



## Full wwPDB EM Validation Report ⓘ

Nov 7, 2022 – 10:05 AM EST

PDB ID : 6NXE  
EMDB ID : EMD-0535  
Title : Cryo-EM Reconstruction of Protease-Activateable Adeno-Associated Virus 9 (AAV9-L001)  
Authors : Bennett, A.B.; Agbandje-Mckenna, M.  
Deposited on : 2019-02-08  
Resolution : 3.16 Å(reported)  
Based on initial model : 3UX1

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>  
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

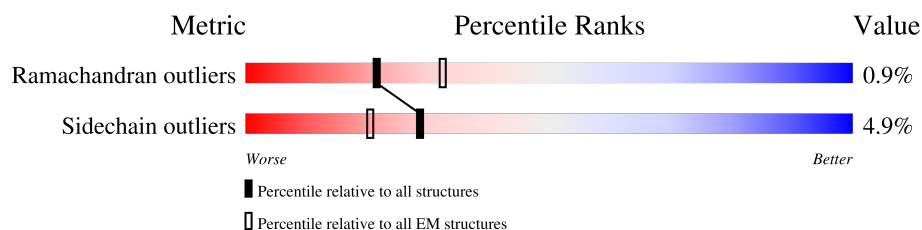
EMDB validation analysis : 0.0.1.dev43  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.31.2

# 1 Overall quality at a glance

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

The reported resolution of this entry is 3.16 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion  $< 40\%$ ). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	544	<div> <div>10%</div> <div>95%</div> <div>5%</div> </div>
1	2	544	<div> <div>7%</div> <div>95%</div> <div>5%</div> </div>
1	3	544	<div> <div>6%</div> <div>95%</div> <div>5%</div> </div>
1	4	544	<div> <div>6%</div> <div>95%</div> <div>5%</div> </div>
1	5	544	<div> <div>6%</div> <div>95%</div> <div>5%</div> </div>
1	6	544	<div> <div>7%</div> <div>95%</div> <div>5%</div> </div>
1	7	544	<div> <div>6%</div> <div>95%</div> <div>5%</div> </div>
1	8	544	<div> <div>5%</div> <div>95%</div> <div>5%</div> </div>
1	A	544	<div> <div>5%</div> <div>95%</div> <div>5%</div> </div>

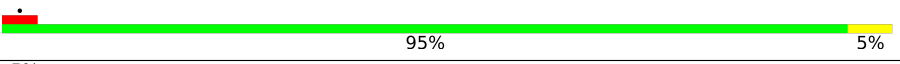
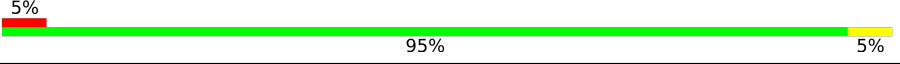
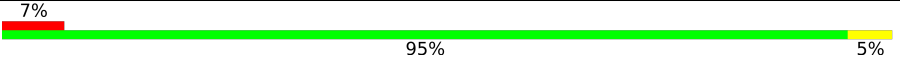
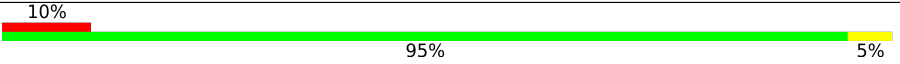
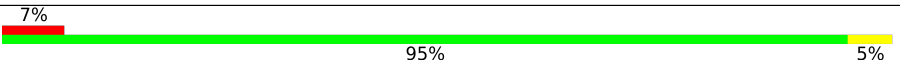
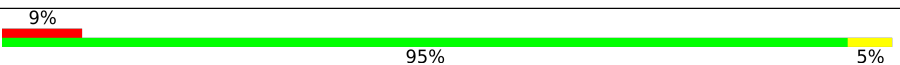
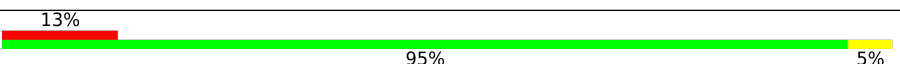
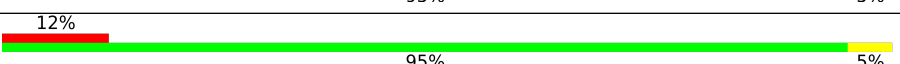
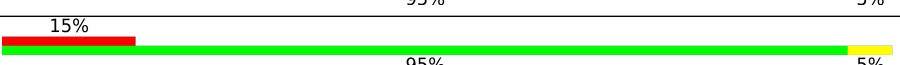
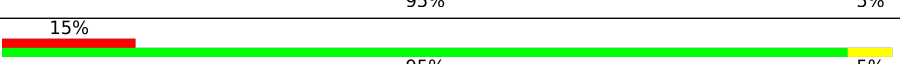
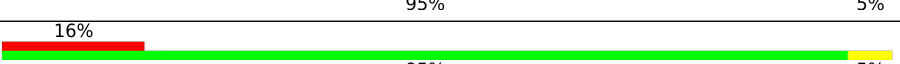
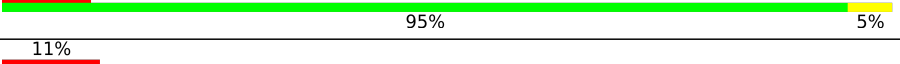
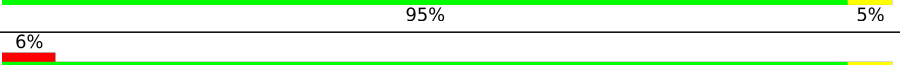
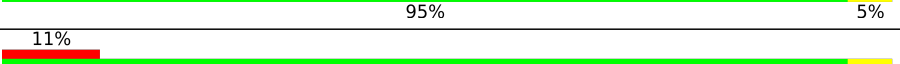
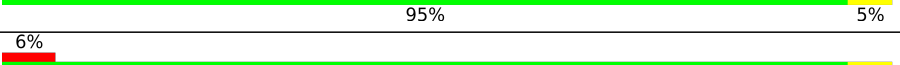
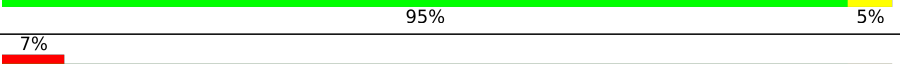
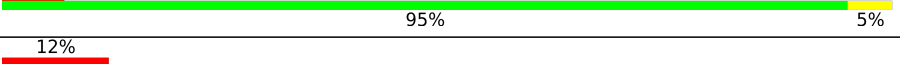
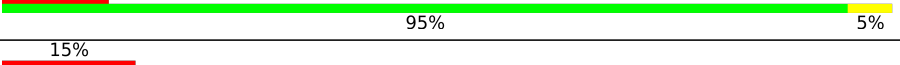
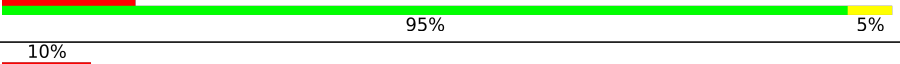
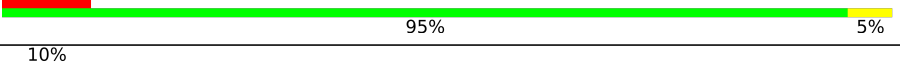
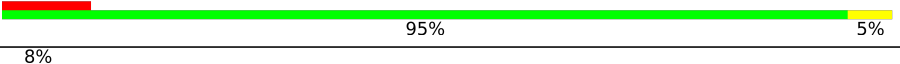
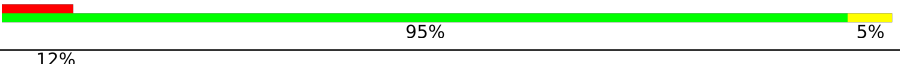
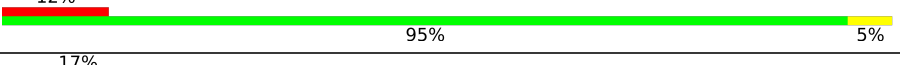
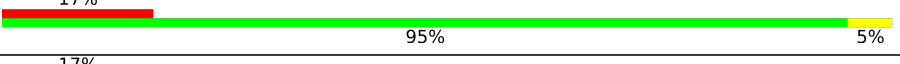
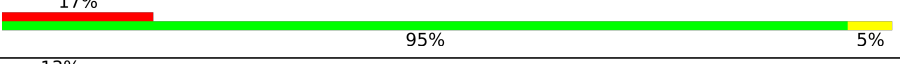
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Mol	Chain	Length	Quality of chain	
1	B	544	5%	95% 5%
1	C	544	6%	95% 5%
1	D	544	6%	95% 5%
1	E	544	5%	95% 5%
1	F	544	5%	95% 5%
1	G	544	5%	95% 5%
1	H	544	5%	95% 5%
1	I	544	5%	95% 5%
1	J	544	5%	95% 5%
1	K	544	5%	95% 5%
1	L	544	5%	95% 5%
1	M	544	6%	95% 5%
1	N	544	7%	95% 5%
1	O	544	10%	95% 5%
1	P	544	6%	95% 5%
1	Q	544	5%	95% 5%
1	R	544	5%	95% 5%
1	S	544	6%	95% 5%
1	T	544	10%	95% 5%
1	U	544	6%	95% 5%
1	V	544	6%	95% 5%
1	W	544	5%	95% 5%
1	X	544	5%	95% 5%
1	Y	544	6%	95% 5%
1	Z	544	5%	95% 5%

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Mol	Chain	Length	Quality of chain
1	a	544	
1	b	544	
1	c	544	
1	d	544	
1	e	544	
1	f	544	
1	g	544	
1	h	544	
1	i	544	
1	j	544	
1	k	544	
1	l	544	
1	m	544	
1	n	544	
1	o	544	
1	p	544	
1	q	544	
1	r	544	
1	s	544	
1	t	544	
1	u	544	
1	v	544	
1	w	544	
1	x	544	
1	y	544	

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Mol	Chain	Length	Quality of chain
1	z	544	<div><div></div><div>10%</div><div>95%</div><div>5%</div></div>

## 2 Entry composition [i](#)

There is only 1 type of molecule in this entry. The entry contains 258000 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.

- Molecule 1 is a protein called Capsid protein VP1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	B	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	C	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	D	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	E	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	F	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	G	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	H	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	I	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	J	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	K	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	L	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	M	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	N	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	O	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	P	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	Q	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		

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Mol	Chain	Residues	Atoms					AltConf	Trace
1	R	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	S	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	T	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	U	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	V	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	W	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	X	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	Y	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	Z	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	a	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	b	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	c	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	d	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	e	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	f	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	g	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	h	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	i	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	j	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	k	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	l	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		

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Mol	Chain	Residues	Atoms					AltConf	Trace
1	m	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	n	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	o	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	p	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	q	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	r	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	s	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	t	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	u	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	v	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	w	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	x	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	y	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	z	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	1	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	2	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	3	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	4	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	5	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	6	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		
1	7	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		

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Mol	Chain	Residues	Atoms					AltConf	Trace
1	8	544	Total	C	N	O	S	0	0
			4300	2704	750	828	18		

