



## Full wwPDB EM Validation Report ⓘ

Jun 18, 2025 – 03:00 PM JST

PDB ID : 9JYZ / pdb\_00009jyz  
EMDB ID : EMD-61910  
Title : portal-tail complex of mature T7  
Authors : Liu, H.R.; Chen, W.Y.  
Deposited on : 2024-10-13  
Resolution : 2.70 Å(reported)

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:

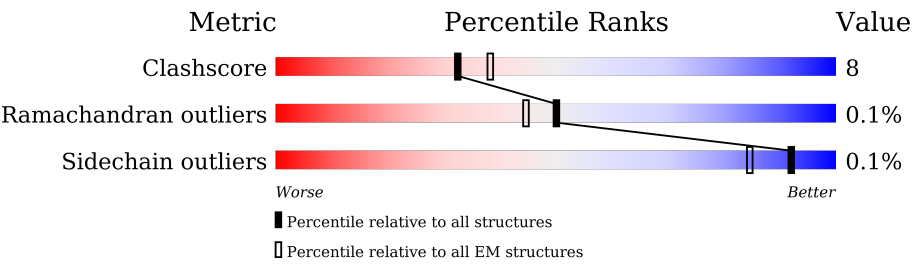
EMDB validation analysis : **FAILED**  
MolProbity : 4-5-2 with Phenix2.0rc1  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
MapQ : **FAILED**  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.44

# 1 Overall quality at a glance i

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

The reported resolution of this entry is 2.70 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)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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  $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	0	88	<div><div><div>5%8%.</div><div>84%</div></div></div>
1	3	88	<div><div><div>8%.5%</div><div>84%</div></div></div>
1	4	88	<div><div><div>.10%.</div><div>84%</div></div></div>
1	5	88	<div><div><div>7%6%.</div><div>84%</div></div></div>
1	6	88	<div><div><div>7%5%5%</div><div>84%</div></div></div>
1	7	88	<div><div><div>6%9%.</div><div>84%</div></div></div>
1	8	88	<div><div><div>5%7%..</div><div>84%</div></div></div>
1	9	88	<div><div><div>6%9%.</div><div>84%</div></div></div>
1	AA	88	<div><div><div>5%8%..</div><div>84%</div></div></div>


























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Mol	Chain	Length	Quality of chain
1	AB	88	 84%
1	AC	88	 84%
1	AD	88	 84%
2	1	99	 85%
2	2	99	 85%
2	v	99	 85%
2	w	99	 85%
2	y	99	 85%
2	z	99	 85%
3	A	553	 75%
3	B	553	 75%
3	C	553	 75%
3	D	553	 75%
3	E	553	 75%
3	F	553	 76%
3	G	553	 76%
3	H	553	 76%
3	I	553	 76%
3	J	553	 76%
3	K	553	 75%
3	L	553	 75%
3	M	553	 75%
3	N	553	 75%
3	O	553	 75%
3	a	553	 75%

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Mol	Chain	Length	Quality of chain
3	b	553	
3	c	553	
4	P	794	
4	Q	794	
4	R	794	
4	S	794	
4	T	794	
4	x	794	
5	U	196	
5	V	196	
5	W	196	
5	X	196	
5	Y	196	
5	Z	196	
5	d	196	
5	e	196	
5	f	196	
5	g	196	
5	h	196	
5	i	196	
6	j	536	
6	k	536	
6	l	536	
6	m	536	
6	n	536	

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Mol	Chain	Length	Quality of chain
6	o	536	 77%21%.
6	p	536	 77%21%.
6	q	536	 79%19%.
6	r	536	 78%20%.
6	s	536	 76%22%.
6	t	536	 77%21%.
6	u	536	 76%22%.

## 2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 126948 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 Protein 6.7.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	0	14	Total 110	C 70	N 18	O 20	S 2	0	0
1	3	14	Total 110	C 70	N 18	O 20	S 2	0	0
1	4	14	Total 110	C 70	N 18	O 20	S 2	0	0
1	5	14	Total 110	C 70	N 18	O 20	S 2	0	0
1	6	14	Total 110	C 70	N 18	O 20	S 2	0	0
1	7	14	Total 110	C 70	N 18	O 20	S 2	0	0
1	8	14	Total 110	C 70	N 18	O 20	S 2	0	0
1	9	14	Total 110	C 70	N 18	O 20	S 2	0	0
1	AA	14	Total 110	C 70	N 18	O 20	S 2	0	0
1	AB	14	Total 110	C 70	N 18	O 20	S 2	0	0
1	AC	14	Total 110	C 70	N 18	O 20	S 2	0	0
1	AD	14	Total 110	C 70	N 18	O 20	S 2	0	0

- Molecule 2 is a protein called Protein 7.3.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	1	15	Total 101	C 60	N 21	O 20	0	0
2	2	15	Total 101	C 60	N 21	O 20	0	0
2	v	15	Total 101	C 60	N 21	O 20	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
2	w	15	Total	C	N	O	0	0
			101	60	21	20		
2	y	15	Total	C	N	O	0	0
			101	60	21	20		
2	z	15	Total	C	N	O	0	0
			101	60	21	20		

- Molecule 3 is a protein called Tail fiber protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	A	141	Total	C	N	O	S	0	0
			1115	698	201	215	1		
3	B	141	Total	C	N	O	S	0	0
			1115	698	201	215	1		
3	C	141	Total	C	N	O	S	0	0
			1115	698	201	215	1		
3	D	141	Total	C	N	O	S	0	0
			1115	698	201	215	1		
3	E	141	Total	C	N	O	S	0	0
			1115	698	201	215	1		
3	F	134	Total	C	N	O	S	0	0
			1067	668	192	206	1		
3	G	134	Total	C	N	O	S	0	0
			1067	668	192	206	1		
3	H	134	Total	C	N	O	S	0	0
			1067	668	192	206	1		
3	I	134	Total	C	N	O	S	0	0
			1067	668	192	206	1		
3	J	134	Total	C	N	O	S	0	0
			1067	668	192	206	1		
3	K	136	Total	C	N	O	S	0	0
			1080	675	195	209	1		
3	L	136	Total	C	N	O	S	0	0
			1080	675	195	209	1		
3	M	136	Total	C	N	O	S	0	0
			1080	675	195	209	1		
3	N	136	Total	C	N	O	S	0	0
			1080	675	195	209	1		
3	O	136	Total	C	N	O	S	0	0
			1080	675	195	209	1		
3	a	141	Total	C	N	O	S	0	0
			1115	698	201	215	1		

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Mol	Chain	Residues	Atoms					AltConf	Trace
3	b	134	Total	C	N	O	S	0	0
			1067	668	192	206	1		
3	c	136	Total	C	N	O	S	0	0
			1080	675	195	209	1		

- Molecule 4 is a protein called Tail tubular protein gp12.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	P	793	Total	C	N	O	S	0	0
			6313	4003	1087	1208	15		
4	Q	793	Total	C	N	O	S	0	0
			6313	4003	1087	1208	15		
4	R	793	Total	C	N	O	S	0	0
			6313	4003	1087	1208	15		
4	S	793	Total	C	N	O	S	0	0
			6313	4003	1087	1208	15		
4	T	793	Total	C	N	O	S	0	0
			6313	4003	1087	1208	15		
4	x	793	Total	C	N	O	S	0	0
			6313	4003	1087	1208	15		

- Molecule 5 is a protein called Tail tubular protein gp11.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	U	196	Total	C	N	O	S	0	0
			1565	971	267	318	9		
5	V	196	Total	C	N	O	S	0	0
			1565	971	267	318	9		
5	W	196	Total	C	N	O	S	0	0
			1565	971	267	318	9		
5	X	196	Total	C	N	O	S	0	0
			1565	971	267	318	9		
5	Y	196	Total	C	N	O	S	0	0
			1565	971	267	318	9		
5	Z	195	Total	C	N	O	S	0	0
			1557	966	266	317	8		
5	d	195	Total	C	N	O	S	0	0
			1557	966	266	317	8		
5	e	195	Total	C	N	O	S	0	0
			1557	966	266	317	8		
5	f	195	Total	C	N	O	S	0	0
			1557	966	266	317	8		

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Mol	Chain	Residues	Atoms					AltConf	Trace
5	g	195	Total	C	N	O	S	0	0
			1557	966	266	317	8		
5	h	196	Total	C	N	O	S	0	0
			1565	971	267	318	9		
5	i	195	Total	C	N	O	S	0	0
			1557	966	266	317	8		

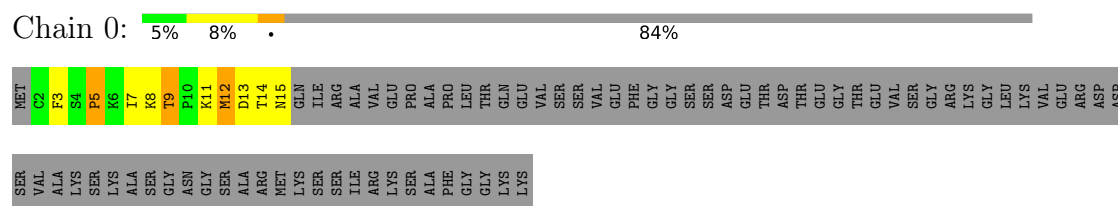
- Molecule 6 is a protein called Portal protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	j	526	Total	C	N	O	S	0	0
			4070	2549	692	806	23		
6	k	526	Total	C	N	O	S	0	0
			4070	2549	692	806	23		
6	l	526	Total	C	N	O	S	0	0
			4070	2549	692	806	23		
6	m	526	Total	C	N	O	S	0	0
			4070	2549	692	806	23		
6	n	526	Total	C	N	O	S	0	0
			4070	2549	692	806	23		
6	o	526	Total	C	N	O	S	0	0
			4070	2549	692	806	23		
6	p	526	Total	C	N	O	S	0	0
			4070	2549	692	806	23		
6	q	526	Total	C	N	O	S	0	0
			4070	2549	692	806	23		
6	r	526	Total	C	N	O	S	0	0
			4070	2549	692	806	23		
6	s	526	Total	C	N	O	S	0	0
			4070	2549	692	806	23		
6	t	526	Total	C	N	O	S	0	0
			4070	2549	692	806	23		
6	u	526	Total	C	N	O	S	0	0
			4070	2549	692	806	23		

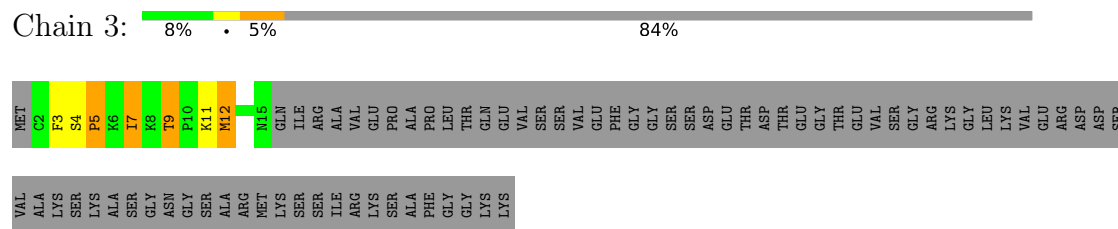
### 3 Residue-property plots [i](#)

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. 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. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

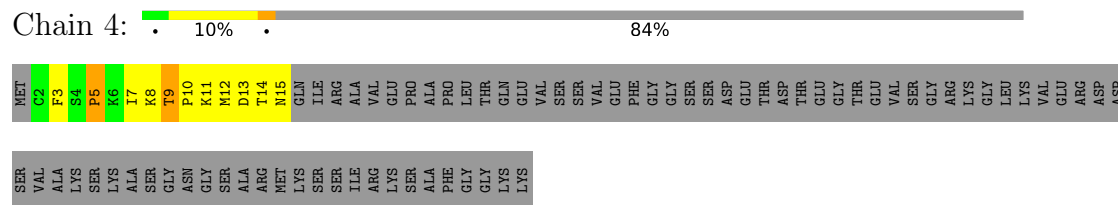
- Molecule 1: Protein 6.7



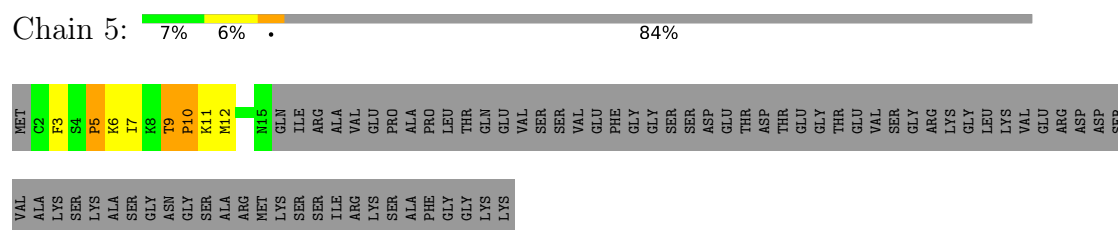
- Molecule 1: Protein 6.7



- Molecule 1: Protein 6.7



- Molecule 1: Protein 6.7



- Molecule 1: Protein 6.7



MET	C2	F3	S4	P5	K6	I7	K8	T9	P10	K11	M12	D13	T14	M15	GLN	ILE	SER	ARG	ALA	VAL	GLU	PRO	SER	ALA	ALA	PRO	LEU	THR	GLN	VAL	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	ASP	ASP	THR	THR	THR	GLU	GLY	THR	GLU	VAL	SER	GLY	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP	
SER	VAL	ALA	LYS	SER	LYS	ALA	SER	GLY	ASN	GLY	SER	ALA	ARG	MET	LYS	SER	SER	ILE	ALA	ARG	LYS	SER	PRO	SER	ALA	ALA	PHE	GLY	GLY	THR	GLN	VAL	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	ASP	THR	THR	THR	GLU	GLY	THR	GLU	VAL	SER	GLY	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP

- Molecule 1: Protein 6.7

Chain 7:  84%

MET	C2	F3	S4	P5	K6	I7	K8	T9	P10	K11	M12	D13	T14	M15	GLN	ILE	SER	ARG	ALA	VAL	GLU	PRO	SER	ALA	ALA	PRO	LEU	THR	GLN	VAL	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	ASP	THR	THR	THR	ASP	THR	THR	THR	GLU	GLY	THR	GLU	VAL	SER	GLY	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP
SER	VAL	ALA	LYS	SER	SER	ALA	SER	GLY	ASN	GLY	SER	ALA	ARG	MET	LYS	SER	SER	ILE	ALA	ARG	LYS	SER	PRO	SER	ALA	ALA	PHE	GLY	GLY	THR	GLN	VAL	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	ASP	THR	THR	THR	GLU	GLY	THR	GLU	VAL	SER	GLY	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP		

- Molecule 1: Protein 6.7

Chain 8:  84%

MET	C2	F3	S4	P5	K6	I7	K8	T9	P10	K11	M12	D13	T14	M15	GLN	ILE	SER	ARG	ALA	VAL	GLU	PRO	SER	ALA	ALA	PRO	LEU	THR	GLN	VAL	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	ASP	GLU	THR	THR	THR	ASP	GLU	GLY	THR	GLU	VAL	SER	ALA	VAL	GLU	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP
SER	VAL	ALA	LYS	SER	LYS	ALA	SER	GLY	ASN	GLY	SER	ALA	ARG	MET	LYS	SER	SER	ILE	ALA	ARG	LYS	SER	PRO	SER	ALA	ALA	PHE	GLY	GLY	THR	GLN	VAL	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	ASP	THR	THR	THR	GLU	GLY	THR	GLU	VAL	SER	ALA	VAL	GLU	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP

- Molecule 1: Protein 6.7

Chain 9:  84%

MET	C2	F3	S4	P5	K6	I7	K8	T9	P10	K11	M12	D13	T14	M15	GLN	ILE	SER	ARG	ALA	VAL	GLU	PRO	SER	ALA	ALA	PRO	LEU	THR	THR	GLN	VAL	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	ASP	THR	THR	THR	GLU	GLY	THR	GLU	VAL	SER	GLY	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP	
SER	VAL	ALA	LYS	SER	LYS	ALA	SER	GLY	ASN	GLY	SER	ALA	ARG	MET	LYS	SER	SER	ILE	ALA	ARG	LYS	SER	PRO	SER	ALA	ALA	PHE	GLY	GLY	THR	GLN	VAL	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	ASP	THR	THR	THR	GLU	GLY	THR	GLU	VAL	SER	GLY	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP

- Molecule 1: Protein 6.7

Chain AA:  84%

MET	C2	F3	S4	P5	K6	I7	K8	T9	P10	K11	M12	D13	T14	M15	GLN	ILE	SER	ARG	ALA	VAL	GLU	PRO	SER	ALA	ALA	PRO	LEU	THR	GLN	VAL	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	ASP	ASP	THR	THR	THR	GLU	GLY	THR	GLU	VAL	SER	GLY	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP	
SER	VAL	ALA	LYS	SER	LYS	ALA	SER	GLY	ASN	GLY	SER	ALA	ARG	MET	LYS	SER	SER	ILE	ALA	ARG	LYS	SER	PRO	SER	ALA	ALA	PHE	GLY	GLY	THR	GLN	VAL	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	ASP	THR	THR	THR	GLU	GLY	THR	GLU	VAL	SER	GLY	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP

- Molecule 1: Protein 6.7

Chain AB:  84%

MET	C2	F3	S4	P5	K6	I7	K8	T9	P10	K11	M12	D13	T14	M15	GLN	ILE	SER	ARG	ALA	VAL	GLU	PRO	SER	ALA	ALA	PRO	LEU	THR	GLN	VAL	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	ASP	THR	THR	THR	GLU	GLY	THR	GLU	VAL	SER	GLY	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP		
SER	VAL	ALA	LYS	SER	LYS	ALA	SER	GLY	ASN	GLY	SER	ALA	ARG	MET	LYS	SER	SER	ILE	ALA	ARG	LYS	SER	PRO	SER	ALA	ALA	PHE	GLY	GLY	THR	GLN	VAL	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	ASP	THR	THR	THR	GLU	GLY	THR	GLU	VAL	SER	GLY	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP

- Molecule 1: Protein 6.7

NET	F2	C3	S4	P5	K6	I7	K8	T9	P10	K11	D12	T13	N14	M15	GLN	ILE	ILE	ARG	ALA	ALA	VAL	GLU	PRO	PRO	PRO	THR	GLN	GLU	VAL	SER	SER	SER	VAL	GLU	PHE	GLY	GLY	SER	SER	SER	ASP	ASP	THR	THR	GLU	VAL	SER	SER	GLY	ARG	LYS	GLY	LEU	LYS	VAL	GLU	ARG	ASP	ASP
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SER VAL ALA LYS SER LYS SER SER GLY ASN GLY SER SER ALA ARG MET LYS SER SER ILE ARG LYS SER ALA PHE GLY GLY LYS LYS

- Molecule 1: Protein 6.7

Chain AD: 6% 7% 2% 84%

[illegible]

SER VAL ALA LYS SER LYS SER SER GLY ASN GLY SER ALA ARG MET LYS SER SER ILE ARG LYS SER ALA PHE GLY GLY LYS LYS

- Molecule 2: Protein 7.3

Chain 1:  12% . 85%

MET	GLY	LYS	LYS	VAL	LYS	LYS	ALA	VAL	LYS	LYS	VAL	THR	LYS	SER	LYS	VAL	LYS	LYS	VAL	VAL	VAL	GLU	GLY	ALA	ALA	GLY	GLY	LEU	GLY	GLY	GLN	THR	GLY	GLY	GLU	VAL	VAL	PRO	GLN	ALA	ALA	ALA	GLN	ILE	VAL	ASP	VAL	PRO
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GLU	LYS	GLU	VAL	SER	THR	GLU	ASP	GLU	ALA	GLN	THR	GLU	SER	GLY	ARG	LYS	LYS	ALA	ARG	ALA	GLY	GLY	R84	L87	S88	V89	A90	R91	T98	ILE
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- Molecule 2: Protein 7.3

Chain 2:  11% . 85%

NET	GLY	LYS	VAL	LYS	LYS	ALA	VAL	LYS	LYS	THR	LYS	SER	VAL	LYS	LYS	VAL	VAL	GLU	GLY	ALA	ALA	ARG	PRO	VAL	LYS	GLN	VAL	GLY	GLY	GLY	THR	GLY	GLU	ALA	ALA	GLN	GLN	ALA	ALA	ALA	GLN	ILE	VAL	ASP	VAL	PRO
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GLU	LYS	GLU	VAL	SER	THR	GLU	GLU	ASP	GLU	ALA	GLN	THR	GLU	SER	GLY	ARG	LYS	LYS	ALA	ALA	ARG	ALA	GLY	GLY	R84	L87	S88	V89	A90	R91	I97	N98	TLE
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- Molecule 2: Protein 7.3

Chain v:  12% 85%

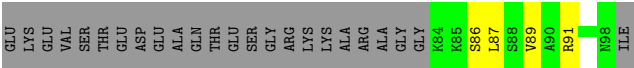
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GLU	LYS	GLU	VAL	SER	THR	GLU	ASP	GLU	ALA	GLN	THR	GLU	SER	GLY	ARG	LYS	ALA	ARG	ALA	GLY	GLY	R34	L87	S88	V89	A90	R91	R98	ILE
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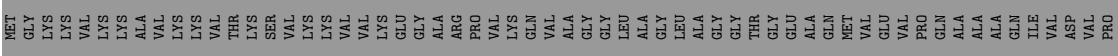
- Molecule 2: Protein 7.3

