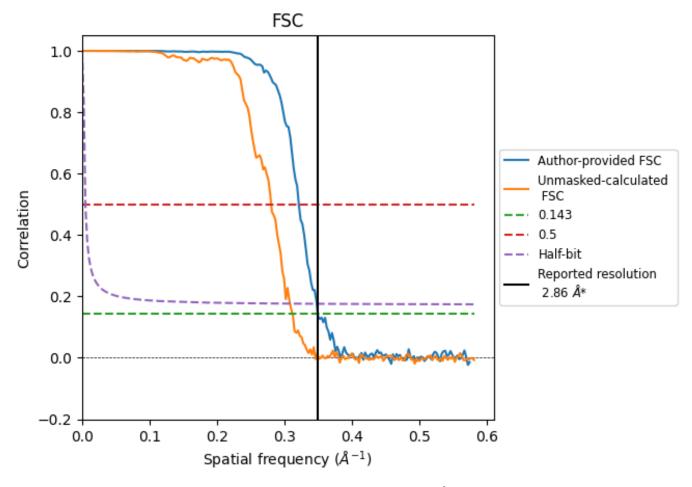
\*Reported resolution corresponds to spatial frequency of 0.350  $\text{\AA}^{-1}$ 



# 8 Fourier-Shell correlation (i)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

# 8.1 FSC (i)



\*Reported resolution corresponds to spatial frequency of 0.350  $\text{\AA}^{-1}$ 



# 8.2 Resolution estimates (i)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
Resolution estimate (A)	0.143	0.5	Half-bit
Reported by author	2.86	-	-
Author-provided FSC curve	2.86	3.11	2.87
Unmasked-calculated*	3.20	3.56	3.24

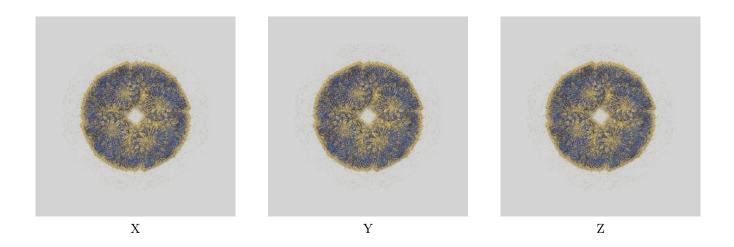
\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.20 differs from the reported value 2.86 by more than 10 %



# 9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-18904 and PDB model 8R59. Per-residue inclusion information can be found in section 3 on page 46.

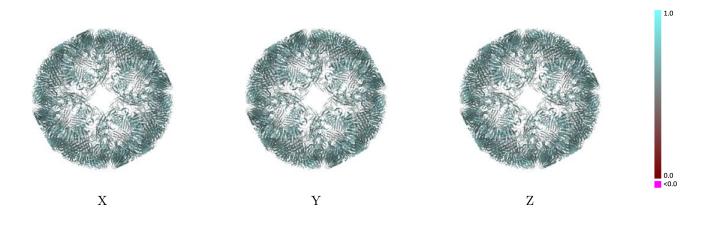
# 9.1 Map-model overlay (i)



The images above show the 3D surface view of the map at the recommended contour level 0.493 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

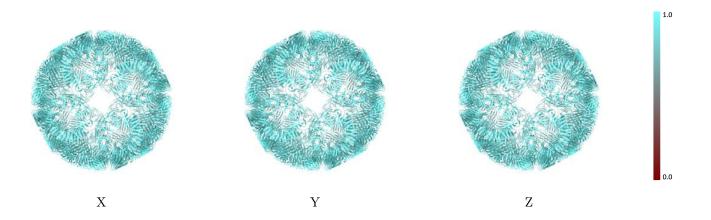


# 9.2 Q-score mapped to coordinate model (i)



The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

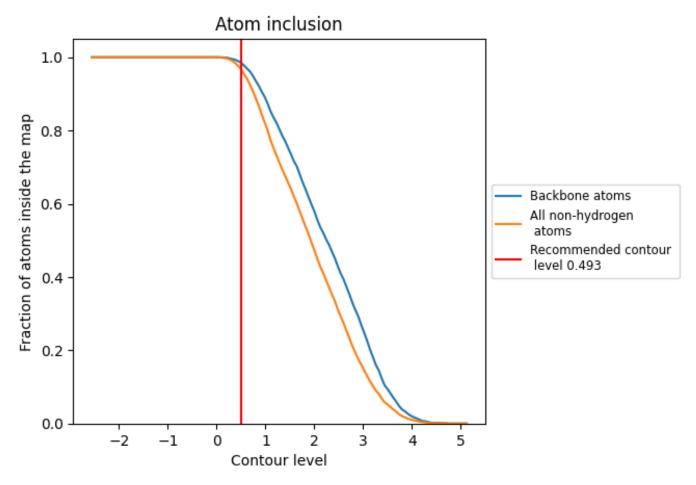
### 9.3 Atom inclusion mapped to coordinate model (i)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.493).