There are 1560 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	454	ALA	-	insertion	UNP Q6JC22
A	455	GLY	-	insertion	UNP Q6JC22
A	456	VAL	-	insertion	UNP Q6JC22
A	457	PRO	-	insertion	UNP Q6JC22
A	458	MET	-	insertion	UNP Q6JC22
A	459	SER	-	insertion	UNP Q6JC22
A	460	MET	-	insertion	UNP Q6JC22
A	461	ARG	-	insertion	UNP Q6JC22
A	462	GLY	-	insertion	UNP Q6JC22
A	463	GLY	-	insertion	UNP Q6JC22
A	464	GLY	-	insertion	UNP Q6JC22
A	465	ASP	-	insertion	UNP Q6JC22
A	466	ASP	-	insertion	UNP Q6JC22
A	467	ASP	-	insertion	UNP Q6JC22
A	468	ASP	-	insertion	UNP Q6JC22
A	469	GLY	-	insertion	UNP Q6JC22
A	470	VAL	-	insertion	UNP Q6JC22
A	471	PRO	-	insertion	UNP Q6JC22
A	472	MET	-	insertion	UNP Q6JC22
A	473	SER	-	insertion	UNP Q6JC22
A	474	MET	-	insertion	UNP Q6JC22
A	475	ARG	-	insertion	UNP Q6JC22
A	476	GLY	-	insertion	UNP Q6JC22
A	477	GLY	-	insertion	UNP Q6JC22
A	478	GLY	-	insertion	UNP Q6JC22
A	479	ALA	-	insertion	UNP Q6JC22
B	454	ALA	-	insertion	UNP Q6JC22
B	455	GLY	-	insertion	UNP Q6JC22
B	456	VAL	-	insertion	UNP Q6JC22
B	457	PRO	-	insertion	UNP Q6JC22
B	458	MET	-	insertion	UNP Q6JC22
B	459	SER	-	insertion	UNP Q6JC22
B	460	MET	-	insertion	UNP Q6JC22
B	461	ARG	-	insertion	UNP Q6JC22
B	462	GLY	-	insertion	UNP Q6JC22
B	463	GLY	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
B	464	GLY	-	insertion	UNP Q6JC22
B	465	ASP	-	insertion	UNP Q6JC22
B	466	ASP	-	insertion	UNP Q6JC22
B	467	ASP	-	insertion	UNP Q6JC22
B	468	ASP	-	insertion	UNP Q6JC22
B	469	GLY	-	insertion	UNP Q6JC22
B	470	VAL	-	insertion	UNP Q6JC22
B	471	PRO	-	insertion	UNP Q6JC22
B	472	MET	-	insertion	UNP Q6JC22
B	473	SER	-	insertion	UNP Q6JC22
B	474	MET	-	insertion	UNP Q6JC22
B	475	ARG	-	insertion	UNP Q6JC22
B	476	GLY	-	insertion	UNP Q6JC22
B	477	GLY	-	insertion	UNP Q6JC22
B	478	GLY	-	insertion	UNP Q6JC22
B	479	ALA	-	insertion	UNP Q6JC22
C	454	ALA	-	insertion	UNP Q6JC22
C	455	GLY	-	insertion	UNP Q6JC22
C	456	VAL	-	insertion	UNP Q6JC22
C	457	PRO	-	insertion	UNP Q6JC22
C	458	MET	-	insertion	UNP Q6JC22
C	459	SER	-	insertion	UNP Q6JC22
C	460	MET	-	insertion	UNP Q6JC22
C	461	ARG	-	insertion	UNP Q6JC22
C	462	GLY	-	insertion	UNP Q6JC22
C	463	GLY	-	insertion	UNP Q6JC22
C	464	GLY	-	insertion	UNP Q6JC22
C	465	ASP	-	insertion	UNP Q6JC22
C	466	ASP	-	insertion	UNP Q6JC22
C	467	ASP	-	insertion	UNP Q6JC22
C	468	ASP	-	insertion	UNP Q6JC22
C	469	GLY	-	insertion	UNP Q6JC22
C	470	VAL	-	insertion	UNP Q6JC22
C	471	PRO	-	insertion	UNP Q6JC22
C	472	MET	-	insertion	UNP Q6JC22
C	473	SER	-	insertion	UNP Q6JC22
C	474	MET	-	insertion	UNP Q6JC22
C	475	ARG	-	insertion	UNP Q6JC22
C	476	GLY	-	insertion	UNP Q6JC22
C	477	GLY	-	insertion	UNP Q6JC22
C	478	GLY	-	insertion	UNP Q6JC22
C	479	ALA	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
D	454	ALA	-	insertion	UNP Q6JC22
D	455	GLY	-	insertion	UNP Q6JC22
D	456	VAL	-	insertion	UNP Q6JC22
D	457	PRO	-	insertion	UNP Q6JC22
D	458	MET	-	insertion	UNP Q6JC22
D	459	SER	-	insertion	UNP Q6JC22
D	460	MET	-	insertion	UNP Q6JC22
D	461	ARG	-	insertion	UNP Q6JC22
D	462	GLY	-	insertion	UNP Q6JC22
D	463	GLY	-	insertion	UNP Q6JC22
D	464	GLY	-	insertion	UNP Q6JC22
D	465	ASP	-	insertion	UNP Q6JC22
D	466	ASP	-	insertion	UNP Q6JC22
D	467	ASP	-	insertion	UNP Q6JC22
D	468	ASP	-	insertion	UNP Q6JC22
D	469	GLY	-	insertion	UNP Q6JC22
D	470	VAL	-	insertion	UNP Q6JC22
D	471	PRO	-	insertion	UNP Q6JC22
D	472	MET	-	insertion	UNP Q6JC22
D	473	SER	-	insertion	UNP Q6JC22
D	474	MET	-	insertion	UNP Q6JC22
D	475	ARG	-	insertion	UNP Q6JC22
D	476	GLY	-	insertion	UNP Q6JC22
D	477	GLY	-	insertion	UNP Q6JC22
D	478	GLY	-	insertion	UNP Q6JC22
D	479	ALA	-	insertion	UNP Q6JC22
E	454	ALA	-	insertion	UNP Q6JC22
E	455	GLY	-	insertion	UNP Q6JC22
E	456	VAL	-	insertion	UNP Q6JC22
E	457	PRO	-	insertion	UNP Q6JC22
E	458	MET	-	insertion	UNP Q6JC22
E	459	SER	-	insertion	UNP Q6JC22
E	460	MET	-	insertion	UNP Q6JC22
E	461	ARG	-	insertion	UNP Q6JC22
E	462	GLY	-	insertion	UNP Q6JC22
E	463	GLY	-	insertion	UNP Q6JC22
E	464	GLY	-	insertion	UNP Q6JC22
E	465	ASP	-	insertion	UNP Q6JC22
E	466	ASP	-	insertion	UNP Q6JC22
E	467	ASP	-	insertion	UNP Q6JC22
E	468	ASP	-	insertion	UNP Q6JC22
E	469	GLY	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
E	470	VAL	-	insertion	UNP Q6JC22
E	471	PRO	-	insertion	UNP Q6JC22
E	472	MET	-	insertion	UNP Q6JC22
E	473	SER	-	insertion	UNP Q6JC22
E	474	MET	-	insertion	UNP Q6JC22
E	475	ARG	-	insertion	UNP Q6JC22
E	476	GLY	-	insertion	UNP Q6JC22
E	477	GLY	-	insertion	UNP Q6JC22
E	478	GLY	-	insertion	UNP Q6JC22
E	479	ALA	-	insertion	UNP Q6JC22
F	454	ALA	-	insertion	UNP Q6JC22
F	455	GLY	-	insertion	UNP Q6JC22
F	456	VAL	-	insertion	UNP Q6JC22
F	457	PRO	-	insertion	UNP Q6JC22
F	458	MET	-	insertion	UNP Q6JC22
F	459	SER	-	insertion	UNP Q6JC22
F	460	MET	-	insertion	UNP Q6JC22
F	461	ARG	-	insertion	UNP Q6JC22
F	462	GLY	-	insertion	UNP Q6JC22
F	463	GLY	-	insertion	UNP Q6JC22
F	464	GLY	-	insertion	UNP Q6JC22
F	465	ASP	-	insertion	UNP Q6JC22
F	466	ASP	-	insertion	UNP Q6JC22
F	467	ASP	-	insertion	UNP Q6JC22
F	468	ASP	-	insertion	UNP Q6JC22
F	469	GLY	-	insertion	UNP Q6JC22
F	470	VAL	-	insertion	UNP Q6JC22
F	471	PRO	-	insertion	UNP Q6JC22
F	472	MET	-	insertion	UNP Q6JC22
F	473	SER	-	insertion	UNP Q6JC22
F	474	MET	-	insertion	UNP Q6JC22
F	475	ARG	-	insertion	UNP Q6JC22
F	476	GLY	-	insertion	UNP Q6JC22
F	477	GLY	-	insertion	UNP Q6JC22
F	478	GLY	-	insertion	UNP Q6JC22
F	479	ALA	-	insertion	UNP Q6JC22
G	454	ALA	-	insertion	UNP Q6JC22
G	455	GLY	-	insertion	UNP Q6JC22
G	456	VAL	-	insertion	UNP Q6JC22
G	457	PRO	-	insertion	UNP Q6JC22
G	458	MET	-	insertion	UNP Q6JC22
G	459	SER	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
G	460	MET	-	insertion	UNP Q6JC22
G	461	ARG	-	insertion	UNP Q6JC22
G	462	GLY	-	insertion	UNP Q6JC22
G	463	GLY	-	insertion	UNP Q6JC22
G	464	GLY	-	insertion	UNP Q6JC22
G	465	ASP	-	insertion	UNP Q6JC22
G	466	ASP	-	insertion	UNP Q6JC22
G	467	ASP	-	insertion	UNP Q6JC22
G	468	ASP	-	insertion	UNP Q6JC22
G	469	GLY	-	insertion	UNP Q6JC22
G	470	VAL	-	insertion	UNP Q6JC22
G	471	PRO	-	insertion	UNP Q6JC22
G	472	MET	-	insertion	UNP Q6JC22
G	473	SER	-	insertion	UNP Q6JC22
G	474	MET	-	insertion	UNP Q6JC22
G	475	ARG	-	insertion	UNP Q6JC22
G	476	GLY	-	insertion	UNP Q6JC22
G	477	GLY	-	insertion	UNP Q6JC22
G	478	GLY	-	insertion	UNP Q6JC22
G	479	ALA	-	insertion	UNP Q6JC22
H	454	ALA	-	insertion	UNP Q6JC22
H	455	GLY	-	insertion	UNP Q6JC22
H	456	VAL	-	insertion	UNP Q6JC22
H	457	PRO	-	insertion	UNP Q6JC22
H	458	MET	-	insertion	UNP Q6JC22
H	459	SER	-	insertion	UNP Q6JC22
H	460	MET	-	insertion	UNP Q6JC22
H	461	ARG	-	insertion	UNP Q6JC22
H	462	GLY	-	insertion	UNP Q6JC22
H	463	GLY	-	insertion	UNP Q6JC22
H	464	GLY	-	insertion	UNP Q6JC22
H	465	ASP	-	insertion	UNP Q6JC22
H	466	ASP	-	insertion	UNP Q6JC22
H	467	ASP	-	insertion	UNP Q6JC22
H	468	ASP	-	insertion	UNP Q6JC22
H	469	GLY	-	insertion	UNP Q6JC22
H	470	VAL	-	insertion	UNP Q6JC22
H	471	PRO	-	insertion	UNP Q6JC22
H	472	MET	-	insertion	UNP Q6JC22
H	473	SER	-	insertion	UNP Q6JC22
H	474	MET	-	insertion	UNP Q6JC22
H	475	ARG	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
H	476	GLY	-	insertion	UNP Q6JC22
H	477	GLY	-	insertion	UNP Q6JC22
H	478	GLY	-	insertion	UNP Q6JC22
H	479	ALA	-	insertion	UNP Q6JC22
I	454	ALA	-	insertion	UNP Q6JC22
I	455	GLY	-	insertion	UNP Q6JC22
I	456	VAL	-	insertion	UNP Q6JC22
I	457	PRO	-	insertion	UNP Q6JC22
I	458	MET	-	insertion	UNP Q6JC22
I	459	SER	-	insertion	UNP Q6JC22
I	460	MET	-	insertion	UNP Q6JC22
I	461	ARG	-	insertion	UNP Q6JC22
I	462	GLY	-	insertion	UNP Q6JC22
I	463	GLY	-	insertion	UNP Q6JC22
I	464	GLY	-	insertion	UNP Q6JC22
I	465	ASP	-	insertion	UNP Q6JC22
I	466	ASP	-	insertion	UNP Q6JC22
I	467	ASP	-	insertion	UNP Q6JC22
I	468	ASP	-	insertion	UNP Q6JC22
I	469	GLY	-	insertion	UNP Q6JC22
I	470	VAL	-	insertion	UNP Q6JC22
I	471	PRO	-	insertion	UNP Q6JC22
I	472	MET	-	insertion	UNP Q6JC22
I	473	SER	-	insertion	UNP Q6JC22
I	474	MET	-	insertion	UNP Q6JC22
I	475	ARG	-	insertion	UNP Q6JC22
I	476	GLY	-	insertion	UNP Q6JC22
I	477	GLY	-	insertion	UNP Q6JC22
I	478	GLY	-	insertion	UNP Q6JC22
I	479	ALA	-	insertion	UNP Q6JC22
J	454	ALA	-	insertion	UNP Q6JC22
J	455	GLY	-	insertion	UNP Q6JC22
J	456	VAL	-	insertion	UNP Q6JC22
J	457	PRO	-	insertion	UNP Q6JC22
J	458	MET	-	insertion	UNP Q6JC22
J	459	SER	-	insertion	UNP Q6JC22
J	460	MET	-	insertion	UNP Q6JC22
J	461	ARG	-	insertion	UNP Q6JC22
J	462	GLY	-	insertion	UNP Q6JC22
J	463	GLY	-	insertion	UNP Q6JC22
J	464	GLY	-	insertion	UNP Q6JC22
J	465	ASP	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
J	466	ASP	-	insertion	UNP Q6JC22
J	467	ASP	-	insertion	UNP Q6JC22
J	468	ASP	-	insertion	UNP Q6JC22
J	469	GLY	-	insertion	UNP Q6JC22
J	470	VAL	-	insertion	UNP Q6JC22
J	471	PRO	-	insertion	UNP Q6JC22
J	472	MET	-	insertion	UNP Q6JC22
J	473	SER	-	insertion	UNP Q6JC22
J	474	MET	-	insertion	UNP Q6JC22
J	475	ARG	-	insertion	UNP Q6JC22
J	476	GLY	-	insertion	UNP Q6JC22
J	477	GLY	-	insertion	UNP Q6JC22
J	478	GLY	-	insertion	UNP Q6JC22
J	479	ALA	-	insertion	UNP Q6JC22
K	454	ALA	-	insertion	UNP Q6JC22
K	455	GLY	-	insertion	UNP Q6JC22
K	456	VAL	-	insertion	UNP Q6JC22
K	457	PRO	-	insertion	UNP Q6JC22
K	458	MET	-	insertion	UNP Q6JC22
K	459	SER	-	insertion	UNP Q6JC22
K	460	MET	-	insertion	UNP Q6JC22
K	461	ARG	-	insertion	UNP Q6JC22
K	462	GLY	-	insertion	UNP Q6JC22
K	463	GLY	-	insertion	UNP Q6JC22
K	464	GLY	-	insertion	UNP Q6JC22
K	465	ASP	-	insertion	UNP Q6JC22
K	466	ASP	-	insertion	UNP Q6JC22
K	467	ASP	-	insertion	UNP Q6JC22
K	468	ASP	-	insertion	UNP Q6JC22
K	469	GLY	-	insertion	UNP Q6JC22
K	470	VAL	-	insertion	UNP Q6JC22
K	471	PRO	-	insertion	UNP Q6JC22
K	472	MET	-	insertion	UNP Q6JC22
K	473	SER	-	insertion	UNP Q6JC22
K	474	MET	-	insertion	UNP Q6JC22
K	475	ARG	-	insertion	UNP Q6JC22
K	476	GLY	-	insertion	UNP Q6JC22
K	477	GLY	-	insertion	UNP Q6JC22
K	478	GLY	-	insertion	UNP Q6JC22
K	479	ALA	-	insertion	UNP Q6JC22
L	454	ALA	-	insertion	UNP Q6JC22
L	455	GLY	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
L	456	VAL	-	insertion	UNP Q6JC22
L	457	PRO	-	insertion	UNP Q6JC22
L	458	MET	-	insertion	UNP Q6JC22
L	459	SER	-	insertion	UNP Q6JC22
L	460	MET	-	insertion	UNP Q6JC22
L	461	ARG	-	insertion	UNP Q6JC22
L	462	GLY	-	insertion	UNP Q6JC22
L	463	GLY	-	insertion	UNP Q6JC22
L	464	GLY	-	insertion	UNP Q6JC22
L	465	ASP	-	insertion	UNP Q6JC22
L	466	ASP	-	insertion	UNP Q6JC22
L	467	ASP	-	insertion	UNP Q6JC22
L	468	ASP	-	insertion	UNP Q6JC22
L	469	GLY	-	insertion	UNP Q6JC22
L	470	VAL	-	insertion	UNP Q6JC22
L	471	PRO	-	insertion	UNP Q6JC22
L	472	MET	-	insertion	UNP Q6JC22
L	473	SER	-	insertion	UNP Q6JC22
L	474	MET	-	insertion	UNP Q6JC22
L	475	ARG	-	insertion	UNP Q6JC22
L	476	GLY	-	insertion	UNP Q6JC22
L	477	GLY	-	insertion	UNP Q6JC22
L	478	GLY	-	insertion	UNP Q6JC22
L	479	ALA	-	insertion	UNP Q6JC22
M	454	ALA	-	insertion	UNP Q6JC22
M	455	GLY	-	insertion	UNP Q6JC22
M	456	VAL	-	insertion	UNP Q6JC22
M	457	PRO	-	insertion	UNP Q6JC22
M	458	MET	-	insertion	UNP Q6JC22
M	459	SER	-	insertion	UNP Q6JC22
M	460	MET	-	insertion	UNP Q6JC22
M	461	ARG	-	insertion	UNP Q6JC22
M	462	GLY	-	insertion	UNP Q6JC22
M	463	GLY	-	insertion	UNP Q6JC22
M	464	GLY	-	insertion	UNP Q6JC22
M	465	ASP	-	insertion	UNP Q6JC22
M	466	ASP	-	insertion	UNP Q6JC22
M	467	ASP	-	insertion	UNP Q6JC22
M	468	ASP	-	insertion	UNP Q6JC22
M	469	GLY	-	insertion	UNP Q6JC22
M	470	VAL	-	insertion	UNP Q6JC22
M	471	PRO	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
M	472	MET	-	insertion	UNP Q6JC22
M	473	SER	-	insertion	UNP Q6JC22
M	474	MET	-	insertion	UNP Q6JC22
M	475	ARG	-	insertion	UNP Q6JC22
M	476	GLY	-	insertion	UNP Q6JC22
M	477	GLY	-	insertion	UNP Q6JC22
M	478	GLY	-	insertion	UNP Q6JC22
M	479	ALA	-	insertion	UNP Q6JC22
N	454	ALA	-	insertion	UNP Q6JC22
N	455	GLY	-	insertion	UNP Q6JC22
N	456	VAL	-	insertion	UNP Q6JC22
N	457	PRO	-	insertion	UNP Q6JC22
N	458	MET	-	insertion	UNP Q6JC22
N	459	SER	-	insertion	UNP Q6JC22
N	460	MET	-	insertion	UNP Q6JC22
N	461	ARG	-	insertion	UNP Q6JC22
N	462	GLY	-	insertion	UNP Q6JC22
N	463	GLY	-	insertion	UNP Q6JC22
N	464	GLY	-	insertion	UNP Q6JC22
N	465	ASP	-	insertion	UNP Q6JC22
N	466	ASP	-	insertion	UNP Q6JC22
N	467	ASP	-	insertion	UNP Q6JC22
N	468	ASP	-	insertion	UNP Q6JC22
N	469	GLY	-	insertion	UNP Q6JC22
N	470	VAL	-	insertion	UNP Q6JC22
N	471	PRO	-	insertion	UNP Q6JC22
N	472	MET	-	insertion	UNP Q6JC22
N	473	SER	-	insertion	UNP Q6JC22
N	474	MET	-	insertion	UNP Q6JC22
N	475	ARG	-	insertion	UNP Q6JC22
N	476	GLY	-	insertion	UNP Q6JC22
N	477	GLY	-	insertion	UNP Q6JC22
N	478	GLY	-	insertion	UNP Q6JC22
N	479	ALA	-	insertion	UNP Q6JC22
O	454	ALA	-	insertion	UNP Q6JC22
O	455	GLY	-	insertion	UNP Q6JC22
O	456	VAL	-	insertion	UNP Q6JC22
O	457	PRO	-	insertion	UNP Q6JC22
O	458	MET	-	insertion	UNP Q6JC22
O	459	SER	-	insertion	UNP Q6JC22
O	460	MET	-	insertion	UNP Q6JC22
O	461	ARG	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
O	462	GLY	-	insertion	UNP Q6JC22
O	463	GLY	-	insertion	UNP Q6JC22
O	464	GLY	-	insertion	UNP Q6JC22
O	465	ASP	-	insertion	UNP Q6JC22
O	466	ASP	-	insertion	UNP Q6JC22
O	467	ASP	-	insertion	UNP Q6JC22
O	468	ASP	-	insertion	UNP Q6JC22
O	469	GLY	-	insertion	UNP Q6JC22
O	470	VAL	-	insertion	UNP Q6JC22
O	471	PRO	-	insertion	UNP Q6JC22
O	472	MET	-	insertion	UNP Q6JC22
O	473	SER	-	insertion	UNP Q6JC22
O	474	MET	-	insertion	UNP Q6JC22
O	475	ARG	-	insertion	UNP Q6JC22
O	476	GLY	-	insertion	UNP Q6JC22
O	477	GLY	-	insertion	UNP Q6JC22
O	478	GLY	-	insertion	UNP Q6JC22
O	479	ALA	-	insertion	UNP Q6JC22
P	454	ALA	-	insertion	UNP Q6JC22
P	455	GLY	-	insertion	UNP Q6JC22
P	456	VAL	-	insertion	UNP Q6JC22
P	457	PRO	-	insertion	UNP Q6JC22
P	458	MET	-	insertion	UNP Q6JC22
P	459	SER	-	insertion	UNP Q6JC22
P	460	MET	-	insertion	UNP Q6JC22
P	461	ARG	-	insertion	UNP Q6JC22
P	462	GLY	-	insertion	UNP Q6JC22
P	463	GLY	-	insertion	UNP Q6JC22
P	464	GLY	-	insertion	UNP Q6JC22
P	465	ASP	-	insertion	UNP Q6JC22
P	466	ASP	-	insertion	UNP Q6JC22
P	467	ASP	-	insertion	UNP Q6JC22
P	468	ASP	-	insertion	UNP Q6JC22
P	469	GLY	-	insertion	UNP Q6JC22
P	470	VAL	-	insertion	UNP Q6JC22
P	471	PRO	-	insertion	UNP Q6JC22
P	472	MET	-	insertion	UNP Q6JC22
P	473	SER	-	insertion	UNP Q6JC22
P	474	MET	-	insertion	UNP Q6JC22
P	475	ARG	-	insertion	UNP Q6JC22
P	476	GLY	-	insertion	UNP Q6JC22
P	477	GLY	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
P	478	GLY	-	insertion	UNP Q6JC22
P	479	ALA	-	insertion	UNP Q6JC22
Q	454	ALA	-	insertion	UNP Q6JC22
Q	455	GLY	-	insertion	UNP Q6JC22
Q	456	VAL	-	insertion	UNP Q6JC22
Q	457	PRO	-	insertion	UNP Q6JC22
Q	458	MET	-	insertion	UNP Q6JC22
Q	459	SER	-	insertion	UNP Q6JC22
Q	460	MET	-	insertion	UNP Q6JC22
Q	461	ARG	-	insertion	UNP Q6JC22
Q	462	GLY	-	insertion	UNP Q6JC22
Q	463	GLY	-	insertion	UNP Q6JC22
Q	464	GLY	-	insertion	UNP Q6JC22
Q	465	ASP	-	insertion	UNP Q6JC22
Q	466	ASP	-	insertion	UNP Q6JC22
Q	467	ASP	-	insertion	UNP Q6JC22
Q	468	ASP	-	insertion	UNP Q6JC22
Q	469	GLY	-	insertion	UNP Q6JC22
Q	470	VAL	-	insertion	UNP Q6JC22
Q	471	PRO	-	insertion	UNP Q6JC22
Q	472	MET	-	insertion	UNP Q6JC22
Q	473	SER	-	insertion	UNP Q6JC22
Q	474	MET	-	insertion	UNP Q6JC22
Q	475	ARG	-	insertion	UNP Q6JC22
Q	476	GLY	-	insertion	UNP Q6JC22
Q	477	GLY	-	insertion	UNP Q6JC22
Q	478	GLY	-	insertion	UNP Q6JC22
Q	479	ALA	-	insertion	UNP Q6JC22
R	454	ALA	-	insertion	UNP Q6JC22
R	455	GLY	-	insertion	UNP Q6JC22
R	456	VAL	-	insertion	UNP Q6JC22
R	457	PRO	-	insertion	UNP Q6JC22
R	458	MET	-	insertion	UNP Q6JC22
R	459	SER	-	insertion	UNP Q6JC22
R	460	MET	-	insertion	UNP Q6JC22
R	461	ARG	-	insertion	UNP Q6JC22
R	462	GLY	-	insertion	UNP Q6JC22
R	463	GLY	-	insertion	UNP Q6JC22
R	464	GLY	-	insertion	UNP Q6JC22
R	465	ASP	-	insertion	UNP Q6JC22
R	466	ASP	-	insertion	UNP Q6JC22
R	467	ASP	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
R	468	ASP	-	insertion	UNP Q6JC22
R	469	GLY	-	insertion	UNP Q6JC22
R	470	VAL	-	insertion	UNP Q6JC22
R	471	PRO	-	insertion	UNP Q6JC22
R	472	MET	-	insertion	UNP Q6JC22
R	473	SER	-	insertion	UNP Q6JC22
R	474	MET	-	insertion	UNP Q6JC22
R	475	ARG	-	insertion	UNP Q6JC22
R	476	GLY	-	insertion	UNP Q6JC22
R	477	GLY	-	insertion	UNP Q6JC22
R	478	GLY	-	insertion	UNP Q6JC22
R	479	ALA	-	insertion	UNP Q6JC22
S	454	ALA	-	insertion	UNP Q6JC22
S	455	GLY	-	insertion	UNP Q6JC22
S	456	VAL	-	insertion	UNP Q6JC22
S	457	PRO	-	insertion	UNP Q6JC22
S	458	MET	-	insertion	UNP Q6JC22
S	459	SER	-	insertion	UNP Q6JC22
S	460	MET	-	insertion	UNP Q6JC22
S	461	ARG	-	insertion	UNP Q6JC22
S	462	GLY	-	insertion	UNP Q6JC22
S	463	GLY	-	insertion	UNP Q6JC22
S	464	GLY	-	insertion	UNP Q6JC22
S	465	ASP	-	insertion	UNP Q6JC22
S	466	ASP	-	insertion	UNP Q6JC22
S	467	ASP	-	insertion	UNP Q6JC22
S	468	ASP	-	insertion	UNP Q6JC22
S	469	GLY	-	insertion	UNP Q6JC22
S	470	VAL	-	insertion	UNP Q6JC22
S	471	PRO	-	insertion	UNP Q6JC22
S	472	MET	-	insertion	UNP Q6JC22
S	473	SER	-	insertion	UNP Q6JC22
S	474	MET	-	insertion	UNP Q6JC22
S	475	ARG	-	insertion	UNP Q6JC22
S	476	GLY	-	insertion	UNP Q6JC22
S	477	GLY	-	insertion	UNP Q6JC22
S	478	GLY	-	insertion	UNP Q6JC22
S	479	ALA	-	insertion	UNP Q6JC22
T	454	ALA	-	insertion	UNP Q6JC22
T	455	GLY	-	insertion	UNP Q6JC22
T	456	VAL	-	insertion	UNP Q6JC22
T	457	PRO	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
T	458	MET	-	insertion	UNP Q6JC22
T	459	SER	-	insertion	UNP Q6JC22
T	460	MET	-	insertion	UNP Q6JC22
T	461	ARG	-	insertion	UNP Q6JC22
T	462	GLY	-	insertion	UNP Q6JC22
T	463	GLY	-	insertion	UNP Q6JC22
T	464	GLY	-	insertion	UNP Q6JC22
T	465	ASP	-	insertion	UNP Q6JC22
T	466	ASP	-	insertion	UNP Q6JC22
T	467	ASP	-	insertion	UNP Q6JC22
T	468	ASP	-	insertion	UNP Q6JC22
T	469	GLY	-	insertion	UNP Q6JC22
T	470	VAL	-	insertion	UNP Q6JC22
T	471	PRO	-	insertion	UNP Q6JC22
T	472	MET	-	insertion	UNP Q6JC22
T	473	SER	-	insertion	UNP Q6JC22
T	474	MET	-	insertion	UNP Q6JC22
T	475	ARG	-	insertion	UNP Q6JC22
T	476	GLY	-	insertion	UNP Q6JC22
T	477	GLY	-	insertion	UNP Q6JC22
T	478	GLY	-	insertion	UNP Q6JC22
T	479	ALA	-	insertion	UNP Q6JC22
U	454	ALA	-	insertion	UNP Q6JC22
U	455	GLY	-	insertion	UNP Q6JC22
U	456	VAL	-	insertion	UNP Q6JC22
U	457	PRO	-	insertion	UNP Q6JC22
U	458	MET	-	insertion	UNP Q6JC22
U	459	SER	-	insertion	UNP Q6JC22
U	460	MET	-	insertion	UNP Q6JC22
U	461	ARG	-	insertion	UNP Q6JC22
U	462	GLY	-	insertion	UNP Q6JC22
U	463	GLY	-	insertion	UNP Q6JC22
U	464	GLY	-	insertion	UNP Q6JC22
U	465	ASP	-	insertion	UNP Q6JC22
U	466	ASP	-	insertion	UNP Q6JC22
U	467	ASP	-	insertion	UNP Q6JC22
U	468	ASP	-	insertion	UNP Q6JC22
U	469	GLY	-	insertion	UNP Q6JC22
U	470	VAL	-	insertion	UNP Q6JC22
U	471	PRO	-	insertion	UNP Q6JC22
U	472	MET	-	insertion	UNP Q6JC22
U	473	SER	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
U	474	MET	-	insertion	UNP Q6JC22
U	475	ARG	-	insertion	UNP Q6JC22
U	476	GLY	-	insertion	UNP Q6JC22
U	477	GLY	-	insertion	UNP Q6JC22
U	478	GLY	-	insertion	UNP Q6JC22
U	479	ALA	-	insertion	UNP Q6JC22
V	454	ALA	-	insertion	UNP Q6JC22
V	455	GLY	-	insertion	UNP Q6JC22
V	456	VAL	-	insertion	UNP Q6JC22
V	457	PRO	-	insertion	UNP Q6JC22
V	458	MET	-	insertion	UNP Q6JC22
V	459	SER	-	insertion	UNP Q6JC22
V	460	MET	-	insertion	UNP Q6JC22
V	461	ARG	-	insertion	UNP Q6JC22
V	462	GLY	-	insertion	UNP Q6JC22
V	463	GLY	-	insertion	UNP Q6JC22
V	464	GLY	-	insertion	UNP Q6JC22
V	465	ASP	-	insertion	UNP Q6JC22
V	466	ASP	-	insertion	UNP Q6JC22
V	467	ASP	-	insertion	UNP Q6JC22
V	468	ASP	-	insertion	UNP Q6JC22
V	469	GLY	-	insertion	UNP Q6JC22
V	470	VAL	-	insertion	UNP Q6JC22
V	471	PRO	-	insertion	UNP Q6JC22
V	472	MET	-	insertion	UNP Q6JC22
V	473	SER	-	insertion	UNP Q6JC22
V	474	MET	-	insertion	UNP Q6JC22
V	475	ARG	-	insertion	UNP Q6JC22
V	476	GLY	-	insertion	UNP Q6JC22
V	477	GLY	-	insertion	UNP Q6JC22
V	478	GLY	-	insertion	UNP Q6JC22
V	479	ALA	-	insertion	UNP Q6JC22
W	454	ALA	-	insertion	UNP Q6JC22
W	455	GLY	-	insertion	UNP Q6JC22
W	456	VAL	-	insertion	UNP Q6JC22
W	457	PRO	-	insertion	UNP Q6JC22
W	458	MET	-	insertion	UNP Q6JC22
W	459	SER	-	insertion	UNP Q6JC22
W	460	MET	-	insertion	UNP Q6JC22
W	461	ARG	-	insertion	UNP Q6JC22
W	462	GLY	-	insertion	UNP Q6JC22
W	463	GLY	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
W	464	GLY	-	insertion	UNP Q6JC22
W	465	ASP	-	insertion	UNP Q6JC22
W	466	ASP	-	insertion	UNP Q6JC22
W	467	ASP	-	insertion	UNP Q6JC22
W	468	ASP	-	insertion	UNP Q6JC22
W	469	GLY	-	insertion	UNP Q6JC22
W	470	VAL	-	insertion	UNP Q6JC22
W	471	PRO	-	insertion	UNP Q6JC22
W	472	MET	-	insertion	UNP Q6JC22
W	473	SER	-	insertion	UNP Q6JC22
W	474	MET	-	insertion	UNP Q6JC22
W	475	ARG	-	insertion	UNP Q6JC22
W	476	GLY	-	insertion	UNP Q6JC22
W	477	GLY	-	insertion	UNP Q6JC22
W	478	GLY	-	insertion	UNP Q6JC22
W	479	ALA	-	insertion	UNP Q6JC22
X	454	ALA	-	insertion	UNP Q6JC22
X	455	GLY	-	insertion	UNP Q6JC22
X	456	VAL	-	insertion	UNP Q6JC22
X	457	PRO	-	insertion	UNP Q6JC22
X	458	MET	-	insertion	UNP Q6JC22
X	459	SER	-	insertion	UNP Q6JC22
X	460	MET	-	insertion	UNP Q6JC22
X	461	ARG	-	insertion	UNP Q6JC22
X	462	GLY	-	insertion	UNP Q6JC22
X	463	GLY	-	insertion	UNP Q6JC22
X	464	GLY	-	insertion	UNP Q6JC22
X	465	ASP	-	insertion	UNP Q6JC22
X	466	ASP	-	insertion	UNP Q6JC22
X	467	ASP	-	insertion	UNP Q6JC22
X	468	ASP	-	insertion	UNP Q6JC22
X	469	GLY	-	insertion	UNP Q6JC22
X	470	VAL	-	insertion	UNP Q6JC22
X	471	PRO	-	insertion	UNP Q6JC22
X	472	MET	-	insertion	UNP Q6JC22
X	473	SER	-	insertion	UNP Q6JC22
X	474	MET	-	insertion	UNP Q6JC22
X	475	ARG	-	insertion	UNP Q6JC22
X	476	GLY	-	insertion	UNP Q6JC22
X	477	GLY	-	insertion	UNP Q6JC22
X	478	GLY	-	insertion	UNP Q6JC22
X	479	ALA	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
Y	454	ALA	-	insertion	UNP Q6JC22
Y	455	GLY	-	insertion	UNP Q6JC22
Y	456	VAL	-	insertion	UNP Q6JC22
Y	457	PRO	-	insertion	UNP Q6JC22
Y	458	MET	-	insertion	UNP Q6JC22
Y	459	SER	-	insertion	UNP Q6JC22
Y	460	MET	-	insertion	UNP Q6JC22
Y	461	ARG	-	insertion	UNP Q6JC22
Y	462	GLY	-	insertion	UNP Q6JC22
Y	463	GLY	-	insertion	UNP Q6JC22
Y	464	GLY	-	insertion	UNP Q6JC22
Y	465	ASP	-	insertion	UNP Q6JC22
Y	466	ASP	-	insertion	UNP Q6JC22
Y	467	ASP	-	insertion	UNP Q6JC22
Y	468	ASP	-	insertion	UNP Q6JC22
Y	469	GLY	-	insertion	UNP Q6JC22
Y	470	VAL	-	insertion	UNP Q6JC22
Y	471	PRO	-	insertion	UNP Q6JC22
Y	472	MET	-	insertion	UNP Q6JC22
Y	473	SER	-	insertion	UNP Q6JC22
Y	474	MET	-	insertion	UNP Q6JC22
Y	475	ARG	-	insertion	UNP Q6JC22
Y	476	GLY	-	insertion	UNP Q6JC22
Y	477	GLY	-	insertion	UNP Q6JC22
Y	478	GLY	-	insertion	UNP Q6JC22
Y	479	ALA	-	insertion	UNP Q6JC22
Z	454	ALA	-	insertion	UNP Q6JC22
Z	455	GLY	-	insertion	UNP Q6JC22
Z	456	VAL	-	insertion	UNP Q6JC22
Z	457	PRO	-	insertion	UNP Q6JC22
Z	458	MET	-	insertion	UNP Q6JC22
Z	459	SER	-	insertion	UNP Q6JC22
Z	460	MET	-	insertion	UNP Q6JC22
Z	461	ARG	-	insertion	UNP Q6JC22
Z	462	GLY	-	insertion	UNP Q6JC22
Z	463	GLY	-	insertion	UNP Q6JC22
Z	464	GLY	-	insertion	UNP Q6JC22
Z	465	ASP	-	insertion	UNP Q6JC22
Z	466	ASP	-	insertion	UNP Q6JC22
Z	467	ASP	-	insertion	UNP Q6JC22
Z	468	ASP	-	insertion	UNP Q6JC22
Z	469	GLY	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
Z	470	VAL	-	insertion	UNP Q6JC22
Z	471	PRO	-	insertion	UNP Q6JC22
Z	472	MET	-	insertion	UNP Q6JC22
Z	473	SER	-	insertion	UNP Q6JC22
Z	474	MET	-	insertion	UNP Q6JC22
Z	475	ARG	-	insertion	UNP Q6JC22
Z	476	GLY	-	insertion	UNP Q6JC22
Z	477	GLY	-	insertion	UNP Q6JC22
Z	478	GLY	-	insertion	UNP Q6JC22
Z	479	ALA	-	insertion	UNP Q6JC22
a	454	ALA	-	insertion	UNP Q6JC22
a	455	GLY	-	insertion	UNP Q6JC22
a	456	VAL	-	insertion	UNP Q6JC22
a	457	PRO	-	insertion	UNP Q6JC22
a	458	MET	-	insertion	UNP Q6JC22
a	459	SER	-	insertion	UNP Q6JC22
a	460	MET	-	insertion	UNP Q6JC22
a	461	ARG	-	insertion	UNP Q6JC22
a	462	GLY	-	insertion	UNP Q6JC22
a	463	GLY	-	insertion	UNP Q6JC22
a	464	GLY	-	insertion	UNP Q6JC22
a	465	ASP	-	insertion	UNP Q6JC22
a	466	ASP	-	insertion	UNP Q6JC22
a	467	ASP	-	insertion	UNP Q6JC22
a	468	ASP	-	insertion	UNP Q6JC22
a	469	GLY	-	insertion	UNP Q6JC22
a	470	VAL	-	insertion	UNP Q6JC22
a	471	PRO	-	insertion	UNP Q6JC22
a	472	MET	-	insertion	UNP Q6JC22
a	473	SER	-	insertion	UNP Q6JC22
a	474	MET	-	insertion	UNP Q6JC22
a	475	ARG	-	insertion	UNP Q6JC22
a	476	GLY	-	insertion	UNP Q6JC22
a	477	GLY	-	insertion	UNP Q6JC22
a	478	GLY	-	insertion	UNP Q6JC22
a	479	ALA	-	insertion	UNP Q6JC22
b	454	ALA	-	insertion	UNP Q6JC22
b	455	GLY	-	insertion	UNP Q6JC22
b	456	VAL	-	insertion	UNP Q6JC22
b	457	PRO	-	insertion	UNP Q6JC22
b	458	MET	-	insertion	UNP Q6JC22
b	459	SER	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
b	460	MET	-	insertion	UNP Q6JC22
b	461	ARG	-	insertion	UNP Q6JC22
b	462	GLY	-	insertion	UNP Q6JC22
b	463	GLY	-	insertion	UNP Q6JC22
b	464	GLY	-	insertion	UNP Q6JC22
b	465	ASP	-	insertion	UNP Q6JC22
b	466	ASP	-	insertion	UNP Q6JC22
b	467	ASP	-	insertion	UNP Q6JC22
b	468	ASP	-	insertion	UNP Q6JC22
b	469	GLY	-	insertion	UNP Q6JC22
b	470	VAL	-	insertion	UNP Q6JC22
b	471	PRO	-	insertion	UNP Q6JC22
b	472	MET	-	insertion	UNP Q6JC22
b	473	SER	-	insertion	UNP Q6JC22
b	474	MET	-	insertion	UNP Q6JC22
b	475	ARG	-	insertion	UNP Q6JC22
b	476	GLY	-	insertion	UNP Q6JC22
b	477	GLY	-	insertion	UNP Q6JC22
b	478	GLY	-	insertion	UNP Q6JC22
b	479	ALA	-	insertion	UNP Q6JC22
c	454	ALA	-	insertion	UNP Q6JC22
c	455	GLY	-	insertion	UNP Q6JC22
c	456	VAL	-	insertion	UNP Q6JC22
c	457	PRO	-	insertion	UNP Q6JC22
c	458	MET	-	insertion	UNP Q6JC22
c	459	SER	-	insertion	UNP Q6JC22
c	460	MET	-	insertion	UNP Q6JC22
c	461	ARG	-	insertion	UNP Q6JC22
c	462	GLY	-	insertion	UNP Q6JC22
c	463	GLY	-	insertion	UNP Q6JC22
c	464	GLY	-	insertion	UNP Q6JC22
c	465	ASP	-	insertion	UNP Q6JC22
c	466	ASP	-	insertion	UNP Q6JC22
c	467	ASP	-	insertion	UNP Q6JC22
c	468	ASP	-	insertion	UNP Q6JC22
c	469	GLY	-	insertion	UNP Q6JC22
c	470	VAL	-	insertion	UNP Q6JC22
c	471	PRO	-	insertion	UNP Q6JC22
c	472	MET	-	insertion	UNP Q6JC22
c	473	SER	-	insertion	UNP Q6JC22
c	474	MET	-	insertion	UNP Q6JC22
c	475	ARG	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
c	476	GLY	-	insertion	UNP Q6JC22
c	477	GLY	-	insertion	UNP Q6JC22
c	478	GLY	-	insertion	UNP Q6JC22
c	479	ALA	-	insertion	UNP Q6JC22
d	454	ALA	-	insertion	UNP Q6JC22
d	455	GLY	-	insertion	UNP Q6JC22
d	456	VAL	-	insertion	UNP Q6JC22
d	457	PRO	-	insertion	UNP Q6JC22
d	458	MET	-	insertion	UNP Q6JC22
d	459	SER	-	insertion	UNP Q6JC22
d	460	MET	-	insertion	UNP Q6JC22
d	461	ARG	-	insertion	UNP Q6JC22
d	462	GLY	-	insertion	UNP Q6JC22
d	463	GLY	-	insertion	UNP Q6JC22
d	464	GLY	-	insertion	UNP Q6JC22
d	465	ASP	-	insertion	UNP Q6JC22
d	466	ASP	-	insertion	UNP Q6JC22
d	467	ASP	-	insertion	UNP Q6JC22
d	468	ASP	-	insertion	UNP Q6JC22
d	469	GLY	-	insertion	UNP Q6JC22
d	470	VAL	-	insertion	UNP Q6JC22
d	471	PRO	-	insertion	UNP Q6JC22
d	472	MET	-	insertion	UNP Q6JC22
d	473	SER	-	insertion	UNP Q6JC22
d	474	MET	-	insertion	UNP Q6JC22
d	475	ARG	-	insertion	UNP Q6JC22
d	476	GLY	-	insertion	UNP Q6JC22
d	477	GLY	-	insertion	UNP Q6JC22
d	478	GLY	-	insertion	UNP Q6JC22
d	479	ALA	-	insertion	UNP Q6JC22
e	454	ALA	-	insertion	UNP Q6JC22
e	455	GLY	-	insertion	UNP Q6JC22
e	456	VAL	-	insertion	UNP Q6JC22
e	457	PRO	-	insertion	UNP Q6JC22
e	458	MET	-	insertion	UNP Q6JC22
e	459	SER	-	insertion	UNP Q6JC22
e	460	MET	-	insertion	UNP Q6JC22
e	461	ARG	-	insertion	UNP Q6JC22
e	462	GLY	-	insertion	UNP Q6JC22
e	463	GLY	-	insertion	UNP Q6JC22
e	464	GLY	-	insertion	UNP Q6JC22
e	465	ASP	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
e	466	ASP	-	insertion	UNP Q6JC22
e	467	ASP	-	insertion	UNP Q6JC22
e	468	ASP	-	insertion	UNP Q6JC22
e	469	GLY	-	insertion	UNP Q6JC22
e	470	VAL	-	insertion	UNP Q6JC22
e	471	PRO	-	insertion	UNP Q6JC22
e	472	MET	-	insertion	UNP Q6JC22
e	473	SER	-	insertion	UNP Q6JC22
e	474	MET	-	insertion	UNP Q6JC22
e	475	ARG	-	insertion	UNP Q6JC22
e	476	GLY	-	insertion	UNP Q6JC22
e	477	GLY	-	insertion	UNP Q6JC22
e	478	GLY	-	insertion	UNP Q6JC22
e	479	ALA	-	insertion	UNP Q6JC22
f	454	ALA	-	insertion	UNP Q6JC22
f	455	GLY	-	insertion	UNP Q6JC22
f	456	VAL	-	insertion	UNP Q6JC22
f	457	PRO	-	insertion	UNP Q6JC22
f	458	MET	-	insertion	UNP Q6JC22
f	459	SER	-	insertion	UNP Q6JC22
f	460	MET	-	insertion	UNP Q6JC22
f	461	ARG	-	insertion	UNP Q6JC22
f	462	GLY	-	insertion	UNP Q6JC22
f	463	GLY	-	insertion	UNP Q6JC22
f	464	GLY	-	insertion	UNP Q6JC22
f	465	ASP	-	insertion	UNP Q6JC22
f	466	ASP	-	insertion	UNP Q6JC22
f	467	ASP	-	insertion	UNP Q6JC22
f	468	ASP	-	insertion	UNP Q6JC22
f	469	GLY	-	insertion	UNP Q6JC22
f	470	VAL	-	insertion	UNP Q6JC22
f	471	PRO	-	insertion	UNP Q6JC22
f	472	MET	-	insertion	UNP Q6JC22
f	473	SER	-	insertion	UNP Q6JC22
f	474	MET	-	insertion	UNP Q6JC22
f	475	ARG	-	insertion	UNP Q6JC22
f	476	GLY	-	insertion	UNP Q6JC22
f	477	GLY	-	insertion	UNP Q6JC22
f	478	GLY	-	insertion	UNP Q6JC22
f	479	ALA	-	insertion	UNP Q6JC22
g	454	ALA	-	insertion	UNP Q6JC22
g	455	GLY	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
g	456	VAL	-	insertion	UNP Q6JC22
g	457	PRO	-	insertion	UNP Q6JC22
g	458	MET	-	insertion	UNP Q6JC22
g	459	SER	-	insertion	UNP Q6JC22
g	460	MET	-	insertion	UNP Q6JC22
g	461	ARG	-	insertion	UNP Q6JC22
g	462	GLY	-	insertion	UNP Q6JC22
g	463	GLY	-	insertion	UNP Q6JC22
g	464	GLY	-	insertion	UNP Q6JC22
g	465	ASP	-	insertion	UNP Q6JC22
g	466	ASP	-	insertion	UNP Q6JC22
g	467	ASP	-	insertion	UNP Q6JC22
g	468	ASP	-	insertion	UNP Q6JC22
g	469	GLY	-	insertion	UNP Q6JC22
g	470	VAL	-	insertion	UNP Q6JC22
g	471	PRO	-	insertion	UNP Q6JC22
g	472	MET	-	insertion	UNP Q6JC22
g	473	SER	-	insertion	UNP Q6JC22
g	474	MET	-	insertion	UNP Q6JC22
g	475	ARG	-	insertion	UNP Q6JC22
g	476	GLY	-	insertion	UNP Q6JC22
g	477	GLY	-	insertion	UNP Q6JC22
g	478	GLY	-	insertion	UNP Q6JC22
g	479	ALA	-	insertion	UNP Q6JC22
h	454	ALA	-	insertion	UNP Q6JC22
h	455	GLY	-	insertion	UNP Q6JC22
h	456	VAL	-	insertion	UNP Q6JC22
h	457	PRO	-	insertion	UNP Q6JC22
h	458	MET	-	insertion	UNP Q6JC22
h	459	SER	-	insertion	UNP Q6JC22
h	460	MET	-	insertion	UNP Q6JC22
h	461	ARG	-	insertion	UNP Q6JC22
h	462	GLY	-	insertion	UNP Q6JC22
h	463	GLY	-	insertion	UNP Q6JC22
h	464	GLY	-	insertion	UNP Q6JC22
h	465	ASP	-	insertion	UNP Q6JC22
h	466	ASP	-	insertion	UNP Q6JC22
h	467	ASP	-	insertion	UNP Q6JC22
h	468	ASP	-	insertion	UNP Q6JC22
h	469	GLY	-	insertion	UNP Q6JC22
h	470	VAL	-	insertion	UNP Q6JC22
h	471	PRO	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
h	472	MET	-	insertion	UNP Q6JC22
h	473	SER	-	insertion	UNP Q6JC22
h	474	MET	-	insertion	UNP Q6JC22
h	475	ARG	-	insertion	UNP Q6JC22
h	476	GLY	-	insertion	UNP Q6JC22
h	477	GLY	-	insertion	UNP Q6JC22
h	478	GLY	-	insertion	UNP Q6JC22
h	479	ALA	-	insertion	UNP Q6JC22
i	454	ALA	-	insertion	UNP Q6JC22
i	455	GLY	-	insertion	UNP Q6JC22
i	456	VAL	-	insertion	UNP Q6JC22
i	457	PRO	-	insertion	UNP Q6JC22
i	458	MET	-	insertion	UNP Q6JC22
i	459	SER	-	insertion	UNP Q6JC22
i	460	MET	-	insertion	UNP Q6JC22
i	461	ARG	-	insertion	UNP Q6JC22
i	462	GLY	-	insertion	UNP Q6JC22
i	463	GLY	-	insertion	UNP Q6JC22
i	464	GLY	-	insertion	UNP Q6JC22
i	465	ASP	-	insertion	UNP Q6JC22
i	466	ASP	-	insertion	UNP Q6JC22
i	467	ASP	-	insertion	UNP Q6JC22
i	468	ASP	-	insertion	UNP Q6JC22
i	469	GLY	-	insertion	UNP Q6JC22
i	470	VAL	-	insertion	UNP Q6JC22
i	471	PRO	-	insertion	UNP Q6JC22
i	472	MET	-	insertion	UNP Q6JC22
i	473	SER	-	insertion	UNP Q6JC22
i	474	MET	-	insertion	UNP Q6JC22
i	475	ARG	-	insertion	UNP Q6JC22
i	476	GLY	-	insertion	UNP Q6JC22
i	477	GLY	-	insertion	UNP Q6JC22
i	478	GLY	-	insertion	UNP Q6JC22
i	479	ALA	-	insertion	UNP Q6JC22
j	454	ALA	-	insertion	UNP Q6JC22
j	455	GLY	-	insertion	UNP Q6JC22
j	456	VAL	-	insertion	UNP Q6JC22
j	457	PRO	-	insertion	UNP Q6JC22
j	458	MET	-	insertion	UNP Q6JC22
j	459	SER	-	insertion	UNP Q6JC22
j	460	MET	-	insertion	UNP Q6JC22
j	461	ARG	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
j	462	GLY	-	insertion	UNP Q6JC22
j	463	GLY	-	insertion	UNP Q6JC22
j	464	GLY	-	insertion	UNP Q6JC22
j	465	ASP	-	insertion	UNP Q6JC22
j	466	ASP	-	insertion	UNP Q6JC22
j	467	ASP	-	insertion	UNP Q6JC22
j	468	ASP	-	insertion	UNP Q6JC22
j	469	GLY	-	insertion	UNP Q6JC22
j	470	VAL	-	insertion	UNP Q6JC22
j	471	PRO	-	insertion	UNP Q6JC22
j	472	MET	-	insertion	UNP Q6JC22
j	473	SER	-	insertion	UNP Q6JC22
j	474	MET	-	insertion	UNP Q6JC22
j	475	ARG	-	insertion	UNP Q6JC22
j	476	GLY	-	insertion	UNP Q6JC22
j	477	GLY	-	insertion	UNP Q6JC22
j	478	GLY	-	insertion	UNP Q6JC22
j	479	ALA	-	insertion	UNP Q6JC22
k	454	ALA	-	insertion	UNP Q6JC22
k	455	GLY	-	insertion	UNP Q6JC22
k	456	VAL	-	insertion	UNP Q6JC22
k	457	PRO	-	insertion	UNP Q6JC22
k	458	MET	-	insertion	UNP Q6JC22
k	459	SER	-	insertion	UNP Q6JC22
k	460	MET	-	insertion	UNP Q6JC22
k	461	ARG	-	insertion	UNP Q6JC22
k	462	GLY	-	insertion	UNP Q6JC22
k	463	GLY	-	insertion	UNP Q6JC22
k	464	GLY	-	insertion	UNP Q6JC22
k	465	ASP	-	insertion	UNP Q6JC22
k	466	ASP	-	insertion	UNP Q6JC22
k	467	ASP	-	insertion	UNP Q6JC22
k	468	ASP	-	insertion	UNP Q6JC22
k	469	GLY	-	insertion	UNP Q6JC22
k	470	VAL	-	insertion	UNP Q6JC22
k	471	PRO	-	insertion	UNP Q6JC22
k	472	MET	-	insertion	UNP Q6JC22
k	473	SER	-	insertion	UNP Q6JC22
k	474	MET	-	insertion	UNP Q6JC22
k	475	ARG	-	insertion	UNP Q6JC22
k	476	GLY	-	insertion	UNP Q6JC22
k	477	GLY	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
k	478	GLY	-	insertion	UNP Q6JC22
k	479	ALA	-	insertion	UNP Q6JC22
l	454	ALA	-	insertion	UNP Q6JC22
l	455	GLY	-	insertion	UNP Q6JC22
l	456	VAL	-	insertion	UNP Q6JC22
l	457	PRO	-	insertion	UNP Q6JC22
l	458	MET	-	insertion	UNP Q6JC22
l	459	SER	-	insertion	UNP Q6JC22
l	460	MET	-	insertion	UNP Q6JC22
l	461	ARG	-	insertion	UNP Q6JC22
l	462	GLY	-	insertion	UNP Q6JC22
l	463	GLY	-	insertion	UNP Q6JC22
l	464	GLY	-	insertion	UNP Q6JC22
l	465	ASP	-	insertion	UNP Q6JC22
l	466	ASP	-	insertion	UNP Q6JC22
l	467	ASP	-	insertion	UNP Q6JC22
l	468	ASP	-	insertion	UNP Q6JC22
l	469	GLY	-	insertion	UNP Q6JC22
l	470	VAL	-	insertion	UNP Q6JC22
l	471	PRO	-	insertion	UNP Q6JC22
l	472	MET	-	insertion	UNP Q6JC22
l	473	SER	-	insertion	UNP Q6JC22
l	474	MET	-	insertion	UNP Q6JC22
l	475	ARG	-	insertion	UNP Q6JC22
l	476	GLY	-	insertion	UNP Q6JC22
l	477	GLY	-	insertion	UNP Q6JC22
l	478	GLY	-	insertion	UNP Q6JC22
l	479	ALA	-	insertion	UNP Q6JC22
m	454	ALA	-	insertion	UNP Q6JC22
m	455	GLY	-	insertion	UNP Q6JC22
m	456	VAL	-	insertion	UNP Q6JC22
m	457	PRO	-	insertion	UNP Q6JC22
m	458	MET	-	insertion	UNP Q6JC22
m	459	SER	-	insertion	UNP Q6JC22
m	460	MET	-	insertion	UNP Q6JC22
m	461	ARG	-	insertion	UNP Q6JC22
m	462	GLY	-	insertion	UNP Q6JC22
m	463	GLY	-	insertion	UNP Q6JC22
m	464	GLY	-	insertion	UNP Q6JC22
m	465	ASP	-	insertion	UNP Q6JC22
m	466	ASP	-	insertion	UNP Q6JC22
m	467	ASP	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
m	468	ASP	-	insertion	UNP Q6JC22
m	469	GLY	-	insertion	UNP Q6JC22
m	470	VAL	-	insertion	UNP Q6JC22
m	471	PRO	-	insertion	UNP Q6JC22
m	472	MET	-	insertion	UNP Q6JC22
m	473	SER	-	insertion	UNP Q6JC22
m	474	MET	-	insertion	UNP Q6JC22
m	475	ARG	-	insertion	UNP Q6JC22
m	476	GLY	-	insertion	UNP Q6JC22
m	477	GLY	-	insertion	UNP Q6JC22
m	478	GLY	-	insertion	UNP Q6JC22
m	479	ALA	-	insertion	UNP Q6JC22
n	454	ALA	-	insertion	UNP Q6JC22
n	455	GLY	-	insertion	UNP Q6JC22
n	456	VAL	-	insertion	UNP Q6JC22
n	457	PRO	-	insertion	UNP Q6JC22
n	458	MET	-	insertion	UNP Q6JC22
n	459	SER	-	insertion	UNP Q6JC22
n	460	MET	-	insertion	UNP Q6JC22
n	461	ARG	-	insertion	UNP Q6JC22
n	462	GLY	-	insertion	UNP Q6JC22
n	463	GLY	-	insertion	UNP Q6JC22
n	464	GLY	-	insertion	UNP Q6JC22
n	465	ASP	-	insertion	UNP Q6JC22
n	466	ASP	-	insertion	UNP Q6JC22
n	467	ASP	-	insertion	UNP Q6JC22
n	468	ASP	-	insertion	UNP Q6JC22
n	469	GLY	-	insertion	UNP Q6JC22
n	470	VAL	-	insertion	UNP Q6JC22
n	471	PRO	-	insertion	UNP Q6JC22
n	472	MET	-	insertion	UNP Q6JC22
n	473	SER	-	insertion	UNP Q6JC22
n	474	MET	-	insertion	UNP Q6JC22
n	475	ARG	-	insertion	UNP Q6JC22
n	476	GLY	-	insertion	UNP Q6JC22
n	477	GLY	-	insertion	UNP Q6JC22
n	478	GLY	-	insertion	UNP Q6JC22
n	479	ALA	-	insertion	UNP Q6JC22
o	454	ALA	-	insertion	UNP Q6JC22
o	455	GLY	-	insertion	UNP Q6JC22
o	456	VAL	-	insertion	UNP Q6JC22
o	457	PRO	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
o	458	MET	-	insertion	UNP Q6JC22
o	459	SER	-	insertion	UNP Q6JC22
o	460	MET	-	insertion	UNP Q6JC22
o	461	ARG	-	insertion	UNP Q6JC22
o	462	GLY	-	insertion	UNP Q6JC22
o	463	GLY	-	insertion	UNP Q6JC22
o	464	GLY	-	insertion	UNP Q6JC22
o	465	ASP	-	insertion	UNP Q6JC22
o	466	ASP	-	insertion	UNP Q6JC22
o	467	ASP	-	insertion	UNP Q6JC22
o	468	ASP	-	insertion	UNP Q6JC22
o	469	GLY	-	insertion	UNP Q6JC22
o	470	VAL	-	insertion	UNP Q6JC22
o	471	PRO	-	insertion	UNP Q6JC22
o	472	MET	-	insertion	UNP Q6JC22
o	473	SER	-	insertion	UNP Q6JC22
o	474	MET	-	insertion	UNP Q6JC22
o	475	ARG	-	insertion	UNP Q6JC22
o	476	GLY	-	insertion	UNP Q6JC22
o	477	GLY	-	insertion	UNP Q6JC22
o	478	GLY	-	insertion	UNP Q6JC22
o	479	ALA	-	insertion	UNP Q6JC22
p	454	ALA	-	insertion	UNP Q6JC22
p	455	GLY	-	insertion	UNP Q6JC22
p	456	VAL	-	insertion	UNP Q6JC22
p	457	PRO	-	insertion	UNP Q6JC22
p	458	MET	-	insertion	UNP Q6JC22
p	459	SER	-	insertion	UNP Q6JC22
p	460	MET	-	insertion	UNP Q6JC22
p	461	ARG	-	insertion	UNP Q6JC22
p	462	GLY	-	insertion	UNP Q6JC22
p	463	GLY	-	insertion	UNP Q6JC22
p	464	GLY	-	insertion	UNP Q6JC22
p	465	ASP	-	insertion	UNP Q6JC22
p	466	ASP	-	insertion	UNP Q6JC22
p	467	ASP	-	insertion	UNP Q6JC22
p	468	ASP	-	insertion	UNP Q6JC22
p	469	GLY	-	insertion	UNP Q6JC22
p	470	VAL	-	insertion	UNP Q6JC22
p	471	PRO	-	insertion	UNP Q6JC22
p	472	MET	-	insertion	UNP Q6JC22
p	473	SER	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
p	474	MET	-	insertion	UNP Q6JC22
p	475	ARG	-	insertion	UNP Q6JC22
p	476	GLY	-	insertion	UNP Q6JC22
p	477	GLY	-	insertion	UNP Q6JC22
p	478	GLY	-	insertion	UNP Q6JC22
p	479	ALA	-	insertion	UNP Q6JC22
q	454	ALA	-	insertion	UNP Q6JC22
q	455	GLY	-	insertion	UNP Q6JC22
q	456	VAL	-	insertion	UNP Q6JC22
q	457	PRO	-	insertion	UNP Q6JC22
q	458	MET	-	insertion	UNP Q6JC22
q	459	SER	-	insertion	UNP Q6JC22
q	460	MET	-	insertion	UNP Q6JC22
q	461	ARG	-	insertion	UNP Q6JC22
q	462	GLY	-	insertion	UNP Q6JC22
q	463	GLY	-	insertion	UNP Q6JC22
q	464	GLY	-	insertion	UNP Q6JC22
q	465	ASP	-	insertion	UNP Q6JC22
q	466	ASP	-	insertion	UNP Q6JC22
q	467	ASP	-	insertion	UNP Q6JC22
q	468	ASP	-	insertion	UNP Q6JC22
q	469	GLY	-	insertion	UNP Q6JC22
q	470	VAL	-	insertion	UNP Q6JC22
q	471	PRO	-	insertion	UNP Q6JC22
q	472	MET	-	insertion	UNP Q6JC22
q	473	SER	-	insertion	UNP Q6JC22
q	474	MET	-	insertion	UNP Q6JC22
q	475	ARG	-	insertion	UNP Q6JC22
q	476	GLY	-	insertion	UNP Q6JC22
q	477	GLY	-	insertion	UNP Q6JC22
q	478	GLY	-	insertion	UNP Q6JC22
q	479	ALA	-	insertion	UNP Q6JC22
r	454	ALA	-	insertion	UNP Q6JC22
r	455	GLY	-	insertion	UNP Q6JC22
r	456	VAL	-	insertion	UNP Q6JC22
r	457	PRO	-	insertion	UNP Q6JC22
r	458	MET	-	insertion	UNP Q6JC22
r	459	SER	-	insertion	UNP Q6JC22
r	460	MET	-	insertion	UNP Q6JC22
r	461	ARG	-	insertion	UNP Q6JC22
r	462	GLY	-	insertion	UNP Q6JC22
r	463	GLY	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
r	464	GLY	-	insertion	UNP Q6JC22
r	465	ASP	-	insertion	UNP Q6JC22
r	466	ASP	-	insertion	UNP Q6JC22
r	467	ASP	-	insertion	UNP Q6JC22
r	468	ASP	-	insertion	UNP Q6JC22
r	469	GLY	-	insertion	UNP Q6JC22
r	470	VAL	-	insertion	UNP Q6JC22
r	471	PRO	-	insertion	UNP Q6JC22
r	472	MET	-	insertion	UNP Q6JC22
r	473	SER	-	insertion	UNP Q6JC22
r	474	MET	-	insertion	UNP Q6JC22
r	475	ARG	-	insertion	UNP Q6JC22
r	476	GLY	-	insertion	UNP Q6JC22
r	477	GLY	-	insertion	UNP Q6JC22
r	478	GLY	-	insertion	UNP Q6JC22
r	479	ALA	-	insertion	UNP Q6JC22
s	454	ALA	-	insertion	UNP Q6JC22
s	455	GLY	-	insertion	UNP Q6JC22
s	456	VAL	-	insertion	UNP Q6JC22
s	457	PRO	-	insertion	UNP Q6JC22
s	458	MET	-	insertion	UNP Q6JC22
s	459	SER	-	insertion	UNP Q6JC22
s	460	MET	-	insertion	UNP Q6JC22
s	461	ARG	-	insertion	UNP Q6JC22
s	462	GLY	-	insertion	UNP Q6JC22
s	463	GLY	-	insertion	UNP Q6JC22
s	464	GLY	-	insertion	UNP Q6JC22
s	465	ASP	-	insertion	UNP Q6JC22
s	466	ASP	-	insertion	UNP Q6JC22
s	467	ASP	-	insertion	UNP Q6JC22
s	468	ASP	-	insertion	UNP Q6JC22
s	469	GLY	-	insertion	UNP Q6JC22
s	470	VAL	-	insertion	UNP Q6JC22
s	471	PRO	-	insertion	UNP Q6JC22
s	472	MET	-	insertion	UNP Q6JC22
s	473	SER	-	insertion	UNP Q6JC22
s	474	MET	-	insertion	UNP Q6JC22
s	475	ARG	-	insertion	UNP Q6JC22
s	476	GLY	-	insertion	UNP Q6JC22
s	477	GLY	-	insertion	UNP Q6JC22
s	478	GLY	-	insertion	UNP Q6JC22
s	479	ALA	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
t	454	ALA	-	insertion	UNP Q6JC22
t	455	GLY	-	insertion	UNP Q6JC22
t	456	VAL	-	insertion	UNP Q6JC22
t	457	PRO	-	insertion	UNP Q6JC22
t	458	MET	-	insertion	UNP Q6JC22
t	459	SER	-	insertion	UNP Q6JC22
t	460	MET	-	insertion	UNP Q6JC22
t	461	ARG	-	insertion	UNP Q6JC22
t	462	GLY	-	insertion	UNP Q6JC22
t	463	GLY	-	insertion	UNP Q6JC22
t	464	GLY	-	insertion	UNP Q6JC22
t	465	ASP	-	insertion	UNP Q6JC22
t	466	ASP	-	insertion	UNP Q6JC22
t	467	ASP	-	insertion	UNP Q6JC22
t	468	ASP	-	insertion	UNP Q6JC22
t	469	GLY	-	insertion	UNP Q6JC22
t	470	VAL	-	insertion	UNP Q6JC22
t	471	PRO	-	insertion	UNP Q6JC22
t	472	MET	-	insertion	UNP Q6JC22
t	473	SER	-	insertion	UNP Q6JC22
t	474	MET	-	insertion	UNP Q6JC22
t	475	ARG	-	insertion	UNP Q6JC22
t	476	GLY	-	insertion	UNP Q6JC22
t	477	GLY	-	insertion	UNP Q6JC22
t	478	GLY	-	insertion	UNP Q6JC22
t	479	ALA	-	insertion	UNP Q6JC22
u	454	ALA	-	insertion	UNP Q6JC22
u	455	GLY	-	insertion	UNP Q6JC22
u	456	VAL	-	insertion	UNP Q6JC22
u	457	PRO	-	insertion	UNP Q6JC22
u	458	MET	-	insertion	UNP Q6JC22
u	459	SER	-	insertion	UNP Q6JC22
u	460	MET	-	insertion	UNP Q6JC22
u	461	ARG	-	insertion	UNP Q6JC22
u	462	GLY	-	insertion	UNP Q6JC22
u	463	GLY	-	insertion	UNP Q6JC22
u	464	GLY	-	insertion	UNP Q6JC22
u	465	ASP	-	insertion	UNP Q6JC22
u	466	ASP	-	insertion	UNP Q6JC22
u	467	ASP	-	insertion	UNP Q6JC22
u	468	ASP	-	insertion	UNP Q6JC22
u	469	GLY	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
u	470	VAL	-	insertion	UNP Q6JC22
u	471	PRO	-	insertion	UNP Q6JC22
u	472	MET	-	insertion	UNP Q6JC22
u	473	SER	-	insertion	UNP Q6JC22
u	474	MET	-	insertion	UNP Q6JC22
u	475	ARG	-	insertion	UNP Q6JC22
u	476	GLY	-	insertion	UNP Q6JC22
u	477	GLY	-	insertion	UNP Q6JC22
u	478	GLY	-	insertion	UNP Q6JC22
u	479	ALA	-	insertion	UNP Q6JC22
v	454	ALA	-	insertion	UNP Q6JC22
v	455	GLY	-	insertion	UNP Q6JC22
v	456	VAL	-	insertion	UNP Q6JC22
v	457	PRO	-	insertion	UNP Q6JC22
v	458	MET	-	insertion	UNP Q6JC22
v	459	SER	-	insertion	UNP Q6JC22
v	460	MET	-	insertion	UNP Q6JC22
v	461	ARG	-	insertion	UNP Q6JC22
v	462	GLY	-	insertion	UNP Q6JC22
v	463	GLY	-	insertion	UNP Q6JC22
v	464	GLY	-	insertion	UNP Q6JC22
v	465	ASP	-	insertion	UNP Q6JC22
v	466	ASP	-	insertion	UNP Q6JC22
v	467	ASP	-	insertion	UNP Q6JC22
v	468	ASP	-	insertion	UNP Q6JC22
v	469	GLY	-	insertion	UNP Q6JC22
v	470	VAL	-	insertion	UNP Q6JC22
v	471	PRO	-	insertion	UNP Q6JC22
v	472	MET	-	insertion	UNP Q6JC22
v	473	SER	-	insertion	UNP Q6JC22
v	474	MET	-	insertion	UNP Q6JC22
v	475	ARG	-	insertion	UNP Q6JC22
v	476	GLY	-	insertion	UNP Q6JC22
v	477	GLY	-	insertion	UNP Q6JC22
v	478	GLY	-	insertion	UNP Q6JC22
v	479	ALA	-	insertion	UNP Q6JC22
w	454	ALA	-	insertion	UNP Q6JC22
w	455	GLY	-	insertion	UNP Q6JC22
w	456	VAL	-	insertion	UNP Q6JC22
w	457	PRO	-	insertion	UNP Q6JC22
w	458	MET	-	insertion	UNP Q6JC22
w	459	SER	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
w	460	MET	-	insertion	UNP Q6JC22
w	461	ARG	-	insertion	UNP Q6JC22
w	462	GLY	-	insertion	UNP Q6JC22
w	463	GLY	-	insertion	UNP Q6JC22
w	464	GLY	-	insertion	UNP Q6JC22
w	465	ASP	-	insertion	UNP Q6JC22
w	466	ASP	-	insertion	UNP Q6JC22
w	467	ASP	-	insertion	UNP Q6JC22
w	468	ASP	-	insertion	UNP Q6JC22
w	469	GLY	-	insertion	UNP Q6JC22
w	470	VAL	-	insertion	UNP Q6JC22
w	471	PRO	-	insertion	UNP Q6JC22
w	472	MET	-	insertion	UNP Q6JC22
w	473	SER	-	insertion	UNP Q6JC22
w	474	MET	-	insertion	UNP Q6JC22
w	475	ARG	-	insertion	UNP Q6JC22
w	476	GLY	-	insertion	UNP Q6JC22
w	477	GLY	-	insertion	UNP Q6JC22
w	478	GLY	-	insertion	UNP Q6JC22
w	479	ALA	-	insertion	UNP Q6JC22
x	454	ALA	-	insertion	UNP Q6JC22
x	455	GLY	-	insertion	UNP Q6JC22
x	456	VAL	-	insertion	UNP Q6JC22
x	457	PRO	-	insertion	UNP Q6JC22
x	458	MET	-	insertion	UNP Q6JC22
x	459	SER	-	insertion	UNP Q6JC22
x	460	MET	-	insertion	UNP Q6JC22
x	461	ARG	-	insertion	UNP Q6JC22
x	462	GLY	-	insertion	UNP Q6JC22
x	463	GLY	-	insertion	UNP Q6JC22
x	464	GLY	-	insertion	UNP Q6JC22
x	465	ASP	-	insertion	UNP Q6JC22
x	466	ASP	-	insertion	UNP Q6JC22
x	467	ASP	-	insertion	UNP Q6JC22
x	468	ASP	-	insertion	UNP Q6JC22
x	469	GLY	-	insertion	UNP Q6JC22
x	470	VAL	-	insertion	UNP Q6JC22
x	471	PRO	-	insertion	UNP Q6JC22
x	472	MET	-	insertion	UNP Q6JC22
x	473	SER	-	insertion	UNP Q6JC22
x	474	MET	-	insertion	UNP Q6JC22
x	475	ARG	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
x	476	GLY	-	insertion	UNP Q6JC22
x	477	GLY	-	insertion	UNP Q6JC22
x	478	GLY	-	insertion	UNP Q6JC22
x	479	ALA	-	insertion	UNP Q6JC22
y	454	ALA	-	insertion	UNP Q6JC22
y	455	GLY	-	insertion	UNP Q6JC22
y	456	VAL	-	insertion	UNP Q6JC22
y	457	PRO	-	insertion	UNP Q6JC22
y	458	MET	-	insertion	UNP Q6JC22
y	459	SER	-	insertion	UNP Q6JC22
y	460	MET	-	insertion	UNP Q6JC22
y	461	ARG	-	insertion	UNP Q6JC22
y	462	GLY	-	insertion	UNP Q6JC22
y	463	GLY	-	insertion	UNP Q6JC22
y	464	GLY	-	insertion	UNP Q6JC22
y	465	ASP	-	insertion	UNP Q6JC22
y	466	ASP	-	insertion	UNP Q6JC22
y	467	ASP	-	insertion	UNP Q6JC22
y	468	ASP	-	insertion	UNP Q6JC22
y	469	GLY	-	insertion	UNP Q6JC22
y	470	VAL	-	insertion	UNP Q6JC22
y	471	PRO	-	insertion	UNP Q6JC22
y	472	MET	-	insertion	UNP Q6JC22
y	473	SER	-	insertion	UNP Q6JC22
y	474	MET	-	insertion	UNP Q6JC22
y	475	ARG	-	insertion	UNP Q6JC22
y	476	GLY	-	insertion	UNP Q6JC22
y	477	GLY	-	insertion	UNP Q6JC22
y	478	GLY	-	insertion	UNP Q6JC22
y	479	ALA	-	insertion	UNP Q6JC22
z	454	ALA	-	insertion	UNP Q6JC22
z	455	GLY	-	insertion	UNP Q6JC22
z	456	VAL	-	insertion	UNP Q6JC22
z	457	PRO	-	insertion	UNP Q6JC22
z	458	MET	-	insertion	UNP Q6JC22
z	459	SER	-	insertion	UNP Q6JC22
z	460	MET	-	insertion	UNP Q6JC22
z	461	ARG	-	insertion	UNP Q6JC22
z	462	GLY	-	insertion	UNP Q6JC22
z	463	GLY	-	insertion	UNP Q6JC22
z	464	GLY	-	insertion	UNP Q6JC22
z	465	ASP	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
z	466	ASP	-	insertion	UNP Q6JC22
z	467	ASP	-	insertion	UNP Q6JC22
z	468	ASP	-	insertion	UNP Q6JC22
z	469	GLY	-	insertion	UNP Q6JC22
z	470	VAL	-	insertion	UNP Q6JC22
z	471	PRO	-	insertion	UNP Q6JC22
z	472	MET	-	insertion	UNP Q6JC22
z	473	SER	-	insertion	UNP Q6JC22
z	474	MET	-	insertion	UNP Q6JC22
z	475	ARG	-	insertion	UNP Q6JC22
z	476	GLY	-	insertion	UNP Q6JC22
z	477	GLY	-	insertion	UNP Q6JC22
z	478	GLY	-	insertion	UNP Q6JC22
z	479	ALA	-	insertion	UNP Q6JC22
1	454	ALA	-	insertion	UNP Q6JC22
1	455	GLY	-	insertion	UNP Q6JC22
1	456	VAL	-	insertion	UNP Q6JC22
1	457	PRO	-	insertion	UNP Q6JC22
1	458	MET	-	insertion	UNP Q6JC22
1	459	SER	-	insertion	UNP Q6JC22
1	460	MET	-	insertion	UNP Q6JC22
1	461	ARG	-	insertion	UNP Q6JC22
1	462	GLY	-	insertion	UNP Q6JC22
1	463	GLY	-	insertion	UNP Q6JC22
1	464	GLY	-	insertion	UNP Q6JC22
1	465	ASP	-	insertion	UNP Q6JC22
1	466	ASP	-	insertion	UNP Q6JC22
1	467	ASP	-	insertion	UNP Q6JC22
1	468	ASP	-	insertion	UNP Q6JC22
1	469	GLY	-	insertion	UNP Q6JC22
1	470	VAL	-	insertion	UNP Q6JC22
1	471	PRO	-	insertion	UNP Q6JC22
1	472	MET	-	insertion	UNP Q6JC22
1	473	SER	-	insertion	UNP Q6JC22
1	474	MET	-	insertion	UNP Q6JC22
1	475	ARG	-	insertion	UNP Q6JC22
1	476	GLY	-	insertion	UNP Q6JC22
1	477	GLY	-	insertion	UNP Q6JC22
1	478	GLY	-	insertion	UNP Q6JC22
1	479	ALA	-	insertion	UNP Q6JC22
2	454	ALA	-	insertion	UNP Q6JC22
2	455	GLY	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
2	456	VAL	-	insertion	UNP Q6JC22
2	457	PRO	-	insertion	UNP Q6JC22
2	458	MET	-	insertion	UNP Q6JC22
2	459	SER	-	insertion	UNP Q6JC22
2	460	MET	-	insertion	UNP Q6JC22
2	461	ARG	-	insertion	UNP Q6JC22
2	462	GLY	-	insertion	UNP Q6JC22
2	463	GLY	-	insertion	UNP Q6JC22
2	464	GLY	-	insertion	UNP Q6JC22
2	465	ASP	-	insertion	UNP Q6JC22
2	466	ASP	-	insertion	UNP Q6JC22
2	467	ASP	-	insertion	UNP Q6JC22
2	468	ASP	-	insertion	UNP Q6JC22
2	469	GLY	-	insertion	UNP Q6JC22
2	470	VAL	-	insertion	UNP Q6JC22
2	471	PRO	-	insertion	UNP Q6JC22
2	472	MET	-	insertion	UNP Q6JC22
2	473	SER	-	insertion	UNP Q6JC22
2	474	MET	-	insertion	UNP Q6JC22
2	475	ARG	-	insertion	UNP Q6JC22
2	476	GLY	-	insertion	UNP Q6JC22
2	477	GLY	-	insertion	UNP Q6JC22
2	478	GLY	-	insertion	UNP Q6JC22
2	479	ALA	-	insertion	UNP Q6JC22
3	454	ALA	-	insertion	UNP Q6JC22
3	455	GLY	-	insertion	UNP Q6JC22
3	456	VAL	-	insertion	UNP Q6JC22
3	457	PRO	-	insertion	UNP Q6JC22
3	458	MET	-	insertion	UNP Q6JC22
3	459	SER	-	insertion	UNP Q6JC22
3	460	MET	-	insertion	UNP Q6JC22
3	461	ARG	-	insertion	UNP Q6JC22
3	462	GLY	-	insertion	UNP Q6JC22
3	463	GLY	-	insertion	UNP Q6JC22
3	464	GLY	-	insertion	UNP Q6JC22
3	465	ASP	-	insertion	UNP Q6JC22
3	466	ASP	-	insertion	UNP Q6JC22
3	467	ASP	-	insertion	UNP Q6JC22
3	468	ASP	-	insertion	UNP Q6JC22
3	469	GLY	-	insertion	UNP Q6JC22
3	470	VAL	-	insertion	UNP Q6JC22
3	471	PRO	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
3	472	MET	-	insertion	UNP Q6JC22
3	473	SER	-	insertion	UNP Q6JC22
3	474	MET	-	insertion	UNP Q6JC22
3	475	ARG	-	insertion	UNP Q6JC22
3	476	GLY	-	insertion	UNP Q6JC22
3	477	GLY	-	insertion	UNP Q6JC22
3	478	GLY	-	insertion	UNP Q6JC22
3	479	ALA	-	insertion	UNP Q6JC22
4	454	ALA	-	insertion	UNP Q6JC22
4	455	GLY	-	insertion	UNP Q6JC22
4	456	VAL	-	insertion	UNP Q6JC22
4	457	PRO	-	insertion	UNP Q6JC22
4	458	MET	-	insertion	UNP Q6JC22
4	459	SER	-	insertion	UNP Q6JC22
4	460	MET	-	insertion	UNP Q6JC22
4	461	ARG	-	insertion	UNP Q6JC22
4	462	GLY	-	insertion	UNP Q6JC22
4	463	GLY	-	insertion	UNP Q6JC22
4	464	GLY	-	insertion	UNP Q6JC22
4	465	ASP	-	insertion	UNP Q6JC22
4	466	ASP	-	insertion	UNP Q6JC22
4	467	ASP	-	insertion	UNP Q6JC22
4	468	ASP	-	insertion	UNP Q6JC22
4	469	GLY	-	insertion	UNP Q6JC22
4	470	VAL	-	insertion	UNP Q6JC22
4	471	PRO	-	insertion	UNP Q6JC22
4	472	MET	-	insertion	UNP Q6JC22
4	473	SER	-	insertion	UNP Q6JC22
4	474	MET	-	insertion	UNP Q6JC22
4	475	ARG	-	insertion	UNP Q6JC22
4	476	GLY	-	insertion	UNP Q6JC22
4	477	GLY	-	insertion	UNP Q6JC22
4	478	GLY	-	insertion	UNP Q6JC22
4	479	ALA	-	insertion	UNP Q6JC22
5	454	ALA	-	insertion	UNP Q6JC22
5	455	GLY	-	insertion	UNP Q6JC22
5	456	VAL	-	insertion	UNP Q6JC22
5	457	PRO	-	insertion	UNP Q6JC22
5	458	MET	-	insertion	UNP Q6JC22
5	459	SER	-	insertion	UNP Q6JC22
5	460	MET	-	insertion	UNP Q6JC22
5	461	ARG	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
5	462	GLY	-	insertion	UNP Q6JC22
5	463	GLY	-	insertion	UNP Q6JC22
5	464	GLY	-	insertion	UNP Q6JC22
5	465	ASP	-	insertion	UNP Q6JC22
5	466	ASP	-	insertion	UNP Q6JC22
5	467	ASP	-	insertion	UNP Q6JC22
5	468	ASP	-	insertion	UNP Q6JC22
5	469	GLY	-	insertion	UNP Q6JC22
5	470	VAL	-	insertion	UNP Q6JC22
5	471	PRO	-	insertion	UNP Q6JC22
5	472	MET	-	insertion	UNP Q6JC22
5	473	SER	-	insertion	UNP Q6JC22
5	474	MET	-	insertion	UNP Q6JC22
5	475	ARG	-	insertion	UNP Q6JC22
5	476	GLY	-	insertion	UNP Q6JC22
5	477	GLY	-	insertion	UNP Q6JC22
5	478	GLY	-	insertion	UNP Q6JC22
5	479	ALA	-	insertion	UNP Q6JC22
6	454	ALA	-	insertion	UNP Q6JC22
6	455	GLY	-	insertion	UNP Q6JC22
6	456	VAL	-	insertion	UNP Q6JC22
6	457	PRO	-	insertion	UNP Q6JC22
6	458	MET	-	insertion	UNP Q6JC22
6	459	SER	-	insertion	UNP Q6JC22
6	460	MET	-	insertion	UNP Q6JC22
6	461	ARG	-	insertion	UNP Q6JC22
6	462	GLY	-	insertion	UNP Q6JC22
6	463	GLY	-	insertion	UNP Q6JC22
6	464	GLY	-	insertion	UNP Q6JC22
6	465	ASP	-	insertion	UNP Q6JC22
6	466	ASP	-	insertion	UNP Q6JC22
6	467	ASP	-	insertion	UNP Q6JC22
6	468	ASP	-	insertion	UNP Q6JC22
6	469	GLY	-	insertion	UNP Q6JC22
6	470	VAL	-	insertion	UNP Q6JC22
6	471	PRO	-	insertion	UNP Q6JC22
6	472	MET	-	insertion	UNP Q6JC22
6	473	SER	-	insertion	UNP Q6JC22
6	474	MET	-	insertion	UNP Q6JC22
6	475	ARG	-	insertion	UNP Q6JC22
6	476	GLY	-	insertion	UNP Q6JC22
6	477	GLY	-	insertion	UNP Q6JC22