Chain w: 11% . 85%

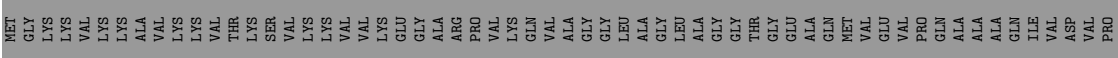
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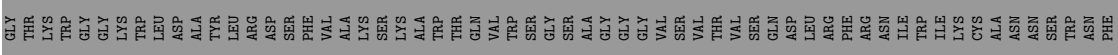
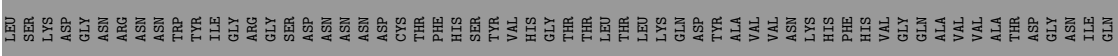
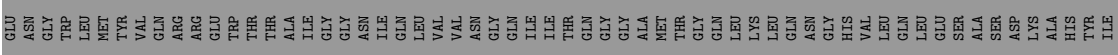
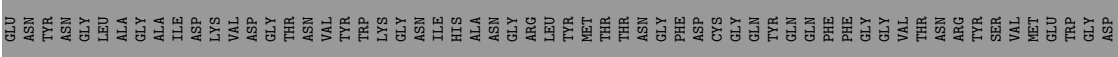
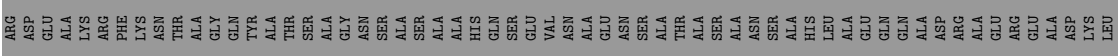
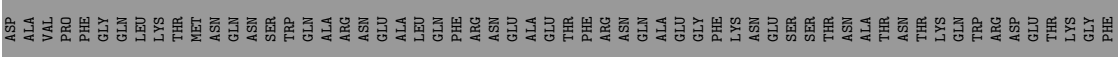
• Molecule 2: Protein 7.3



• Molecule 2: Protein 7.3



• Molecule 3: Tail fiber protein



• Molecule 3: Tail fiber protein



PHE	ILE	ALA	SER	ASP	GLY	GLY	TRP	LEU	ARG	ALA	THR	THR	ASP	TRP	THR	GLN	GLY	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GL
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● Molecule 3: Tail fiber protein



MET	ALA	N3	V4	I5	V8	L9	T10	I22	P23	F24	E25	Y26	L27	I37	I58	S59	L60	I73	E74	L75	R76	R77	T81	R95	L99	I104	E111	D115	L116	T117	T120	I121	D130	R134	V143	ASP	ASP	ASP	ASP	ALA	VAL	PRO	PHE	GLY		
GLN	LEU	LYS	THR	MET	ASN	GLN	ASN	THR	ALA	ALA	ASN	GLU	ALA	LEU	PHE	ASN	GLN	ALA	THR	PHE	ARG	ASN	GLN	GLY	PHE	LYS	ASN	GLU	ALA	THR	LYS	GLN	TRP	ARG	GLU	THR	LYS	ASP	LYS	PHE	THR	ASP	ALA	VAL	ARG	
PHE	LYS	ASN	THR	ALA	GLY	GLN	TYR	THR	ALA	THR	ASN	SER	ALA	ALA	HIS	GLN	SER	GLU	VAL	ASN	GLU	THR	THR	ALA	SER	ALA	ALA	HIS	LEU	ALA	GLN	ALA	ASP	GLU	ARG	ALA	ASP	LYS	THR	LEU	THR	ASP	ALA	VAL	ARG	
ALA	GLY	ALA	ILE	ARG	LYS	VAL	ASP	THR	THR	THR	TRP	LYS	GLY	ASN	ILE	ASN	ARG	GLY	THR	MET	THR	THR	THR	THR	CYS	GLY	GLN	TYR	GLN	GLN	VAL	THR	ASN	ARG	TYR	VAL	THR	GLY	ASP	GLY	THR	THR	THR	THR	THR	THR
TYR	VAL	GLN	ARG	ASP	GLU	TRP	THR	THR	ALA	THR	ASN	ILE	GLN	LEU	VAL	VAL	GLN	ILE	THR	GLN	GLY	GLY	GLY	GLY	LEU	ALA	LYS	THR	VAL	GLN	GLN	LEU	GLU	SER	ALA	SER	ASP	LYS	HIS	TYR	THR	ILE	GLU	THR	THR	
ARG	ASN	ASN	TRP	TYR	ILE	GLY	GLY	SER	ASN	ASN	ASN	ASP	CYS	THR	PHE	HIS	THR	HIS	THR	THR	LEU	THR	THR	ALA	ALA	VAL	VAL	ASN	GLN	GLY	GLN	ALA	VAL	ALA	ALA	ASN	ASP	THR	GLY	ASN	ILE	GLY	THR	THR	THR	
LYS	TRP	LEU	ASP	ALA	TYR	LEU	ARG	SER	ASN	ALA	LYS	LYS	LYS	ALA	THR	THR	VAL	SER	THR	THR	LEU	GLY	GLY	THR	VAL	VAL	GLN	ASP	LEU	ILE	ILE	ILE	ALA	VAL	VAL	ASN	ASN	ASN	ASN	PHE	THR	THR	THR	THR	THR	
GLY	ILE	TYR	PHE	ILE	SER	ASP	GLY	GLY	TRP	THR	PHE	ILE	ILE	HIS	ASN	GLN	VAL	LYS	ASN	ASN	ASP	ARG	ARG	THR	THR	THR	GLN	VAL	ASN	ASN	ASN	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR

● Molecule 3: Tail fiber protein



MET	ALA	R3	I5	V8	L9	T10	L13	I22	P23	E25	L36	R55	I58	S59	L60	I73	R76	R77	L94	L99	T106	M107	E111	D115	L116	T117	T118	D119	T120	I121	L129	D130	V143	ASP	ASP	ARG	ASP	ALA	VAL	PRO	PHE	GLY		
GLN	LEU	LYS	THR	MET	ASN	GLN	ASN	ALA	ASN	GLU	GLN	PHE	ARG	ASN	GLU	PHE	ARG	ASN	ALA	GLY	PHE	LYS	SER	THR	ASN	GLU	ALA	THR	ASN	LYS	GLN	TRP	ARG	GLU	GLY	THR	LYS	ASP	PHE	GLU	VAL	ASP	LYS	ASN
PHE	LYS	ASN	THR	GLY	GLN	TYR	THR	GLY	ASN	SER	ALA	HIS	GLN	SER	GLY	ALA	ASN	SER	THR	ALA	SER	ALA	HIS	LEU	ALA	GLU	GLN	ALA	ASP	ARG	GLU	GLY	GLU	ALA	ASP	LYS	ASP	LEU	GLY	THR	ASN	LEU	GLY	
ALA	GLY	ALA	ILE	ASP	LYS	VAL	THR	GLY	TRP	GLY	ILE	HIS	ALA	ARG	ILE	LEU	TYR	MET	PHE	ASP	GLY	GLN	CYS	PHE	GLY	GLY	VAL	THR	ASN	ARG	TYR	VAL	MET	GLU	TRP	GLY	ASP	GLY	THR	ASN	MET	GLY		
TYR	VAL	GLN	ARG	GLU	TRP	THR	THR	ILE	ASN	GLY	VAL	VAL	ASN	GLY	ILE	GLN	GLY	THR	GLN	GLY	THR	LYS	ASN	GLY	HIS	VAL	LEU	GLN	LEU	GLU	SER	ALA	LYS	HIS	TYR	ILE	ASP	GLY	THR	ASN	ASN			
ARG	ASN	TRP	TYR	ILE	GLY	ARG	GLY	ASP	ASN	ASN	PHE	HIS	SER	VAL	HIS	GLY	LEU	ALA	GLY	THR	GLY	VAL	ASP	PHE	HIS	HIS	VAL	GLY	GLN	ALA	VAL	THR	ASP	GLY	ILE	GLN	GLY	THR	LYS	TRP	GLY			
LYS	TRP	LEU	ASP	ALA	TYR	LEU	ASP	PHE	ALA	LYS	THR	GLN	SER	VAL	HIS	GLY	LEU	ALA	GLY	VAL	SER	VAL	THR	ARG	PHE	ASN	ASN	ILE	TRP	ILE	LYS	CYS	VAL	TRP	TRP	ASN	PHE	GLY	THR	PRO	GLY			
GLY	ILE	TYR	PHE	ILE	ALA	SER	ASP	GLY	GLY	PHE	GLN	PHE	GLN	SER	PHE	ASN	ALA	ASP	SER	GLY	PRO	ASN	ALA	ILE	GLY	ARG	ASN	ILE	GLU	ASN	VAL	MET	VAL	GLU	ASN	ASN	GLY	THR	ASN	GLY				

● Molecule 3: Tail fiber protein



PHE	THR	GLY	ASP	GLY	LYS	TRP	ASN	GLN	LEU	ILE	ASP	GLY	GLN	VAL	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY</
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● Molecule 3: Tail fiber protein



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● Molecule 3: Tail fiber protein



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● Molecule 3: Tail fiber protein





ARG	THR	LYS	SER	ASN	GLY	THR	ASN	TYR	ASN	ASP	GLU	ALA	MET
THR	GLY	TRP	ASP	GLY	TRP	GLY	ASN	TRP	ASN	ALA	LYS	PRO	ASN
THR	GLY	GLY	ASN	GLY	GLY	GLY	TRP	GLY	LEU	MET	ALA	PHE	VAL
ILE	ILE	LYS	ARG	ASN	VAL	VAL	TYR	GLY	GLY	ARG	LYS	GLN	I5
TYR	TRP	LEU	ASN	ASN	VAL	GLN	GLN	GLY	ASN	THR	ASN	LEU	V8
PHE	ASP	TRP	TRP	ARG	ARG	ILE	ILE	ASP	ALA	THR	ALA	LYS	Q12
ILE	ALA	TYR	TYR	ARG	GLU	THR	THR	ASP	ILE	ALA	THR	THR	L13
ALA	TYR	ILE	ILE	GLY	TRP	GLY	VAL	VAL	GLY	GLY	ASN	MET	I22
SER	LEU	LEU	GLY	GLY	GLY	GLN	TRP	VAL	GLN	GLN	GLN	ASN	I46
ASP	ASP	ASP	ARG	ARG	ARG	THR	ASN	TRP	ASN	TYR	GLY	ARG	I47
GLY	ASP	GLY	GLY	GLY	GLY	THR	ASN	GLY	ASN	ALA	SER	ASN	I48
GLY	ASP	SER	SER	GLY	THR	ALA	ILE	GLY	GLY	ALA	ALA	ALA	I49
TRP	PHE	ASN	ASP	ASP	ASP	ILE	LEU	ASN	SER	SER	LEU	LEU	Y50
LEU	VAL	ASN	ASN	ASN	GLY	VAL	VAL	ILE	ALA	ALA	GLN	ALA	L44
ARG	ALA	ASN	ASN	ASN	GLY	GLY	ASN	HIS	ALA	PHE	ALA	ARG	T45
PHE	GLY	LYS	THR	THR	THR	VAL	ASN	ASN	ALA	ASN	ASN	ASN	I46
GLN	SER	LYS	ASN	ASN	ASN	GLN	GLY	LYS	ASN	SER	GLU	GLU	I47
ILE	ALA	LYS	CYS	THR	GLN	LEU	GLN	GLY	ASN	ASN	ALA	ALA	I48
HIS	ALA	LYS	THR	THR	THR	LEU	GLN	GLY	ASN	GLN	ASN	ASN	I49
SER	TRP	TRP	PHE	THR	THR	THR	THR	GLY	GLY	GLY	GLU	GLU	Y50
SER	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	A53
GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	T54
LEU	LEU	LEU	SER	SER	SER	THR	THR	THR	THR	THR	THR	THR	T57
GLY	GLY	GLY	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	I58
PHE	GLY	GLY	HIS	GLY	GLY	ILE	ILE	ARG	GLY	GLY	GLY	GLY	S59
LYS	LYS	LYS	GLY	ILE	ILE	ILE	ILE	LEU	VAL	VAL	VAL	GLU	I60
ASN	ASN	ASN	THR	THR	THR	THR	THR	TYR	ASN	ASN	ALA	PHE	L60
ILE	ALA	ALA	THR	THR	THR	GLN	GLN	MET	ALA	ALA	ALA	PHE	I61
ASP	GLY	GLY	THR	THR	THR	GLY	GLY	THR	GLY	GLY	ARG	ASN	I62
ASP	ASP	GLY	LEU	LEU	LEU	ALA	ALA	THR	ASN	ASN	ASN	ASN	I63
SER	GLY	THR	THR	THR	THR	THR	THR	ASN	ASN	ASN	ASN	ASN	T72
ARG	ARG	LYS	GLN	GLN	GLN	MET	GLY	GLY	ALA	ALA	GLN	GLN	I73
THR	SER	SER	GLN	GLN	GLN	THR	PHE	PHE	THR	THR	GLU	GLU	R76
VAL	VAL	VAL	ASP	ASP	ASP	GLY	THR	ASP	ALA	ALA	GLY	GLY	I77
PRO	THR	THR	THR	THR	THR	GLN	GLY	CYS	SER	SER	PHE	PHE	T81
ASN	VAL	VAL	VAL	VAL	VAL	LEU	LEU	GLY	ALA	ALA	LYS	LYS	I81
ALA	SER	SER	VAL	VAL	VAL	LYS	GLN	PHE	ALA	ASN	ASN	ASN	R84
ILE	ILE	VAL	VAL	VAL	VAL	LEU	LEU	TYR	SER	SER	GLU	GLU	I85
VAL	MET	ASN	ASN	ASN	ASN	GLN	GLN	GLN	ALA	SER	SER	SER	V101
GLU	ASN	THR	THR	THR	THR	ASN	ASN	GLN	HIS	SER	THR	THR	I116
ASN	ASN	PHE	PHE	PHE	PHE	HIS	PHE	PHE	LEU	LEU	ASN	ASN	I117
ASN	ARG	ARG	HIS	HIS	VAL	VAL	GLY	GLY	ALA	ALA	ALA	ALA	T120
GLU	ASN	ASN	VAL	VAL	VAL	LEU	GLY	GLY	GLN	GLN	THR	THR	I121
	ILE	ILE	GLY	GLY	GLY	GLN	VAL	VAL	ALA	ALA	ASN	ASN	I122
	TRP	TRP	GLN	GLN	GLN	TRP	THR	THR	ALA	ALA	THR	THR	D130
	LYS	LYS	ALA	ALA	ALA	LEU	ASN	ASN	ASP	ASP	LYS	LYS	I130
	CYS	VAL	VAL	VAL	VAL	SER	SER	ARG	ARG	ALA	GLN	GLN	I138
	ALA	ALA	ALA	ALA	ALA	ALA	ALA	TYR	ALA	TRP	TRP	ALA	LEU
	ASN	ASN	THR	THR	THR	SER	SER	SER	GLU	ARG	ALA	ALA	ASN
	ASN	ASN	ASP	ASP	ASP	ASP	VAL	VAL	ARG	ASP	ASP	ASP	ASN
	SER	SER	GLY	GLY	GLY	LYS	MET	MET	GLU	GLU	GLU	GLU	ASN
	TRP	TRP	ASN	ASN	ASN	ALA	GLY	GLY	THR	THR	THR	THR	VAL
	ASN	ASN	ILE	ILE	ILE	THR	THR	GLY	ASP	GLY	LYS	LYS	ASP
	PHE	PHE	THR	THR	THR	ASN	ASN	ASN	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP
	THR	THR	THR	THR	THR	THR	THR	GLY	THR	THR	THR	THR	ASP

● Molecule 3: Tail fiber protein



TRP	ASN	ASN	PHE	ARG	THR	GLY	PRO	ASP	GLY	ILE	TYR	PHE	GLY	LEU	SER	GLY	GLY	TRP	TRP	TRP	PHE	LEU	ARG	ALA	ASN	ASN	VAL	VAL	SER	ASN	VAL	ASN	GLN	ASP	THR	GLY	GLN	GLY	THR	GLY	ASP	ASP	ASN	VAL	ASP	MET	
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN	THR	THR	LYS	LYS	GLY	GLY	LYS	ARG	ASN	GLY	ASN	TRP	ASN	GLY	GLY	TRP	THR	THR	ARG	GLY	LEU	ALA	GLY	VAL	GLN	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	PHE	ASN																																													

● Molecule 3: Tail fiber protein



MET	ALA	ASP	THR	GLY	ASN	ASP	GLN	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY	ASP	GLY</
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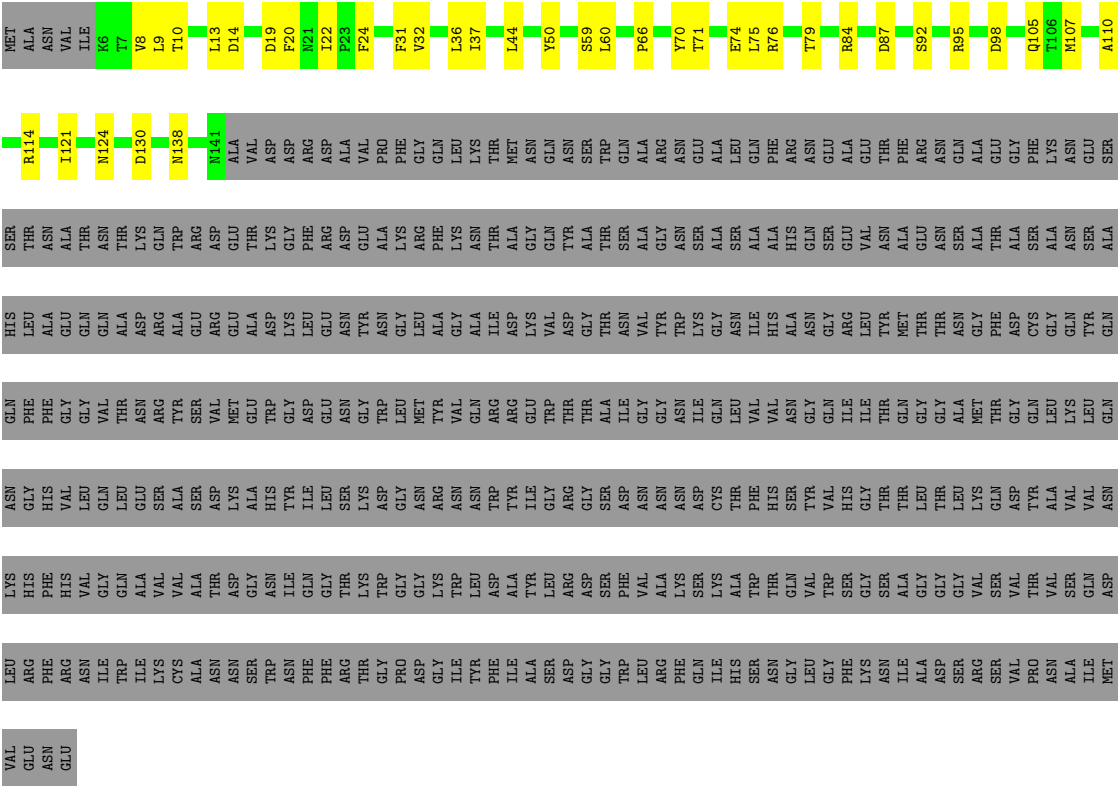
● Molecule 3: Tail fiber protein



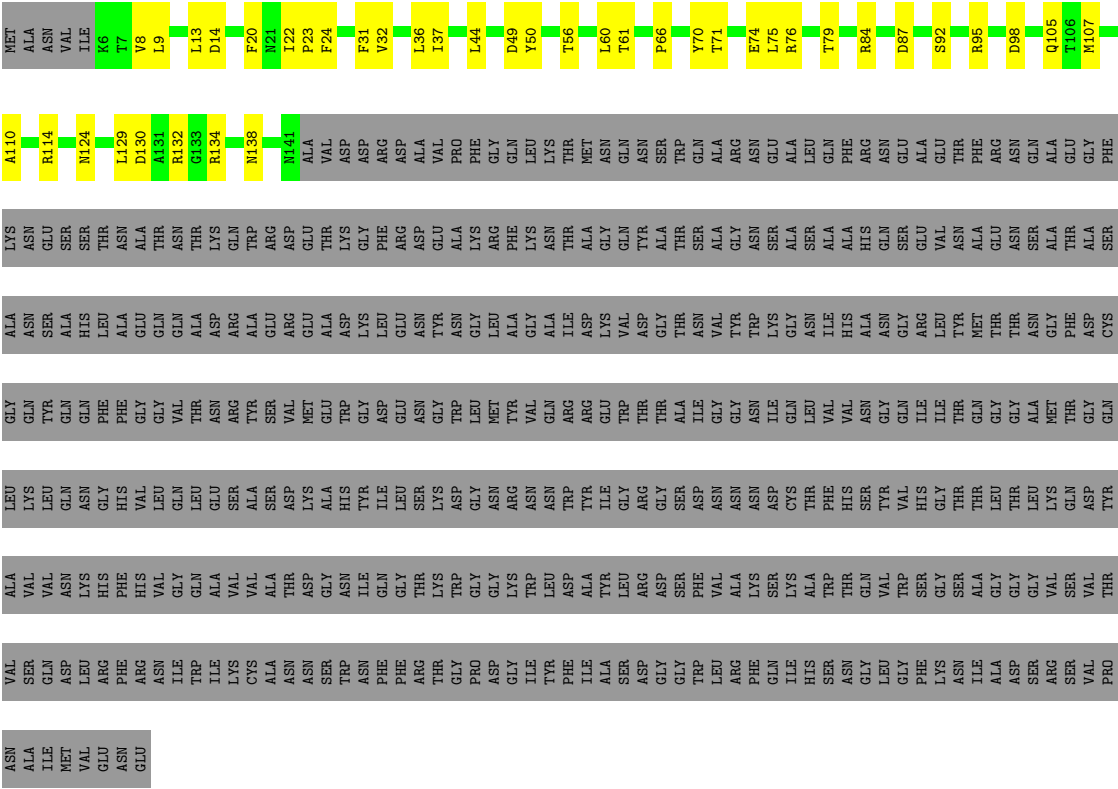
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● Molecule 3: Tail fiber protein