# 9.4 Atom inclusion (i)



At the recommended contour level, 99% of all backbone atoms, 97% of all non-hydrogen atoms, are inside the map.



1.0

0.0 <0.0

# 9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.493) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9690	0.6060
0	0.9720	0.6090
0A	0.9760	0.6100
0B	0.9700	0.6030
$0\mathrm{C}$	0.9560	0.5910
1	0.9720	0.6120
1A	0.9740	0.6090
1B	0.9700	0.6010
1C	0.9590	0.5930
2	0.9720	0.6120
2A	0.9720	0.6050
2B	0.9670	0.6000
$2\mathrm{C}$	0.9560	0.5930
3	0.9720	0.6090
3A	0.9720	0.6090
3B	0.9700	0.6000
3C	0.9570	0.5910
4	0.9720	0.6100
4A	0.9760	0.6060
4B	0.9700	0.6010
$4\mathrm{C}$	0.9720	0.6100
5	0.9740	0.6100
5A	0.9740	0.6080
5B	0.9680	0.5990
$5\mathrm{C}$	0.9720	0.6080
6	0.9720	0.6110
6A	0.9740	0.6110
6B	0.9700	0.6010
$6\mathrm{C}$	0.9690	0.6070
7	0.9700	0.6140
7A	0.9760	0.6070
7B	0.9680	0.6040
7C	0.9720	0.6130
8	0.9720	0.6100
8A	0.9740	0.6090

 $Continued \ on \ next \ page...$ 



Continued from previous page...

Chain	Atom inclusion	Q-score
8B	0.9700	0.6000
8C	0.9720	0.6170
9	0.9700	0.6150
9A	0.9740	0.6060
9B	0.9700	0.5960
9C	0.9720	0.6130
А	0.9800	0.6110
AA	0.9700	0.6170
AB	0.9740	0.6070
AC	0.9700	0.6020
AD	0.9740	0.6150
В	0.9720	0.6050
BA	0.9700	0.6160
BB	0.9720	0.6040
BC	0.9700	0.6010
BD	0.9720	0.6170
С	0.9700	0.6130
CA	0.9700	0.6170
CB	0.9760	0.6110
CC	0.9680	0.6030
CD	0.9690	0.6120
D	0.9630	0.6030
DA	0.9700	0.6160
DB	0.9650	0.5990
DC	0.9700	0.6020
DD	0.9720	0.6170
E	0.9740	0.6070
EA	0.9700	0.6160
EB	0.9630	0.5930
EC	0.9680	0.6050
ED	0.9690	0.6120
F	0.9630	0.6010
FA	0.9720	0.6160
FB	0.9630	0.5900
FC	0.9680	0.6050
FD	0.9720	0.6100
G	0.9690	0.6080
GA	0.9720	0.6150
GB	0.9610	0.5950
GC	0.9680	0.6030
GD	0.9720	0.6080
Н	0.9720	0.6040



$\alpha$ $\cdots$	1 0		
Continu	ied trom	previous	naae
00100000	.ca ji oni	proceed ao	pago

Chain	Atom inclusion	Q-score
НА	0.9700	0.6130
HB	0.9630	0.5950
НС	0.9680	0.6000
HD	0.9720	0.6080
Ι	0.9720	0.6090
IA	0.9700	0.6120
IB	0.9610	0.5950
IC	0.9670	0.6030
ID	0.9720	0.6080
J	0.9570	0.5960
JA	0.9700	0.6130
JB	0.9610	0.5970
JC	0.9680	0.6000
JD	0.9720	0.6160
К	0.9690	0.6100
KA	0.9700	0.6110
KB	0.9650	0.6010
KC	0.9690	0.6070
KD	0.9720	0.6150
L	0.9800	0.6090
LA	0.9700	0.6160
LB	0.9630	0.6030
LC	0.9690	0.6060
LD	0.9720	0.6110
М	0.9800	0.6080
MA	0.9700	0.6130
MB	0.9630	0.6010
MC	0.9700	0.6060
MD	0.9690	0.6160
N	0.9800	0.6080
NA	0.9700	0.6150
NB	0.9610	0.5970
NC	0.9690	0.6080
ND	0.9720	0.6150
0	0.9800	0.6180
OA	0.9700	0.6170
OB	0.9630	0.5930
OC	0.9690	0.6090
OD	0.9720	0.6110
Р	0.9800	0.6140
PA	0.9700	0.6150
PB	0.9630	0.5920