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Chain	Residue	Modelled	Actual	Comment	Reference
6	478	GLY	-	insertion	UNP Q6JC22
6	479	ALA	-	insertion	UNP Q6JC22
7	454	ALA	-	insertion	UNP Q6JC22
7	455	GLY	-	insertion	UNP Q6JC22
7	456	VAL	-	insertion	UNP Q6JC22
7	457	PRO	-	insertion	UNP Q6JC22
7	458	MET	-	insertion	UNP Q6JC22
7	459	SER	-	insertion	UNP Q6JC22
7	460	MET	-	insertion	UNP Q6JC22
7	461	ARG	-	insertion	UNP Q6JC22
7	462	GLY	-	insertion	UNP Q6JC22
7	463	GLY	-	insertion	UNP Q6JC22
7	464	GLY	-	insertion	UNP Q6JC22
7	465	ASP	-	insertion	UNP Q6JC22
7	466	ASP	-	insertion	UNP Q6JC22
7	467	ASP	-	insertion	UNP Q6JC22
7	468	ASP	-	insertion	UNP Q6JC22
7	469	GLY	-	insertion	UNP Q6JC22
7	470	VAL	-	insertion	UNP Q6JC22
7	471	PRO	-	insertion	UNP Q6JC22
7	472	MET	-	insertion	UNP Q6JC22
7	473	SER	-	insertion	UNP Q6JC22
7	474	MET	-	insertion	UNP Q6JC22
7	475	ARG	-	insertion	UNP Q6JC22
7	476	GLY	-	insertion	UNP Q6JC22
7	477	GLY	-	insertion	UNP Q6JC22
7	478	GLY	-	insertion	UNP Q6JC22
7	479	ALA	-	insertion	UNP Q6JC22
8	454	ALA	-	insertion	UNP Q6JC22
8	455	GLY	-	insertion	UNP Q6JC22
8	456	VAL	-	insertion	UNP Q6JC22
8	457	PRO	-	insertion	UNP Q6JC22
8	458	MET	-	insertion	UNP Q6JC22
8	459	SER	-	insertion	UNP Q6JC22
8	460	MET	-	insertion	UNP Q6JC22
8	461	ARG	-	insertion	UNP Q6JC22
8	462	GLY	-	insertion	UNP Q6JC22
8	463	GLY	-	insertion	UNP Q6JC22
8	464	GLY	-	insertion	UNP Q6JC22
8	465	ASP	-	insertion	UNP Q6JC22
8	466	ASP	-	insertion	UNP Q6JC22
8	467	ASP	-	insertion	UNP Q6JC22