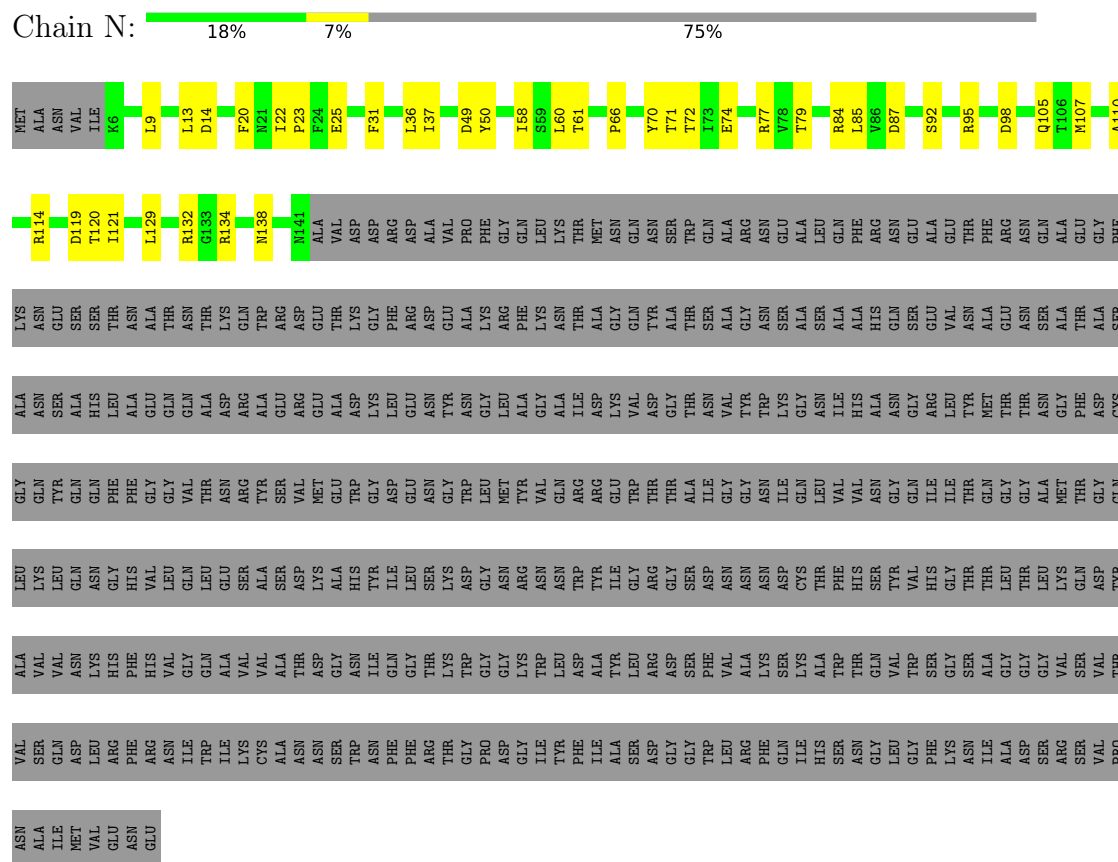




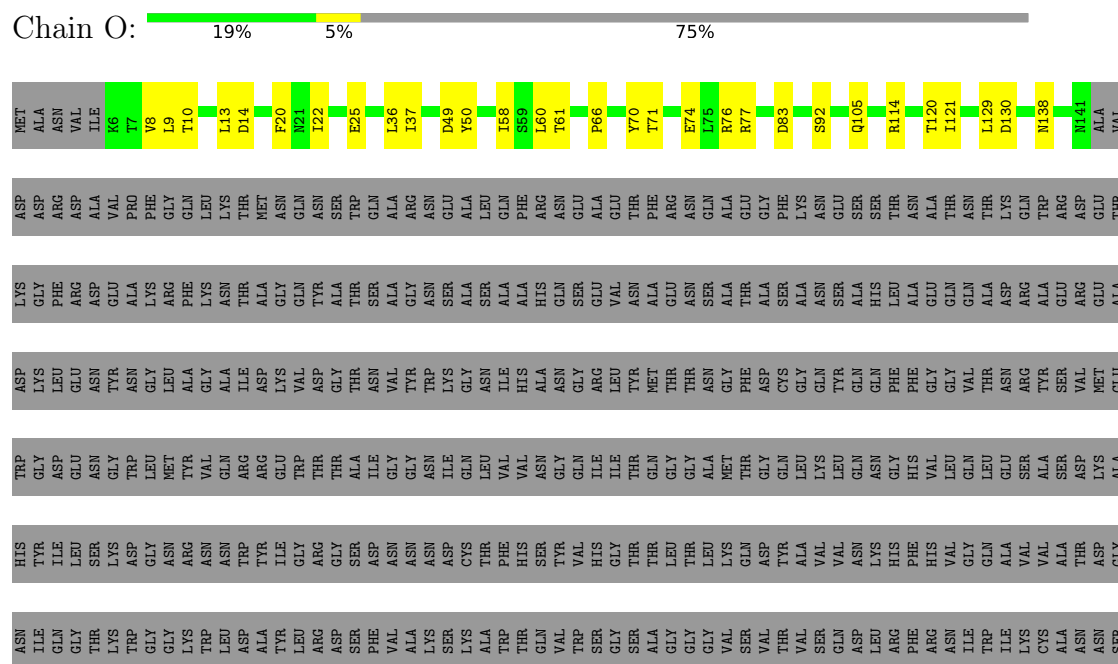
● Molecule 3: Tail fiber protein



- Molecule 3: Tail fiber protein

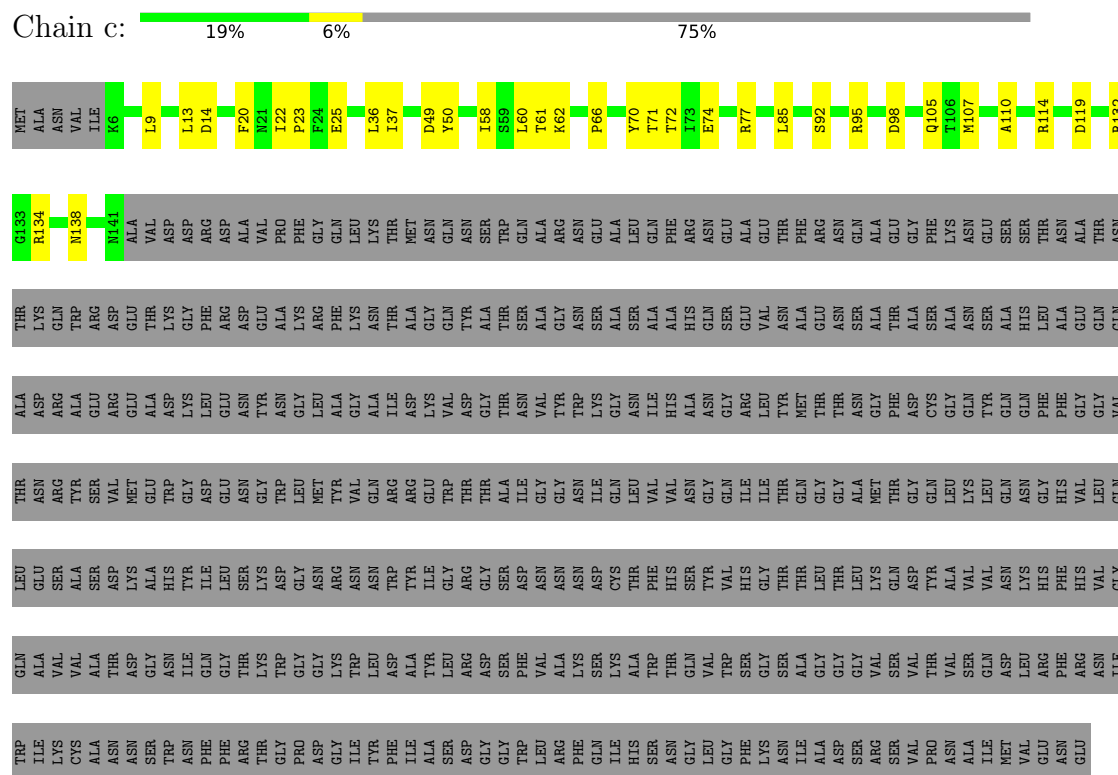


- Molecule 3: Tail fiber protein

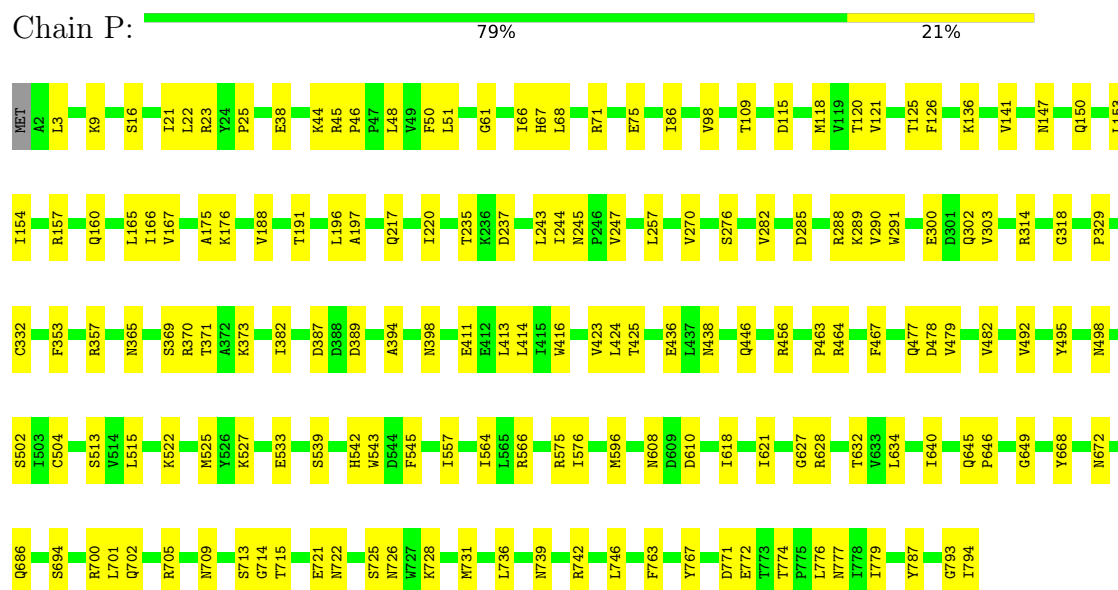




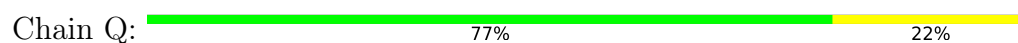
- Molecule 3: Tail fiber protein

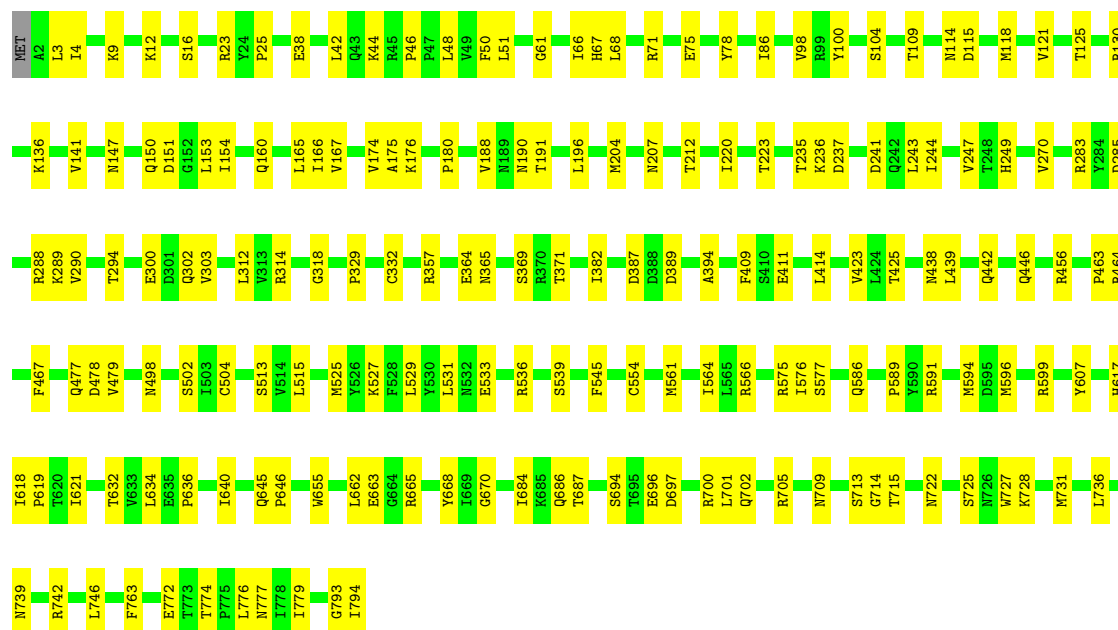


- Molecule 4: Tail tubular protein gp12



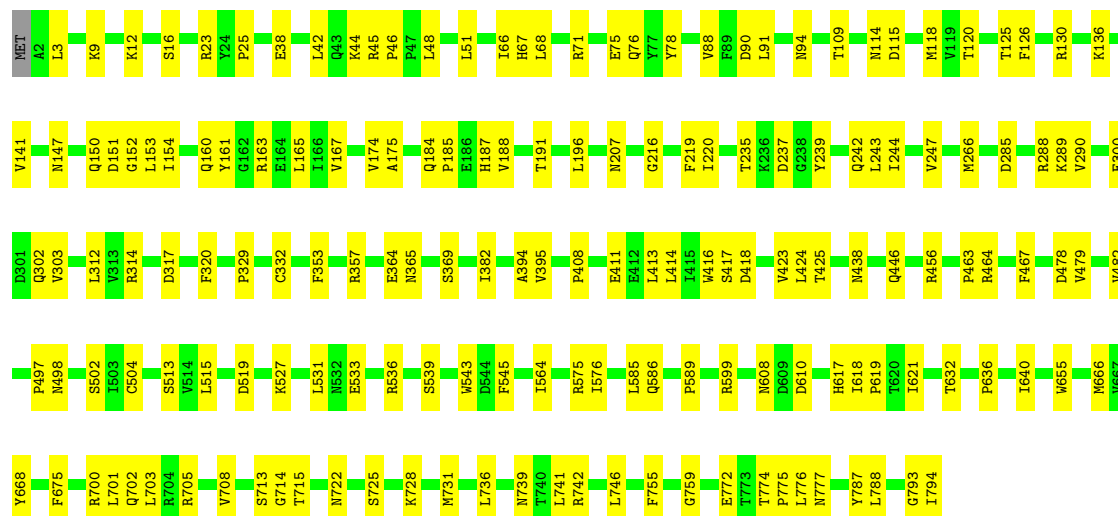
- Molecule 4: Tail tubular protein gp12





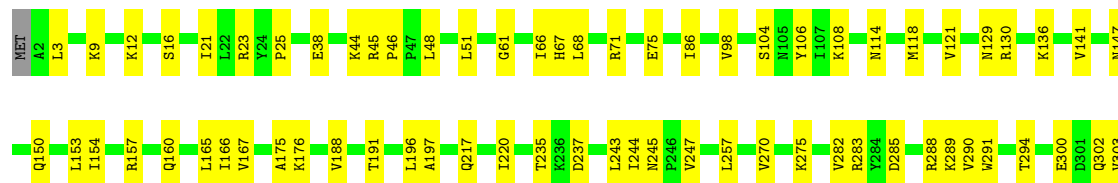
• Molecule 4: Tail tubular protein gp12

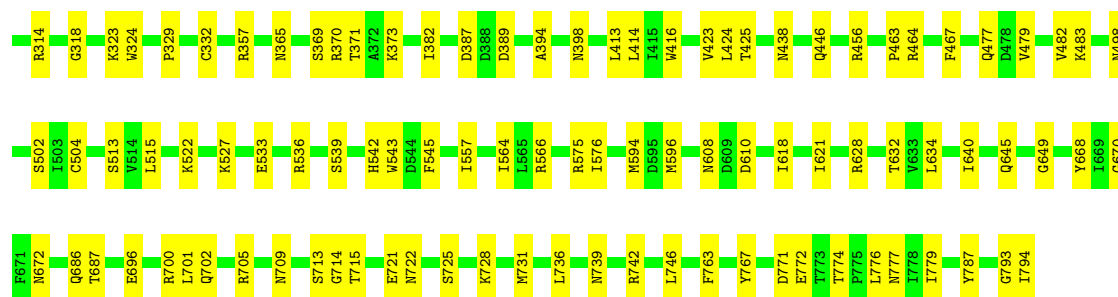
Chain R: 79% 21%



• Molecule 4: Tail tubular protein gp12

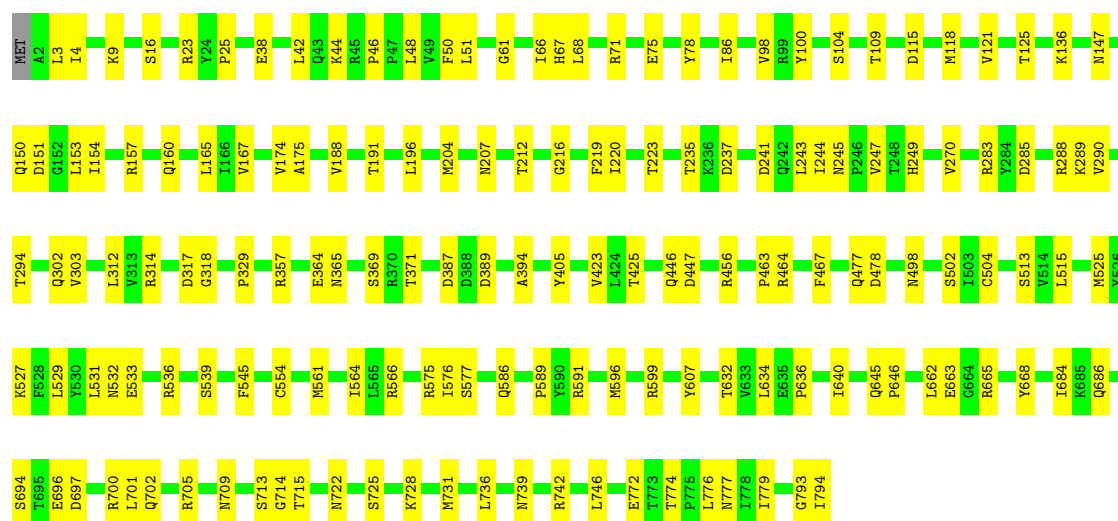
Chain S: 79% 21%





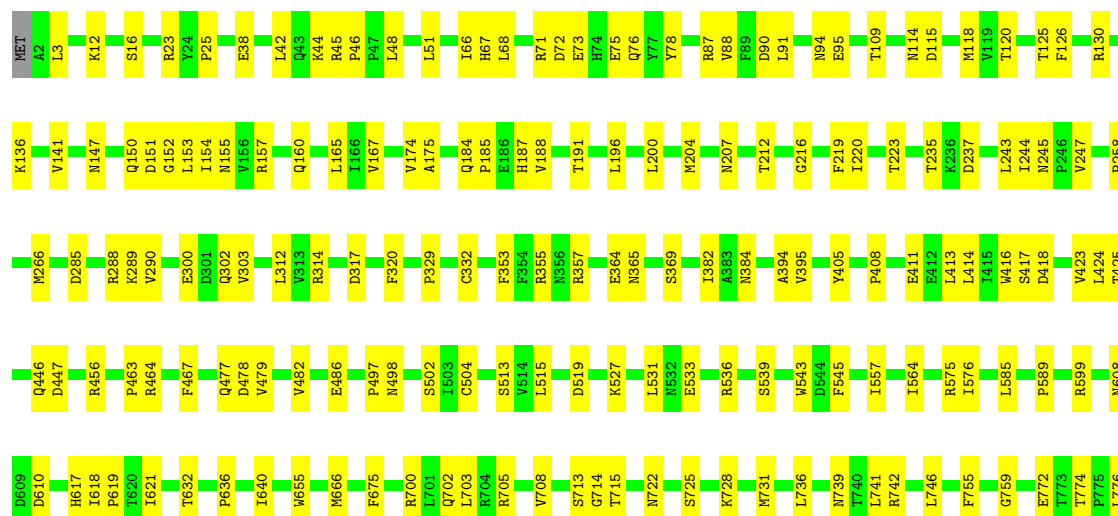
• Molecule 4: Tail tubular protein gp12

Chain T: 80% 20%



• Molecule 4: Tail tubular protein gp12

Chain x: 78% 22%







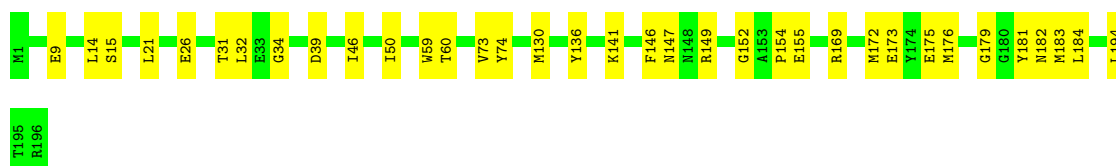
- Molecule 5: Tail tubular protein gp11

Chain U: 86% 14%



- Molecule 5: Tail tubular protein gp11

Chain V: 82% 18%



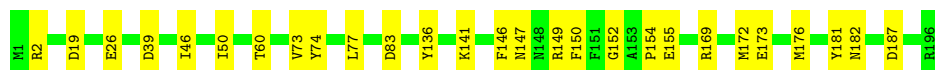
- Molecule 5: Tail tubular protein gp11

Chain W: 85% 15%



- Molecule 5: Tail tubular protein gp11

Chain X: 86% 14%



- Molecule 5: Tail tubular protein gp11

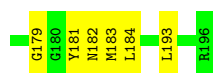
Chain Y: 88% 12%



- Molecule 5: Tail tubular protein gp11

Chain Z: 80% 19%





- Molecule 5: Tail tubular protein gp11