$\alpha$ $\cdot$ $\cdot$ $\cdot$	ſ	•	
Continued	from	previous	page

Chain	Atom inclusion	Q-score
PC	0.9690	0.6070
PD	0.9720	0.6150
Q	0.9800	0.6150
QA	0.9700	0.6150
QB	0.9610	0.5930
QC	0.9690	0.6100
QD	0.9740	0.6150
R	0.9800	0.6160
RA	0.9720	0.6150
RB	0.9610	0.5900
RC	0.9700	0.6100
S	0.9800	0.6150
SA	0.9720	0.6140
SB	0.9590	0.5960
SC	0.9700	0.6060
Т	0.9800	0.6160
ТА	0.9590	0.5960
TB	0.9630	0.5960
TC	0.9690	0.6090
U	0.9800	0.6140
UA	0.9630	0.6030
UB	0.9610	0.5930
UC	0.9700	0.6060
V	0.9800	0.6140
VA	0.9610	0.5980
VB	0.9610	0.5950
VC	0.9700	0.6090
W	0.9800	0.6110
WA	0.9630	0.6030
WB	0.9630	0.5940
WC	0.9690	0.6050
XA	0.9670	0.6090
XB	0.9630	0.5930
XC	0.9700	0.6080
Y	0.9800	0.6080
YA	0.9610	0.6020
YB	0.9610	0.5930
YC	0.9700	0.6070
Z	0.9800	0.6100
ZA	0.9570	0.6010
ZB	0.9630	0.6060
ZC	0.9720	0.6080



$\alpha$ $\cdot$ $\cdot$ $\cdot$	C		
Continued	trom	previous	naae
Contraca	1.0110	proceed ac	pago

Chain	Atom inclusion	Q-score
a	0.9800	0.6090
aA	0.9590	0.6030
aB	0.9700	0.6080
aC	0.9690	0.6090
b	0.9800	0.6160
bA	0.9590	0.5990
bB	0.9670	0.6080
bC	0.9690	0.6100
с	0.9800	0.6150
cA	0.9630	0.6030
cB	0.9700	0.6050
cC	0.9700	0.6100
d	0.9800	0.6130
dA	0.9630	0.6030
dB	0.9720	0.6100
dC	0.9700	0.6090
е	0.9800	0.6160
eA	0.9590	0.5980
eB	0.9690	0.6100
eC	0.9690	0.6050
f	0.9800	0.6160
fA	0.9670	0.6010
fB	0.9690	0.6050
fC	0.9700	0.6090
g	0.9800	0.6140
gA	0.9630	0.6020
gB	0.9720	0.6110
gC	0.9700	0.6060
h	0.9800	0.6140
hA	0.9650	0.6030
hB	0.9690	0.6100
hC	0.9560	0.5910
i	0.9800	0.6150
iA	0.9630	0.6040
iB	0.9690	0.6070
iC	0.9670	0.5940
j	0.9720	0.6050
jА	0.9650	0.6060
jВ	0.9700	0.6070
jС	0.9590	0.5930
k	0.9720	0.6050
kA	0.9630	0.6040



<i>a</i> 1	C		
Continued	trom	previous	page
	J	1	r J

Chain	Atom inclusion	Q-score
kB	0.9670	0.6100
kC	0.9650	0.5970
1	0.9720	0.6030
lA	0.9630	0.6070
lB	0.9700	0.6090
lC	0.9590	0.5960
m	0.9720	0.6110
mA	0.9630	0.6020
mB	0.9700	0.6040
mC	0.9590	0.5940
n	0.9720	0.6120
nA	0.9630	0.6040
nB	0.9700	0.6060
nC	0.9610	0.5970
0	0.9720	0.6100
oA	0.9610	0.6010
oB	0.9700	0.6060
oC	0.9590	0.5950
р	0.9720	0.6110
pА	0.9650	0.6040
pB	0.9720	0.6100
pC	0.9570	0.5910
q	0.9720	0.6080
qA	0.9720	0.6070
qB	0.9690	0.6080
qC	0.9630	0.5970
r	0.9720	0.6090
rA	0.9740	0.6080
rB	0.9700	0.6080
rC	0.9610	0.5940
S	0.9720	0.6110
sA	0.9740	0.6060
sB	0.9690	0.6110
sC	0.9610	0.5970
t	0.9720	0.6080
tA	0.9740	0.6090
tB	0.9700	0.6090
tC	0.9560	0.5920
u	0.9720	0.6060
uA	0.9720	0.6080
uB	0.9720	0.6070
uC	0.9630	0.5970



Chain	Atom inclusion	Q-score
V	0.9720	0.6060
vA	0.9740	0.6100
vB	0.9700	0.6080
vC	0.9570	0.5880
W	0.9720	0.6070
wA	0.9720	0.6100
wB	0.9690	0.6080
wC	0.9560	0.5960
x	0.9720	0.6050
xA	0.9740	0.6050
xB	0.9700	0.6010
xC	0.9610	0.5930
У	0.9720	0.6110
уA	0.9740	0.6090
yB	0.9700	0.6000
yC	0.9590	0.5950
Z	0.9720	0.6120
zA	0.9760	0.6040
zB	0.9680	0.5970
zC	0.9650	0.5970

Continued from previous page...