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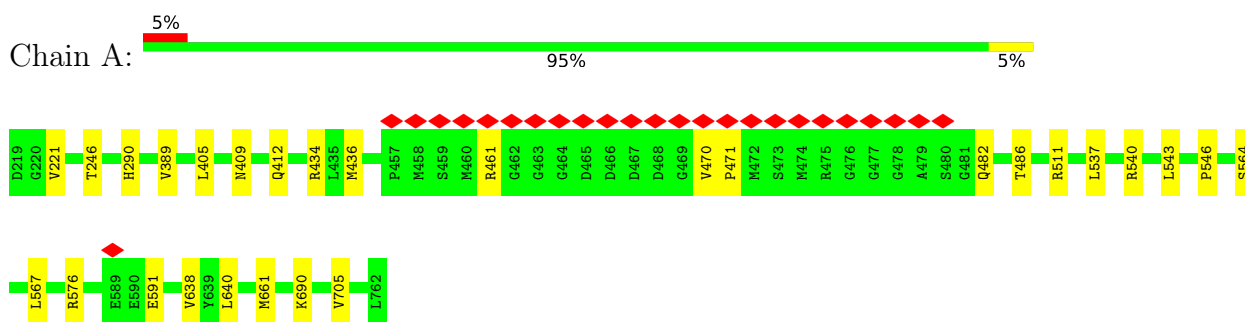
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Chain	Residue	Modelled	Actual	Comment	Reference
8	468	ASP	-	insertion	UNP Q6JC22
8	469	GLY	-	insertion	UNP Q6JC22
8	470	VAL	-	insertion	UNP Q6JC22
8	471	PRO	-	insertion	UNP Q6JC22
8	472	MET	-	insertion	UNP Q6JC22
8	473	SER	-	insertion	UNP Q6JC22
8	474	MET	-	insertion	UNP Q6JC22
8	475	ARG	-	insertion	UNP Q6JC22
8	476	GLY	-	insertion	UNP Q6JC22
8	477	GLY	-	insertion	UNP Q6JC22
8	478	GLY	-	insertion	UNP Q6JC22
8	479	ALA	-	insertion	UNP Q6JC22

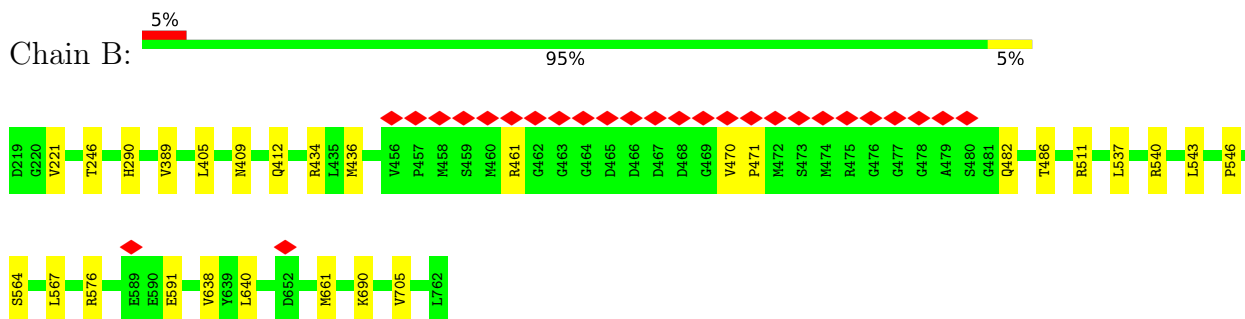
### 3 Residue-property plots [i](#)

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.

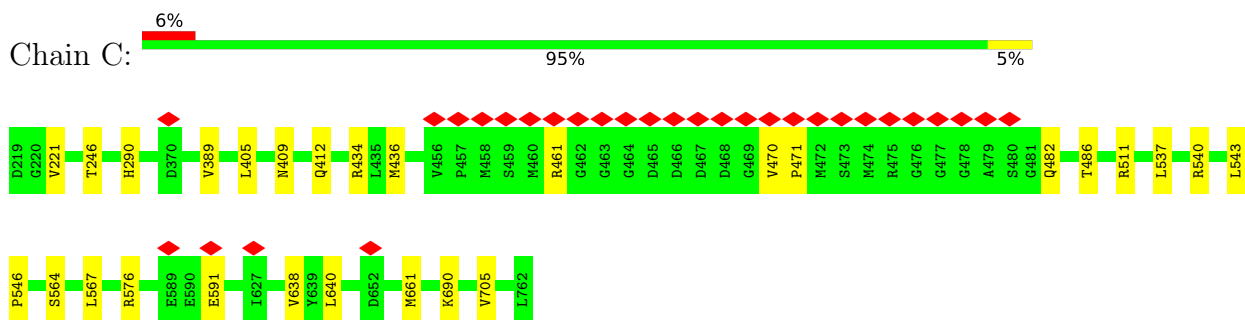
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- Molecule 1: Capsid protein VP1

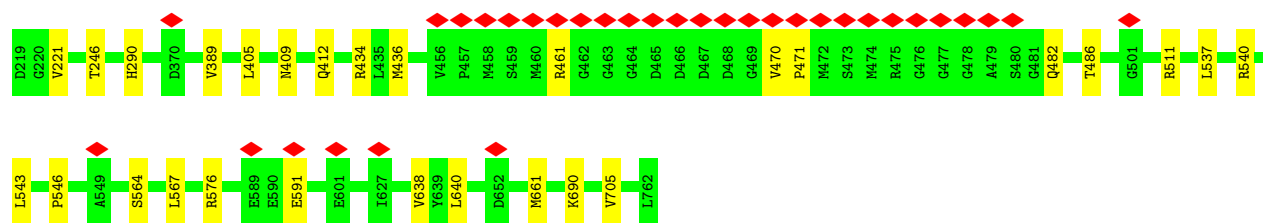


- Molecule 1: Capsid protein VP1



- Molecule 1: Capsid protein VP1





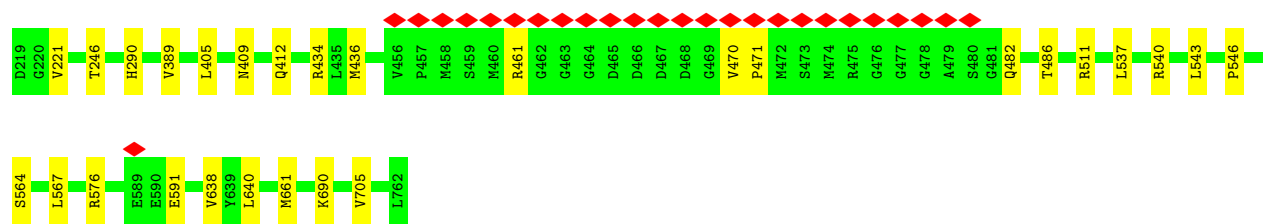
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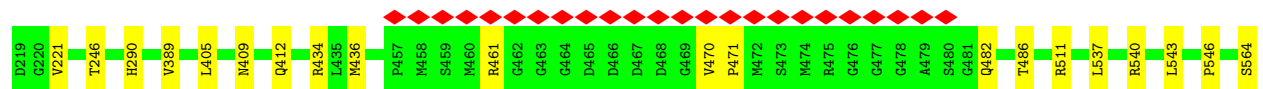
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• Molecule 1: Capsid protein VP1



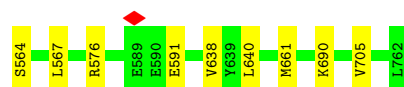
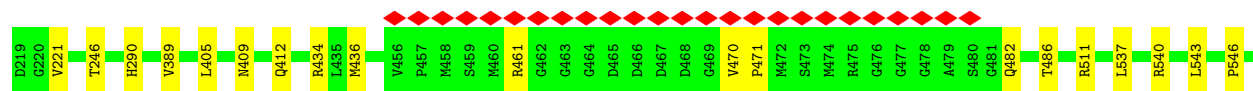
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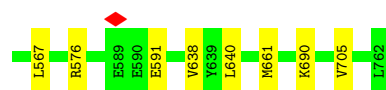
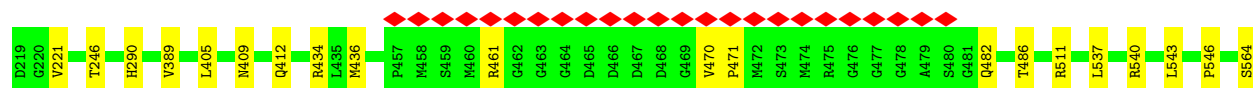




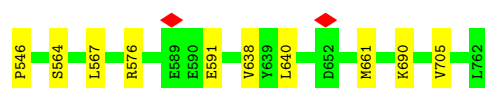
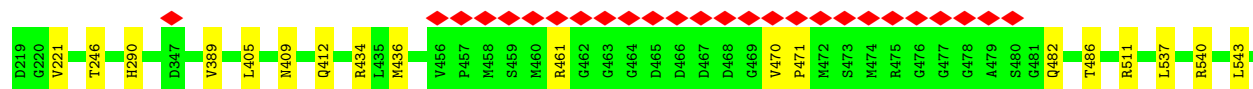
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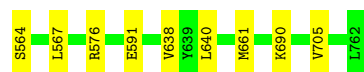
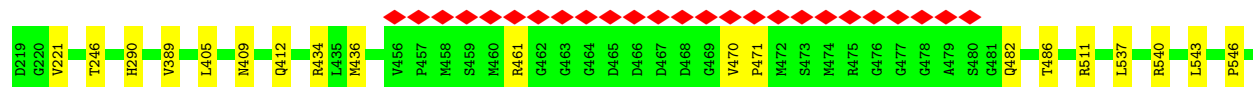
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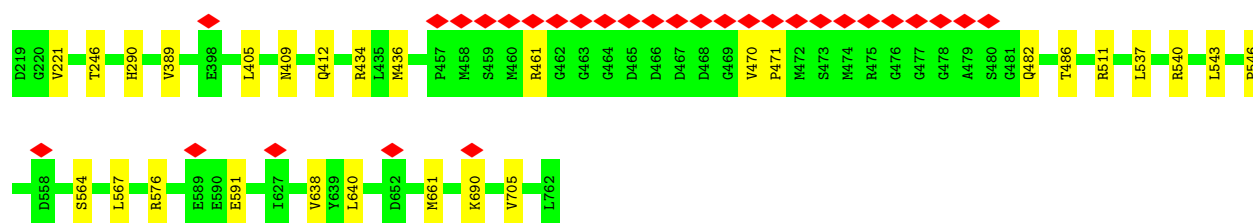
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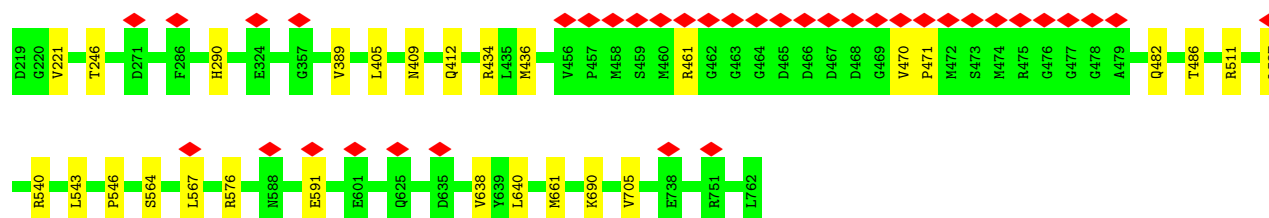
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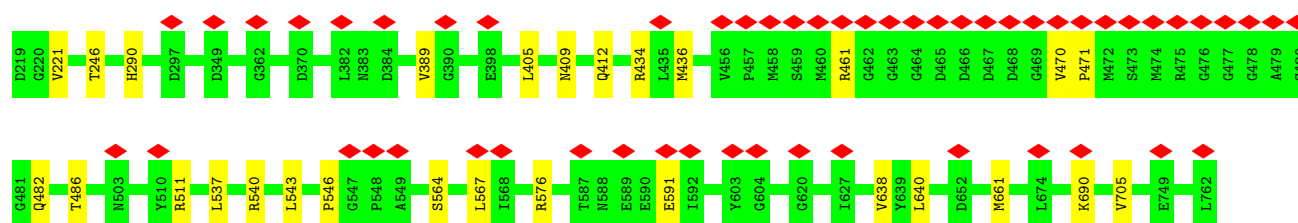
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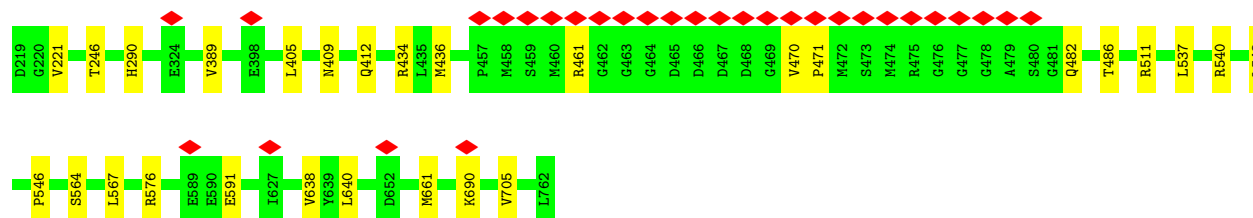
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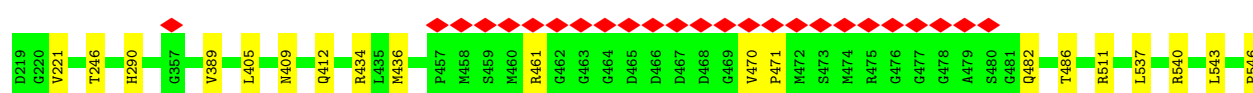
- Molecule 1: Capsid protein VP1

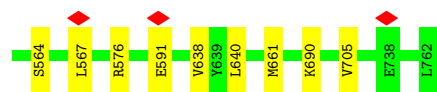


- Molecule 1: Capsid protein VP1

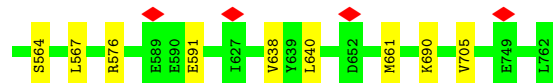
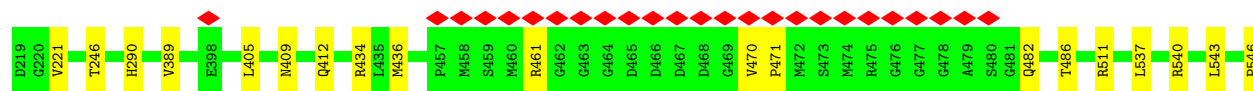


- Molecule 1: Capsid protein VP1

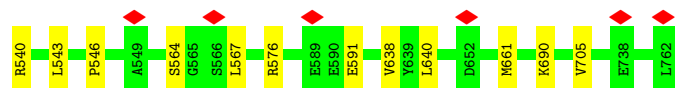
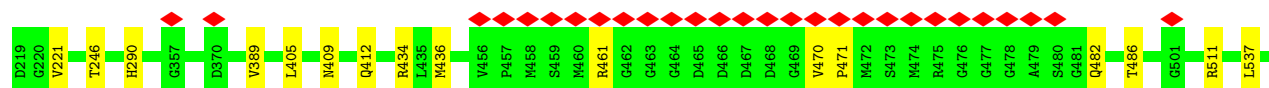
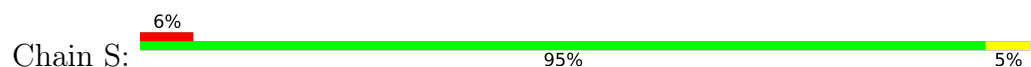




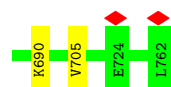
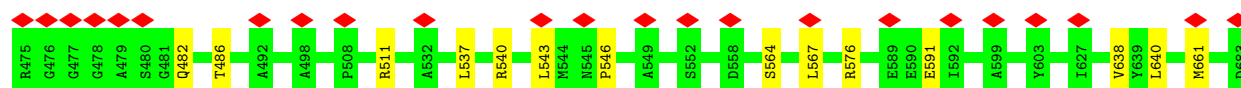
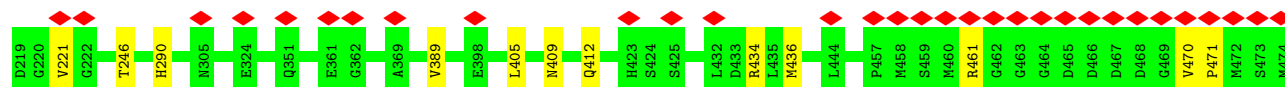
• Molecule 1: Capsid protein VP1



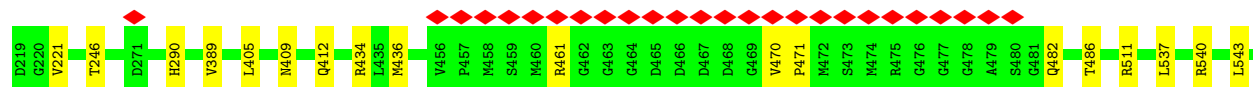
• Molecule 1: Capsid protein VP1



• Molecule 1: Capsid protein VP1

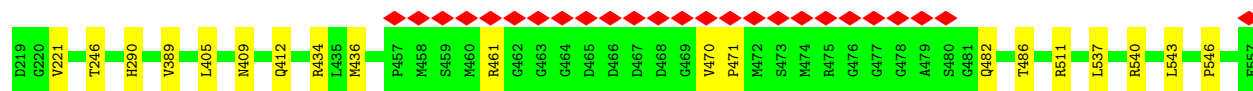


• Molecule 1: Capsid protein VP1

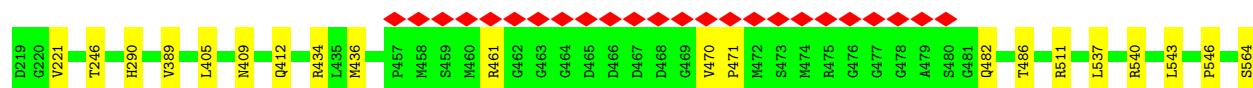




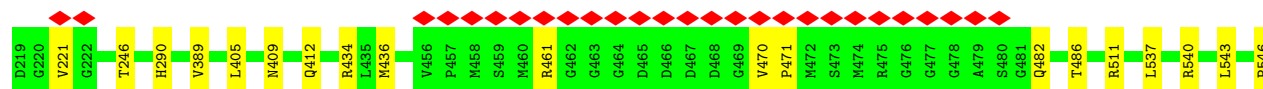
- Molecule 1: Capsid protein VP1



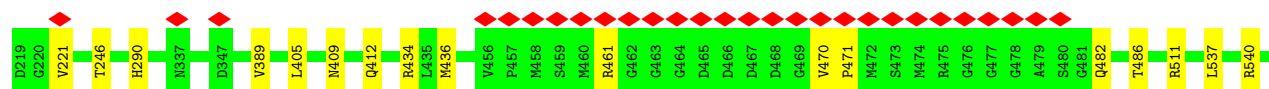
- Molecule 1: Capsid protein VP1



- Molecule 1: Capsid protein VP1



- Molecule 1: Capsid protein VP1



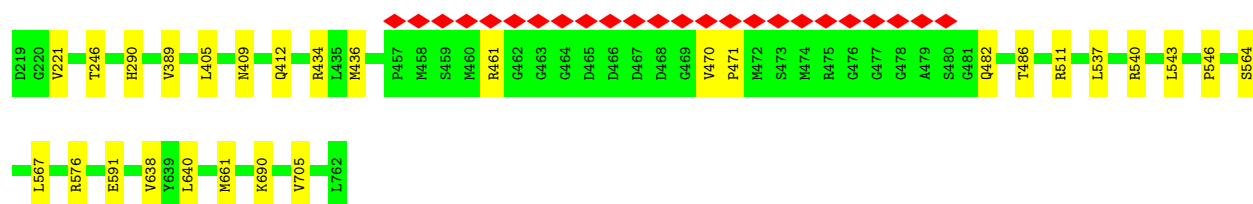
- Molecule 1: Capsid protein VP1

Chain Z: 



• Molecule 1: Capsid protein VP1

Chain a: 



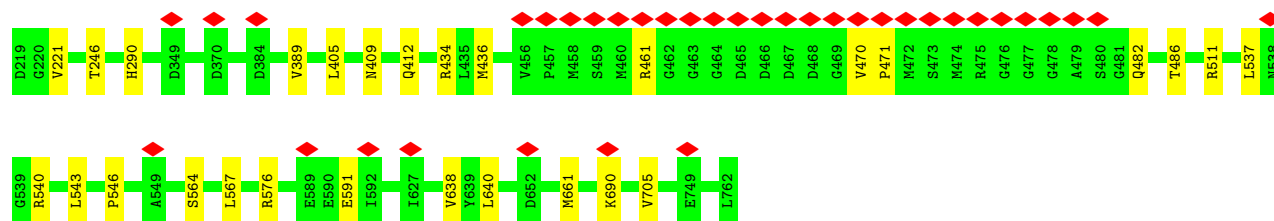
• Molecule 1: Capsid protein VP1

Chain b: 



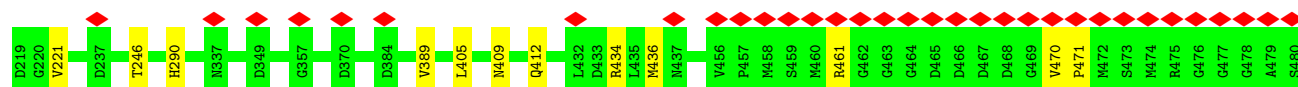
• Molecule 1: Capsid protein VP1

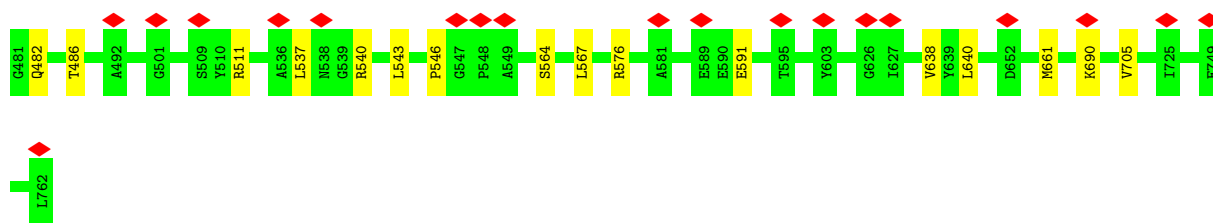
Chain c: 



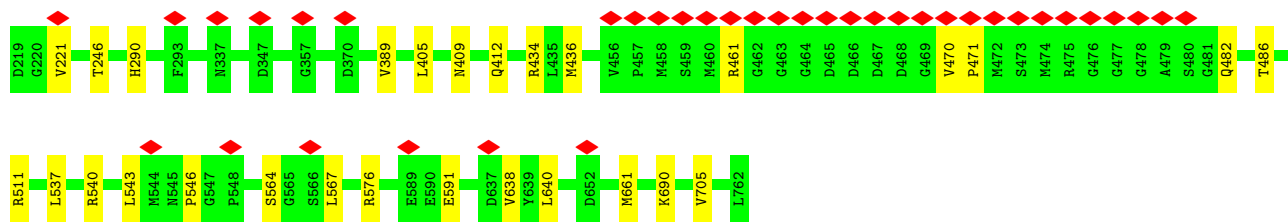
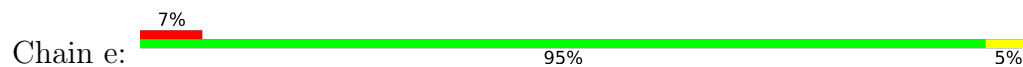
• Molecule 1: Capsid protein VP1

Chain d: 

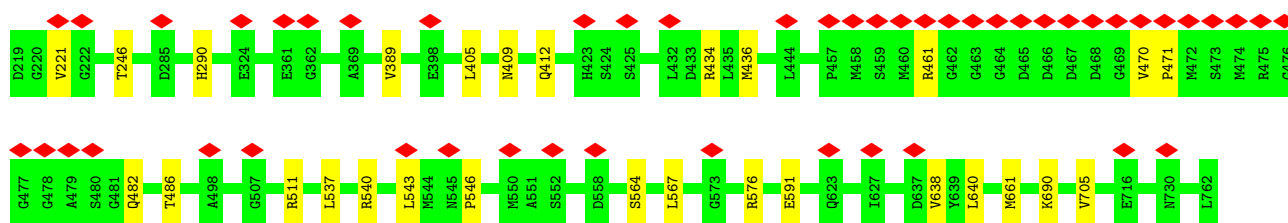
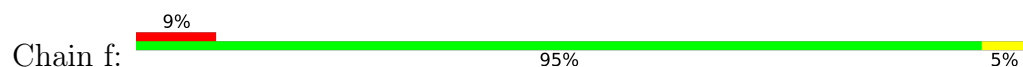