Chain d: 81% 19%



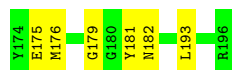
- Molecule 5: Tail tubular protein gp11

Chain e: 81% 19%



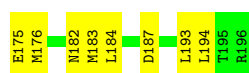
- Molecule 5: Tail tubular protein gp11

Chain f: 80% 19%



- Molecule 5: Tail tubular protein gp11

Chain g: 79% 20%

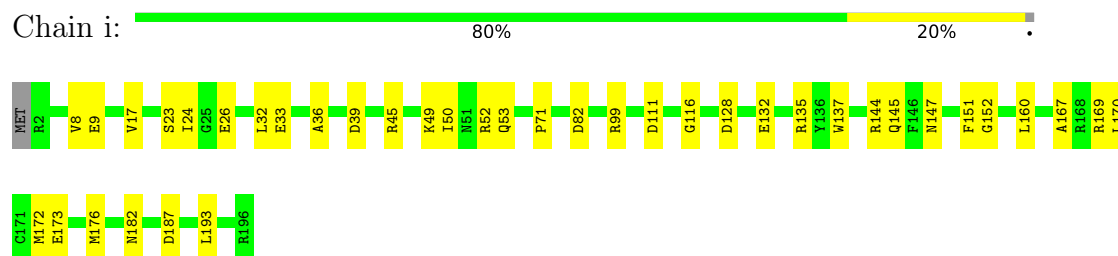


- Molecule 5: Tail tubular protein gp11

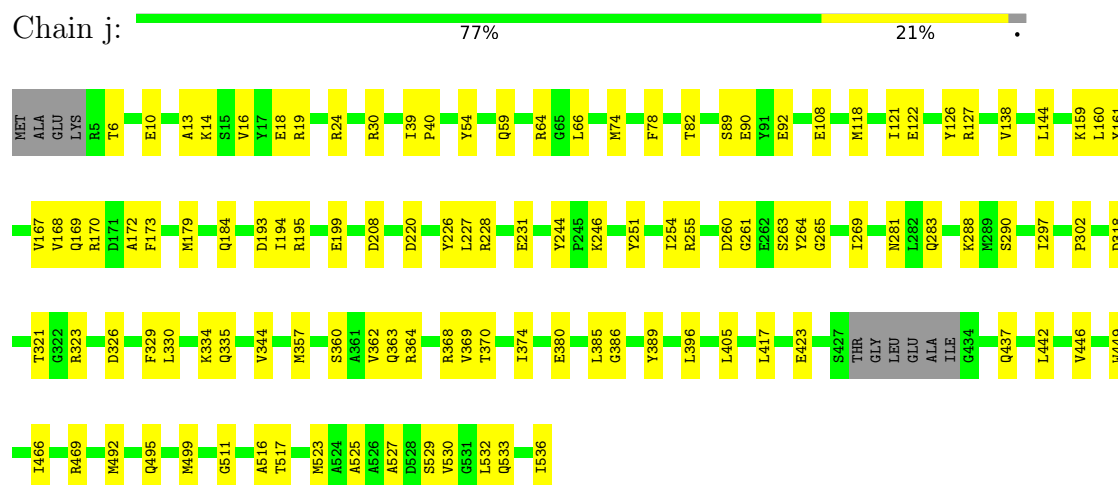
Chain h: 85% 15%



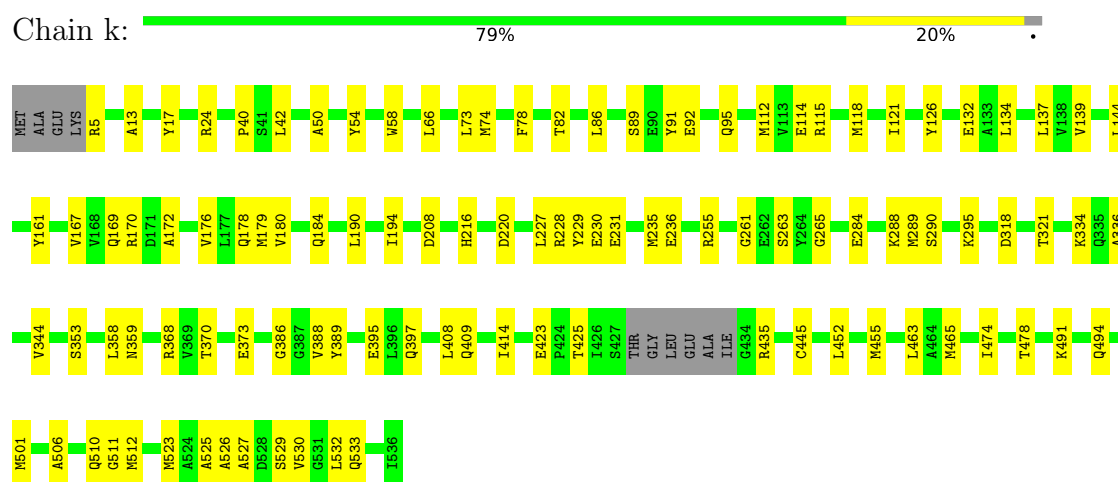
- Molecule 5: Tail tubular protein gp11



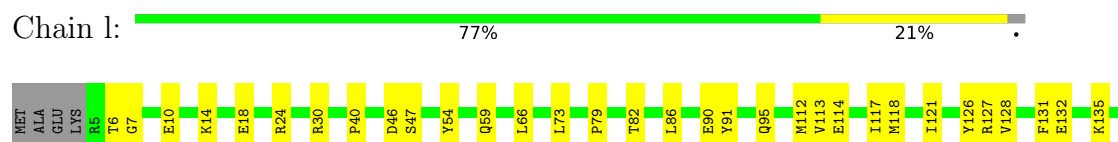
- Molecule 6: Portal protein

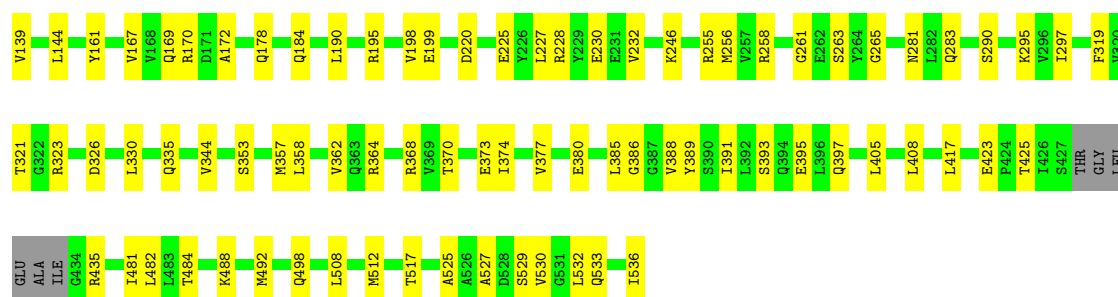


- Molecule 6: Portal protein

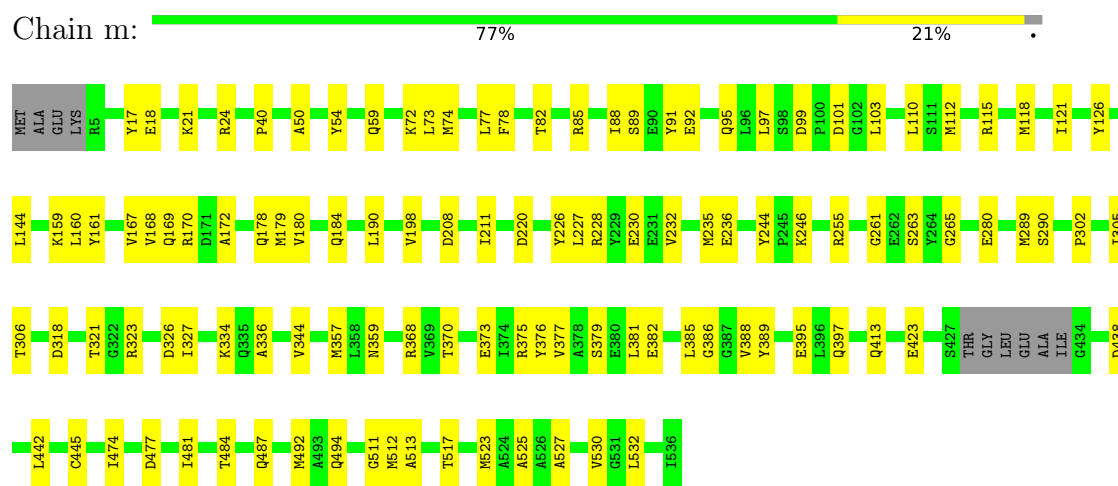


- Molecule 6: Portal protein

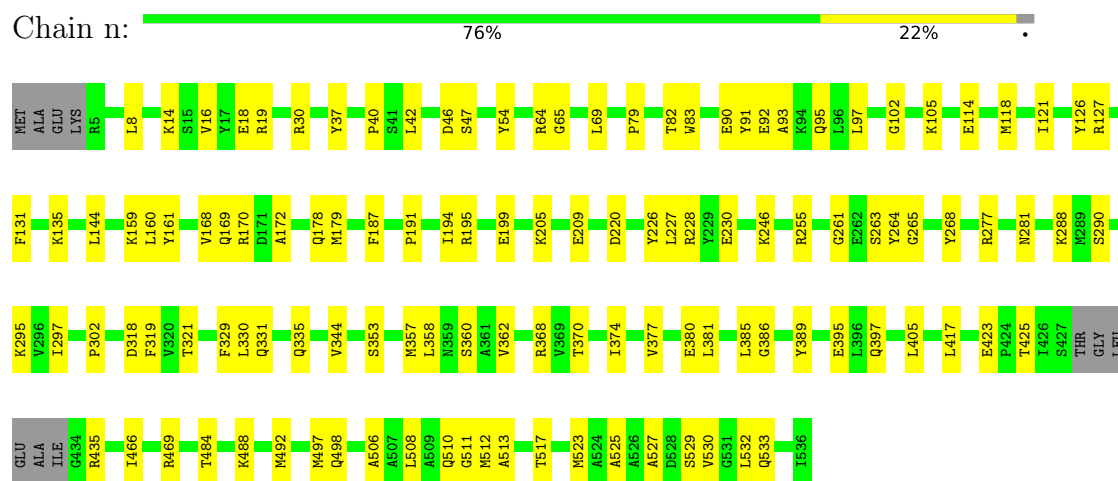




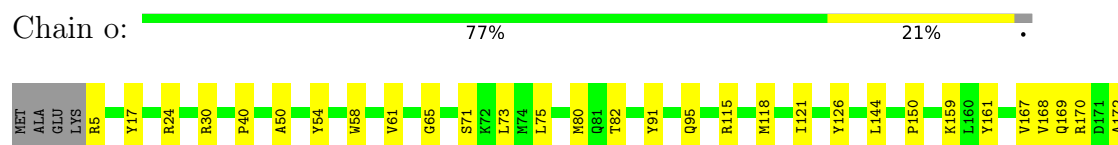
• Molecule 6: Portal protein

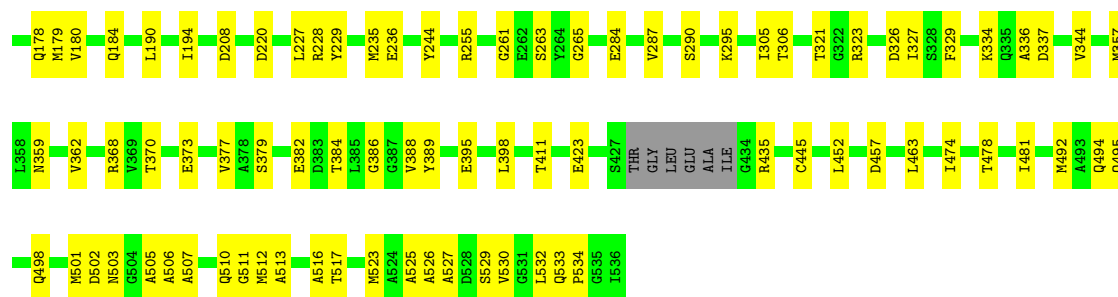


• Molecule 6: Portal protein



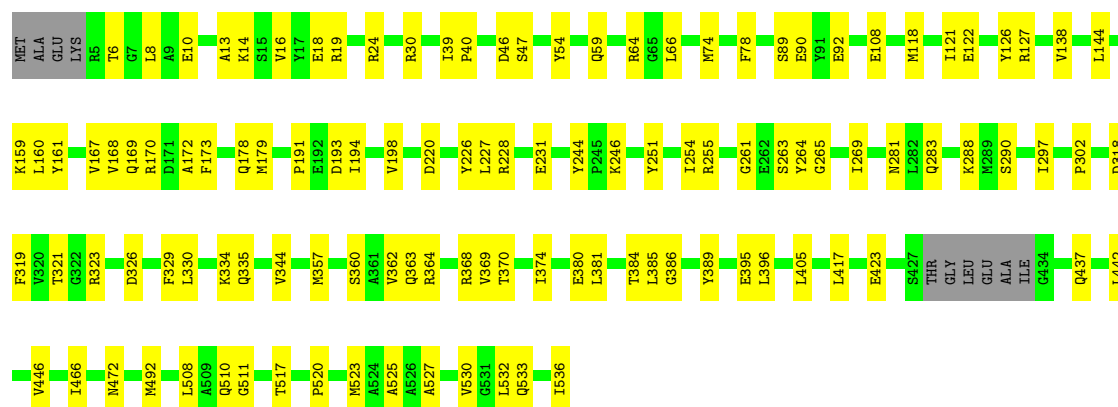
• Molecule 6: Portal protein





• Molecule 6: Portal protein

Chain p: 77% 21% .



• Molecule 6: Portal protein

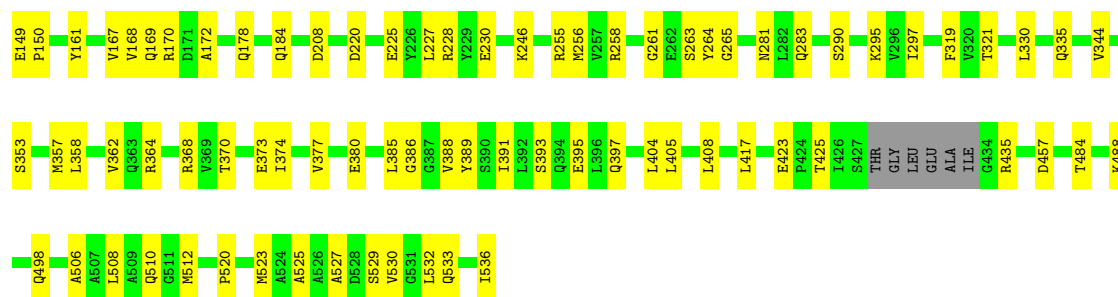
Chain q: 79% 19% .



• Molecule 6: Portal protein

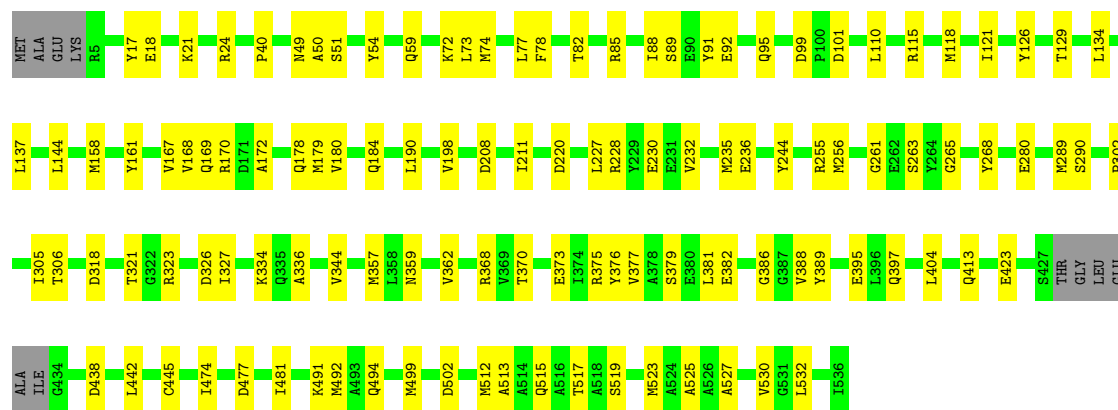
Chain r: 78% 20% .





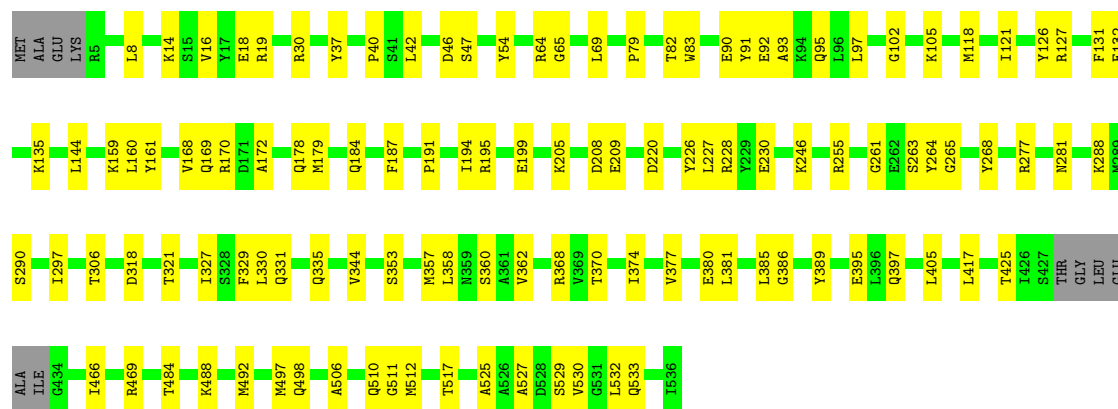
• Molecule 6: Portal protein

Chain s: 76% 22% .



• Molecule 6: Portal protein

Chain t: 77% 21% .



• Molecule 6: Portal protein

Chain u: 76% 22% .





## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	65620	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	35	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	4000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor



## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

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	0	0.61	0/112	1.38	2/149 (1.3%)
1	3	0.55	0/112	1.44	2/149 (1.3%)
1	4	0.60	0/112	1.40	3/149 (2.0%)
1	5	0.55	0/112	1.45	3/149 (2.0%)
1	6	0.63	0/112	1.40	4/149 (2.7%)
1	7	0.55	0/112	1.54	2/149 (1.3%)
1	8	0.58	0/112	1.41	5/149 (3.4%)
1	9	0.23	0/112	0.63	0/149
1	AA	0.53	0/112	1.47	4/149 (2.7%)
1	AB	0.63	0/112	1.39	4/149 (2.7%)
1	AC	0.52	0/112	1.50	4/149 (2.7%)
1	AD	0.58	0/112	1.32	3/149 (2.0%)
2	1	0.12	0/100	0.30	0/130
2	2	0.13	0/100	0.31	0/130
2	v	0.13	0/100	0.32	0/130
2	w	0.12	0/100	0.30	0/130
2	y	0.13	0/100	0.32	0/130
2	z	0.14	0/100	0.32	0/130
3	A	0.13	0/1130	0.30	0/1538
3	B	0.13	0/1130	0.28	0/1538
3	C	0.13	0/1130	0.28	0/1538
3	D	0.13	0/1130	0.30	0/1538
3	E	0.13	0/1130	0.30	0/1538
3	F	0.12	0/1082	0.30	0/1471
3	G	0.13	0/1082	0.31	0/1471
3	H	0.13	0/1082	0.30	0/1471
3	I	0.13	0/1082	0.32	0/1471
3	J	0.12	0/1082	0.29	0/1471
3	K	0.14	0/1095	0.38	0/1489
3	L	0.14	0/1095	0.38	0/1489
3	M	0.13	0/1095	0.37	0/1489
3	N	0.14	0/1095	0.37	0/1489
3	O	0.13	0/1095	0.38	0/1489
3	a	0.14	0/1130	0.30	0/1538

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
3	b	0.13	0/1082	0.32	0/1471
3	c	0.14	0/1095	0.37	0/1489
4	P	0.16	0/6473	0.31	0/8804
4	Q	0.15	0/6473	0.31	0/8804
4	R	0.15	0/6473	0.32	0/8804
4	S	0.16	0/6473	0.32	0/8804
4	T	0.15	0/6473	0.31	0/8804
4	x	0.15	0/6473	0.32	0/8804
5	U	0.16	0/1592	0.31	0/2153
5	V	0.17	0/1592	0.30	0/2153
5	W	0.15	0/1592	0.29	0/2153
5	X	0.15	0/1592	0.30	0/2153
5	Y	0.17	0/1592	0.32	0/2153
5	Z	0.17	0/1584	0.32	0/2143
5	d	0.16	0/1584	0.33	0/2143
5	e	0.16	0/1584	0.33	0/2143
5	f	0.16	0/1584	0.31	0/2143
5	g	0.16	0/1584	0.32	0/2143
5	h	0.15	0/1592	0.28	0/2153
5	i	0.16	0/1584	0.34	0/2143
6	j	0.14	0/4131	0.32	0/5590
6	k	0.14	0/4131	0.31	0/5590
6	l	0.14	0/4131	0.31	0/5590
6	m	0.15	0/4131	0.31	0/5590
6	n	0.15	0/4131	0.33	0/5590
6	o	0.14	0/4131	0.31	0/5590
6	p	0.14	0/4131	0.32	0/5590
6	q	0.14	0/4131	0.31	0/5590
6	r	0.14	0/4131	0.32	0/5590
6	s	0.15	0/4131	0.32	0/5590
6	t	0.15	0/4131	0.33	0/5590
6	u	0.16	0/4131	0.32	0/5590
All	All	0.16	0/129252	0.34	36/175236 (0.0%)

There are no bond length outliers.

All (36) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AC	14	THR	N-CA-C	8.22	120.25	111.28
1	7	14	THR	N-CA-C	7.26	119.19	111.28
1	AD	10	PRO	N-CA-C	7.16	123.71	113.47
1	4	5	PRO	N-CA-C	6.67	122.33	113.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	5	5	PRO	N-CA-C	6.64	122.75	113.53
1	0	5	PRO	N-CA-C	6.41	121.99	113.40
1	3	9	THR	N-CA-C	6.35	123.84	109.81
1	3	5	PRO	N-CA-C	6.34	121.89	113.40
1	AA	9	THR	N-CA-C	6.32	123.77	109.81
1	6	5	PRO	N-CA-C	6.31	121.85	113.40
1	AA	5	PRO	N-CA-C	6.22	122.17	113.53
1	5	9	THR	N-CA-C	6.09	123.27	109.81
1	AD	9	THR	N-CA-C	6.06	123.20	109.81
1	8	12	MET	N-CA-C	6.03	118.97	110.23
1	AB	9	THR	N-CA-C	6.02	123.11	109.81
1	6	9	THR	N-CA-C	5.99	123.05	109.81
1	AC	9	THR	N-CA-C	5.94	122.95	109.81
1	0	9	THR	N-CA-C	5.93	122.92	109.81
1	8	5	PRO	N-CA-C	5.86	121.68	113.53
1	AB	5	PRO	N-CA-C	5.86	121.67	113.53
1	AC	10	PRO	N-CA-C	5.86	121.67	113.53
1	5	10	PRO	N-CA-C	5.83	121.81	113.47
1	AC	12	MET	N-CA-C	5.78	118.64	110.50
1	4	9	THR	N-CA-C	5.70	122.40	109.81
1	7	9	THR	N-CA-C	5.60	122.20	109.81
1	6	10	PRO	N-CA-C	5.60	121.31	113.53
1	8	10	PRO	N-CA-C	5.58	121.29	113.53
1	4	10	PRO	N-CA-C	5.49	121.32	113.47
1	8	9	THR	N-CA-C	5.44	121.83	109.81
1	AB	12	MET	N-CA-C	5.43	118.11	110.23
1	AA	14	THR	N-CA-C	5.39	117.16	111.28
1	AD	12	MET	N-CA-C	5.36	117.64	110.35
1	8	6	LYS	N-CA-C	5.35	117.59	110.53
1	AB	10	PRO	N-CA-C	5.33	121.10	113.47
1	AA	12	MET	N-CA-C	5.14	117.75	110.50
1	6	12	MET	N-CA-C	5.03	117.52	110.23

There are no chirality outliers.

There are no planarity outliers.

## 5.2 Too-close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	110	0	115	13	0
1	3	110	0	115	11	0
1	4	110	0	115	17	0
1	5	110	0	115	10	0
1	6	110	0	115	11	0
1	7	110	0	115	12	0
1	8	110	0	115	11	0
1	9	110	0	115	13	0
1	AA	110	0	115	11	0
1	AB	110	0	115	12	0
1	AC	110	0	115	14	0
1	AD	110	0	115	11	0
2	1	101	0	109	5	0
2	2	101	0	109	5	0
2	v	101	0	109	4	0
2	w	101	0	109	5	0
2	y	101	0	109	6	0
2	z	101	0	109	5	0
3	A	1115	0	1122	26	0
3	B	1115	0	1122	21	0
3	C	1115	0	1122	21	0
3	D	1115	0	1122	25	0
3	E	1115	0	1122	25	0
3	F	1067	0	1071	20	0
3	G	1067	0	1071	21	0
3	H	1067	0	1071	18	0
3	I	1067	0	1071	23	0
3	J	1067	0	1071	19	0
3	K	1080	0	1082	24	0
3	L	1080	0	1082	24	0
3	M	1080	0	1082	26	0
3	N	1080	0	1082	23	0
3	O	1080	0	1082	19	0
3	a	1115	0	1122	22	0
3	b	1067	0	1071	22	0
3	c	1080	0	1082	19	0
4	P	6313	0	6075	114	0
4	Q	6313	0	6075	122	0
4	R	6313	0	6075	111	0
4	S	6313	0	6075	108	0
4	T	6313	0	6075	110	0
4	x	6313	0	6075	119	0
5	U	1565	0	1485	26	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	V	1565	0	1485	28	0
5	W	1565	0	1485	26	0
5	X	1565	0	1485	25	0
5	Y	1565	0	1485	22	0
5	Z	1557	0	1473	33	0
5	d	1557	0	1473	28	0
5	e	1557	0	1473	29	0
5	f	1557	0	1473	31	0
5	g	1557	0	1473	31	0
5	h	1565	0	1485	25	0
5	i	1557	0	1473	30	0
6	j	4070	0	4060	80	0
6	k	4070	0	4060	76	0
6	l	4070	0	4060	84	0
6	m	4070	0	4060	85	0
6	n	4070	0	4060	95	0
6	o	4070	0	4060	83	0
6	p	4070	0	4060	84	0
6	q	4070	0	4060	73	0
6	r	4070	0	4060	81	0
6	s	4070	0	4060	89	0
6	t	4070	0	4060	91	0
6	u	4070	0	4060	87	0
All	All	126948	0	124602	2088	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 8.