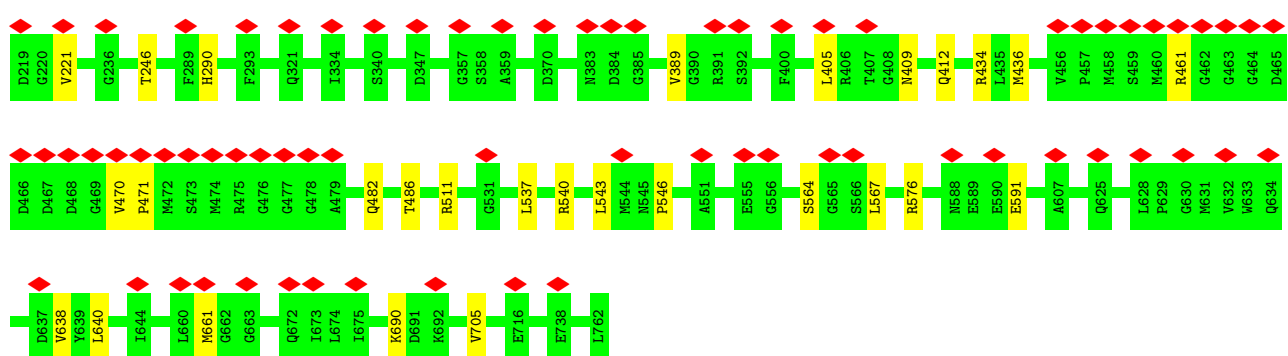
- Molecule 1: Capsid protein VP1



- Molecule 1: Capsid protein VP1

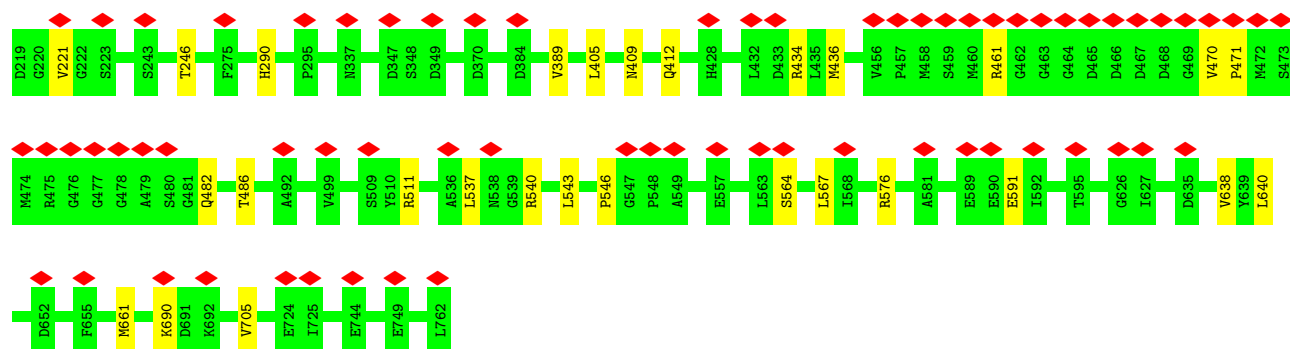


- Molecule 1: Capsid protein VP1

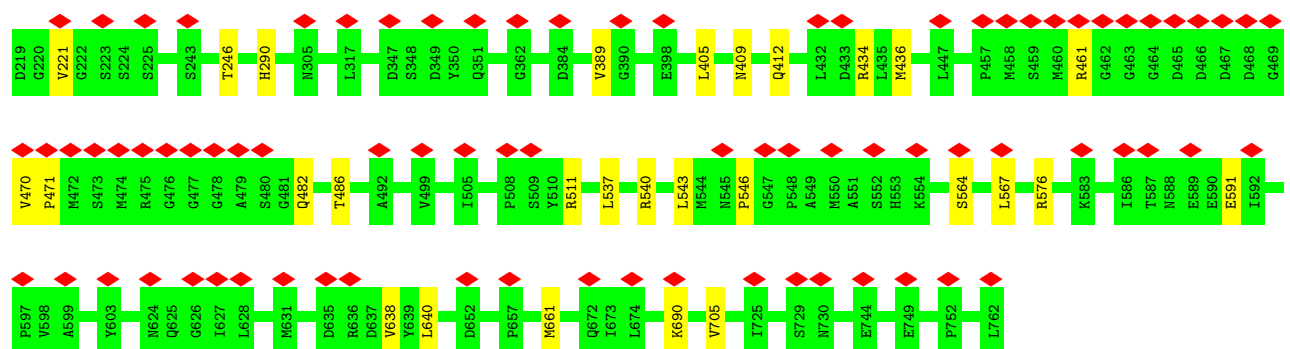


- Molecule 1: Capsid protein VP1

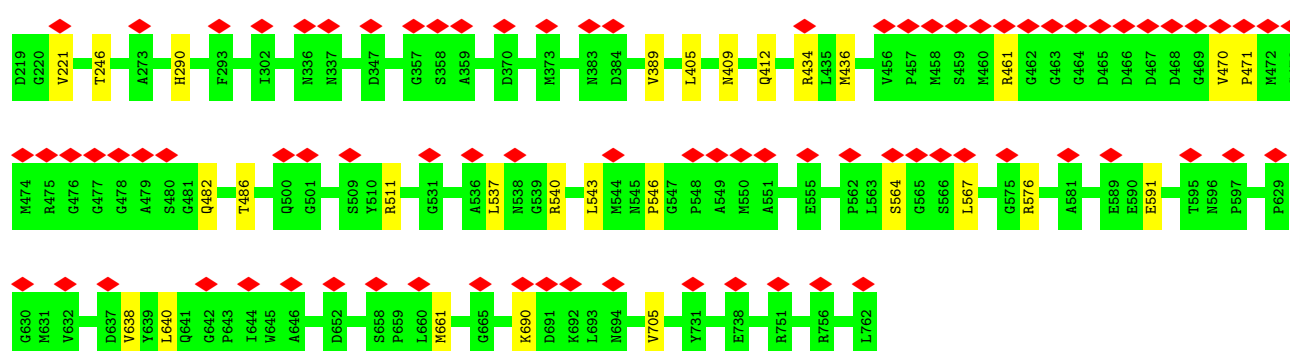




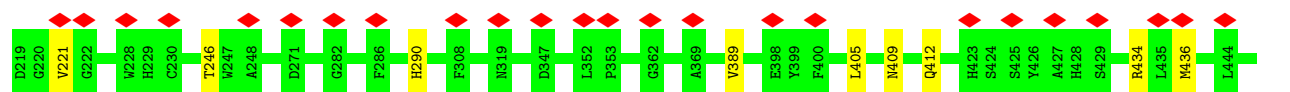
• Molecule 1: Capsid protein VP1

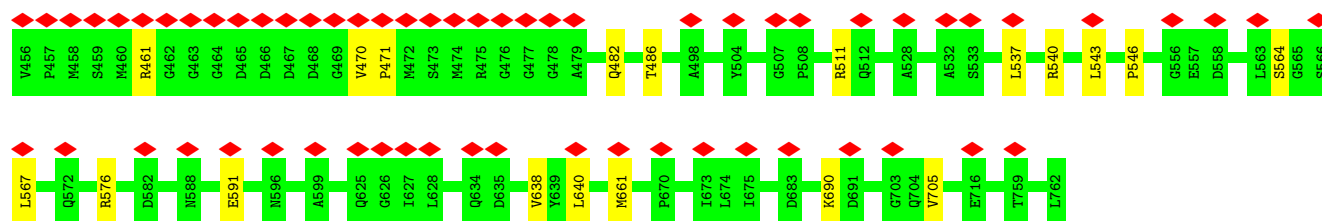


• Molecule 1: Capsid protein VP1

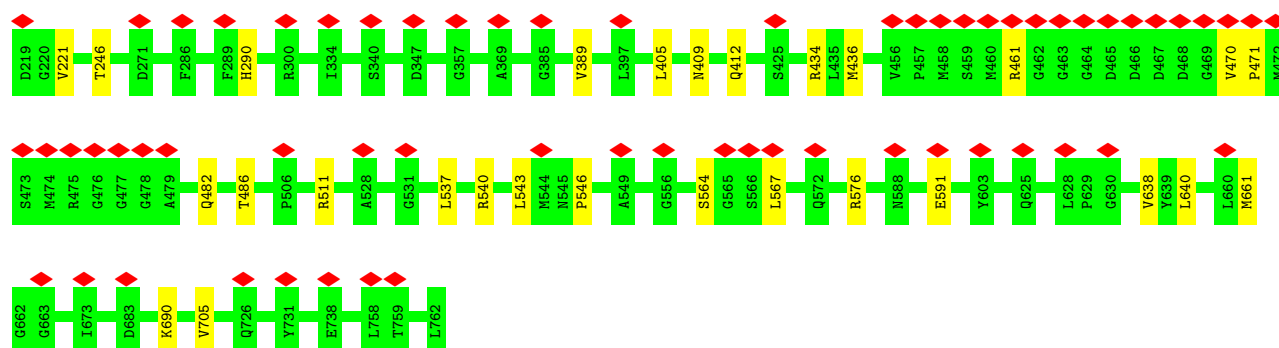


• Molecule 1: Capsid protein VP1

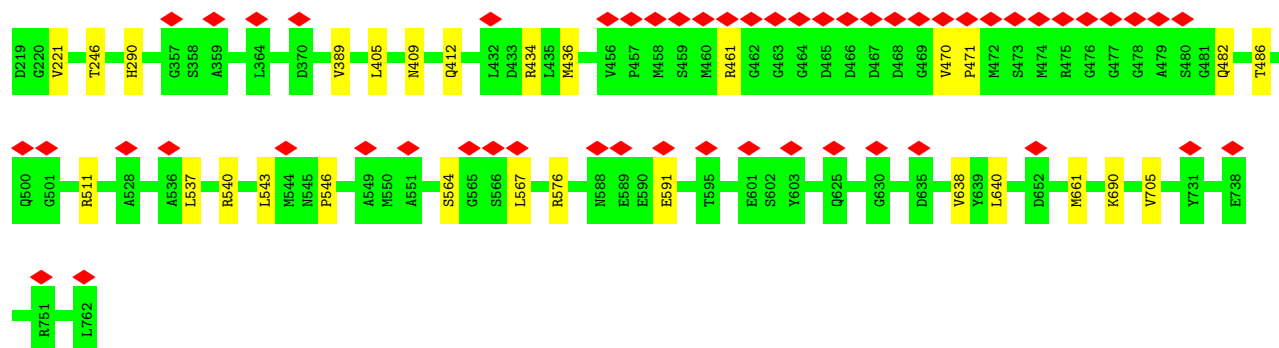




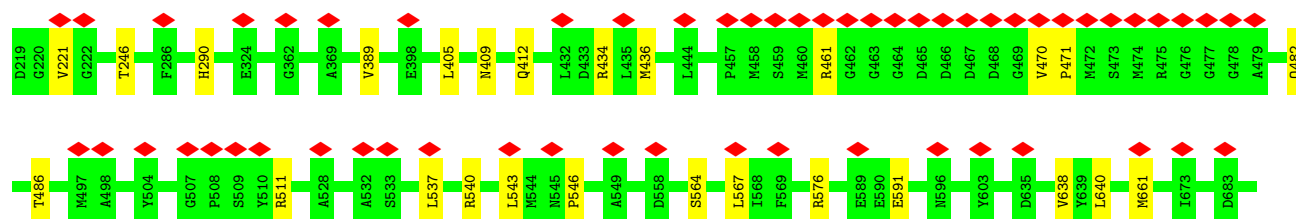
• Molecule 1: Capsid protein VP1



• Molecule 1: Capsid protein VP1



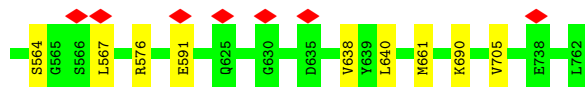
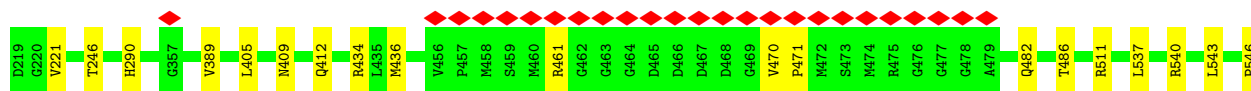
• Molecule 1: Capsid protein VP1



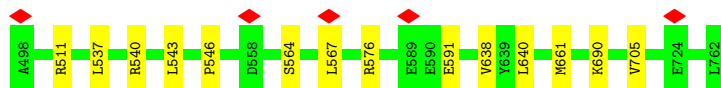
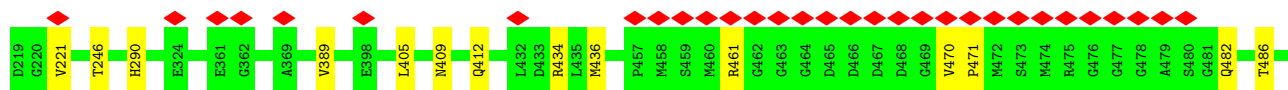




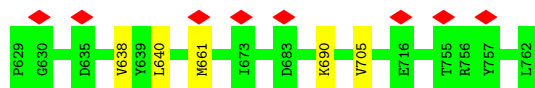
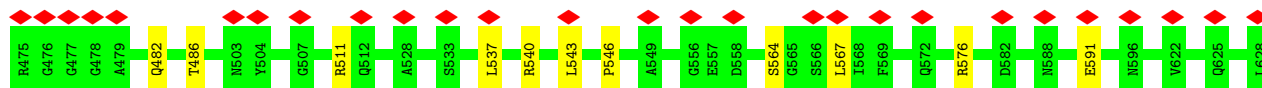
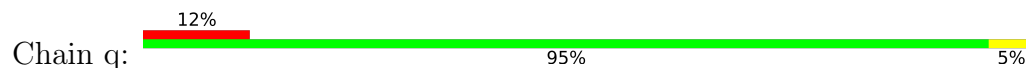
• Molecule 1: Capsid protein VP1



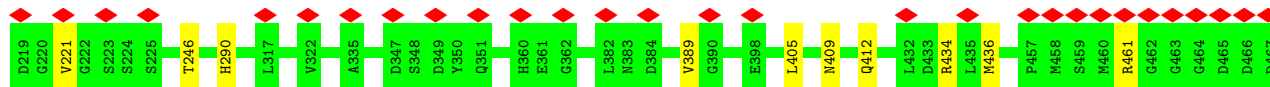
• Molecule 1: Capsid protein VP1

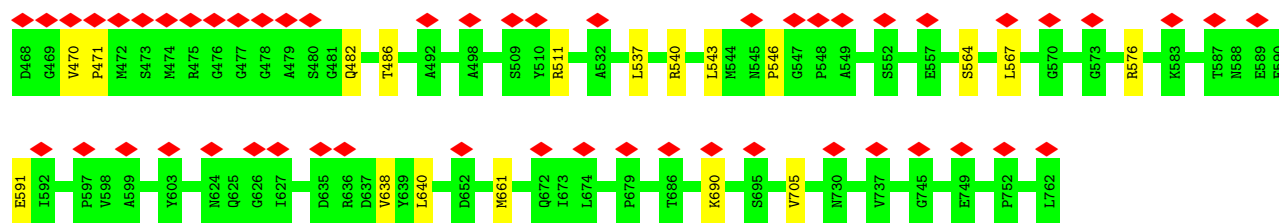


• Molecule 1: Capsid protein VP1

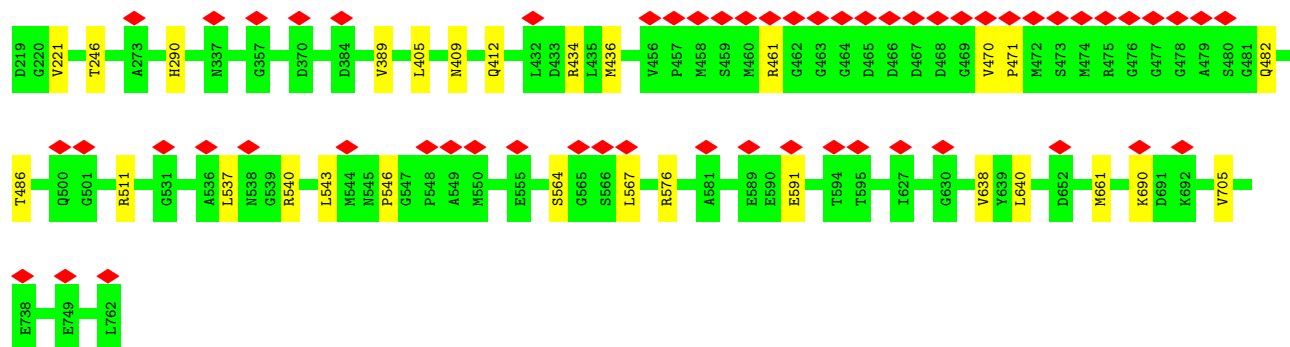


• Molecule 1: Capsid protein VP1

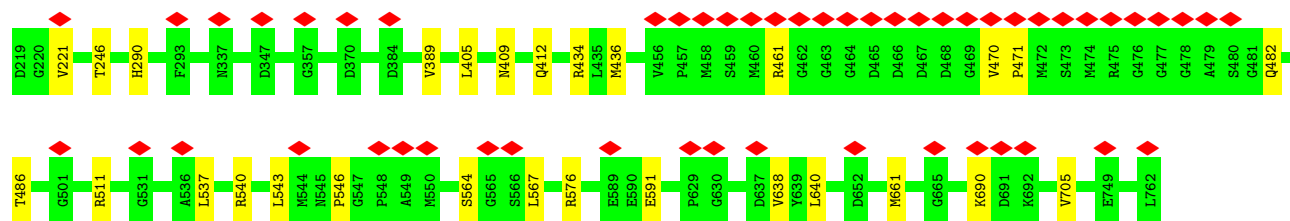




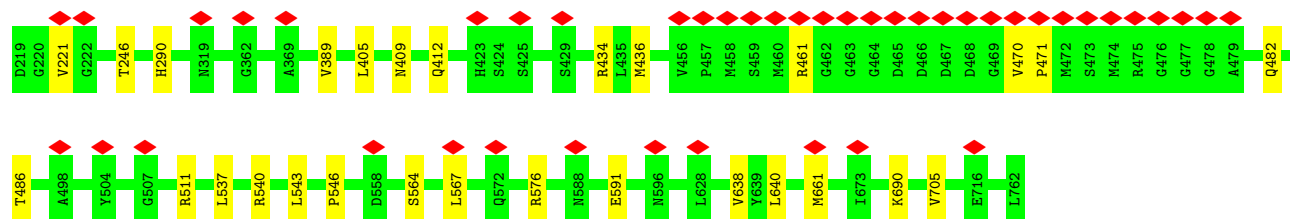
• Molecule 1: Capsid protein VP1



• Molecule 1: Capsid protein VP1

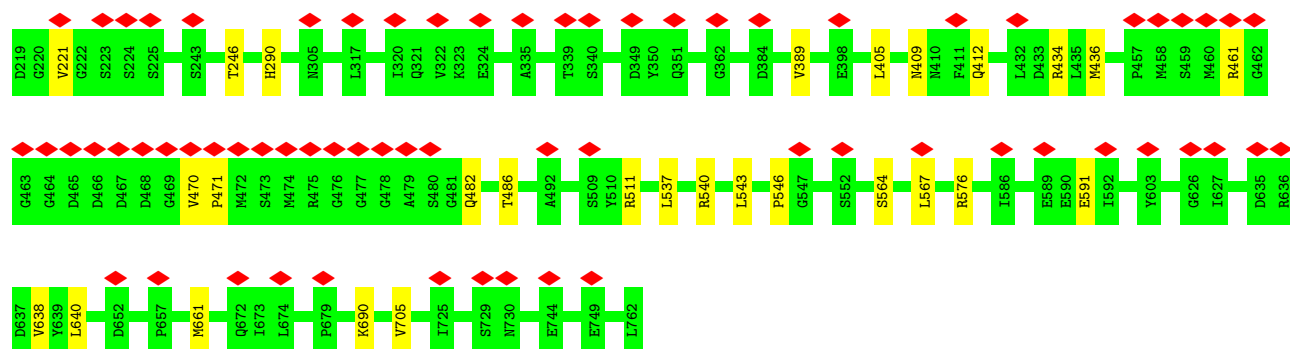


• Molecule 1: Capsid protein VP1

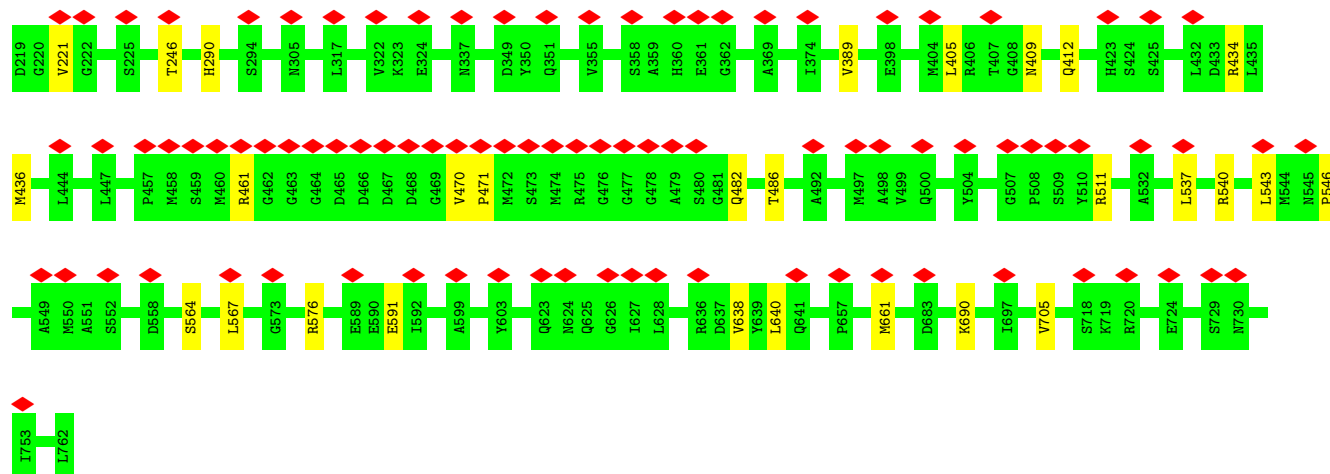


• Molecule 1: Capsid protein VP1

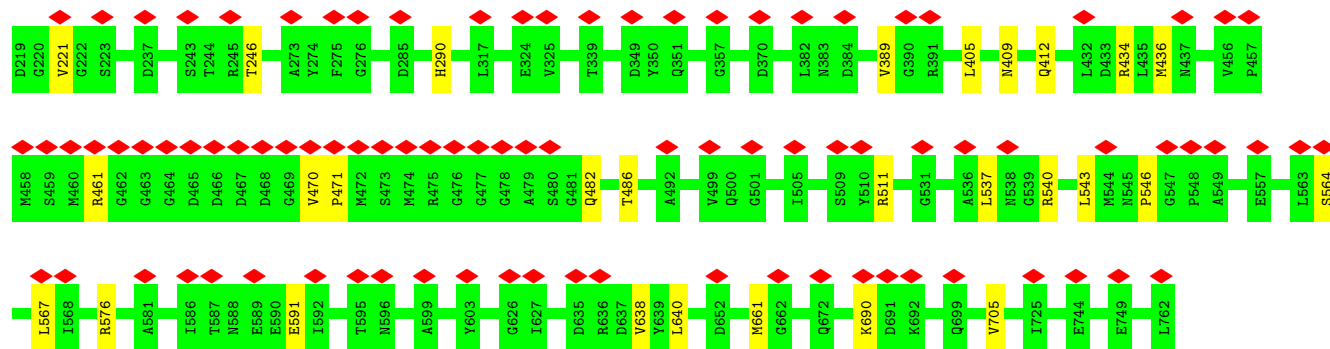




• Molecule 1: Capsid protein VP1

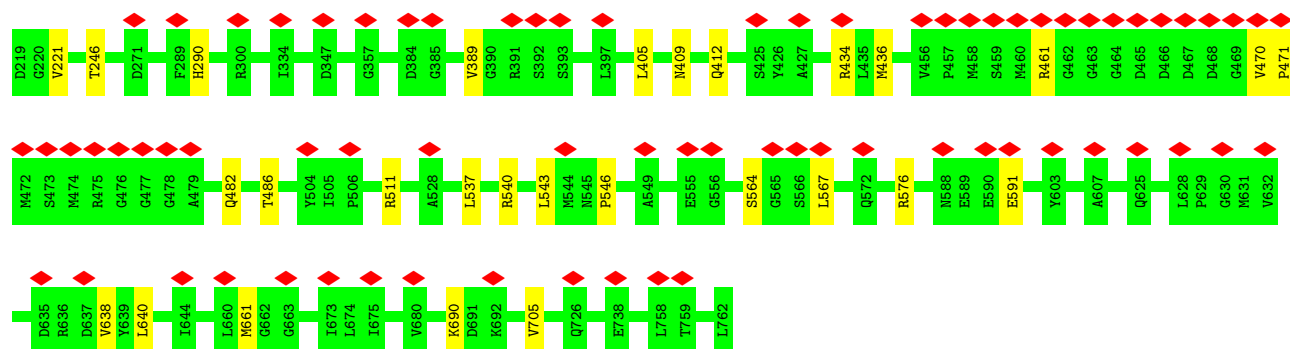


• Molecule 1: Capsid protein VP1

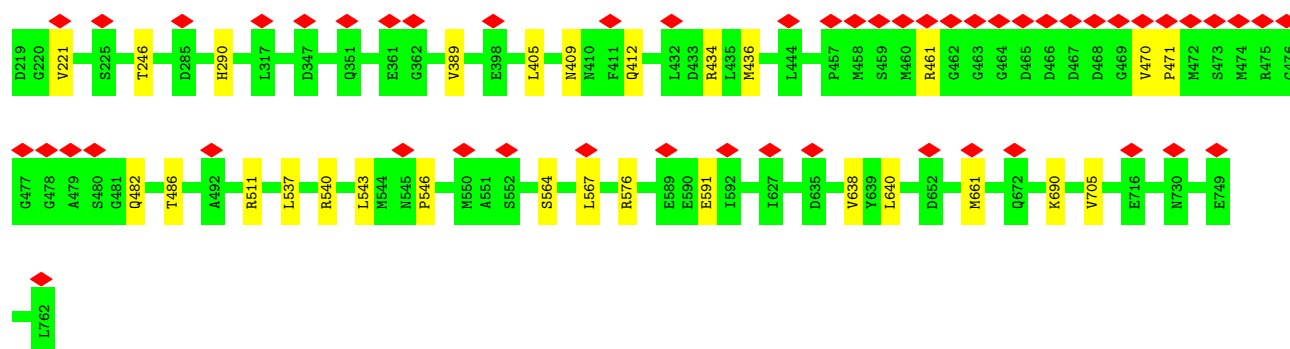


• Molecule 1: Capsid protein VP1

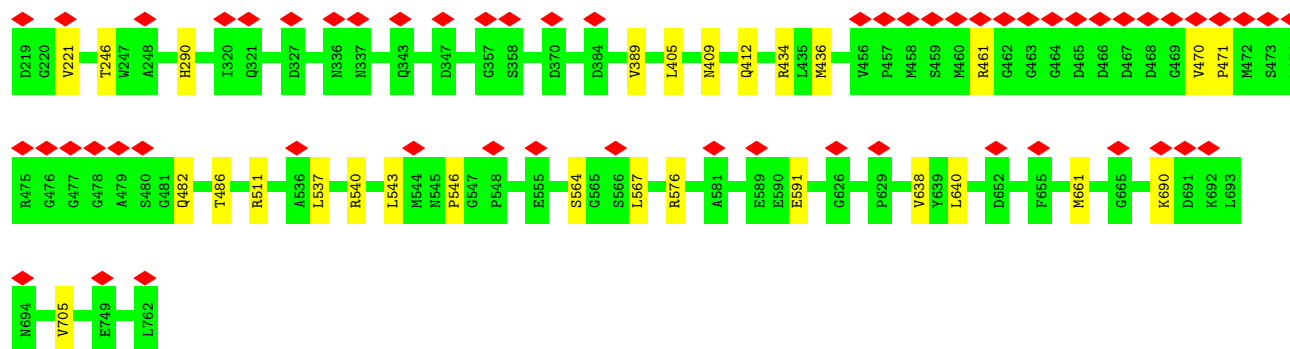




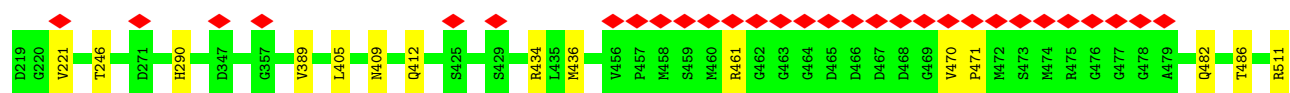
• Molecule 1: Capsid protein VP1

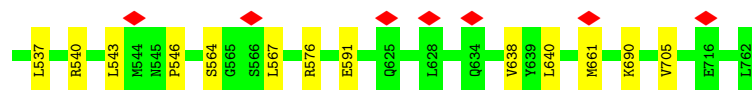


• Molecule 1: Capsid protein VP1

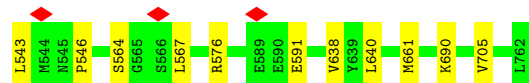


• Molecule 1: Capsid protein VP1





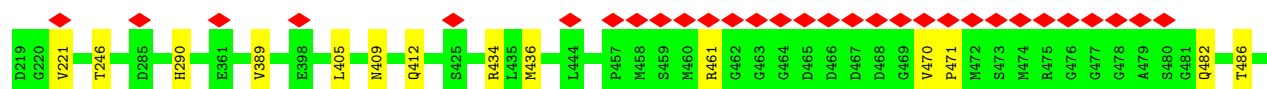
- Molecule 1: Capsid protein VP1



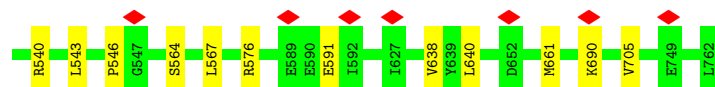
- Molecule 1: Capsid protein VP1



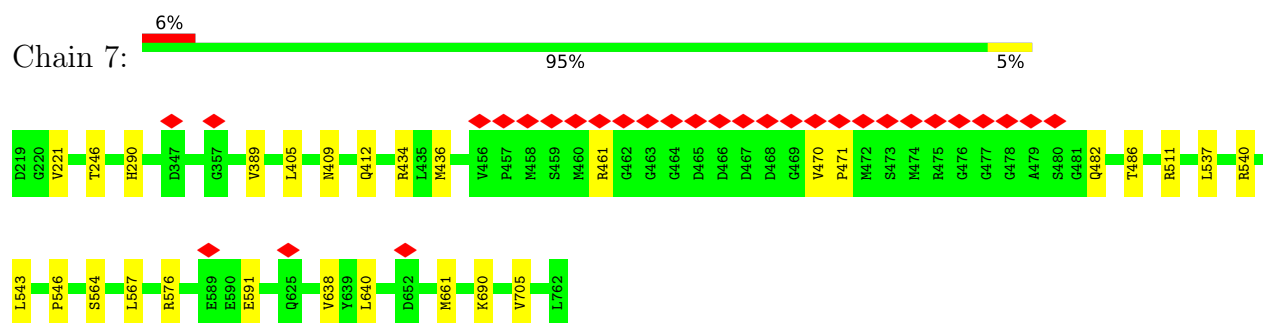
- Molecule 1: Capsid protein VP1



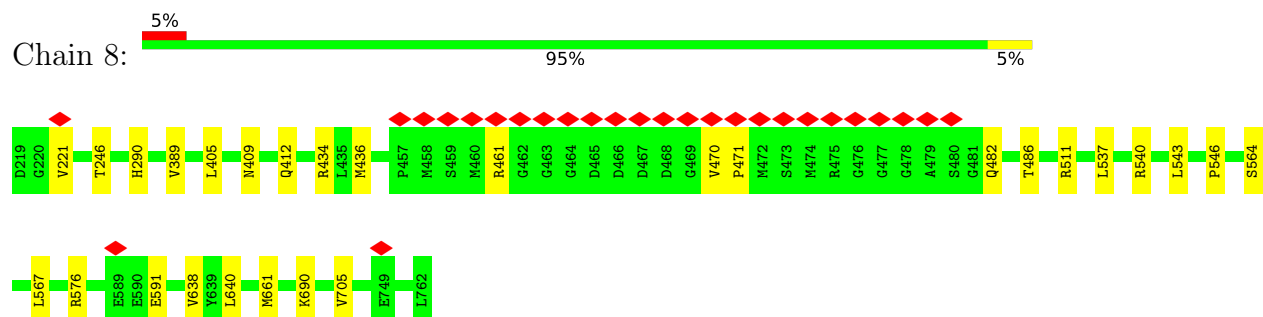
- Molecule 1: Capsid protein VP1



- Molecule 1: Capsid protein VP1



• Molecule 1: Capsid protein VP1



## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	114044	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 ( $e^-/\text{\AA}^2$ )	20	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	DIRECT ELECTRON DE-20 (5k x 3k)	Depositor
Maximum map value	17.407	Depositor
Minimum map value	-6.826	Depositor
Average map value	0.000	Depositor
Map value standard deviation	1.000	Depositor
Recommended contour level	1.0	Depositor
Map size (Å)	400.314, 400.314, 400.314	wwPDB
Map dimensions	411, 411, 411	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.974, 0.974, 0.974	Depositor

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z  > 5$	RMSZ	$\# Z  > 5$
1	1	0.63	0/4427	0.89	0/6026
1	2	0.63	0/4427	0.89	0/6026
1	3	0.63	0/4427	0.89	0/6026
1	4	0.63	0/4427	0.89	0/6026
1	5	0.63	0/4427	0.89	0/6026
1	6	0.63	0/4427	0.89	0/6026
1	7	0.63	0/4427	0.89	0/6026
1	8	0.63	0/4427	0.89	0/6026
1	A	0.63	0/4427	0.89	0/6026
1	B	0.63	0/4427	0.89	0/6026
1	C	0.63	0/4427	0.89	0/6026
1	D	0.63	0/4427	0.89	0/6026
1	E	0.63	0/4427	0.89	0/6026
1	F	0.63	0/4427	0.89	0/6026
1	G	0.63	0/4427	0.89	0/6026
1	H	0.63	0/4427	0.89	0/6026
1	I	0.63	0/4427	0.89	0/6026
1	J	0.64	0/4427	0.89	0/6026
1	K	0.63	0/4427	0.89	0/6026
1	L	0.63	0/4427	0.89	0/6026
1	M	0.63	0/4427	0.89	0/6026
1	N	0.63	0/4427	0.89	0/6026
1	O	0.63	0/4427	0.89	0/6026
1	P	0.63	0/4427	0.89	0/6026
1	Q	0.63	0/4427	0.89	0/6026
1	R	0.63	0/4427	0.89	0/6026
1	S	0.63	0/4427	0.89	0/6026
1	T	0.63	0/4427	0.89	0/6026
1	U	0.63	0/4427	0.89	0/6026
1	V	0.63	0/4427	0.89	0/6026
1	W	0.63	0/4427	0.89	0/6026
1	X	0.63	0/4427	0.89	0/6026
1	Y	0.63	0/4427	0.89	0/6026
1	Z	0.63	0/4427	0.89	0/6026



Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	a	0.63	0/4427	0.89	0/6026
1	b	0.63	0/4427	0.89	0/6026
1	c	0.63	0/4427	0.89	0/6026
1	d	0.63	0/4427	0.89	0/6026
1	e	0.63	0/4427	0.89	0/6026
1	f	0.63	0/4427	0.89	0/6026
1	g	0.63	0/4427	0.89	0/6026
1	h	0.63	0/4427	0.89	0/6026
1	i	0.63	0/4427	0.89	0/6026
1	j	0.63	0/4427	0.89	0/6026
1	k	0.63	0/4427	0.89	0/6026
1	l	0.63	0/4427	0.89	0/6026
1	m	0.63	0/4427	0.89	0/6026
1	n	0.63	0/4427	0.89	0/6026
1	o	0.63	0/4427	0.89	0/6026
1	p	0.63	0/4427	0.89	0/6026
1	q	0.63	0/4427	0.89	0/6026
1	r	0.63	0/4427	0.89	0/6026
1	s	0.63	0/4427	0.89	0/6026
1	t	0.63	0/4427	0.89	0/6026
1	u	0.63	0/4427	0.89	0/6026
1	v	0.63	0/4427	0.89	0/6026
1	w	0.63	0/4427	0.89	0/6026
1	x	0.63	0/4427	0.89	0/6026
1	y	0.63	0/4427	0.89	0/6026
1	z	0.63	0/4427	0.89	0/6026
All	All	0.63	0/265620	0.89	0/361560

There are no bond length outliers.

There are no bond angle outliers.

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 ⓘ

### 5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	Percentiles	
1	1	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	2	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	3	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	4	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	5	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	6	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	7	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	8	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	A	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	B	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	C	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	D	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	E	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	F	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	G	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	H	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	I	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	J	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	K	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	L	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	M	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	N	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	O	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	P	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	Q	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53

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*Continued from previous page...*

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	R	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	S	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	T	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	U	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	V	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	W	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	X	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	Y	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	Z	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	a	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	b	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	c	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	d	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	e	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	f	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	g	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	h	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	i	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	j	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	k	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	l	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	m	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	n	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	o	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	p	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	q	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	r	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	s	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	t	542/544 (100%)	505 (93%)	32 (6%)	5 (1%)	17	53
1	u	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	v	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	w	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	x	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	y	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
1	z	542/544 (100%)	506 (93%)	31 (6%)	5 (1%)	17	53
All	All	32520/32640 (100%)	30337 (93%)	1883 (6%)	300 (1%)	21	53

All (300) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	461	ARG
1	A	470	VAL
1	A	567	LEU
1	B	461	ARG
1	B	470	VAL
1	B	567	LEU
1	C	461	ARG
1	C	470	VAL
1	C	567	LEU
1	D	461	ARG
1	D	470	VAL
1	D	567	LEU
1	E	461	ARG
1	E	470	VAL
1	E	567	LEU
1	F	461	ARG
1	F	470	VAL
1	F	567	LEU
1	G	461	ARG
1	G	470	VAL
1	G	567	LEU
1	H	461	ARG
1	H	470	VAL
1	H	567	LEU
1	I	461	ARG
1	I	470	VAL
1	I	567	LEU
1	J	461	ARG
1	J	470	VAL
1	J	567	LEU
1	K	461	ARG
1	K	470	VAL

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Mol	Chain	Res	Type
1	K	567	LEU
1	L	461	ARG
1	L	470	VAL
1	L	567	LEU
1	M	461	ARG
1	M	470	VAL
1	M	567	LEU
1	N	461	ARG
1	N	470	VAL
1	N	567	LEU
1	O	461	ARG
1	O	470	VAL
1	O	567	LEU
1	P	461	ARG
1	P	470	VAL
1	P	567	LEU
1	Q	461	ARG
1	Q	470	VAL
1	Q	567	LEU
1	R	461	ARG
1	R	470	VAL
1	R	567	LEU
1	S	461	ARG
1	S	470	VAL
1	S	567	LEU
1	T	461	ARG
1	T	470	VAL
1	T	567	LEU
1	U	461	ARG
1	U	470	VAL
1	U	567	LEU
1	V	461	ARG
1	V	470	VAL
1	V	567	LEU
1	W	461	ARG
1	W	470	VAL
1	W	567	LEU
1	X	461	ARG
1	X	470	VAL
1	X	567	LEU
1	Y	461	ARG
1	Y	470	VAL

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Mol	Chain	Res	Type
1	Y	567	LEU
1	Z	461	ARG
1	Z	470	VAL
1	Z	567	LEU
1	a	461	ARG
1	a	470	VAL
1	a	567	LEU
1	b	461	ARG
1	b	470	VAL
1	b	567	LEU
1	c	461	ARG
1	c	470	VAL
1	c	567	LEU
1	d	461	ARG
1	d	470	VAL
1	d	567	LEU
1	e	461	ARG
1	e	470	VAL
1	e	567	LEU
1	f	461	ARG
1	f	470	VAL
1	f	567	LEU
1	g	461	ARG
1	g	470	VAL
1	g	567	LEU
1	h	461	ARG
1	h	470	VAL
1	h	567	LEU
1	i	461	ARG
1	i	470	VAL
1	i	567	LEU
1	j	461	ARG
1	j	470	VAL
1	j	567	LEU
1	k	461	ARG
1	k	470	VAL
1	k	567	LEU
1	l	461	ARG
1	l	470	VAL
1	l	567	LEU
1	m	461	ARG
1	m	470	VAL

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Mol	Chain	Res	Type
1	m	567	LEU
1	n	461	ARG
1	n	470	VAL
1	n	567	LEU
1	o	461	ARG
1	o	470	VAL
1	o	567	LEU
1	p	461	ARG
1	p	470	VAL
1	p	567	LEU
1	q	461	ARG
1	q	470	VAL
1	q	567	LEU
1	r	461	ARG
1	r	470	VAL
1	r	567	LEU
1	s	461	ARG
1	s	470	VAL
1	s	567	LEU
1	t	461	ARG
1	t	470	VAL
1	t	567	LEU
1	u	461	ARG
1	u	470	VAL
1	u	567	LEU
1	v	461	ARG
1	v	470	VAL
1	v	567	LEU
1	w	461	ARG
1	w	470	VAL
1	w	567	LEU
1	x	461	ARG
1	x	470	VAL
1	x	567	LEU
1	y	461	ARG
1	y	470	VAL
1	y	567	LEU
1	z	461	ARG
1	z	470	VAL
1	z	567	LEU
1	1	461	ARG
1	1	470	VAL

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Mol	Chain	Res	Type
1	1	567	LEU
1	2	461	ARG
1	2	470	VAL
1	2	567	LEU
1	3	461	ARG
1	3	470	VAL
1	3	567	LEU
1	4	461	ARG
1	4	470	VAL
1	4	567	LEU
1	5	461	ARG
1	5	470	VAL
1	5	567	LEU
1	6	461	ARG
1	6	470	VAL
1	6	567	LEU
1	7	461	ARG
1	7	470	VAL
1	7	567	LEU
1	8	461	ARG
1	8	470	VAL
1	8	567	LEU
1	A	221	VAL
1	B	221	VAL
1	C	221	VAL
1	D	221	VAL
1	E	221	VAL
1	F	221	VAL
1	G	221	VAL
1	H	221	VAL
1	I	221	VAL
1	J	221	VAL
1	K	221	VAL
1	L	221	VAL
1	M	221	VAL
1	N	221	VAL
1	O	221	VAL
1	P	221	VAL
1	Q	221	VAL
1	R	221	VAL
1	S	221	VAL
1	T	221	VAL

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Mol	Chain	Res	Type
1	U	221	VAL
1	V	221	VAL
1	W	221	VAL
1	X	221	VAL
1	Y	221	VAL
1	Z	221	VAL
1	a	221	VAL
1	b	221	VAL
1	c	221	VAL
1	d	221	VAL
1	e	221	VAL
1	f	221	VAL
1	g	221	VAL
1	h	221	VAL
1	i	221	VAL
1	j	221	VAL
1	k	221	VAL
1	l	221	VAL
1	m	221	VAL
1	n	221	VAL
1	o	221	VAL
1	p	221	VAL
1	q	221	VAL
1	r	221	VAL
1	s	221	VAL
1	t	221	VAL
1	u	221	VAL
1	v	221	VAL
1	w	221	VAL
1	x	221	VAL
1	y	221	VAL
1	z	221	VAL
1	1	221	VAL
1	2	221	VAL
1	3	221	VAL
1	4	221	VAL
1	5	221	VAL
1	6	221	VAL
1	7	221	VAL
1	8	221	VAL
1	A	546	PRO
1	B	546	PRO

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Mol	Chain	Res	Type
1	C	546	PRO
1	D	546	PRO
1	E	546	PRO
1	F	546	PRO
1	G	546	PRO
1	H	546	PRO
1	I	546	PRO
1	J	546	PRO
1	K	546	PRO
1	L	546	PRO
1	M	546	PRO
1	N	546	PRO
1	O	546	PRO
1	P	546	PRO
1	Q	546	PRO
1	R	546	PRO
1	S	546	PRO
1	T	546	PRO
1	U	546	PRO
1	V	546	PRO
1	W	546	PRO
1	X	546	PRO
1	Y	546	PRO
1	Z	546	PRO
1	a	546	PRO
1	b	546	PRO
1	c	546	PRO
1	d	546	PRO
1	e	546	PRO
1	f	546	PRO
1	g	546	PRO
1	h	546	PRO
1	i	546	PRO
1	j	546	PRO
1	k	546	PRO
1	l	546	PRO
1	m	546	PRO
1	n	546	PRO
1	o	546	PRO
1	p	546	PRO
1	q	546	PRO
1	r	546	PRO

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Mol	Chain	Res	Type
1	s	546	PRO
1	t	546	PRO
1	u	546	PRO
1	v	546	PRO
1	w	546	PRO
1	x	546	PRO
1	y	546	PRO
1	z	546	PRO
1	1	546	PRO
1	2	546	PRO
1	3	546	PRO
1	4	546	PRO
1	5	546	PRO
1	6	546	PRO
1	7	546	PRO
1	8	546	PRO

### 5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	1	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	2	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	3	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	4	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	5	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	6	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	7	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	8	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	A	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	B	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	C	469/469 (100%)	446 (95%)	23 (5%)	25	59

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	D	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	E	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	F	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	G	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	H	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	I	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	J	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	K	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	L	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	M	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	N	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	O	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	P	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	Q	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	R	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	S	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	T	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	U	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	V	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	W	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	X	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	Y	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	Z	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	a	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	b	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	c	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	d	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	e	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	f	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	g	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	h	469/469 (100%)	446 (95%)	23 (5%)	25	59

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	i	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	j	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	k	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	l	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	m	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	n	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	o	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	p	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	q	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	r	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	s	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	t	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	u	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	v	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	w	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	x	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	y	469/469 (100%)	446 (95%)	23 (5%)	25	59
1	z	469/469 (100%)	446 (95%)	23 (5%)	25	59
All	All	28140/28140 (100%)	26760 (95%)	1380 (5%)	29	59

All (1380) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	246	THR
1	A	290	HIS
1	A	389	VAL
1	A	405	LEU
1	A	409	ASN
1	A	412	GLN
1	A	434	ARG
1	A	436	MET
1	A	471	PRO
1	A	482	GLN
1	A	486	THR
1	A	511	ARG
1	A	537	LEU

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Mol	Chain	Res	Type
1	A	540	ARG
1	A	543	LEU
1	A	564	SER
1	A	576	ARG
1	A	591	GLU
1	A	638	VAL
1	A	640	LEU
1	A	661	MET
1	A	690	LYS
1	A	705	VAL
1	B	246	THR
1	B	290	HIS
1	B	389	VAL
1	B	405	LEU
1	B	409	ASN
1	B	412	GLN
1	B	434	ARG
1	B	436	MET
1	B	471	PRO
1	B	482	GLN
1	B	486	THR
1	B	511	ARG
1	B	537	LEU
1	B	540	ARG
1	B	543	LEU
1	B	564	SER
1	B	576	ARG
1	B	591	GLU
1	B	638	VAL
1	B	640	LEU
1	B	661	MET
1	B	690	LYS
1	B	705	VAL
1	C	246	THR
1	C	290	HIS
1	C	389	VAL
1	C	405	LEU
1	C	409	ASN
1	C	412	GLN
1	C	434	ARG
1	C	436	MET
1	C	471	PRO

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Mol	Chain	Res	Type
1	C	482	GLN
1	C	486	THR
1	C	511	ARG
1	C	537	LEU
1	C	540	ARG
1	C	543	LEU
1	C	564	SER
1	C	576	ARG
1	C	591	GLU
1	C	638	VAL
1	C	640	LEU
1	C	661	MET
1	C	690	LYS
1	C	705	VAL
1	D	246	THR
1	D	290	HIS
1	D	389	VAL
1	D	405	LEU
1	D	409	ASN
1	D	412	GLN
1	D	434	ARG
1	D	436	MET
1	D	471	PRO
1	D	482	GLN
1	D	486	THR
1	D	511	ARG
1	D	537	LEU
1	D	540	ARG
1	D	543	LEU
1	D	564	SER
1	D	576	ARG
1	D	591	GLU
1	D	638	VAL
1	D	640	LEU
1	D	661	MET
1	D	690	LYS
1	D	705	VAL
1	E	246	THR
1	E	290	HIS
1	E	389	VAL
1	E	405	LEU
1	E	409	ASN

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Mol	Chain	Res	Type
1	E	412	GLN
1	E	434	ARG
1	E	436	MET
1	E	471	PRO
1	E	482	GLN
1	E	486	THR
1	E	511	ARG
1	E	537	LEU
1	E	540	ARG
1	E	543	LEU
1	E	564	SER
1	E	576	ARG
1	E	591	GLU
1	E	638	VAL
1	E	640	LEU
1	E	661	MET
1	E	690	LYS
1	E	705	VAL
1	F	246	THR
1	F	290	HIS
1	F	389	VAL
1	F	405	LEU
1	F	409	ASN
1	F	412	GLN
1	F	434	ARG
1	F	436	MET
1	F	471	PRO
1	F	482	GLN
1	F	486	THR
1	F	511	ARG
1	F	537	LEU
1	F	540	ARG
1	F	543	LEU
1	F	564	SER
1	F	576	ARG
1	F	591	GLU
1	F	638	VAL
1	F	640	LEU
1	F	661	MET
1	F	690	LYS
1	F	705	VAL
1	G	246	THR

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Mol	Chain	Res	Type
1	G	290	HIS
1	G	389	VAL
1	G	405	LEU
1	G	409	ASN
1	G	412	GLN
1	G	434	ARG
1	G	436	MET
1	G	471	PRO
1	G	482	GLN
1	G	486	THR
1	G	511	ARG
1	G	537	LEU
1	G	540	ARG
1	G	543	LEU
1	G	564	SER
1	G	576	ARG
1	G	591	GLU
1	G	638	VAL
1	G	640	LEU
1	G	661	MET
1	G	690	LYS
1	G	705	VAL
1	H	246	THR
1	H	290	HIS
1	H	389	VAL
1	H	405	LEU
1	H	409	ASN
1	H	412	GLN
1	H	434	ARG
1	H	436	MET
1	H	471	PRO
1	H	482	GLN
1	H	486	THR
1	H	511	ARG
1	H	537	LEU
1	H	540	ARG
1	H	543	LEU
1	H	564	SER
1	H	576	ARG
1	H	591	GLU
1	H	638	VAL
1	H	640	LEU

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Mol	Chain	Res	Type
1	H	661	MET
1	H	690	LYS
1	H	705	VAL
1	I	246	THR
1	I	290	HIS
1	I	389	VAL
1	I	405	LEU
1	I	409	ASN
1	I	412	GLN
1	I	434	ARG
1	I	436	MET
1	I	471	PRO
1	I	482	GLN
1	I	486	THR
1	I	511	ARG
1	I	537	LEU
1	I	540	ARG
1	I	543	LEU
1	I	564	SER
1	I	576	ARG
1	I	591	GLU
1	I	638	VAL
1	I	640	LEU
1	I	661	MET
1	I	690	LYS
1	I	705	VAL
1	J	246	THR
1	J	290	HIS
1	J	389	VAL
1	J	405	LEU
1	J	409	ASN
1	J	412	GLN
1	J	434	ARG
1	J	436	MET
1	J	471	PRO
1	J	482	GLN
1	J	486	THR
1	J	511	ARG
1	J	537	LEU
1	J	540	ARG
1	J	543	LEU
1	J	564	SER

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Mol	Chain	Res	Type
1	J	576	ARG
1	J	591	GLU
1	J	638	VAL
1	J	640	LEU
1	J	661	MET
1	J	690	LYS
1	J	705	VAL
1	K	246	THR
1	K	290	HIS
1	K	389	VAL
1	K	405	LEU
1	K	409	ASN
1	K	412	GLN
1	K	434	ARG
1	K	436	MET
1	K	471	PRO
1	K	482	GLN
1	K	486	THR
1	K	511	ARG
1	K	537	LEU
1	K	540	ARG
1	K	543	LEU
1	K	564	SER
1	K	576	ARG
1	K	591	GLU
1	K	638	VAL
1	K	640	LEU
1	K	661	MET
1	K	690	LYS
1	K	705	VAL
1	L	246	THR
1	L	290	HIS
1	L	389	VAL
1	L	405	LEU
1	L	409	ASN
1	L	412	GLN
1	L	434	ARG
1	L	436	MET
1	L	471	PRO
1	L	482	GLN
1	L	486	THR
1	L	511	ARG

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Mol	Chain	Res	Type
1	L	537	LEU
1	L	540	ARG
1	L	543	LEU
1	L	564	SER
1	L	576	ARG
1	L	591	GLU
1	L	638	VAL
1	L	640	LEU
1	L	661	MET
1	L	690	LYS
1	L	705	VAL
1	M	246	THR
1	M	290	HIS
1	M	389	VAL
1	M	405	LEU
1	M	409	ASN
1	M	412	GLN
1	M	434	ARG
1	M	436	MET
1	M	471	PRO
1	M	482	GLN
1	M	486	THR
1	M	511	ARG
1	M	537	LEU
1	M	540	ARG
1	M	543	LEU
1	M	564	SER
1	M	576	ARG
1	M	591	GLU
1	M	638	VAL
1	M	640	LEU
1	M	661	MET
1	M	690	LYS
1	M	705	VAL
1	N	246	THR
1	N	290	HIS
1	N	389	VAL
1	N	405	LEU
1	N	409	ASN
1	N	412	GLN
1	N	434	ARG
1	N	436	MET

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Mol	Chain	Res	Type
1	N	471	PRO
1	N	482	GLN
1	N	486	THR
1	N	511	ARG
1	N	537	LEU
1	N	540	ARG
1	N	543	LEU
1	N	564	SER
1	N	576	ARG
1	N	591	GLU
1	N	638	VAL
1	N	640	LEU
1	N	661	MET
1	N	690	LYS
1	N	705	VAL
1	O	246	THR
1	O	290	HIS
1	O	389	VAL
1	O	405	LEU
1	O	409	ASN
1	O	412	GLN
1	O	434	ARG
1	O	436	MET
1	O	471	PRO
1	O	482	GLN
1	O	486	THR
1	O	511	ARG
1	O	537	LEU
1	O	540	ARG
1	O	543	LEU
1	O	564	SER
1	O	576	ARG
1	O	591	GLU
1	O	638	VAL
1	O	640	LEU
1	O	661	MET
1	O	690	LYS
1	O	705	VAL
1	P	246	THR
1	P	290	HIS
1	P	389	VAL
1	P	405	LEU

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Mol	Chain	Res	Type
1	P	409	ASN
1	P	412	GLN
1	P	434	ARG
1	P	436	MET
1	P	471	PRO
1	P	482	GLN
1	P	486	THR
1	P	511	ARG
1	P	537	LEU
1	P	540	ARG
1	P	543	LEU
1	P	564	SER
1	P	576	ARG
1	P	591	GLU
1	P	638	VAL
1	P	640	LEU
1	P	661	MET
1	P	690	LYS
1	P	705	VAL
1	Q	246	THR
1	Q	290	HIS
1	Q	389	VAL
1	Q	405	LEU
1	Q	409	ASN
1	Q	412	GLN
1	Q	434	ARG
1	Q	436	MET
1	Q	471	PRO
1	Q	482	GLN
1	Q	486	THR
1	Q	511	ARG
1	Q	537	LEU
1	Q	540	ARG
1	Q	543	LEU
1	Q	564	SER
1	Q	576	ARG
1	Q	591	GLU
1	Q	638	VAL
1	Q	640	LEU
1	Q	661	MET
1	Q	690	LYS
1	Q	705	VAL

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Mol	Chain	Res	Type
1	R	246	THR
1	R	290	HIS
1	R	389	VAL
1	R	405	LEU
1	R	409	ASN
1	R	412	GLN
1	R	434	ARG
1	R	436	MET
1	R	471	PRO
1	R	482	GLN
1	R	486	THR
1	R	511	ARG
1	R	537	LEU
1	R	540	ARG
1	R	543	LEU
1	R	564	SER
1	R	576	ARG
1	R	591	GLU
1	R	638	VAL
1	R	640	LEU
1	R	661	MET
1	R	690	LYS
1	R	705	VAL
1	S	246	THR
1	S	290	HIS
1	S	389	VAL
1	S	405	LEU
1	S	409	ASN
1	S	412	GLN
1	S	434	ARG
1	S	436	MET
1	S	471	PRO
1	S	482	GLN
1	S	486	THR
1	S	511	ARG
1	S	537	LEU
1	S	540	ARG
1	S	543	LEU
1	S	564	SER
1	S	576	ARG
1	S	591	GLU
1	S	638	VAL

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Mol	Chain	Res	Type
1	S	640	LEU
1	S	661	MET
1	S	690	LYS
1	S	705	VAL
1	T	246	THR
1	T	290	HIS
1	T	389	VAL
1	T	405	LEU
1	T	409	ASN
1	T	412	GLN
1	T	434	ARG
1	T	436	MET
1	T	471	PRO
1	T	482	GLN
1	T	486	THR
1	T	511	ARG
1	T	537	LEU
1	T	540	ARG
1	T	543	LEU
1	T	564	SER
1	T	576	ARG
1	T	591	GLU
1	T	638	VAL
1	T	640	LEU
1	T	661	MET
1	T	690	LYS
1	T	705	VAL
1	U	246	THR
1	U	290	HIS
1	U	389	VAL
1	U	405	LEU
1	U	409	ASN
1	U	412	GLN
1	U	434	ARG
1	U	436	MET
1	U	471	PRO
1	U	482	GLN
1	U	486	THR
1	U	511	ARG
1	U	537	LEU
1	U	540	ARG
1	U	543	LEU

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Mol	Chain	Res	Type
1	U	564	SER
1	U	576	ARG
1	U	591	GLU
1	U	638	VAL
1	U	640	LEU
1	U	661	MET
1	U	690	LYS
1	U	705	VAL
1	V	246	THR
1	V	290	HIS
1	V	389	VAL
1	V	405	LEU
1	V	409	ASN
1	V	412	GLN
1	V	434	ARG
1	V	436	MET
1	V	471	PRO
1	V	482	GLN
1	V	486	THR
1	V	511	ARG
1	V	537	LEU
1	V	540	ARG
1	V	543	LEU
1	V	564	SER
1	V	576	ARG
1	V	591	GLU
1	V	638	VAL
1	V	640	LEU
1	V	661	MET
1	V	690	LYS
1	V	705	VAL
1	W	246	THR
1	W	290	HIS
1	W	389	VAL
1	W	405	LEU
1	W	409	ASN
1	W	412	GLN
1	W	434	ARG
1	W	436	MET
1	W	471	PRO
1	W	482	GLN
1	W	486	THR

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Mol	Chain	Res	Type
1	W	511	ARG
1	W	537	LEU
1	W	540	ARG
1	W	543	LEU
1	W	564	SER
1	W	576	ARG
1	W	591	GLU
1	W	638	VAL
1	W	640	LEU
1	W	661	MET
1	W	690	LYS
1	W	705	VAL
1	X	246	THR
1	X	290	HIS
1	X	389	VAL
1	X	405	LEU
1	X	409	ASN
1	X	412	GLN
1	X	434	ARG
1	X	436	MET
1	X	471	PRO
1	X	482	GLN
1	X	486	THR
1	X	511	ARG
1	X	537	LEU
1	X	540	ARG
1	X	543	LEU
1	X	564	SER
1	X	576	ARG
1	X	591	GLU
1	X	638	VAL
1	X	640	LEU
1	X	661	MET
1	X	690	LYS
1	X	705	VAL
1	Y	246	THR
1	Y	290	HIS
1	Y	389	VAL
1	Y	405	LEU
1	Y	409	ASN
1	Y	412	GLN
1	Y	434	ARG

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Mol	Chain	Res	Type
1	Y	436	MET
1	Y	471	PRO
1	Y	482	GLN
1	Y	486	THR
1	Y	511	ARG
1	Y	537	LEU
1	Y	540	ARG
1	Y	543	LEU
1	Y	564	SER
1	Y	576	ARG
1	Y	591	GLU
1	Y	638	VAL
1	Y	640	LEU
1	Y	661	MET
1	Y	690	LYS
1	Y	705	VAL
1	Z	246	THR
1	Z	290	HIS
1	Z	389	VAL
1	Z	405	LEU
1	Z	409	ASN
1	Z	412	GLN
1	Z	434	ARG
1	Z	436	MET
1	Z	471	PRO
1	Z	482	GLN
1	Z	486	THR
1	Z	511	ARG
1	Z	537	LEU
1	Z	540	ARG
1	Z	543	LEU
1	Z	564	SER
1	Z	576	ARG
1	Z	591	GLU
1	Z	638	VAL
1	Z	640	LEU
1	Z	661	MET
1	Z	690	LYS
1	Z	705	VAL
1	a	246	THR
1	a	290	HIS
1	a	389	VAL

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Mol	Chain	Res	Type
1	a	405	LEU
1	a	409	ASN
1	a	412	GLN
1	a	434	ARG
1	a	436	MET
1	a	471	PRO
1	a	482	GLN
1	a	486	THR
1	a	511	ARG
1	a	537	LEU
1	a	540	ARG
1	a	543	LEU
1	a	564	SER
1	a	576	ARG
1	a	591	GLU
1	a	638	VAL
1	a	640	LEU
1	a	661	MET
1	a	690	LYS
1	a	705	VAL
1	b	246	THR
1	b	290	HIS
1	b	389	VAL
1	b	405	LEU
1	b	409	ASN
1	b	412	GLN
1	b	434	ARG
1	b	436	MET
1	b	471	PRO
1	b	482	GLN
1	b	486	THR
1	b	511	ARG
1	b	537	LEU
1	b	540	ARG
1	b	543	LEU
1	b	564	SER
1	b	576	ARG
1	b	591	GLU
1	b	638	VAL
1	b	640	LEU
1	b	661	MET
1	b	690	LYS