All (2088) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:7:ILE:HA	6:n:530:VAL:HG21	1.39	1.01
1:4:7:ILE:HA	6:t:530:VAL:HG21	1.45	0.99
1:6:7:ILE:HA	6:r:530:VAL:HG21	1.46	0.97
1:AB:7:ILE:HA	6:l:530:VAL:HG21	1.49	0.93
1:AD:7:ILE:HA	6:j:530:VAL:HG21	1.51	0.90
1:5:5:PRO:HB2	6:s:512:MET:HE3	1.55	0.89
1:4:5:PRO:HG3	6:s:523:MET:HE1	1.52	0.88
1:AA:12:MET:HB2	6:m:532:LEU:HD12	1.55	0.88
1:AC:12:MET:HB2	6:k:532:LEU:HD12	1.56	0.88
1:AA:5:PRO:HB2	6:m:512:MET:HE3	1.57	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:8:7:ILE:HA	6:p:530:VAL:HG21	1.57	0.85
1:7:12:MET:HB2	6:q:532:LEU:HD12	1.57	0.84
5:f:173:GLU:HA	6:k:321:THR:HG21	1.61	0.82
6:j:82:THR:HA	6:j:118:MET:HE2	1.60	0.81
5:g:173:GLU:HA	6:u:321:THR:HG21	1.62	0.80
5:Z:173:GLU:HA	6:q:321:THR:HG21	1.63	0.80
4:x:504:CYS:HG	4:x:513:SER:HG	1.26	0.80
4:R:120:THR:HG23	4:R:125:THR:HG22	1.63	0.79
4:R:456:ARG:HH12	4:R:533:GLU:HG3	1.47	0.79
5:d:173:GLU:HA	6:o:321:THR:HG21	1.63	0.79
4:x:456:ARG:HH12	4:x:533:GLU:HG3	1.47	0.79
3:L:14:ASP:HA	3:L:66:PRO:HD2	1.65	0.78
4:S:645:GLN:HE21	4:S:649:GLY:HA2	1.47	0.78
6:l:357:MET:HE1	6:l:385:LEU:HD12	1.65	0.78
4:x:120:THR:HG23	4:x:125:THR:HG22	1.65	0.78
1:3:5:PRO:HB2	6:u:512:MET:HE3	1.66	0.77
1:AA:11:LYS:HD3	6:n:529:SER:HB3	1.65	0.77
6:n:357:MET:HE1	6:n:385:LEU:HD12	1.66	0.77
4:T:456:ARG:HH12	4:T:533:GLU:HG3	1.49	0.77
3:L:22:ILE:HG22	3:L:75:LEU:HD13	1.66	0.77
4:S:25:PRO:HG3	2:y:91:ARG:HH12	1.50	0.77
1:9:8:LYS:HE3	6:p:508:LEU:HD11	1.67	0.77
3:K:50:TYR:HB3	3:K:60:LEU:HD12	1.67	0.77
6:r:357:MET:HE1	6:r:385:LEU:HD12	1.65	0.77
3:O:50:TYR:HB3	3:O:60:LEU:HD12	1.67	0.77
3:C:8:VAL:HG22	3:C:76:ARG:HG3	1.67	0.76
3:O:14:ASP:HA	3:O:66:PRO:HD2	1.68	0.76
6:t:357:MET:HE1	6:t:385:LEU:HD12	1.66	0.76
3:M:14:ASP:HA	3:M:66:PRO:HD2	1.67	0.76
6:p:362:VAL:HB	6:p:374:ILE:HD12	1.67	0.76
2:2:91:ARG:HH12	4:P:25:PRO:HG3	1.50	0.76
4:S:456:ARG:HH12	4:S:533:GLU:HG3	1.51	0.76
4:Q:456:ARG:HH12	4:Q:533:GLU:HG3	1.50	0.75
5:Y:173:GLU:HA	6:t:321:THR:HG21	1.66	0.75
6:u:478:THR:HA	6:u:481:ILE:HD12	1.69	0.75
6:u:82:THR:HA	6:u:118:MET:HE2	1.67	0.75
6:j:362:VAL:HB	6:j:374:ILE:HD12	1.68	0.75
3:a:8:VAL:HG22	3:a:76:ARG:HG3	1.69	0.75
3:K:14:ASP:HA	3:K:66:PRO:HD2	1.67	0.74
1:0:5:PRO:HD3	6:m:523:MET:HE1	1.69	0.74
1:4:5:PRO:HB2	6:t:512:MET:HE3	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:Q:662:LEU:HD22	4:Q:665:ARG:HE	1.52	0.74
3:B:8:VAL:HG22	3:B:76:ARG:HG3	1.67	0.74
3:M:50:TYR:HB3	3:M:60:LEU:HD12	1.69	0.74
3:D:8:VAL:HG22	3:D:76:ARG:HG3	1.69	0.74
3:N:50:TYR:HB3	3:N:60:LEU:HD12	1.69	0.74
4:T:283:ARG:HE	4:T:294:THR:HG21	1.52	0.74
4:T:147:ASN:HB3	4:T:150:GLN:HB2	1.69	0.74
1:O:11:LYS:HD2	6:o:529:SER:HB3	1.71	0.73
4:P:504:CYS:SG	4:P:513:SER:OG	2.45	0.73
6:o:478:THR:HA	6:o:481:ILE:HD12	1.69	0.73
6:p:78:PHE:O	6:p:127:ARG:NH2	2.21	0.73
5:V:173:GLU:HA	6:n:321:THR:HG21	1.69	0.73
3:c:50:TYR:HB3	3:c:60:LEU:HD12	1.69	0.73
3:E:8:VAL:HG22	3:E:76:ARG:HG3	1.70	0.73
4:T:662:LEU:HD22	4:T:665:ARG:HE	1.52	0.73
3:A:8:VAL:HG22	3:A:76:ARG:HG3	1.69	0.73
4:P:456:ARG:HH12	4:P:533:GLU:HG3	1.53	0.73
4:Q:71:ARG:NH1	4:Q:121:VAL:O	2.21	0.73
6:j:78:PHE:O	6:j:127:ARG:NH2	2.22	0.73
4:S:283:ARG:HE	4:S:294:THR:HG21	1.54	0.73
2:v:91:ARG:HH12	4:x:25:PRO:HG3	1.53	0.73
4:Q:12:LYS:NZ	4:Q:536:ARG:O	2.20	0.72
4:Q:283:ARG:HE	4:Q:294:THR:HG21	1.52	0.72
3:N:14:ASP:HA	3:N:66:PRO:HD2	1.71	0.72
3:c:14:ASP:HA	3:c:66:PRO:HD2	1.72	0.72
1:6:5:PRO:O	1:7:11:LYS:HG2	1.88	0.72
5:V:149:ARG:HG2	5:d:23:SER:HA	1.71	0.72
6:o:82:THR:HA	6:o:118:MET:HE2	1.70	0.72
1:3:11:LYS:HD3	6:j:529:SER:HB3	1.70	0.72
4:R:147:ASN:HB3	4:R:150:GLN:HB2	1.69	0.72
5:Y:149:ARG:HG2	5:g:23:SER:HA	1.71	0.72
4:x:413:LEU:HD23	4:x:424:LEU:HD23	1.72	0.72
4:R:25:PRO:HG3	2:z:91:ARG:HH12	1.53	0.72
3:H:8:VAL:HG22	3:H:76:ARG:HG3	1.69	0.72
3:I:124:ASN:HD22	3:I:128:HIS:HB2	1.55	0.72
6:l:82:THR:HA	6:l:118:MET:HE2	1.70	0.72
4:x:12:LYS:NZ	4:x:536:ARG:O	2.22	0.72
3:G:8:VAL:HG22	3:G:76:ARG:HG3	1.71	0.72
4:T:25:PRO:HG3	2:w:91:ARG:HH12	1.55	0.72
3:L:50:TYR:HB3	3:L:60:LEU:HD12	1.70	0.71
6:q:50:ALA:O	6:r:30:ARG:NH2	2.21	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:r:82:THR:HA	6:r:118:MET:HE2	1.70	0.71
6:s:82:THR:HA	6:s:118:MET:HE2	1.72	0.71
4:x:147:ASN:HB3	4:x:150:GLN:HB2	1.70	0.71
3:M:22:ILE:HG22	3:M:75:LEU:HD13	1.71	0.71
4:P:147:ASN:HB3	4:P:150:GLN:HB2	1.73	0.71
4:Q:147:ASN:HB3	4:Q:150:GLN:HB2	1.72	0.71
4:S:71:ARG:NH1	4:S:121:VAL:O	2.23	0.71
3:b:124:ASN:HD22	3:b:128:HIS:HB2	1.55	0.71
1:AA:10:PRO:HD2	6:n:512:MET:HE1	1.72	0.71
4:S:504:CYS:HG	4:S:513:SER:HG	1.34	0.71
4:P:504:CYS:HG	4:P:513:SER:HG	1.35	0.70
4:S:504:CYS:SG	4:S:513:SER:OG	2.45	0.70
4:Q:527:LYS:HB3	4:Q:539:SER:HB3	1.74	0.70
3:C:117:THR:HG23	3:H:116:LEU:HD23	1.74	0.70
6:j:30:ARG:NH2	6:u:50:ALA:O	2.22	0.70
6:m:82:THR:HA	6:m:118:MET:HE2	1.72	0.70
5:U:173:GLU:HA	6:p:321:THR:HG21	1.74	0.70
5:V:182:ASN:ND2	6:n:318:ASP:OD1	2.24	0.70
5:X:2:ARG:NH1	5:X:83:ASP:OD2	2.25	0.70
6:k:50:ALA:O	6:l:30:ARG:NH2	2.21	0.70
4:S:147:ASN:HB3	4:S:150:GLN:HB2	1.73	0.69
6:o:50:ALA:O	6:p:30:ARG:NH2	2.21	0.69
5:f:59:TRP:HE3	5:f:175:GLU:HG3	1.57	0.69
4:P:71:ARG:NH1	4:P:121:VAL:O	2.24	0.69
4:R:12:LYS:NZ	4:R:536:ARG:O	2.22	0.69
1:AC:10:PRO:HD2	6:l:512:MET:HE1	1.75	0.69
3:a:107:MET:HG3	3:b:81:THR:HG23	1.74	0.69
6:k:170:ARG:HB3	6:k:263:SER:HA	1.74	0.69
1:AD:11:LYS:HD3	6:k:529:SER:HB3	1.74	0.69
3:E:107:MET:HE1	3:J:105:GLN:HG2	1.75	0.69
5:e:182:ASN:ND2	6:m:318:ASP:OD1	2.26	0.69
2:1:91:ARG:HH12	4:Q:25:PRO:HG3	1.58	0.69
5:U:2:ARG:NH1	5:U:83:ASP:OD2	2.25	0.69
4:R:413:LEU:HD23	4:R:424:LEU:HD23	1.75	0.69
3:H:36:LEU:HG	3:H:44:LEU:HD11	1.74	0.68
6:k:228:ARG:HH12	6:k:230:GLU:HG3	1.58	0.68
6:s:170:ARG:HB3	6:s:263:SER:HA	1.75	0.68
4:R:167:VAL:HG23	4:R:235:THR:HG22	1.75	0.68
5:i:182:ASN:ND2	6:s:318:ASP:OD1	2.26	0.68
3:C:22:ILE:HD11	3:C:58:ILE:HG13	1.75	0.68
6:m:170:ARG:HB3	6:m:263:SER:HA	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:k:132:GLU:OE2	6:l:258:ARG:NH2	2.26	0.68
6:t:335:GLN:HE22	6:u:336:ALA:HB1	1.59	0.68
6:q:172:ALA:HA	6:q:261:GLY:HA2	1.75	0.68
3:B:117:THR:HG23	3:G:116:LEU:HD23	1.75	0.68
3:K:71:THR:HG23	3:K:72:THR:H	1.59	0.68
3:K:124:ASN:HD22	3:K:130:ASP:HB2	1.58	0.68
6:l:362:VAL:HB	6:l:374:ILE:HD12	1.76	0.68
6:q:170:ARG:HB3	6:q:263:SER:HA	1.74	0.68
3:N:71:THR:HG23	3:N:72:THR:H	1.59	0.68
4:T:527:LYS:HB3	4:T:539:SER:HB3	1.74	0.68
5:X:173:GLU:HA	6:j:321:THR:HG21	1.75	0.68
5:Y:182:ASN:ND2	6:t:318:ASP:OD1	2.25	0.68
1:AC:11:LYS:HD3	6:l:529:SER:HB3	1.75	0.68
3:D:107:MET:HG3	3:I:81:THR:HG23	1.74	0.68
3:J:22:ILE:HD11	3:J:58:ILE:HG13	1.76	0.68
5:f:39:ASP:OD1	4:x:705:ARG:NH2	2.24	0.68
2:1:87:LEU:HD11	4:S:794:ILE:HD12	1.76	0.67
5:h:173:GLU:HA	6:r:321:THR:HG21	1.76	0.67
6:q:132:GLU:OE1	6:r:258:ARG:NH2	2.26	0.67
3:c:71:THR:HG23	3:c:72:THR:H	1.59	0.67
6:j:357:MET:HE1	6:j:385:LEU:HD12	1.75	0.67
6:l:40:PRO:HB2	6:l:54:TYR:HB3	1.76	0.67
6:r:362:VAL:HB	6:r:374:ILE:HD12	1.76	0.67
4:T:71:ARG:NH1	4:T:121:VAL:O	2.26	0.67
6:r:40:PRO:HB2	6:r:54:TYR:HB3	1.76	0.67
5:i:173:GLU:HA	6:s:321:THR:HG21	1.76	0.67
1:4:11:LYS:HG3	6:u:530:VAL:HG22	1.76	0.67
5:W:173:GLU:HA	6:l:321:THR:HG21	1.75	0.67
6:k:172:ALA:HA	6:k:261:GLY:HA2	1.75	0.67
3:F:22:ILE:HD11	3:F:58:ILE:HG13	1.77	0.67
3:I:130:ASP:OD1	3:N:138:ASN:ND2	2.28	0.67
4:T:464:ARG:O	4:T:498:ASN:ND2	2.24	0.67
4:S:167:VAL:HG23	4:S:235:THR:HG22	1.76	0.67
4:S:705:ARG:NH2	5:d:39:ASP:OD2	2.24	0.67
5:X:149:ARG:HG2	5:f:23:SER:HA	1.76	0.67
5:e:176:MET:HG3	6:m:321:THR:HG23	1.76	0.67
4:T:167:VAL:HG23	4:T:235:THR:HG22	1.78	0.67
5:U:182:ASN:ND2	6:p:318:ASP:OD1	2.27	0.67
5:W:149:ARG:HG2	5:e:23:SER:HA	1.76	0.67
3:b:130:ASP:OD2	3:c:138:ASN:ND2	2.28	0.67
1:0:8:LYS:HB3	1:0:12:MET:HG3	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:107:MET:HE1	3:F:105:GLN:HG2	1.75	0.66
5:Z:45:ARG:NH2	5:h:19:ASP:OD1	2.28	0.66
3:B:22:ILE:HD11	3:B:58:ILE:HG13	1.75	0.66
3:G:36:LEU:HG	3:G:44:LEU:HD11	1.76	0.66
3:J:45:THR:HB	3:J:48:THR:HG22	1.77	0.66
3:J:130:ASP:OD1	3:O:138:ASN:ND2	2.29	0.66
4:x:608:ASN:ND2	4:x:610:ASP:OD1	2.28	0.66
3:D:22:ILE:HD11	3:D:58:ILE:HG13	1.77	0.66
6:n:335:GLN:HE22	6:o:336:ALA:HB1	1.59	0.66
4:P:167:VAL:HG23	4:P:235:THR:HG22	1.76	0.66
6:o:481:ILE:HG23	6:p:466:ILE:HD11	1.77	0.66
1:5:11:LYS:HD3	6:t:529:SER:HB3	1.78	0.66
5:h:149:ARG:HG2	5:i:23:SER:HA	1.77	0.66
3:F:45:THR:HB	3:F:48:THR:HG22	1.77	0.66
6:j:466:ILE:HD11	6:u:481:ILE:HG23	1.77	0.66
3:a:22:ILE:HD11	3:a:58:ILE:HG13	1.77	0.66
3:G:13:LEU:HD11	3:G:36:LEU:HD22	1.76	0.65
4:P:38:GLU:OE2	4:P:527:LYS:NZ	2.28	0.65
5:U:149:ARG:HG2	5:Z:23:SER:HA	1.77	0.65
6:o:172:ALA:HA	6:o:261:GLY:HA2	1.77	0.65
4:Q:464:ARG:O	4:Q:498:ASN:ND2	2.24	0.65
5:W:19:ASP:OD1	5:f:45:ARG:NH2	2.29	0.65
5:X:182:ASN:ND2	6:j:318:ASP:OD1	2.26	0.65
4:P:477:GLN:NE2	4:Q:478:ASP:OD2	2.29	0.65
6:n:170:ARG:HB3	6:n:263:SER:HA	1.78	0.65
6:r:170:ARG:HB3	6:r:263:SER:HA	1.79	0.65
1:AB:5:PRO:O	1:AC:11:LYS:HG2	1.96	0.65
4:S:527:LYS:HB3	4:S:539:SER:HB3	1.78	0.65
4:T:165:LEU:HD11	4:T:196:LEU:HD13	1.79	0.65
6:n:362:VAL:HB	6:n:374:ILE:HD12	1.79	0.65
6:s:499:MET:HA	6:s:502:ASP:HB2	1.79	0.65
6:t:40:PRO:HB2	6:t:54:TYR:HB3	1.79	0.65
6:u:170:ARG:HB3	6:u:263:SER:HA	1.78	0.65
4:P:527:LYS:HB3	4:P:539:SER:HB3	1.78	0.65
3:K:8:VAL:HG22	3:K:76:ARG:HG3	1.79	0.65
6:l:170:ARG:HB3	6:l:263:SER:HA	1.79	0.65
6:m:494:GLN:NE2	6:n:492:MET:SD	2.70	0.65
6:n:40:PRO:HB2	6:n:54:TYR:HB3	1.79	0.65
5:e:173:GLU:HA	6:m:321:THR:HG21	1.79	0.64
6:o:494:GLN:NE2	6:p:492:MET:SD	2.70	0.64
6:p:357:MET:HE1	6:p:385:LEU:HD12	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:t:362:VAL:HB	6:t:374:ILE:HD12	1.78	0.64
3:F:130:ASP:OD1	3:K:138:ASN:ND2	2.30	0.64
3:N:22:ILE:HD11	3:N:58:ILE:HG13	1.79	0.64
3:c:37:ILE:HD11	3:c:74:GLU:HB2	1.80	0.64
6:s:88:ILE:HG12	6:s:110:LEU:HD11	1.78	0.64
6:u:172:ALA:HA	6:u:261:GLY:HA2	1.78	0.64
4:Q:739:ASN:OD1	4:Q:742:ARG:NH2	2.30	0.64
4:S:446:GLN:HB2	4:S:463:PRO:HD3	1.78	0.64
4:T:722:ASN:OD1	4:T:725:SER:N	2.28	0.64
4:T:739:ASN:OD1	4:T:742:ARG:NH2	2.30	0.64
3:a:130:ASP:OD1	3:b:138:ASN:ND2	2.30	0.64
6:m:88:ILE:HG12	6:m:110:LEU:HD11	1.78	0.64
1:9:4:SER:HB2	6:o:526:ALA:HB2	1.78	0.64
6:p:335:GLN:HE22	6:q:336:ALA:HB1	1.63	0.64
4:S:477:GLN:NE2	4:T:478:ASP:OD2	2.30	0.64
4:x:167:VAL:HG23	4:x:235:THR:HG22	1.79	0.64
3:F:8:VAL:HG22	3:F:76:ARG:HG3	1.80	0.64
4:R:446:GLN:HB2	4:R:463:PRO:HD3	1.80	0.64
6:r:121:ILE:HG23	6:r:126:TYR:HB2	1.80	0.64
6:t:170:ARG:HB3	6:t:263:SER:HA	1.78	0.64
1:0:15:ASN:HB2	6:n:533:GLN:HB2	1.80	0.64
4:P:794:ILE:HD12	2:w:87:LEU:HD11	1.78	0.64
4:S:12:LYS:NZ	4:S:536:ARG:O	2.27	0.64
6:s:72:LYS:HZ3	6:s:357:MET:HE2	1.63	0.64
4:S:38:GLU:OE2	4:S:527:LYS:NZ	2.28	0.64
6:r:520:PRO:HD3	6:s:515:GLN:HE21	1.63	0.64
4:x:423:VAL:HG12	4:x:425:THR:HG23	1.80	0.64
1:8:10:PRO:HD2	6:q:512:MET:HE1	1.79	0.64
1:AD:3:PHE:HA	6:j:525:ALA:HB1	1.80	0.64
3:L:36:LEU:HB3	3:L:70:TYR:HB3	1.80	0.64
6:n:517:THR:HG21	6:o:511:GLY:HA3	1.79	0.64
3:E:22:ILE:HD11	3:E:58:ILE:HG13	1.80	0.63
3:O:8:VAL:HG22	3:O:76:ARG:HG3	1.80	0.63
4:R:705:ARG:NH2	5:Z:39:ASP:OD2	2.24	0.63
6:o:170:ARG:HB3	6:o:263:SER:HA	1.79	0.63
3:H:13:LEU:HD11	3:H:36:LEU:HD22	1.79	0.63
4:P:446:GLN:HB2	4:P:463:PRO:HD3	1.78	0.63
4:Q:167:VAL:HG23	4:Q:235:THR:HG22	1.80	0.63
6:q:40:PRO:HB2	6:q:54:TYR:HB3	1.80	0.63
4:Q:165:LEU:HD11	4:Q:196:LEU:HD13	1.79	0.63
6:m:18:GLU:HA	6:m:21:LYS:HD3	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AC:5:PRO:HA	1:AD:11:LYS:HG2	1.80	0.63
4:Q:446:GLN:HB2	4:Q:463:PRO:HD3	1.81	0.63
3:c:22:ILE:HD11	3:c:58:ILE:HG13	1.80	0.63
3:c:36:LEU:HB3	3:c:70:TYR:HB3	1.80	0.63
4:x:446:GLN:HB2	4:x:463:PRO:HD3	1.79	0.63
3:J:8:VAL:HG22	3:J:76:ARG:HG3	1.80	0.63
4:Q:477:GLN:HG2	4:R:478:ASP:HB2	1.79	0.63
4:P:166:ILE:HG12	4:P:176:LYS:HG3	1.80	0.63
6:m:50:ALA:O	6:n:30:ARG:NH2	2.22	0.63
1:4:15:ASN:HB2	6:t:533:GLN:HB2	1.80	0.63
3:M:36:LEU:HB3	3:M:70:TYR:HB3	1.80	0.63
4:P:628:ARG:HG3	4:P:645:GLN:HE22	1.64	0.63
4:S:423:VAL:HG12	4:S:425:THR:HG23	1.81	0.63
6:j:335:GLN:HE22	6:k:336:ALA:HB1	1.63	0.63
3:L:37:ILE:HD11	3:L:74:GLU:HB2	1.79	0.62
6:m:172:ALA:HA	6:m:261:GLY:HA2	1.80	0.62
3:D:130:ASP:OD1	3:I:138:ASN:ND2	2.30	0.62
6:s:494:GLN:NE2	6:t:492:MET:SD	2.71	0.62
4:x:464:ARG:O	4:x:498:ASN:ND2	2.29	0.62
1:0:5:PRO:HB2	6:n:512:MET:HE3	1.81	0.62
3:N:37:ILE:HD11	3:N:74:GLU:HB2	1.82	0.62
4:P:478:ASP:HB2	4:x:477:GLN:HG2	1.81	0.62
5:f:182:ASN:ND2	6:k:318:ASP:OD2	2.26	0.62
5:g:59:TRP:HE3	5:g:175:GLU:HG3	1.63	0.62
6:t:121:ILE:HG23	6:t:126:TYR:HB2	1.82	0.62
1:7:11:LYS:HE3	1:7:12:MET:HG2	1.82	0.62
4:Q:154:ILE:HB	4:Q:220:ILE:HB	1.82	0.62
4:Q:700:ARG:NH2	5:Y:26:GLU:OE2	2.33	0.62
4:T:38:GLU:HG2	4:T:529:LEU:HD13	1.80	0.62
6:u:121:ILE:HG23	6:u:126:TYR:HB2	1.81	0.62
3:A:95:ARG:NH1	5:V:34:GLY:O	2.33	0.62
1:AD:12:MET:HB2	6:j:532:LEU:HD12	1.80	0.62
3:H:130:ASP:OD1	3:M:138:ASN:ND2	2.33	0.62
6:n:121:ILE:HG23	6:n:126:TYR:HB2	1.81	0.62
4:P:423:VAL:HG12	4:P:425:THR:HG23	1.81	0.62
3:a:111:GLU:HB2	3:b:81:THR:HG21	1.81	0.62
6:o:121:ILE:HG23	6:o:126:TYR:HB2	1.82	0.62
6:l:121:ILE:HG23	6:l:126:TYR:HB2	1.81	0.62
6:s:172:ALA:HA	6:s:261:GLY:HA2	1.82	0.62
3:G:130:ASP:OD1	3:L:138:ASN:ND2	2.33	0.61
5:U:2:ARG:HE	3:a:55:ARG:NH2	1.98	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:22:ILE:HD11	3:A:58:ILE:HG13	1.80	0.61