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Mol	Chain	Res	Type
1	b	705	VAL
1	c	246	THR
1	c	290	HIS
1	c	389	VAL
1	c	405	LEU
1	c	409	ASN
1	c	412	GLN
1	c	434	ARG
1	c	436	MET
1	c	471	PRO
1	c	482	GLN
1	c	486	THR
1	c	511	ARG
1	c	537	LEU
1	c	540	ARG
1	c	543	LEU
1	c	564	SER
1	c	576	ARG
1	c	591	GLU
1	c	638	VAL
1	c	640	LEU
1	c	661	MET
1	c	690	LYS
1	c	705	VAL
1	d	246	THR
1	d	290	HIS
1	d	389	VAL
1	d	405	LEU
1	d	409	ASN
1	d	412	GLN
1	d	434	ARG
1	d	436	MET
1	d	471	PRO
1	d	482	GLN
1	d	486	THR
1	d	511	ARG
1	d	537	LEU
1	d	540	ARG
1	d	543	LEU
1	d	564	SER
1	d	576	ARG
1	d	591	GLU

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Mol	Chain	Res	Type
1	d	638	VAL
1	d	640	LEU
1	d	661	MET
1	d	690	LYS
1	d	705	VAL
1	e	246	THR
1	e	290	HIS
1	e	389	VAL
1	e	405	LEU
1	e	409	ASN
1	e	412	GLN
1	e	434	ARG
1	e	436	MET
1	e	471	PRO
1	e	482	GLN
1	e	486	THR
1	e	511	ARG
1	e	537	LEU
1	e	540	ARG
1	e	543	LEU
1	e	564	SER
1	e	576	ARG
1	e	591	GLU
1	e	638	VAL
1	e	640	LEU
1	e	661	MET
1	e	690	LYS
1	e	705	VAL
1	f	246	THR
1	f	290	HIS
1	f	389	VAL
1	f	405	LEU
1	f	409	ASN
1	f	412	GLN
1	f	434	ARG
1	f	436	MET
1	f	471	PRO
1	f	482	GLN
1	f	486	THR
1	f	511	ARG
1	f	537	LEU
1	f	540	ARG

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Mol	Chain	Res	Type
1	f	543	LEU
1	f	564	SER
1	f	576	ARG
1	f	591	GLU
1	f	638	VAL
1	f	640	LEU
1	f	661	MET
1	f	690	LYS
1	f	705	VAL
1	g	246	THR
1	g	290	HIS
1	g	389	VAL
1	g	405	LEU
1	g	409	ASN
1	g	412	GLN
1	g	434	ARG
1	g	436	MET
1	g	471	PRO
1	g	482	GLN
1	g	486	THR
1	g	511	ARG
1	g	537	LEU
1	g	540	ARG
1	g	543	LEU
1	g	564	SER
1	g	576	ARG
1	g	591	GLU
1	g	638	VAL
1	g	640	LEU
1	g	661	MET
1	g	690	LYS
1	g	705	VAL
1	h	246	THR
1	h	290	HIS
1	h	389	VAL
1	h	405	LEU
1	h	409	ASN
1	h	412	GLN
1	h	434	ARG
1	h	436	MET
1	h	471	PRO
1	h	482	GLN

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Mol	Chain	Res	Type
1	h	486	THR
1	h	511	ARG
1	h	537	LEU
1	h	540	ARG
1	h	543	LEU
1	h	564	SER
1	h	576	ARG
1	h	591	GLU
1	h	638	VAL
1	h	640	LEU
1	h	661	MET
1	h	690	LYS
1	h	705	VAL
1	i	246	THR
1	i	290	HIS
1	i	389	VAL
1	i	405	LEU
1	i	409	ASN
1	i	412	GLN
1	i	434	ARG
1	i	436	MET
1	i	471	PRO
1	i	482	GLN
1	i	486	THR
1	i	511	ARG
1	i	537	LEU
1	i	540	ARG
1	i	543	LEU
1	i	564	SER
1	i	576	ARG
1	i	591	GLU
1	i	638	VAL
1	i	640	LEU
1	i	661	MET
1	i	690	LYS
1	i	705	VAL
1	j	246	THR
1	j	290	HIS
1	j	389	VAL
1	j	405	LEU
1	j	409	ASN
1	j	412	GLN

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Mol	Chain	Res	Type
1	j	434	ARG
1	j	436	MET
1	j	471	PRO
1	j	482	GLN
1	j	486	THR
1	j	511	ARG
1	j	537	LEU
1	j	540	ARG
1	j	543	LEU
1	j	564	SER
1	j	576	ARG
1	j	591	GLU
1	j	638	VAL
1	j	640	LEU
1	j	661	MET
1	j	690	LYS
1	j	705	VAL
1	k	246	THR
1	k	290	HIS
1	k	389	VAL
1	k	405	LEU
1	k	409	ASN
1	k	412	GLN
1	k	434	ARG
1	k	436	MET
1	k	471	PRO
1	k	482	GLN
1	k	486	THR
1	k	511	ARG
1	k	537	LEU
1	k	540	ARG
1	k	543	LEU
1	k	564	SER
1	k	576	ARG
1	k	591	GLU
1	k	638	VAL
1	k	640	LEU
1	k	661	MET
1	k	690	LYS
1	k	705	VAL
1	l	246	THR
1	l	290	HIS

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Mol	Chain	Res	Type
1	l	389	VAL
1	l	405	LEU
1	l	409	ASN
1	l	412	GLN
1	l	434	ARG
1	l	436	MET
1	l	471	PRO
1	l	482	GLN
1	l	486	THR
1	l	511	ARG
1	l	537	LEU
1	l	540	ARG
1	l	543	LEU
1	l	564	SER
1	l	576	ARG
1	l	591	GLU
1	l	638	VAL
1	l	640	LEU
1	l	661	MET
1	l	690	LYS
1	l	705	VAL
1	m	246	THR
1	m	290	HIS
1	m	389	VAL
1	m	405	LEU
1	m	409	ASN
1	m	412	GLN
1	m	434	ARG
1	m	436	MET
1	m	471	PRO
1	m	482	GLN
1	m	486	THR
1	m	511	ARG
1	m	537	LEU
1	m	540	ARG
1	m	543	LEU
1	m	564	SER
1	m	576	ARG
1	m	591	GLU
1	m	638	VAL
1	m	640	LEU
1	m	661	MET

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Mol	Chain	Res	Type
1	m	690	LYS
1	m	705	VAL
1	n	246	THR
1	n	290	HIS
1	n	389	VAL
1	n	405	LEU
1	n	409	ASN
1	n	412	GLN
1	n	434	ARG
1	n	436	MET
1	n	471	PRO
1	n	482	GLN
1	n	486	THR
1	n	511	ARG
1	n	537	LEU
1	n	540	ARG
1	n	543	LEU
1	n	564	SER
1	n	576	ARG
1	n	591	GLU
1	n	638	VAL
1	n	640	LEU
1	n	661	MET
1	n	690	LYS
1	n	705	VAL
1	o	246	THR
1	o	290	HIS
1	o	389	VAL
1	o	405	LEU
1	o	409	ASN
1	o	412	GLN
1	o	434	ARG
1	o	436	MET
1	o	471	PRO
1	o	482	GLN
1	o	486	THR
1	o	511	ARG
1	o	537	LEU
1	o	540	ARG
1	o	543	LEU
1	o	564	SER
1	o	576	ARG

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Mol	Chain	Res	Type
1	o	591	GLU
1	o	638	VAL
1	o	640	LEU
1	o	661	MET
1	o	690	LYS
1	o	705	VAL
1	p	246	THR
1	p	290	HIS
1	p	389	VAL
1	p	405	LEU
1	p	409	ASN
1	p	412	GLN
1	p	434	ARG
1	p	436	MET
1	p	471	PRO
1	p	482	GLN
1	p	486	THR
1	p	511	ARG
1	p	537	LEU
1	p	540	ARG
1	p	543	LEU
1	p	564	SER
1	p	576	ARG
1	p	591	GLU
1	p	638	VAL
1	p	640	LEU
1	p	661	MET
1	p	690	LYS
1	p	705	VAL
1	q	246	THR
1	q	290	HIS
1	q	389	VAL
1	q	405	LEU
1	q	409	ASN
1	q	412	GLN
1	q	434	ARG
1	q	436	MET
1	q	471	PRO
1	q	482	GLN
1	q	486	THR
1	q	511	ARG
1	q	537	LEU

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Mol	Chain	Res	Type
1	q	540	ARG
1	q	543	LEU
1	q	564	SER
1	q	576	ARG
1	q	591	GLU
1	q	638	VAL
1	q	640	LEU
1	q	661	MET
1	q	690	LYS
1	q	705	VAL
1	r	246	THR
1	r	290	HIS
1	r	389	VAL
1	r	405	LEU
1	r	409	ASN
1	r	412	GLN
1	r	434	ARG
1	r	436	MET
1	r	471	PRO
1	r	482	GLN
1	r	486	THR
1	r	511	ARG
1	r	537	LEU
1	r	540	ARG
1	r	543	LEU
1	r	564	SER
1	r	576	ARG
1	r	591	GLU
1	r	638	VAL
1	r	640	LEU
1	r	661	MET
1	r	690	LYS
1	r	705	VAL
1	s	246	THR
1	s	290	HIS
1	s	389	VAL
1	s	405	LEU
1	s	409	ASN
1	s	412	GLN
1	s	434	ARG
1	s	436	MET
1	s	471	PRO

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Mol	Chain	Res	Type
1	s	482	GLN
1	s	486	THR
1	s	511	ARG
1	s	537	LEU
1	s	540	ARG
1	s	543	LEU
1	s	564	SER
1	s	576	ARG
1	s	591	GLU
1	s	638	VAL
1	s	640	LEU
1	s	661	MET
1	s	690	LYS
1	s	705	VAL
1	t	246	THR
1	t	290	HIS
1	t	389	VAL
1	t	405	LEU
1	t	409	ASN
1	t	412	GLN
1	t	434	ARG
1	t	436	MET
1	t	471	PRO
1	t	482	GLN
1	t	486	THR
1	t	511	ARG
1	t	537	LEU
1	t	540	ARG
1	t	543	LEU
1	t	564	SER
1	t	576	ARG
1	t	591	GLU
1	t	638	VAL
1	t	640	LEU
1	t	661	MET
1	t	690	LYS
1	t	705	VAL
1	u	246	THR
1	u	290	HIS
1	u	389	VAL
1	u	405	LEU
1	u	409	ASN

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Mol	Chain	Res	Type
1	u	412	GLN
1	u	434	ARG
1	u	436	MET
1	u	471	PRO
1	u	482	GLN
1	u	486	THR
1	u	511	ARG
1	u	537	LEU
1	u	540	ARG
1	u	543	LEU
1	u	564	SER
1	u	576	ARG
1	u	591	GLU
1	u	638	VAL
1	u	640	LEU
1	u	661	MET
1	u	690	LYS
1	u	705	VAL
1	v	246	THR
1	v	290	HIS
1	v	389	VAL
1	v	405	LEU
1	v	409	ASN
1	v	412	GLN
1	v	434	ARG
1	v	436	MET
1	v	471	PRO
1	v	482	GLN
1	v	486	THR
1	v	511	ARG
1	v	537	LEU
1	v	540	ARG
1	v	543	LEU
1	v	564	SER
1	v	576	ARG
1	v	591	GLU
1	v	638	VAL
1	v	640	LEU
1	v	661	MET
1	v	690	LYS
1	v	705	VAL
1	w	246	THR

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Mol	Chain	Res	Type
1	w	290	HIS
1	w	389	VAL
1	w	405	LEU
1	w	409	ASN
1	w	412	GLN
1	w	434	ARG
1	w	436	MET
1	w	471	PRO
1	w	482	GLN
1	w	486	THR
1	w	511	ARG
1	w	537	LEU
1	w	540	ARG
1	w	543	LEU
1	w	564	SER
1	w	576	ARG
1	w	591	GLU
1	w	638	VAL
1	w	640	LEU
1	w	661	MET
1	w	690	LYS
1	w	705	VAL
1	x	246	THR
1	x	290	HIS
1	x	389	VAL
1	x	405	LEU
1	x	409	ASN
1	x	412	GLN
1	x	434	ARG
1	x	436	MET
1	x	471	PRO
1	x	482	GLN
1	x	486	THR
1	x	511	ARG
1	x	537	LEU
1	x	540	ARG
1	x	543	LEU
1	x	564	SER
1	x	576	ARG
1	x	591	GLU
1	x	638	VAL
1	x	640	LEU

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Mol	Chain	Res	Type
1	x	661	MET
1	x	690	LYS
1	x	705	VAL
1	y	246	THR
1	y	290	HIS
1	y	389	VAL
1	y	405	LEU
1	y	409	ASN
1	y	412	GLN
1	y	434	ARG
1	y	436	MET
1	y	471	PRO
1	y	482	GLN
1	y	486	THR
1	y	511	ARG
1	y	537	LEU
1	y	540	ARG
1	y	543	LEU
1	y	564	SER
1	y	576	ARG
1	y	591	GLU
1	y	638	VAL
1	y	640	LEU
1	y	661	MET
1	y	690	LYS
1	y	705	VAL
1	z	246	THR
1	z	290	HIS
1	z	389	VAL
1	z	405	LEU
1	z	409	ASN
1	z	412	GLN
1	z	434	ARG
1	z	436	MET
1	z	471	PRO
1	z	482	GLN
1	z	486	THR
1	z	511	ARG
1	z	537	LEU
1	z	540	ARG
1	z	543	LEU
1	z	564	SER

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Mol	Chain	Res	Type
1	z	576	ARG
1	z	591	GLU
1	z	638	VAL
1	z	640	LEU
1	z	661	MET
1	z	690	LYS
1	z	705	VAL
1	1	246	THR
1	1	290	HIS
1	1	389	VAL
1	1	405	LEU
1	1	409	ASN
1	1	412	GLN
1	1	434	ARG
1	1	436	MET
1	1	471	PRO
1	1	482	GLN
1	1	486	THR
1	1	511	ARG
1	1	537	LEU
1	1	540	ARG
1	1	543	LEU
1	1	564	SER
1	1	576	ARG
1	1	591	GLU
1	1	638	VAL
1	1	640	LEU
1	1	661	MET
1	1	690	LYS
1	1	705	VAL
1	2	246	THR
1	2	290	HIS
1	2	389	VAL
1	2	405	LEU
1	2	409	ASN
1	2	412	GLN
1	2	434	ARG
1	2	436	MET
1	2	471	PRO
1	2	482	GLN
1	2	486	THR
1	2	511	ARG

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Mol	Chain	Res	Type
1	2	537	LEU
1	2	540	ARG
1	2	543	LEU
1	2	564	SER
1	2	576	ARG
1	2	591	GLU
1	2	638	VAL
1	2	640	LEU
1	2	661	MET
1	2	690	LYS
1	2	705	VAL
1	3	246	THR
1	3	290	HIS
1	3	389	VAL
1	3	405	LEU
1	3	409	ASN
1	3	412	GLN
1	3	434	ARG
1	3	436	MET
1	3	471	PRO
1	3	482	GLN
1	3	486	THR
1	3	511	ARG
1	3	537	LEU
1	3	540	ARG
1	3	543	LEU
1	3	564	SER
1	3	576	ARG
1	3	591	GLU
1	3	638	VAL
1	3	640	LEU
1	3	661	MET
1	3	690	LYS
1	3	705	VAL
1	4	246	THR
1	4	290	HIS
1	4	389	VAL
1	4	405	LEU
1	4	409	ASN
1	4	412	GLN
1	4	434	ARG
1	4	436	MET

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Mol	Chain	Res	Type
1	4	471	PRO
1	4	482	GLN
1	4	486	THR
1	4	511	ARG
1	4	537	LEU
1	4	540	ARG
1	4	543	LEU
1	4	564	SER
1	4	576	ARG
1	4	591	GLU
1	4	638	VAL
1	4	640	LEU
1	4	661	MET
1	4	690	LYS
1	4	705	VAL
1	5	246	THR
1	5	290	HIS
1	5	389	VAL
1	5	405	LEU
1	5	409	ASN
1	5	412	GLN
1	5	434	ARG
1	5	436	MET
1	5	471	PRO
1	5	482	GLN
1	5	486	THR
1	5	511	ARG
1	5	537	LEU
1	5	540	ARG
1	5	543	LEU
1	5	564	SER
1	5	576	ARG
1	5	591	GLU
1	5	638	VAL
1	5	640	LEU
1	5	661	MET
1	5	690	LYS
1	5	705	VAL
1	6	246	THR
1	6	290	HIS
1	6	389	VAL
1	6	405	LEU

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Mol	Chain	Res	Type
1	6	409	ASN
1	6	412	GLN
1	6	434	ARG
1	6	436	MET
1	6	471	PRO
1	6	482	GLN
1	6	486	THR
1	6	511	ARG
1	6	537	LEU
1	6	540	ARG
1	6	543	LEU
1	6	564	SER
1	6	576	ARG
1	6	591	GLU
1	6	638	VAL
1	6	640	LEU
1	6	661	MET
1	6	690	LYS
1	6	705	VAL
1	7	246	THR
1	7	290	HIS
1	7	389	VAL
1	7	405	LEU
1	7	409	ASN
1	7	412	GLN
1	7	434	ARG
1	7	436	MET
1	7	471	PRO
1	7	482	GLN
1	7	486	THR
1	7	511	ARG
1	7	537	LEU
1	7	540	ARG
1	7	543	LEU
1	7	564	SER
1	7	576	ARG
1	7	591	GLU
1	7	638	VAL
1	7	640	LEU
1	7	661	MET
1	7	690	LYS
1	7	705	VAL

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Mol	Chain	Res	Type
1	8	246	THR
1	8	290	HIS
1	8	389	VAL
1	8	405	LEU
1	8	409	ASN
1	8	412	GLN
1	8	434	ARG
1	8	436	MET
1	8	471	PRO
1	8	482	GLN
1	8	486	THR
1	8	511	ARG
1	8	537	LEU
1	8	540	ARG
1	8	543	LEU
1	8	564	SER
1	8	576	ARG
1	8	591	GLU
1	8	638	VAL
1	8	640	LEU
1	8	661	MET
1	8	690	LYS
1	8	705	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (561) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	403	GLN
1	A	409	ASN
1	A	428	HIS
1	A	430	GLN
1	A	588	ASN
1	A	610	HIS
1	A	634	GLN
1	A	689	ASN
1	A	699	GLN
1	B	328	ASN
1	B	403	GLN
1	B	409	ASN
1	B	428	HIS
1	B	430	GLN
1	B	588	ASN

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Mol	Chain	Res	Type
1	B	610	HIS
1	B	634	GLN
1	B	689	ASN
1	B	699	GLN
1	C	403	GLN
1	C	409	ASN
1	C	428	HIS
1	C	430	GLN
1	C	588	ASN
1	C	610	HIS
1	C	634	GLN
1	C	689	ASN
1	C	699	GLN
1	D	403	GLN
1	D	409	ASN
1	D	428	HIS
1	D	430	GLN
1	D	588	ASN
1	D	610	HIS
1	D	634	GLN
1	D	689	ASN
1	D	699	GLN
1	E	328	ASN
1	E	403	GLN
1	E	409	ASN
1	E	428	HIS
1	E	430	GLN
1	E	588	ASN
1	E	610	HIS
1	E	634	GLN
1	E	689	ASN
1	E	699	GLN
1	F	403	GLN
1	F	409	ASN
1	F	428	HIS
1	F	430	GLN
1	F	588	ASN
1	F	610	HIS
1	F	634	GLN
1	F	689	ASN
1	F	699	GLN
1	G	403	GLN

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Mol	Chain	Res	Type
1	G	409	ASN
1	G	428	HIS
1	G	430	GLN
1	G	588	ASN
1	G	610	HIS
1	G	634	GLN
1	G	689	ASN
1	G	699	GLN
1	H	328	ASN
1	H	403	GLN
1	H	409	ASN
1	H	428	HIS
1	H	430	GLN
1	H	588	ASN
1	H	610	HIS
1	H	634	GLN
1	H	689	ASN
1	H	699	GLN
1	I	328	ASN
1	I	403	GLN
1	I	409	ASN
1	I	428	HIS
1	I	430	GLN
1	I	588	ASN
1	I	610	HIS
1	I	634	GLN
1	I	689	ASN
1	I	699	GLN
1	J	328	ASN
1	J	403	GLN
1	J	409	ASN
1	J	428	HIS
1	J	430	GLN
1	J	588	ASN
1	J	610	HIS
1	J	634	GLN
1	J	689	ASN
1	J	699	GLN
1	K	403	GLN
1	K	409	ASN
1	K	428	HIS
1	K	430	GLN

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Mol	Chain	Res	Type
1	K	588	ASN
1	K	610	HIS
1	K	634	GLN
1	K	689	ASN
1	K	699	GLN
1	L	403	GLN
1	L	409	ASN
1	L	428	HIS
1	L	430	GLN
1	L	588	ASN
1	L	610	HIS
1	L	634	GLN
1	L	689	ASN
1	L	699	GLN
1	M	328	ASN
1	M	403	GLN
1	M	409	ASN
1	M	428	HIS
1	M	430	GLN
1	M	588	ASN
1	M	610	HIS
1	M	634	GLN
1	M	689	ASN
1	M	699	GLN
1	N	403	GLN
1	N	409	ASN
1	N	428	HIS
1	N	430	GLN
1	N	588	ASN
1	N	610	HIS
1	N	634	GLN
1	N	689	ASN
1	N	699	GLN
1	O	403	GLN
1	O	409	ASN
1	O	428	HIS
1	O	430	GLN
1	O	588	ASN
1	O	610	HIS
1	O	634	GLN
1	O	689	ASN
1	O	699	GLN

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Mol	Chain	Res	Type
1	P	328	ASN
1	P	403	GLN
1	P	409	ASN
1	P	428	HIS
1	P	430	GLN
1	P	588	ASN
1	P	610	HIS
1	P	634	GLN
1	P	689	ASN
1	P	699	GLN
1	Q	403	GLN
1	Q	409	ASN
1	Q	428	HIS
1	Q	430	GLN
1	Q	588	ASN
1	Q	610	HIS
1	Q	634	GLN
1	Q	689	ASN
1	Q	699	GLN
1	R	403	GLN
1	R	409	ASN
1	R	428	HIS
1	R	430	GLN
1	R	588	ASN
1	R	610	HIS
1	R	634	GLN
1	R	689	ASN
1	R	699	GLN
1	S	403	GLN
1	S	409	ASN
1	S	428	HIS
1	S	430	GLN
1	S	588	ASN
1	S	610	HIS
1	S	634	GLN
1	S	689	ASN
1	S	699	GLN
1	T	403	GLN
1	T	409	ASN
1	T	428	HIS
1	T	430	GLN
1	T	588	ASN

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Mol	Chain	Res	Type
1	T	610	HIS
1	T	634	GLN
1	T	689	ASN
1	T	699	GLN
1	U	403	GLN
1	U	409	ASN
1	U	428	HIS
1	U	430	GLN
1	U	588	ASN
1	U	610	HIS
1	U	634	GLN
1	U	689	ASN
1	U	699	GLN
1	V	403	GLN
1	V	409	ASN
1	V	428	HIS
1	V	430	GLN
1	V	588	ASN
1	V	610	HIS
1	V	634	GLN
1	V	689	ASN
1	V	699	GLN
1	W	328	ASN
1	W	403	GLN
1	W	409	ASN
1	W	428	HIS
1	W	430	GLN
1	W	588	ASN
1	W	610	HIS
1	W	634	GLN
1	W	689	ASN
1	W	699	GLN
1	X	328	ASN
1	X	403	GLN
1	X	409	ASN
1	X	428	HIS
1	X	430	GLN
1	X	588	ASN
1	X	610	HIS
1	X	634	GLN
1	X	689	ASN
1	X	699	GLN

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Mol	Chain	Res	Type
1	Y	328	ASN
1	Y	403	GLN
1	Y	409	ASN
1	Y	428	HIS
1	Y	430	GLN
1	Y	588	ASN
1	Y	610	HIS
1	Y	634	GLN
1	Y	689	ASN
1	Y	699	GLN
1	Z	403	GLN
1	Z	409	ASN
1	Z	428	HIS
1	Z	430	GLN
1	Z	588	ASN
1	Z	610	HIS
1	Z	634	GLN
1	Z	689	ASN
1	Z	699	GLN
1	a	403	GLN
1	a	409	ASN
1	a	428	HIS
1	a	430	GLN
1	a	588	ASN
1	a	610	HIS
1	a	634	GLN
1	a	689	ASN
1	a	699	GLN
1	b	403	GLN
1	b	409	ASN
1	b	428	HIS
1	b	430	GLN
1	b	588	ASN
1	b	610	HIS
1	b	634	GLN
1	b	689	ASN
1	b	699	GLN
1	c	403	GLN
1	c	409	ASN
1	c	428	HIS
1	c	430	GLN
1	c	588	ASN

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Mol	Chain	Res	Type
1	c	610	HIS
1	c	634	GLN
1	c	689	ASN
1	c	699	GLN
1	d	328	ASN
1	d	403	GLN
1	d	409	ASN
1	d	428	HIS
1	d	430	GLN
1	d	588	ASN
1	d	610	HIS
1	d	634	GLN
1	d	689	ASN
1	d	699	GLN
1	e	328	ASN
1	e	403	GLN
1	e	409	ASN
1	e	428	HIS
1	e	430	GLN
1	e	588	ASN
1	e	610	HIS
1	e	634	GLN
1	e	689	ASN
1	e	699	GLN
1	f	403	GLN
1	f	409	ASN
1	f	428	HIS
1	f	430	GLN
1	f	588	ASN
1	f	610	HIS
1	f	634	GLN
1	f	689	ASN
1	f	699	GLN
1	g	328	ASN
1	g	403	GLN
1	g	409	ASN
1	g	428	HIS
1	g	430	GLN
1	g	588	ASN
1	g	610	HIS
1	g	634	GLN
1	g	689	ASN

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Mol	Chain	Res	Type
1	g	699	GLN
1	h	403	GLN
1	h	409	ASN
1	h	428	HIS
1	h	430	GLN
1	h	588	ASN
1	h	610	HIS
1	h	634	GLN
1	h	689	ASN
1	h	699	GLN
1	i	403	GLN
1	i	409	ASN
1	i	428	HIS
1	i	430	GLN
1	i	588	ASN
1	i	610	HIS
1	i	634	GLN
1	i	689	ASN
1	i	699	GLN
1	j	328	ASN
1	j	403	GLN
1	j	409	ASN
1	j	428	HIS
1	j	430	GLN
1	j	588	ASN
1	j	610	HIS
1	j	634	GLN
1	j	689	ASN
1	j	699	GLN
1	k	328	ASN
1	k	403	GLN
1	k	409	ASN
1	k	428	HIS
1	k	430	GLN
1	k	588	ASN
1	k	610	HIS
1	k	634	GLN
1	k	689	ASN
1	k	699	GLN
1	l	403	GLN
1	l	409	ASN
1	l	428	HIS

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Mol	Chain	Res	Type
1	l	430	GLN
1	l	588	ASN
1	l	610	HIS
1	l	634	GLN
1	l	689	ASN
1	l	699	GLN
1	m	403	GLN
1	m	409	ASN
1	m	428	HIS
1	m	430	GLN
1	m	588	ASN
1	m	610	HIS
1	m	634	GLN
1	m	689	ASN
1	m	699	GLN
1	n	403	GLN
1	n	409	ASN
1	n	428	HIS
1	n	430	GLN
1	n	588	ASN
1	n	610	HIS
1	n	634	GLN
1	n	689	ASN
1	n	699	GLN
1	o	328	ASN
1	o	403	GLN
1	o	409	ASN
1	o	428	HIS
1	o	430	GLN
1	o	588	ASN
1	o	610	HIS
1	o	634	GLN
1	o	689	ASN
1	o	699	GLN
1	p	403	GLN
1	p	409	ASN
1	p	428	HIS
1	p	430	GLN
1	p	588	ASN
1	p	610	HIS
1	p	634	GLN
1	p	689	ASN

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Mol	Chain	Res	Type
1	p	699	GLN
1	q	403	GLN
1	q	409	ASN
1	q	428	HIS
1	q	430	GLN
1	q	588	ASN
1	q	610	HIS
1	q	634	GLN
1	q	689	ASN
1	q	699	GLN
1	r	403	GLN
1	r	409	ASN
1	r	428	HIS
1	r	430	GLN
1	r	588	ASN
1	r	610	HIS
1	r	634	GLN
1	r	689	ASN
1	r	699	GLN
1	s	403	GLN
1	s	409	ASN
1	s	428	HIS
1	s	430	GLN
1	s	588	ASN
1	s	610	HIS
1	s	634	GLN
1	s	689	ASN
1	s	699	GLN
1	t	328	ASN
1	t	403	GLN
1	t	409	ASN
1	t	428	HIS
1	t	430	GLN
1	t	588	ASN
1	t	610	HIS
1	t	634	GLN
1	t	689	ASN
1	t	699	GLN
1	u	328	ASN
1	u	403	GLN
1	u	409	ASN
1	u	428	HIS

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Mol	Chain	Res	Type
1	u	430	GLN
1	u	588	ASN
1	u	610	HIS
1	u	634	GLN
1	u	689	ASN
1	u	699	GLN
1	v	328	ASN
1	v	403	GLN
1	v	409	ASN
1	v	428	HIS
1	v	430	GLN
1	v	588	ASN
1	v	610	HIS
1	v	634	GLN
1	v	689	ASN
1	v	699	GLN
1	w	403	GLN
1	w	409	ASN
1	w	428	HIS
1	w	430	GLN
1	w	588	ASN
1	w	610	HIS
1	w	634	GLN
1	w	689	ASN
1	w	699	GLN
1	x	403	GLN
1	x	409	ASN
1	x	428	HIS
1	x	430	GLN
1	x	588	ASN
1	x	610	HIS
1	x	634	GLN
1	x	689	ASN
1	x	699	GLN
1	y	403	GLN
1	y	409	ASN
1	y	428	HIS
1	y	430	GLN
1	y	588	ASN
1	y	610	HIS
1	y	634	GLN
1	y	689	ASN

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Mol	Chain	Res	Type
1	y	699	GLN
1	z	403	GLN
1	z	409	ASN
1	z	428	HIS
1	z	430	GLN
1	z	588	ASN
1	z	610	HIS
1	z	634	GLN
1	z	689	ASN
1	z	699	GLN
1	1	403	GLN
1	1	409	ASN
1	1	428	HIS
1	1	430	GLN
1	1	588	ASN
1	1	610	HIS
1	1	634	GLN
1	1	689	ASN
1	1	699	GLN
1	2	328	ASN
1	2	403	GLN
1	2	409	ASN
1	2	428	HIS
1	2	430	GLN
1	2	588	ASN
1	2	610	HIS
1	2	634	GLN
1	2	689	ASN
1	2	699	GLN
1	3	403	GLN
1	3	409	ASN
1	3	428	HIS
1	3	430	GLN
1	3	588	ASN
1	3	610	HIS
1	3	634	GLN
1	3	689	ASN
1	3	699	GLN
1	4	403	GLN
1	4	409	ASN
1	4	428	HIS
1	4	430	GLN

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Mol	Chain	Res	Type
1	4	588	ASN
1	4	610	HIS
1	4	634	GLN
1	4	689	ASN
1	4	699	GLN
1	5	328	ASN
1	5	403	GLN
1	5	409	ASN
1	5	428	HIS
1	5	430	GLN
1	5	588	ASN
1	5	610	HIS
1	5	634	GLN
1	5	689	ASN
1	5	699	GLN
1	6	403	GLN
1	6	409	ASN
1	6	428	HIS
1	6	430	GLN
1	6	588	ASN
1	6	610	HIS
1	6	634	GLN
1	6	689	ASN
1	6	699	GLN
1	7	403	GLN
1	7	409	ASN
1	7	428	HIS
1	7	430	GLN
1	7	588	ASN
1	7	610	HIS
1	7	634	GLN
1	7	689	ASN
1	7	699	GLN
1	8	403	GLN
1	8	409	ASN
1	8	428	HIS
1	8	430	GLN
1	8	588	ASN
1	8	610	HIS
1	8	634	GLN
1	8	689	ASN
1	8	699	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

### 5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

### 5.7 Other polymers [i](#)

There are no such residues in this entry.

### 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

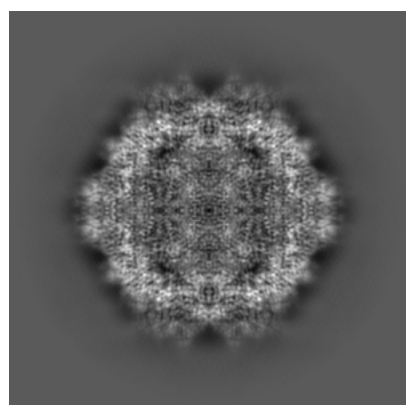
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-0535. These allow visual inspection of the internal detail of the map and identification of artifacts.

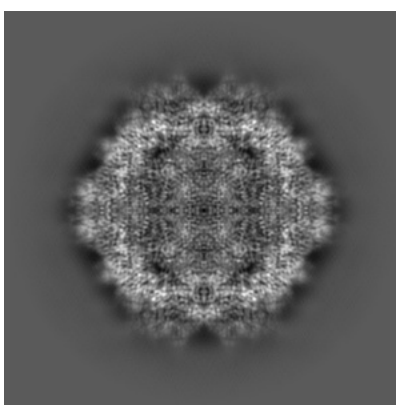
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

### 6.1 Orthogonal projections [i](#)

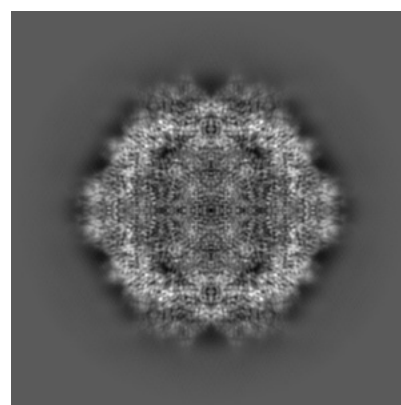
#### 6.1.1 Primary map



X



Y

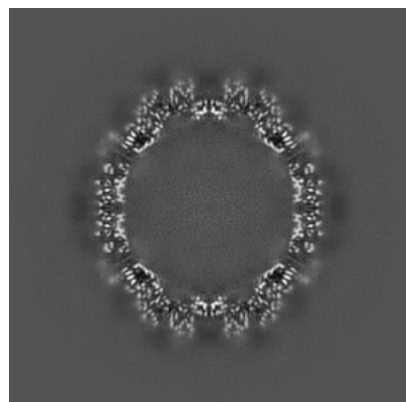


Z

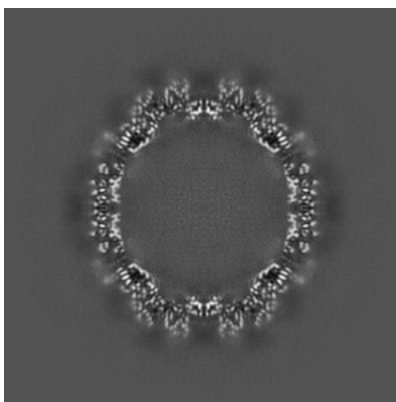
The images above show the map projected in three orthogonal directions.

### 6.2 Central slices [i](#)

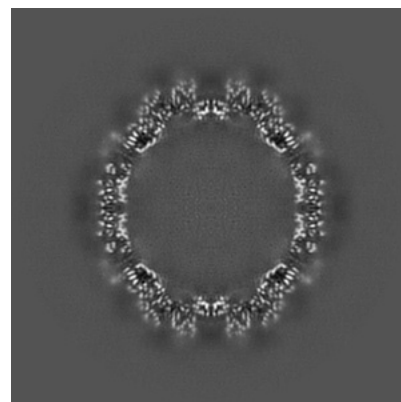
#### 6.2.1 Primary map



X Index: 205



Y Index: 205

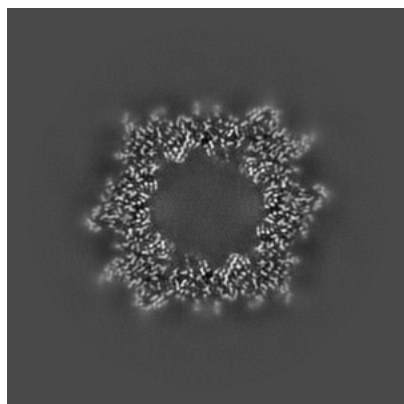


Z Index: 205

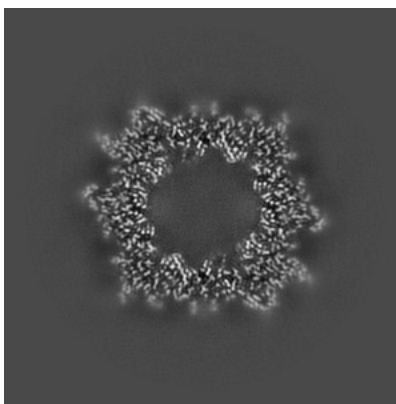
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

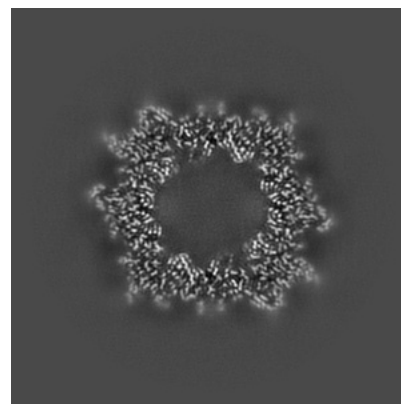
### 6.3.1 Primary map



X Index: 138



Y Index: 272

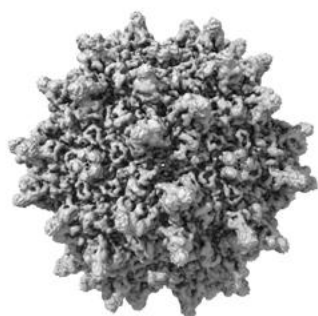


Z Index: 272

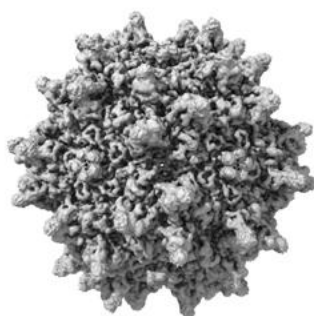
The images above show the largest variance slices of the map in three orthogonal directions.

## 6.4 Orthogonal surface views [i](#)

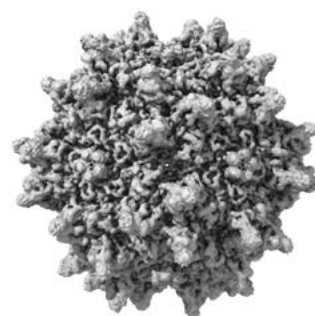
### 6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 1.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

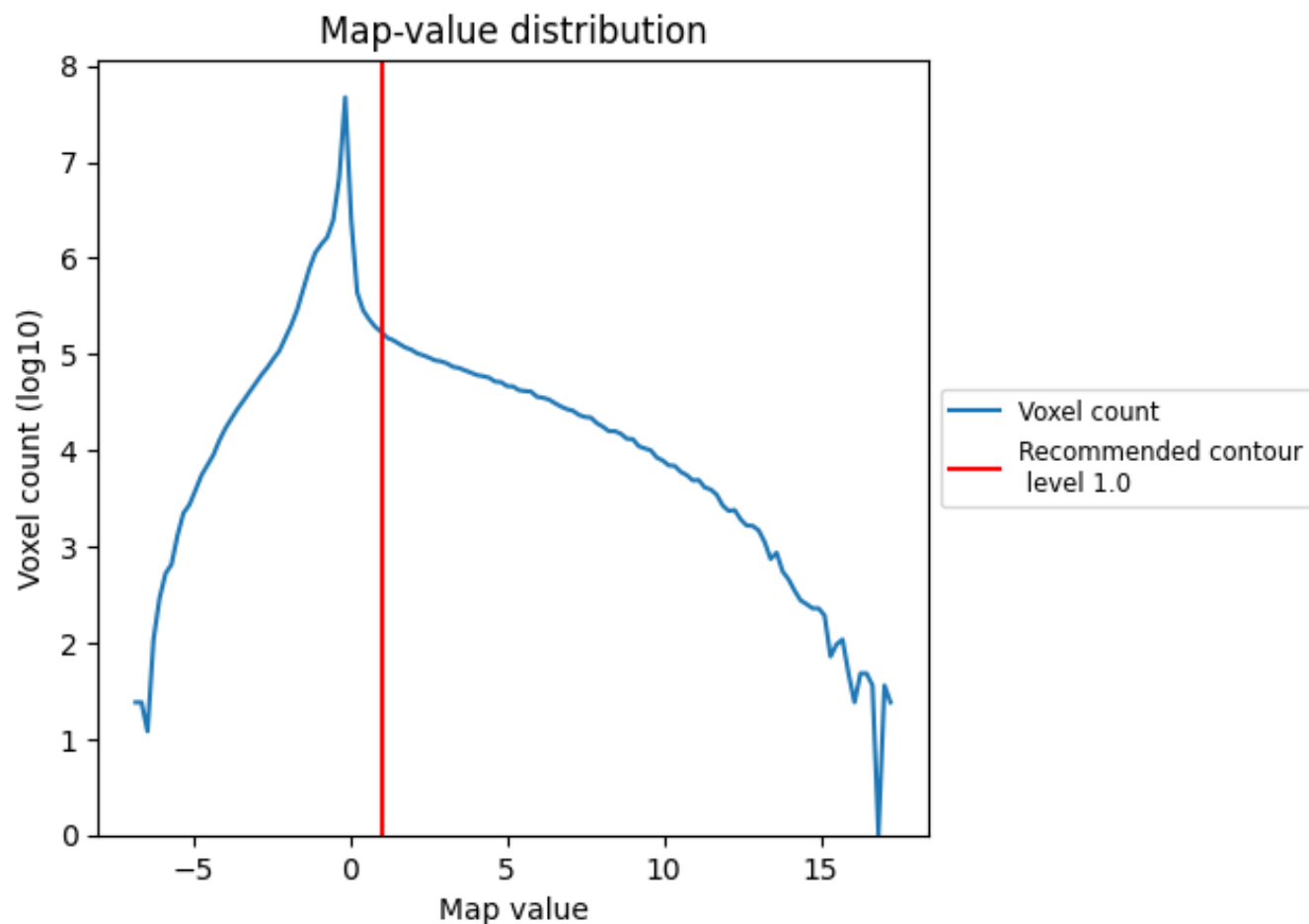
## 6.5 Mask visualisation

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.

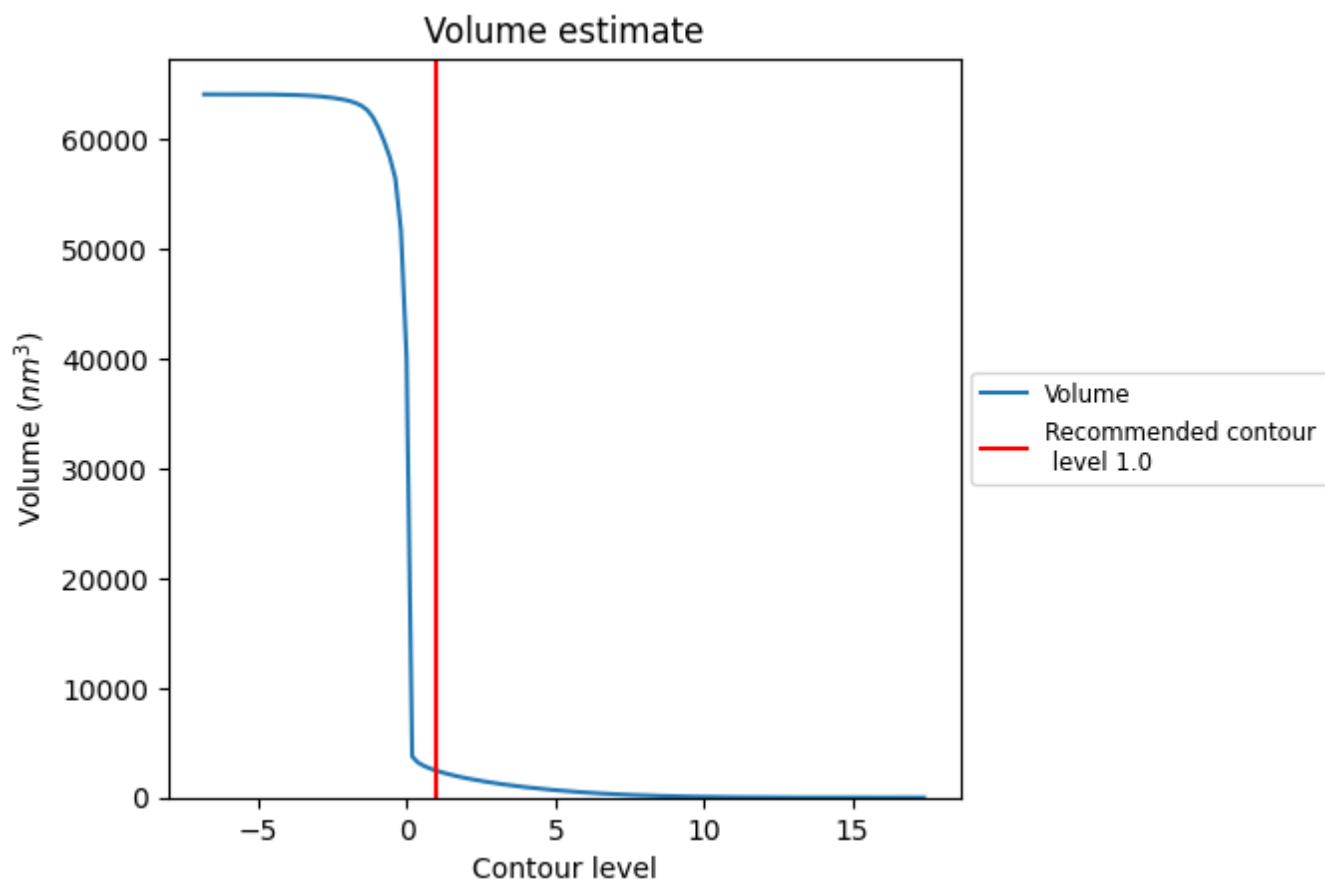
### 7.1 Map-value distribution [i](#)



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.



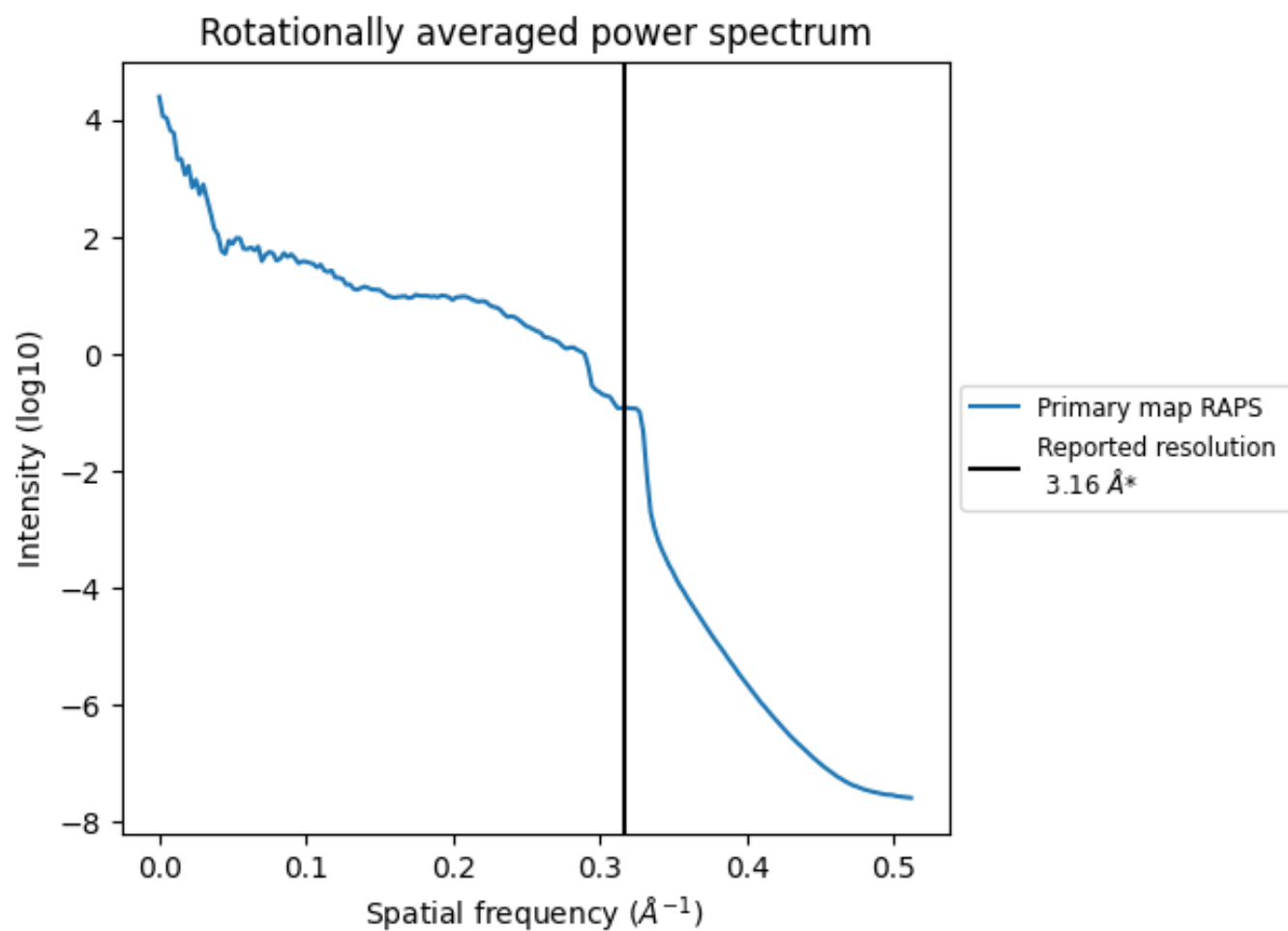
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2447 nm<sup>3</sup>; this corresponds to an approximate mass of 2210 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 ⓘ



\*Reported resolution corresponds to spatial frequency of 0.316 Å<sup>-1</sup>

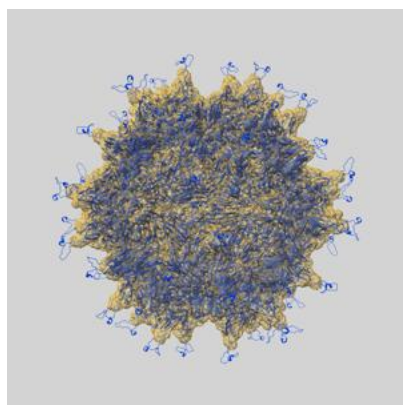
## 8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

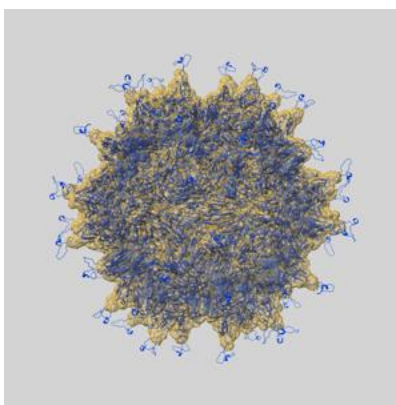
## 9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-0535 and PDB model 6NXX. Per-residue inclusion information can be found in section 3 on page 47.

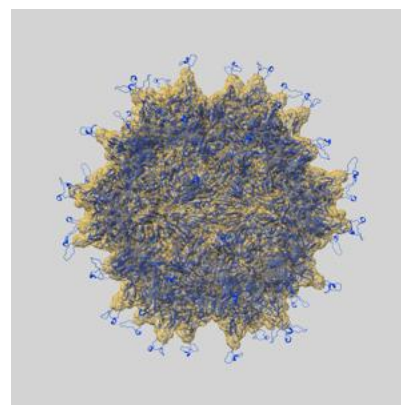
### 9.1 Map-model overlay [i](#)



X



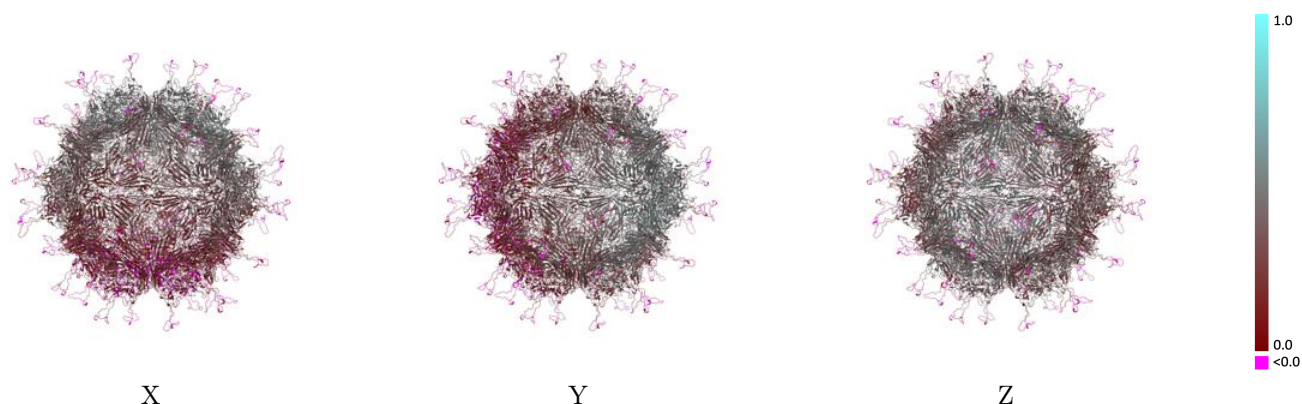
Y



Z

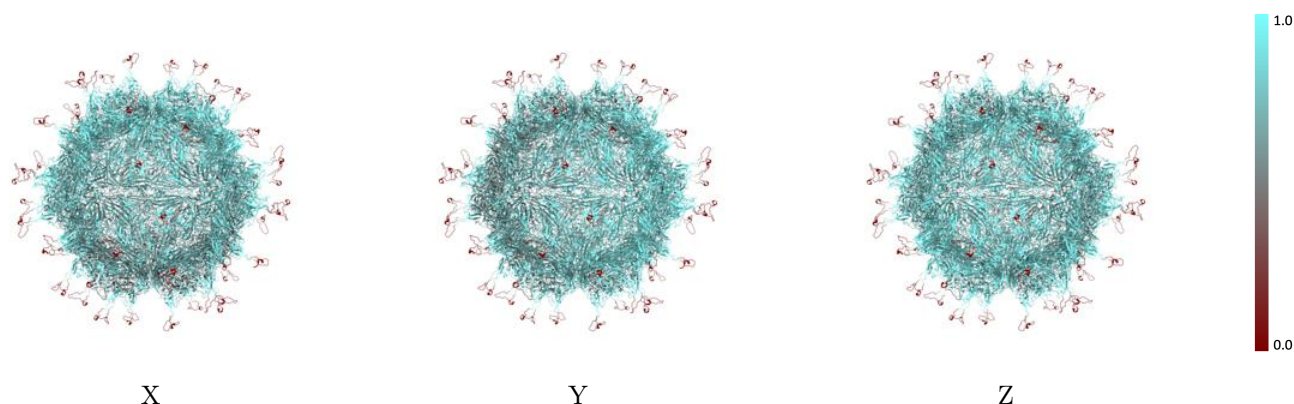
The images above show the 3D surface view of the map at the recommended contour level 1.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



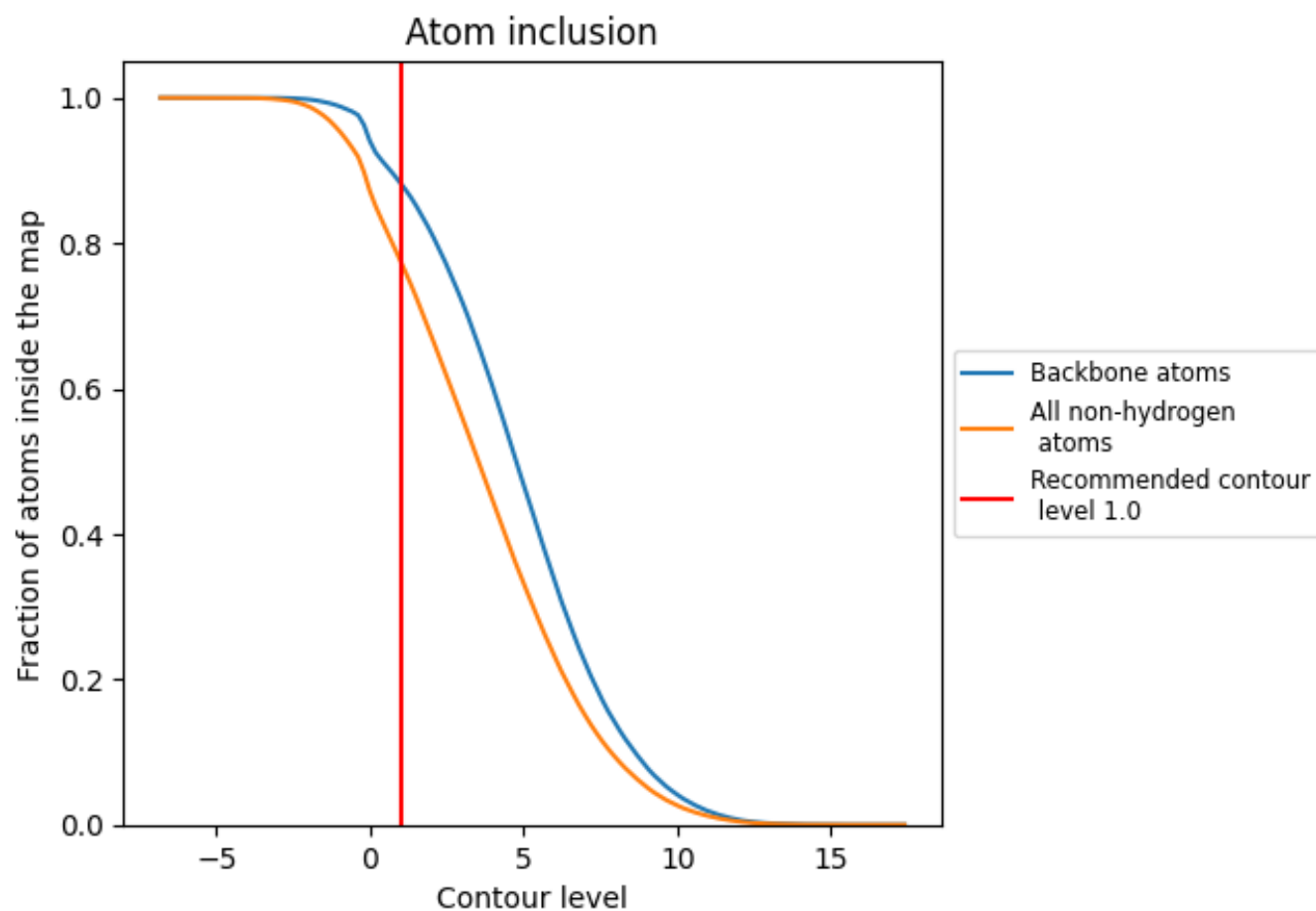
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (1.0).







































































## 9.4 Atom inclusion ⓘ



At the recommended contour level, 88% of all backbone atoms, 77% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary ⓘ





















































The table lists the average atom inclusion at the recommended contour level (1.0) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7747	 0.3060
1	 0.7006	 0.1790
2	 0.7554	 0.2550
3	 0.7943	 0.3370
4	 0.7692	 0.2870
5	 0.7910	 0.3300
6	 0.7858	 0.3240
7	 0.8292	 0.4020
8	 0.8192	 0.3850
A	 0.8629	 0.4680
B	 0.8614	 0.4610
C	 0.8387	 0.4230
D	 0.8233	 0.3890
E	 0.8474	 0.4400
F	 0.8491	 0.4410
G	 0.8541	 0.4410
H	 0.8330	 0.4050
I	 0.8522	 0.4460
J	 0.8508	 0.4440
K	 0.8558	 0.4430
L	 0.8572	 0.4540
M	 0.8090	 0.3720
N	 0.7957	 0.3410
O	 0.7492	 0.2570
P	 0.8017	 0.3590
Q	 0.8351	 0.4190
R	 0.8135	 0.3870
S	 0.8028	 0.3430
T	 0.7312	 0.2280
U	 0.7827	 0.3260
V	 0.7957	 0.3430
W	 0.8266	 0.3800
X	 0.7841	 0.3070
Y	 0.7983	 0.3350
Z	 0.8138	 0.3640



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Chain	Atom inclusion	Q-score
a	 0.8377	 0.4100
b	 0.8318	 0.4120
c	 0.7929	 0.3280
d	 0.7421	 0.2380
e	 0.7616	 0.2680
f	 0.7288	 0.2130
g	 0.6916	 0.1680
h	 0.7001	 0.1690
i	 0.6802	 0.1450
j	 0.6676	 0.1300
k	 0.6688	 0.1350
l	 0.7096	 0.1910
m	 0.7445	 0.2500
n	 0.7120	 0.2030
o	 0.8135	 0.3760
p	 0.7630	 0.2890
q	 0.7113	 0.2040
r	 0.6868	 0.1670
s	 0.7416	 0.2410
t	 0.7445	 0.2390
u	 0.7393	 0.2390
v	 0.6999	 0.1690
w	 0.6579	 0.1240
x	 0.6667	 0.1310
y	 0.6949	 0.1730
z	 0.7210	 0.2130