3:D:111:GLU:HB2	3:I:81:THR:HG21	1.83	0.61
3:N:36:LEU:HB3	3:N:70:TYR:HB3	1.81	0.61
4:T:446:GLN:HB2	4:T:463:PRO:HD3	1.81	0.61
3:a:117:THR:HA	3:a:120:THR:HG22	1.82	0.61
1:0:13:ASP:HB3	6:n:533:GLN:HB3	1.82	0.61
5:i:52:ARG:NH2	5:i:82:ASP:O	2.32	0.61
1:6:13:ASP:HB2	6:r:536:ILE:HG22	1.82	0.61
4:R:423:VAL:HG12	4:R:425:THR:HG23	1.82	0.61
4:S:166:ILE:HG12	4:S:176:LYS:HG3	1.81	0.61
5:d:17:VAL:HG11	5:d:32:LEU:HD21	1.82	0.61
3:M:37:ILE:HD11	3:M:74:GLU:HB2	1.81	0.61
6:r:335:GLN:HE22	6:s:336:ALA:HB1	1.65	0.61
1:5:10:PRO:HD2	6:t:512:MET:HE1	1.83	0.61
1:AD:10:PRO:HD2	6:k:512:MET:HE1	1.82	0.61
6:k:184:GLN:HB2	6:l:172:ALA:HB3	1.83	0.61
6:m:228:ARG:HH12	6:m:230:GLU:HG3	1.65	0.61
6:s:121:ILE:HG23	6:s:126:TYR:HB2	1.83	0.61
6:t:65:GLY:HA2	6:t:358:LEU:HD21	1.82	0.61
4:Q:38:GLU:HG2	4:Q:529:LEU:HD13	1.82	0.61
4:R:722:ASN:OD1	4:R:725:SER:N	2.31	0.61
6:o:517:THR:HG21	6:p:511:GLY:HA3	1.83	0.61
1:0:11:LYS:HG3	6:o:530:VAL:HG22	1.83	0.60
3:D:55:ARG:NH2	5:X:2:ARG:HE	1.98	0.60
4:T:302:GLN:HG2	4:T:329:PRO:HB3	1.83	0.60
6:j:90:GLU:OE2	6:u:115:ARG:NH1	2.35	0.60
6:p:121:ILE:HG23	6:p:126:TYR:HB2	1.84	0.60
5:f:49:LYS:NZ	5:f:145:GLN:OE1	2.35	0.60
6:m:517:THR:HG21	6:n:511:GLY:HA3	1.84	0.60
4:Q:302:GLN:HG2	4:Q:329:PRO:HB3	1.84	0.60
4:R:739:ASN:OD1	4:R:742:ARG:NH2	2.35	0.60
6:s:50:ALA:O	6:t:30:ARG:NH2	2.22	0.60
1:AC:3:PHE:HA	6:k:525:ALA:HB1	1.83	0.60
4:Q:713:SER:HB3	4:Q:777:ASN:H	1.67	0.60
5:Z:49:LYS:NZ	5:Z:145:GLN:OE1	2.34	0.60
5:g:17:VAL:HG11	5:g:32:LEU:HD21	1.82	0.60
6:k:40:PRO:HB2	6:k:54:TYR:HB3	1.82	0.60
6:t:397:GLN:HB3	6:t:425:THR:HG21	1.83	0.60
4:R:174:VAL:O	4:R:207:ASN:ND2	2.35	0.60
4:S:634:LEU:HB3	4:S:668:TYR:HB2	1.84	0.60
6:n:220:ASP:HB2	6:n:227:LEU:HG	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:x:527:LYS:HB3	4:x:539:SER:HB3	1.84	0.60
4:Q:409:PHE:HB3	4:Q:414:LEU:HD13	1.84	0.59
6:q:184:GLN:HB2	6:r:172:ALA:HB3	1.83	0.59
4:x:174:VAL:O	4:x:207:ASN:ND2	2.35	0.59
4:T:713:SER:HB3	4:T:777:ASN:H	1.67	0.59
5:e:17:VAL:HG11	5:e:32:LEU:HD21	1.83	0.59
5:i:128:ASP:O	5:i:135:ARG:NH2	2.28	0.59
6:p:193:ASP:OD1	6:p:194:ILE:N	2.36	0.59
6:u:168:VAL:HG22	6:u:179:MET:HG2	1.84	0.59
6:u:527:ALA:O	6:u:532:LEU:N	2.34	0.59
3:M:8:VAL:HG22	3:M:76:ARG:HG3	1.84	0.59
4:P:157:ARG:NH2	4:P:245:ASN:OD1	2.31	0.59
5:i:17:VAL:HG11	5:i:32:LEU:HD21	1.84	0.59
6:m:121:ILE:HG23	6:m:126:TYR:HB2	1.83	0.59
6:s:256:MET:HE2	6:s:268:TYR:HB2	1.83	0.59
6:t:220:ASP:HB2	6:t:227:LEU:HG	1.83	0.59
6:u:486:GLU:OE2	6:u:490:GLN:NE2	2.35	0.59
1:3:12:MET:HB2	6:u:532:LEU:HD12	1.84	0.59
5:f:52:ARG:NH2	5:f:82:ASP:O	2.31	0.59
4:P:136:LYS:HA	4:P:303:VAL:HA	1.85	0.59
6:j:121:ILE:HG23	6:j:126:TYR:HB2	1.84	0.59
6:j:172:ALA:HB3	6:u:184:GLN:HB2	1.85	0.59
1:7:5:PRO:HA	1:8:11:LYS:HG2	1.85	0.59
1:AA:7:ILE:HA	6:m:530:VAL:HG21	1.83	0.59
4:R:76:GLN:HB3	4:R:91:LEU:HG	1.84	0.59
3:K:36:LEU:HB3	3:K:70:TYR:HB3	1.85	0.59
3:b:8:VAL:HG22	3:b:76:ARG:HG3	1.85	0.59
3:L:8:VAL:HG22	3:L:76:ARG:HG3	1.84	0.58
4:R:527:LYS:HB3	4:R:539:SER:HB3	1.84	0.58
5:d:182:ASN:ND2	5:d:185:ASP:OD1	2.36	0.58
6:o:168:VAL:HG22	6:o:179:MET:HG2	1.85	0.58
4:Q:237:ASP:HB3	4:Q:244:ILE:HG12	1.85	0.58
4:S:314:ARG:HE	4:S:318:GLY:HA2	1.68	0.58
6:l:79:PRO:O	6:l:127:ARG:NH2	2.35	0.58
5:Z:52:ARG:NH2	5:Z:82:ASP:O	2.31	0.58
6:p:40:PRO:HB2	6:p:54:TYR:HB3	1.86	0.58
4:x:76:GLN:HB3	4:x:91:LEU:HG	1.84	0.58
4:P:705:ARG:NH2	5:g:39:ASP:OD2	2.26	0.58
4:R:608:ASN:ND2	4:R:610:ASP:OD1	2.36	0.58
4:S:136:LYS:HA	4:S:303:VAL:HA	1.84	0.58
6:n:168:VAL:HG23	6:n:179:MET:HB3	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:x:109:THR:OG1	4:x:115:ASP:OD2	2.21	0.58
4:x:794:ILE:HD11	2:y:87:LEU:HD21	1.84	0.58
3:I:8:VAL:HG22	3:I:76:ARG:HG3	1.85	0.58
4:Q:38:GLU:OE2	4:Q:527:LYS:NZ	2.37	0.58
4:Q:71:ARG:HB2	4:Q:75:GLU:HB2	1.85	0.58
4:Q:153:LEU:HB2	4:Q:247:VAL:HB	1.86	0.58
6:r:117:ILE:HD13	6:r:408:LEU:HD12	1.86	0.58
4:Q:645:GLN:HG2	4:Q:646:PRO:O	2.04	0.58
5:W:136:TYR:HE1	5:f:49:LYS:HE2	1.68	0.58
3:I:22:ILE:HD11	3:I:58:ILE:HG13	1.86	0.57
4:S:237:ASP:HB3	4:S:244:ILE:HG12	1.85	0.57
4:S:608:ASN:ND2	4:S:610:ASP:OD1	2.37	0.57
4:T:154:ILE:HB	4:T:220:ILE:HB	1.86	0.57
6:o:184:GLN:HB2	6:p:172:ALA:HB3	1.85	0.57
6:q:121:ILE:HG23	6:q:126:TYR:HB2	1.86	0.57
4:R:408:PRO:HD3	4:S:398:ASN:HD21	1.69	0.57
6:j:40:PRO:HB2	6:j:54:TYR:HB3	1.86	0.57
6:o:190:LEU:HD13	6:o:194:ILE:HG22	1.86	0.57
6:o:40:PRO:HB2	6:o:54:TYR:HB3	1.87	0.57
6:r:386:GLY:HA2	6:r:389:TYR:CE1	2.40	0.57
4:x:136:LYS:HA	4:x:303:VAL:HA	1.86	0.57
4:R:464:ARG:O	4:R:498:ASN:ND2	2.29	0.57
3:b:22:ILE:HD11	3:b:58:ILE:HG13	1.87	0.57
5:i:176:MET:HG3	6:s:321:THR:HG23	1.86	0.57
6:u:40:PRO:HB2	6:u:54:TYR:HB3	1.87	0.57
1:8:13:ASP:HB3	6:p:533:GLN:HB3	1.87	0.57
4:P:370:ARG:HD2	4:P:373:LYS:HG3	1.87	0.57
4:R:125:THR:OG1	4:R:312:LEU:O	2.23	0.57
4:T:174:VAL:O	4:T:207:ASN:ND2	2.38	0.57
6:k:121:ILE:HG23	6:k:126:TYR:HB2	1.87	0.57
6:k:169:GLN:OE1	6:k:178:GLN:NE2	2.35	0.57
1:5:7:ILE:HA	6:s:530:VAL:HG21	1.87	0.57
4:P:608:ASN:ND2	4:P:610:ASP:OD1	2.37	0.57
4:Q:166:ILE:HG12	4:Q:176:LYS:HG3	1.86	0.57
6:o:370:THR:OG1	6:o:373:GLU:OE1	2.21	0.57
6:t:517:THR:HG21	6:u:511:GLY:HA3	1.85	0.57
4:R:136:LYS:HA	4:R:303:VAL:HA	1.86	0.57
4:R:154:ILE:HB	4:R:220:ILE:HB	1.85	0.57
4:S:370:ARG:HD2	4:S:373:LYS:HG3	1.85	0.57
6:s:306:THR:HG22	6:s:326:ASP:HB2	1.86	0.57
5:Y:162:GLU:OE1	5:i:144:ARG:NH2	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Z:49:LYS:HE2	5:h:136:TYR:HE1	1.69	0.57
6:p:144:LEU:HB3	6:p:161:TYR:HB2	1.86	0.57
3:N:84:ARG:NH2	3:N:87:ASP:OD1	2.36	0.57
3:O:92:SER:HA	4:P:640:ILE:HD12	1.86	0.57
4:S:68:LEU:HD21	4:S:557:ILE:HD11	1.86	0.57
4:T:504:CYS:SG	4:T:513:SER:OG	2.50	0.57
4:T:645:GLN:HG2	4:T:646:PRO:O	2.05	0.57
5:f:50:ILE:HG23	5:f:141:LYS:HD3	1.87	0.57
6:l:386:GLY:HA2	6:l:389:TYR:CE1	2.40	0.57
6:t:144:LEU:HB3	6:t:161:TYR:HB2	1.86	0.57
4:x:739:ASN:OD1	4:x:742:ARG:NH2	2.37	0.57
3:K:92:SER:HA	4:S:640:ILE:HD12	1.87	0.57
3:c:119:ASP:O	3:c:132:ARG:NH1	2.37	0.57
3:E:95:ARG:NH1	5:Y:34:GLY:O	2.38	0.56
4:P:479:VAL:HG11	4:P:482:VAL:HG23	1.87	0.56
3:c:9:LEU:HD22	3:c:23:PRO:HG3	1.87	0.56
5:e:60:THR:HG1	5:e:181:TYR:HH	1.53	0.56
6:s:235:MET:HE3	6:s:236:GLU:H	1.70	0.56
1:6:5:PRO:HB2	6:r:512:MET:HE3	1.86	0.56
5:e:147:ASN:O	5:e:152:GLY:N	2.34	0.56
6:m:306:THR:HG22	6:m:326:ASP:HB2	1.88	0.56
6:n:255:ARG:H	6:n:395:GLU:HG2	1.70	0.56
6:p:220:ASP:HB2	6:p:227:LEU:HG	1.86	0.56
1:9:9:THR:H	1:9:10:PRO:HD2	1.69	0.56
3:G:12:GLN:CD	3:G:12:GLN:H	2.13	0.56
3:N:119:ASP:O	3:N:132:ARG:NH1	2.38	0.56
4:P:398:ASN:HD21	4:x:408:PRO:HD3	1.70	0.56
4:Q:174:VAL:O	4:Q:207:ASN:ND2	2.38	0.56
4:R:599:ARG:NH2	4:R:666:MET:HE1	2.20	0.56
5:V:46:ILE:HD12	5:V:146:PHE:HD1	1.70	0.56
6:j:437:GLN:NE2	6:u:80:MET:SD	2.78	0.56
6:o:80:MET:SD	6:p:437:GLN:NE2	2.78	0.56
6:s:73:LEU:HD21	6:s:388:VAL:HG23	1.87	0.56
3:H:12:GLN:H	3:H:12:GLN:CD	2.13	0.56
4:P:237:ASP:HB3	4:P:244:ILE:HG12	1.86	0.56
4:Q:66:ILE:HD13	4:Q:564:ILE:HD12	1.87	0.56
4:S:160:GLN:HG2	4:S:243:LEU:HD21	1.88	0.56
6:m:72:LYS:HZ3	6:m:357:MET:HE2	1.71	0.56
6:r:172:ALA:HA	6:r:261:GLY:HA2	1.87	0.56
4:P:314:ARG:HE	4:P:318:GLY:HA2	1.68	0.56
5:Z:17:VAL:HG11	5:Z:32:LEU:HD21	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:e:128:ASP:O	5:e:135:ARG:NH2	2.28	0.56
6:j:228:ARG:HD2	6:j:244:TYR:CE2	2.40	0.56
6:l:172:ALA:HA	6:l:261:GLY:HA2	1.87	0.56
6:n:228:ARG:NH2	6:n:230:GLU:OE2	2.38	0.56
6:p:228:ARG:HD2	6:p:244:TYR:CE2	2.40	0.56
4:x:599:ARG:NH2	4:x:666:MET:HE1	2.21	0.56
1:AD:13:ASP:HB2	6:j:536:ILE:HG22	1.87	0.56
4:R:44:LYS:NZ	4:R:772:GLU:O	2.39	0.56
4:T:38:GLU:OE2	4:T:527:LYS:NZ	2.37	0.56
6:t:255:ARG:H	6:t:395:GLU:HG2	1.71	0.56
3:O:36:LEU:HB3	3:O:70:TYR:HB3	1.88	0.56
5:h:9:GLU:OE2	5:h:31:THR:OG1	2.21	0.56
6:j:220:ASP:HB2	6:j:227:LEU:HG	1.88	0.56
6:t:102:GLY:HA2	6:t:105:LYS:HE3	1.87	0.56
1:5:11:LYS:HE3	1:5:12:MET:HG3	1.88	0.56
4:R:713:SER:HB3	4:R:777:ASN:H	1.70	0.56
6:n:397:GLN:HB3	6:n:425:THR:HG21	1.88	0.56
6:q:235:MET:HE3	6:q:236:GLU:H	1.71	0.56
6:u:169:GLN:OE1	6:u:178:GLN:NE2	2.35	0.56
3:C:117:THR:HA	3:C:120:THR:HG22	1.88	0.56
4:P:413:LEU:HD23	4:P:424:LEU:HD23	1.87	0.56
4:R:504:CYS:SG	4:R:513:SER:OG	2.51	0.56
6:j:517:THR:HG21	6:k:511:GLY:HA3	1.88	0.56
4:x:78:TYR:CD2	4:x:564:ILE:HD11	2.41	0.56
4:x:722:ASN:OD1	4:x:725:SER:N	2.31	0.56
3:D:10:THR:HG23	5:X:73:VAL:HG22	1.88	0.56
4:R:78:TYR:CD2	4:R:564:ILE:HD11	2.41	0.56
4:S:502:SER:HB3	4:S:515:LEU:HB2	1.88	0.56
5:Y:46:ILE:HD12	5:Y:146:PHE:HD1	1.70	0.56
5:d:99:ARG:NH2	5:d:111:ASP:OD2	2.37	0.56
6:t:79:PRO:O	6:t:127:ARG:NH2	2.39	0.56
1:9:5:PRO:HB2	6:o:512:MET:HE3	1.88	0.55
3:K:110:ALA:O	3:K:114:ARG:HG2	2.06	0.55
4:S:302:GLN:HG2	4:S:329:PRO:HB3	1.88	0.55
3:b:120:THR:HG22	3:b:121:ILE:H	1.71	0.55
6:r:405:LEU:HD22	6:r:417:LEU:HD11	1.88	0.55
1:8:13:ASP:HB2	6:p:536:ILE:HG22	1.88	0.55
3:A:117:THR:HG23	3:F:116:LEU:HD23	1.88	0.55
6:t:228:ARG:NH2	6:t:230:GLU:OE2	2.37	0.55
3:K:37:ILE:HD11	3:K:74:GLU:HB2	1.88	0.55
4:P:68:LEU:HD21	4:P:557:ILE:HD11	1.86	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:714:GLY:HA3	4:P:774:THR:HB	1.89	0.55
4:R:109:THR:OG1	4:R:115:ASP:OD2	2.21	0.55
5:d:52:ARG:NH2	5:d:82:ASP:O	2.35	0.55
6:m:169:GLN:OE1	6:m:178:GLN:NE2	2.37	0.55
6:n:144:LEU:HB3	6:n:161:TYR:HB2	1.87	0.55
4:x:44:LYS:NZ	4:x:772:GLU:O	2.39	0.55
1:8:5:PRO:HB3	6:o:523:MET:SD	2.45	0.55
3:D:117:THR:HA	3:D:120:THR:HG22	1.88	0.55
3:E:138:ASN:ND2	3:O:130:ASP:OD2	2.37	0.55
3:F:124:ASN:HD22	3:F:128:HIS:HB2	1.72	0.55
4:P:160:GLN:HG2	4:P:243:LEU:HD21	1.88	0.55
4:S:413:LEU:HD23	4:S:424:LEU:HD23	1.88	0.55
5:Z:50:ILE:HG23	5:Z:141:LYS:HD3	1.88	0.55
6:s:85:ARG:NH1	6:s:438:ASP:OD2	2.38	0.55
6:u:502:ASP:OD1	6:u:503:ASN:N	2.39	0.55
1:4:5:PRO:O	1:5:11:LYS:HG2	2.06	0.55
4:T:66:ILE:HD13	4:T:564:ILE:HD12	1.88	0.55
5:U:46:ILE:HD12	5:U:146:PHE:HD1	1.71	0.55
5:U:73:VAL:HG22	3:a:10:THR:HG23	1.88	0.55
5:W:46:ILE:HD12	5:W:146:PHE:HD1	1.72	0.55
5:i:147:ASN:O	5:i:152:GLY:N	2.33	0.55
6:r:86:LEU:HD23	6:r:114:GLU:HG2	1.88	0.55
4:x:125:THR:OG1	4:x:312:LEU:O	2.23	0.55
5:f:17:VAL:HG11	5:f:32:LEU:HD21	1.88	0.55
6:n:102:GLY:HA2	6:n:105:LYS:HE3	1.86	0.55
3:O:37:ILE:HD11	3:O:74:GLU:HB2	1.87	0.55
6:l:228:ARG:NH2	6:l:230:GLU:OE2	2.36	0.55
6:n:79:PRO:O	6:n:127:ARG:NH2	2.39	0.55
6:u:17:TYR:HB2	6:u:180:VAL:HG11	1.88	0.55
3:I:120:THR:HG22	3:I:121:ILE:H	1.72	0.55
4:S:714:GLY:HA3	4:S:774:THR:HB	1.89	0.55
6:l:220:ASP:HB2	6:l:227:LEU:HG	1.89	0.55
6:l:527:ALA:O	6:l:532:LEU:N	2.40	0.55
6:m:235:MET:HE3	6:m:236:GLU:H	1.71	0.55
3:N:9:LEU:HD22	3:N:23:PRO:HG3	1.87	0.55
5:V:59:TRP:HE3	5:V:175:GLU:HG3	1.72	0.55
5:g:99:ARG:NH2	5:g:111:ASP:OD2	2.37	0.55
6:t:386:GLY:HA2	6:t:389:TYR:CE1	2.42	0.55
6:t:386:GLY:HA2	6:t:389:TYR:HE1	1.72	0.55
4:T:237:ASP:HB3	4:T:244:ILE:HG12	1.89	0.55
5:V:147:ASN:O	5:V:152:GLY:N	2.33	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:x:160:GLN:HG2	4:x:243:LEU:HD21	1.89	0.55
3:F:120:THR:HG22	3:F:121:ILE:H	1.72	0.54
4:S:46:PRO:HB2	4:S:576:ILE:HG23	1.90	0.54
4:S:157:ARG:NH2	4:S:245:ASN:OD1	2.32	0.54
4:S:479:VAL:HG11	4:S:482:VAL:HG23	1.89	0.54
6:s:305:ILE:HD11	6:s:323:ARG:HG3	1.88	0.54
4:x:151:ASP:OD1	4:x:152:GLY:N	2.40	0.54
4:x:237:ASP:HB3	4:x:244:ILE:HG12	1.89	0.54
5:X:46:ILE:HD12	5:X:146:PHE:HD1	1.72	0.54
5:Y:147:ASN:O	5:Y:152:GLY:N	2.32	0.54
5:e:52:ARG:NH2	5:e:82:ASP:O	2.34	0.54
6:n:386:GLY:HA2	6:n:389:TYR:HE1	1.72	0.54
3:A:116:LEU:HD11	3:K:114:ARG:HD2	1.90	0.54
3:E:5:ILE:H	3:E:5:ILE:HD12	1.71	0.54
4:P:302:GLN:HG2	4:P:329:PRO:HB3	1.88	0.54
5:g:169:ARG:HG2	6:j:302:PRO:HB2	1.89	0.54
6:m:484:THR:OG1	6:m:487:GLN:HG3	2.07	0.54
6:r:79:PRO:O	6:r:127:ARG:NH2	2.35	0.54
6:s:184:GLN:HB2	6:t:172:ALA:HB3	1.89	0.54
3:C:95:ARG:NH1	5:W:34:GLY:O	2.40	0.54
4:R:302:GLN:HG2	4:R:329:PRO:HB3	1.90	0.54
6:n:497:MET:HA	6:n:497:MET:HE3	1.89	0.54
6:o:452:LEU:HD12	6:o:463:LEU:HD22	1.88	0.54
6:r:144:LEU:HB3	6:r:161:TYR:HB2	1.89	0.54
5:Z:182:ASN:ND2	6:q:318:ASP:OD2	2.29	0.54
6:j:323:ARG:HB2	6:j:326:ASP:OD2	2.08	0.54
6:k:501:MET:HE1	6:l:492:MET:HE3	1.89	0.54
6:o:17:TYR:HB2	6:o:180:VAL:HG11	1.88	0.54
6:o:498:GLN:HB2	6:p:492:MET:HE3	1.89	0.54
6:u:190:LEU:HD13	6:u:194:ILE:HG22	1.89	0.54
1:9:3:PHE:HA	6:o:525:ALA:HB1	1.89	0.54
4:P:502:SER:HB3	4:P:515:LEU:HB2	1.88	0.54
5:g:52:ARG:NH2	5:g:82:ASP:O	2.35	0.54
6:m:184:GLN:HB2	6:n:172:ALA:HB3	1.89	0.54
6:o:169:GLN:OE1	6:o:178:GLN:NE2	2.35	0.54
4:x:414:LEU:HD13	4:x:416:TRP:HE1	1.71	0.54
1:AC:6:LYS:HB3	6:l:508:LEU:HD13	1.90	0.54
4:P:446:GLN:HE21	4:P:463:PRO:HG3	1.73	0.54
4:Q:71:ARG:HH22	4:Q:125:THR:HG23	1.72	0.54
4:Q:125:THR:OG1	4:Q:312:LEU:O	2.26	0.54
4:T:634:LEU:HB3	4:T:668:TYR:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:j:170:ARG:HB3	6:j:263:SER:HA	1.89	0.54
6:p:172:ALA:HA	6:p:261:GLY:HA2	1.90	0.54
6:s:255:ARG:HB3	6:s:265:GLY:HA3	1.90	0.54
6:t:497:MET:HA	6:t:497:MET:HE3	1.89	0.54
1:4:13:ASP:HB3	6:t:533:GLN:HB3	1.89	0.54
3:M:84:ARG:NH2	3:M:87:ASP:OD1	2.41	0.54
4:R:153:LEU:HB2	4:R:247:VAL:HB	1.89	0.54
4:S:722:ASN:OD1	4:S:725:SER:N	2.39	0.54
4:T:46:PRO:HB2	4:T:576:ILE:HG23	1.90	0.54
5:h:46:ILE:HD12	5:h:146:PHE:HD1	1.71	0.54
4:R:414:LEU:HD13	4:R:416:TRP:HE1	1.72	0.54
4:S:153:LEU:HB2	4:S:247:VAL:HB	1.90	0.54
6:r:220:ASP:HB2	6:r:227:LEU:HG	1.89	0.54
4:x:302:GLN:HG2	4:x:329:PRO:HB3	1.89	0.54
3:J:120:THR:HG22	3:J:121:ILE:H	1.73	0.53
5:d:169:ARG:HG2	6:p:302:PRO:HB2	1.90	0.53
6:l:114:GLU:OE1	6:l:435:ARG:NH1	2.41	0.53
6:o:502:ASP:OD1	6:o:503:ASN:N	2.40	0.53
6:p:170:ARG:HB3	6:p:263:SER:HA	1.89	0.53
1:9:9:THR:H	1:9:10:PRO:CD	2.21	0.53
4:S:713:SER:HB3	4:S:777:ASN:H	1.73	0.53
4:T:477:GLN:HG2	4:x:478:ASP:HB2	1.90	0.53
5:Z:99:ARG:NH2	5:Z:111:ASP:OD2	2.41	0.53
6:j:108:GLU:OE1	6:k:478:THR:OG1	2.26	0.53
6:j:195:ARG:O	6:j:199:GLU:HG3	2.08	0.53
6:r:114:GLU:OE1	6:r:435:ARG:NH1	2.41	0.53
6:u:517:THR:HA	6:u:523:MET:HG3	1.90	0.53
4:P:153:LEU:HB2	4:P:247:VAL:HB	1.91	0.53
4:P:634:LEU:HB3	4:P:668:TYR:HB2	1.89	0.53
4:Q:632:THR:HG23	4:Q:640:ILE:HG23	1.91	0.53
4:S:446:GLN:HE21	4:S:463:PRO:HG3	1.73	0.53
6:l:144:LEU:HB3	6:l:161:TYR:HB2	1.90	0.53
6:l:255:ARG:H	6:l:395:GLU:HG2	1.73	0.53
4:x:713:SER:HB3	4:x:777:ASN:H	1.71	0.53
3:H:22:ILE:HD11	3:H:58:ILE:HG13	1.90	0.53
4:P:141:VAL:HG22	4:P:300:GLU:HG2	1.90	0.53
4:R:44:LYS:HG3	4:R:776:LEU:HG	1.90	0.53
5:f:99:ARG:NH2	5:f:111:ASP:OD2	2.41	0.53
6:l:86:LEU:HD23	6:l:114:GLU:HG2	1.90	0.53
6:r:255:ARG:H	6:r:395:GLU:HG2	1.73	0.53
6:u:452:LEU:HD22	6:u:463:LEU:HD22	1.88	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:111:GLU:HG3	3:H:81:THR:HG21	1.91	0.53
3:L:66:PRO:HG3	3:L:71:THR:HG23	1.90	0.53
3:N:120:THR:HG23	3:N:121:ILE:HG22	1.90	0.53
4:T:714:GLY:HA3	4:T:774:THR:HB	1.91	0.53
6:q:115:ARG:NH1	6:r:90:GLU:OE2	2.41	0.53
4:T:157:ARG:HH22	4:T:245:ASN:CG	2.16	0.53
6:j:511:GLY:HA3	6:u:517:THR:HG21	1.90	0.53
4:P:713:SER:HB3	4:P:777:ASN:H	1.73	0.53
6:j:144:LEU:HB3	6:j:161:TYR:HB2	1.90	0.53
6:j:193:ASP:OD1	6:j:194:ILE:N	2.41	0.53
3:B:27:LEU:HD23	3:B:108:HIS:CD2	2.44	0.53
4:P:627:GLY:O	4:P:645:GLN:NE2	2.42	0.53
4:T:502:SER:HB3	4:T:515:LEU:HB2	1.90	0.53
5:X:19:ASP:OD1	5:g:45:ARG:NH2	2.41	0.53
6:s:442:LEU:HD11	6:t:469:ARG:HB3	1.89	0.53
4:x:200:LEU:O	4:x:204:MET:HG3	2.09	0.53
4:x:365:ASN:HA	4:x:394:ALA:HA	1.91	0.53
1:7:3:PHE:HE2	1:8:12:MET:HE1	1.74	0.53
4:R:38:GLU:OE2	4:R:527:LYS:NZ	2.37	0.53
4:T:118:MET:HE3	4:T:125:THR:HB	1.90	0.53
5:X:176:MET:HG3	6:j:321:THR:HG23	1.91	0.53
6:j:527:ALA:O	6:j:532:LEU:N	2.41	0.53
6:k:115:ARG:NH1	6:l:90:GLU:OE2	2.41	0.53
6:n:386:GLY:HA2	6:n:389:TYR:CE1	2.43	0.53
6:r:353:SER:HA	6:r:358:LEU:HD12	1.91	0.53
3:L:92:SER:HA	4:Q:640:ILE:HD12	1.91	0.53
4:Q:46:PRO:HB2	4:Q:576:ILE:HG23	1.90	0.53
4:Q:160:GLN:HG2	4:Q:243:LEU:HD21	1.90	0.53
4:Q:634:LEU:HB3	4:Q:668:TYR:HB2	1.90	0.53
4:Q:714:GLY:HA3	4:Q:774:THR:HB	1.91	0.53
4:R:151:ASP:OD1	4:R:152:GLY:N	2.42	0.53
5:d:24:ILE:HG13	5:d:26:GLU:HG2	1.91	0.53
5:g:24:ILE:HG13	5:g:26:GLU:HG2	1.91	0.53
5:h:147:ASN:O	5:h:152:GLY:N	2.33	0.53
6:p:517:THR:HG21	6:q:511:GLY:HA3	1.91	0.53
1:5:3:PHE:HA	6:s:525:ALA:HB1	1.91	0.52
3:H:84:ARG:NH2	5:e:9:GLU:O	2.42	0.52
3:L:13:LEU:HD12	3:L:20:PHE:HE1	1.74	0.52
3:L:84:ARG:NH2	3:L:87:ASP:OD1	2.42	0.52
3:O:9:LEU:HD23	3:O:10:THR:N	2.25	0.52
4:R:160:GLN:HG2	4:R:243:LEU:HD21	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:l:290:SER:HB3	6:m:344:VAL:HG21	1.92	0.52
6:q:169:GLN:OE1	6:q:178:GLN:NE2	2.35	0.52
6:q:208:ASP:HB2	6:r:169:GLN:HE22	1.75	0.52
6:r:6:THR:HA	6:r:10:GLU:HG2	1.92	0.52
1:0:5:PRO:CD	6:m:523:MET:HE1	2.38	0.52
3:l:84:ARG:NH2	5:f:9:GLU:O	2.41	0.52
3:j:124:ASN:HD22	3:j:128:HIS:HB2	1.73	0.52
4:r:237:ASP:HB3	4:r:244:ILE:HG12	1.90	0.52
4:r:632:THR:HG23	4:r:640:ILE:HG23	1.91	0.52
5:v:32:LEU:O	5:d:2:ARG:NH2	2.42	0.52
5:g:194:LEU:HD22	6:k:288:LYS:HG2	1.91	0.52
4:x:364:GLU:HB2	4:x:395:VAL:HG12	1.91	0.52
4:r:51:LEU:HD11	4:r:575:ARG:HB2	1.91	0.52
4:s:141:VAL:HG22	4:s:300:GLU:HG2	1.91	0.52
4:t:109:THR:OG1	4:t:115:ASP:OD2	2.26	0.52
5:z:9:GLU:O	3:b:84:ARG:NH2	2.42	0.52
6:l:113:VAL:O	6:l:117:ILE:HG12	2.09	0.52
6:u:235:MET:HE3	6:u:236:GLU:H	1.74	0.52
6:l:14:LYS:O	6:l:18:GLU:HG2	2.10	0.52
4:r:365:ASN:HA	4:r:394:ALA:HA	1.92	0.52
4:s:71:ARG:HB2	4:s:75:GLU:HB2	1.91	0.52
6:j:368:ARG:HH22	6:j:370:THR:HB	1.74	0.52
6:k:208:ASP:HB2	6:l:169:GLN:HE22	1.75	0.52
6:o:115:ARG:NH1	6:p:90:GLU:OE2	2.43	0.52
6:u:220:ASP:HB2	6:u:227:LEU:HG	1.92	0.52
4:x:51:LEU:HD11	4:x:575:ARG:HB2	1.91	0.52
3:g:22:ILE:HD11	3:g:58:ILE:HG13	1.91	0.52
3:k:9:LEU:HD23	3:k:10:THR:N	2.25	0.52
4:s:686:GLN:NE2	4:s:696:GLU:OE2	2.42	0.52
5:v:9:GLU:OE1	5:v:31:THR:OG1	2.21	0.52
6:l:6:THR:HA	6:l:10:GLU:HG2	1.92	0.52
6:r:228:ARG:NH2	6:r:230:GLU:OE2	2.41	0.52
3:c:37:ILE:HD11	3:c:74:GLU:HB2	1.91	0.52
3:m:95:ARG:NH2	3:m:98:ASP:OD1	2.43	0.52
4:r:479:VAL:HG11	4:r:482:VAL:HG23	1.92	0.52
4:t:160:GLN:HG2	4:t:243:LEU:HD21	1.91	0.52
6:l:353:SER:HA	6:l:358:LEU:HD12	1.90	0.52
6:r:290:SER:HB3	6:s:344:VAL:HG21	1.91	0.52
6:t:64:ARG:NH2	6:t:360:SER:OG	2.41	0.52
4:x:44:LYS:HG3	4:x:776:LEU:HG	1.91	0.52
3:e:10:THR:HG23	5:y:73:VAL:HG22	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:d:194:LEU:HD22	6:q:288:LYS:HG2	1.91	0.52
6:m:85:ARG:NH1	6:m:438:ASP:OD2	2.38	0.52
6:n:255:ARG:HB3	6:n:265:GLY:HA3	1.92	0.52
1:7:3:PHE:HA	6:q:525:ALA:HB1	1.91	0.52
4:S:44:LYS:HG3	4:S:776:LEU:HG	1.91	0.52
5:g:182:ASN:ND2	6:u:318:ASP:OD1	2.30	0.52
6:p:368:ARG:HH22	6:p:370:THR:HB	1.75	0.52
4:x:504:CYS:SG	4:x:513:SER:OG	2.51	0.52
4:Q:118:MET:HE3	4:Q:125:THR:HB	1.92	0.51
4:R:16:SER:HB3	4:R:23:ARG:HD3	1.92	0.51
6:p:527:ALA:O	6:p:532:LEU:N	2.42	0.51
6:r:113:VAL:O	6:r:117:ILE:HG12	2.10	0.51
6:r:527:ALA:O	6:r:532:LEU:N	2.41	0.51
6:s:357:MET:HE3	6:s:381:LEU:HB3	1.92	0.51
6:t:195:ARG:O	6:t:199:GLU:HG3	2.10	0.51
3:A:76:ARG:NH2	3:A:119:ASP:OD2	2.43	0.51
4:P:167:VAL:HG12	4:P:175:ALA:HB3	1.92	0.51
4:Q:531:LEU:HD12	4:Q:536:ARG:HG3	1.93	0.51
5:Y:194:LEU:HD22	6:j:288:LYS:HG2	1.92	0.51
6:r:14:LYS:O	6:r:18:GLU:HG2	2.10	0.51
3:M:66:PRO:HG3	3:M:71:THR:HG23	1.93	0.51
4:Q:502:SER:HB3	4:Q:515:LEU:HB2	1.91	0.51
4:T:554:CYS:HB2	4:T:561:MET:HE2	1.92	0.51
5:f:147:ASN:O	5:f:152:GLY:N	2.36	0.51
6:m:370:THR:OG1	6:m:373:GLU:OE1	2.20	0.51
3:L:95:ARG:NH2	3:L:98:ASP:OD1	2.43	0.51
4:T:51:LEU:HD11	4:T:575:ARG:HB2	1.92	0.51
3:b:53:ALA:HB3	3:b:57:THR:HG23	1.92	0.51
3:c:13:LEU:HD12	3:c:20:PHE:HE1	1.75	0.51
6:m:168:VAL:HG22	6:m:179:MET:HB3	1.93	0.51
6:p:108:GLU:OE1	6:q:478:THR:OG1	2.25	0.51
4:x:16:SER:HB3	4:x:23:ARG:HD3	1.92	0.51
4:x:502:SER:HB3	4:x:515:LEU:HB2	1.92	0.51
4:x:632:THR:HG23	4:x:640:ILE:HG23	1.92	0.51
2:2:87:LEU:HD21	4:R:794:ILE:HD11	1.91	0.51
3:D:99:LEU:HD12	4:x:736:LEU:HD11	1.93	0.51
4:P:632:THR:HG23	4:P:640:ILE:HG23	1.93	0.51
4:T:365:ASN:HA	4:T:394:ALA:HA	1.93	0.51
6:p:323:ARG:HB2	6:p:326:ASP:OD2	2.10	0.51
6:r:520:PRO:HD3	6:s:515:GLN:NE2	2.24	0.51
3:K:120:THR:HG23	3:K:121:ILE:HG22	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:13:LEU:HD12	3:M:20:PHE:HE1	1.75	0.51
4:P:50:PHE:HD1	4:P:596:MET:HE3	1.76	0.51
4:P:71:ARG:HB2	4:P:75:GLU:HB2	1.92	0.51
4:P:288:ARG:HB3	4:P:290:VAL:HG22	1.92	0.51
4:Q:51:LEU:HD11	4:Q:575:ARG:HB2	1.92	0.51
4:Q:504:CYS:SG	4:Q:513:SER:OG	2.50	0.51
4:T:632:THR:HG23	4:T:640:ILE:HG23	1.91	0.51
3:B:111:GLU:HG3	3:G:81:THR:HG21	1.91	0.51
3:E:99:LEU:HD12	4:P:736:LEU:HD11	1.93	0.51
3:G:84:ARG:NH2	5:i:9:GLU:O	2.44	0.51
3:M:92:SER:HA	4:T:640:ILE:HD12	1.93	0.51
3:N:95:ARG:NH2	3:N:98:ASP:OD1	2.43	0.51
4:P:645:GLN:HE21	4:P:649:GLY:HA2	1.73	0.51
4:Q:365:ASN:HA	4:Q:394:ALA:HA	1.93	0.51
4:S:739:ASN:OD1	4:S:742:ARG:NH2	2.44	0.51
4:T:4:ILE:HD11	4:T:701:LEU:HD13	1.93	0.51
5:e:99:ARG:NH2	5:e:111:ASP:OD2	2.39	0.51
6:j:344:VAL:HG21	6:u:290:SER:HB3	1.93	0.51
6:o:235:MET:HE3	6:o:236:GLU:H	1.74	0.51
3:B:37:ILE:HD11	3:B:74:GLU:HB2	1.91	0.51
4:Q:554:CYS:HB2	4:Q:561:MET:HE2	1.93	0.51
4:S:167:VAL:HG12	4:S:175:ALA:HB3	1.93	0.51
6:m:73:LEU:HD21	6:m:388:VAL:HG23	1.91	0.51
6:s:169:GLN:OE1	6:s:178:GLN:NE2	2.37	0.51
3:A:99:LEU:HD12	4:S:736:LEU:HD11	1.92	0.51
3:O:66:PRO:HG3	3:O:71:THR:HG23	1.93	0.51
4:P:46:PRO:HB2	4:P:576:ILE:HG23	1.91	0.51
6:p:423:GLU:OE1	6:p:423:GLU:N	2.44	0.51
3:A:138:ASN:ND2	3:K:130:ASP:OD2	2.42	0.51
3:K:22:ILE:HD11	3:K:58:ILE:HG13	1.92	0.51
3:K:25:GLU:O	3:K:77:ARG:NH1	2.43	0.51
4:Q:136:LYS:HA	4:Q:303:VAL:HA	1.93	0.51
4:Q:794:ILE:HD12	2:v:87:LEU:HD11	1.93	0.51
5:Z:193:LEU:HG	6:t:281:ASN:HB3	1.93	0.51
5:e:169:ARG:HG2	6:n:302:PRO:HB2	1.93	0.51
5:i:144:ARG:HA	5:i:160:LEU:HD13	1.92	0.51
6:s:168:VAL:HG22	6:s:179:MET:HB3	1.93	0.51
4:x:167:VAL:HG12	4:x:175:ALA:HB3	1.93	0.51
1:7:5:PRO:HG3	6:p:523:MET:SD	2.51	0.50
3:I:53:ALA:HB3	3:I:57:THR:HG23	1.92	0.50
3:N:25:GLU:O	3:N:77:ARG:NH1	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:44:LYS:HG3	4:P:776:LEU:HG	1.92	0.50
4:T:423:VAL:HG12	4:T:425:THR:HG23	1.93	0.50
5:g:147:ASN:O	5:g:152:GLY:N	2.36	0.50
6:l:335:GLN:HE22	6:m:336:ALA:HB1	1.75	0.50
6:p:255:ARG:H	6:p:395:GLU:HG2	1.76	0.50
3:A:129:LEU:HD13	3:F:121:ILE:HG12	1.91	0.50
4:P:739:ASN:OD1	4:P:742:ARG:NH2	2.44	0.50
4:R:502:SER:HB3	4:R:515:LEU:HB2	1.92	0.50
5:W:162:GLU:OE2	5:f:144:ARG:NH2	2.43	0.50
6:m:289:MET:HE2	6:m:334:LYS:HZ3	1.75	0.50
6:t:168:VAL:HG23	6:t:179:MET:HB3	1.93	0.50
1:8:3:PHE:HA	6:p:525:ALA:HB1	1.93	0.50
4:P:51:LEU:HD11	4:P:575:ARG:HB2	1.93	0.50
6:r:73:LEU:HD21	6:r:388:VAL:HG23	1.93	0.50
4:x:46:PRO:HB2	4:x:576:ILE:HG23	1.93	0.50
1:AC:5:PRO:CD	6:j:523:MET:HE3	2.41	0.50
3:M:9:LEU:HD13	3:M:23:PRO:HG3	1.93	0.50
3:O:22:ILE:HD11	3:O:58:ILE:HG13	1.92	0.50
4:Q:109:THR:OG1	4:Q:115:ASP:OD2	2.26	0.50
4:R:46:PRO:HB2	4:R:576:ILE:HG23	1.93	0.50
4:T:531:LEU:HD12	4:T:536:ARG:HG3	1.92	0.50
3:c:95:ARG:NH2	3:c:98:ASP:OD1	2.43	0.50
6:l:405:LEU:HD22	6:l:417:LEU:HD11	1.92	0.50
6:o:220:ASP:HB2	6:o:227:LEU:HG	1.94	0.50
6:q:368:ARG:NH2	6:q:370:THR:OG1	2.45	0.50
6:s:290:SER:HB3	6:t:344:VAL:HG21	1.93	0.50
6:u:386:GLY:HA2	6:u:389:TYR:CE1	2.47	0.50
4:S:365:ASN:HA	4:S:394:ALA:HA	1.94	0.50
6:j:169:GLN:HE22	6:u:208:ASP:HB2	1.76	0.50
6:l:184:GLN:HB2	6:m:172:ALA:HB3	1.94	0.50
6:n:510:GLN:HG2	6:o:507:ALA:HB2	1.94	0.50
6:p:64:ARG:NH1	6:p:360:SER:OG	2.43	0.50
6:s:137:LEU:HB3	6:s:256:MET:HB2	1.93	0.50
6:t:255:ARG:HB3	6:t:265:GLY:HA3	1.93	0.50
3:A:10:THR:HG23	5:V:73:VAL:HG22	1.91	0.50
3:N:13:LEU:HD12	3:N:20:PHE:HE1	1.76	0.50
4:Q:44:LYS:HG3	4:Q:776:LEU:HG	1.92	0.50
4:R:364:GLU:HB2	4:R:395:VAL:HG12	1.93	0.50
5:V:194:LEU:HD22	6:p:288:LYS:HG2	1.93	0.50
6:j:64:ARG:NH1	6:j:360:SER:OG	2.43	0.50
6:s:228:ARG:HH12	6:s:230:GLU:HG3	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:t:184:GLN:HB2	6:u:172:ALA:HB3	1.94	0.50
1:AC:4:SER:HB2	6:k:526:ALA:HB2	1.93	0.50
3:C:10:THR:HG23	5:W:73:VAL:HG22	1.93	0.50
3:F:12:GLN:HA	3:F:72:THR:HG22	1.93	0.50
3:G:120:THR:HG22	3:G:121:ILE:H	1.77	0.50
4:Q:44:LYS:NZ	4:Q:772:GLU:O	2.45	0.50
4:T:686:GLN:O	4:T:694:SER:N	2.45	0.50
6:n:527:ALA:O	6:n:532:LEU:N	2.45	0.50
6:p:118:MET:O	6:p:122:GLU:HG3	2.11	0.50
6:s:370:THR:OG1	6:s:373:GLU:OE1	2.20	0.50
4:x:184:GLN:HB2	4:x:187:HIS:CD2	2.47	0.50
4:Q:4:ILE:HD11	4:Q:701:LEU:HD13	1.94	0.50
4:T:44:LYS:HG3	4:T:776:LEU:HG	1.93	0.50
4:T:67:HIS:CG	4:T:118:MET:HG2	2.47	0.50
5:X:155:GLU:H	5:X:155:GLU:CD	2.20	0.50
6:n:205:LYS:HD2	6:n:209:GLU:HG2	1.94	0.50
6:t:527:ALA:O	6:t:532:LEU:N	2.45	0.50
1:5:5:PRO:HG3	6:r:523:MET:HE1	1.94	0.50
1:AB:3:PHE:HA	6:l:525:ALA:HB1	1.94	0.50
4:R:736:LEU:HD11	3:a:99:LEU:HD12	1.93	0.50
4:S:154:ILE:HB	4:S:220:ILE:HB	1.93	0.50
4:T:136:LYS:HA	4:T:303:VAL:HA	1.93	0.50
5:U:176:MET:HG3	6:p:321:THR:HG23	1.93	0.50
6:j:208:ASP:HB2	6:k:169:GLN:HE22	1.77	0.50
6:s:40:PRO:HB2	6:s:54:TYR:HB3	1.94	0.50
4:x:285:ASP:O	4:x:289:LYS:N	2.45	0.50
3:B:95:ARG:NH1	5:h:34:GLY:O	2.45	0.49
3:B:99:LEU:HD12	4:Q:736:LEU:HD11	1.93	0.49
6:m:40:PRO:HB2	6:m:54:TYR:HB3	1.94	0.49
6:n:65:GLY:HA2	6:n:358:LEU:HD21	1.94	0.49
6:o:290:SER:HB3	6:p:344:VAL:HG21	1.93	0.49
6:o:501:MET:HE1	6:p:492:MET:HE2	1.94	0.49
6:r:506:ALA:O	6:r:510:GLN:HG3	2.12	0.49
4:x:599:ARG:HH21	4:x:666:MET:HE1	1.76	0.49
1:4:5:PRO:CG	6:s:523:MET:HE1	2.33	0.49
4:Q:288:ARG:HB3	4:Q:290:VAL:HG22	1.94	0.49
4:Q:357:ARG:NH2	4:Q:387:ASP:O	2.45	0.49
4:Q:586:GLN:OE1	4:Q:599:ARG:NH2	2.45	0.49
5:W:147:ASN:O	5:W:152:GLY:N	2.33	0.49
5:W:194:LEU:HD22	6:n:288:LYS:HG2	1.93	0.49
6:k:289:MET:HE2	6:k:334:LYS:NZ	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:m:442:LEU:HD11	6:n:469:ARG:HB3	1.94	0.49
1:AC:15:ASN:HB2	6:k:533:GLN:OE1	2.12	0.49
3:B:27:LEU:HD23	3:B:108:HIS:HD2	1.76	0.49
3:G:12:GLN:HA	3:G:72:THR:HG22	1.94	0.49
4:S:728:LYS:H	5:d:36:ALA:HB1	1.77	0.49
4:T:44:LYS:NZ	4:T:772:GLU:O	2.45	0.49
6:l:117:ILE:HD13	6:l:408:LEU:HD12	1.94	0.49
6:n:506:ALA:HB1	6:o:503:ASN:HD22	1.77	0.49
6:o:386:GLY:HA2	6:o:389:TYR:CE1	2.47	0.49
6:r:368:ARG:HH22	6:r:370:THR:HB	1.77	0.49
1:AB:5:PRO:HB2	6:l:512:MET:HE3	1.95	0.49
3:B:10:THR:HG23	5:h:73:VAL:HG22	1.93	0.49
3:K:13:LEU:HD12	3:K:20:PHE:HE1	1.77	0.49
5:U:155:GLU:H	5:U:155:GLU:CD	2.20	0.49
5:f:193:LEU:HG	6:n:281:ASN:HB3	1.93	0.49
6:j:386:GLY:HA2	6:j:389:TYR:CE1	2.47	0.49
6:k:368:ARG:NH2	6:k:370:THR:OG1	2.45	0.49
6:l:255:ARG:HB3	6:l:265:GLY:HA3	1.95	0.49
6:r:184:GLN:HB2	6:s:172:ALA:HB3	1.95	0.49
1:7:5:PRO:HD3	6:p:523:MET:HE3	1.94	0.49
1:AB:13:ASP:HB3	6:l:533:GLN:HB3	1.94	0.49
3:O:120:THR:HG23	3:O:121:ILE:HG22	1.93	0.49
4:R:165:LEU:HD11	4:R:196:LEU:HD13	1.94	0.49
4:S:44:LYS:NZ	4:S:772:GLU:O	2.46	0.49
6:j:14:LYS:O	6:j:18:GLU:HG3	2.13	0.49
6:o:208:ASP:HB2	6:p:169:GLN:HE22	1.77	0.49
6:t:484:THR:O	6:t:488:LYS:HG3	2.13	0.49
3:C:99:LEU:HD12	4:T:736:LEU:HD11	1.93	0.49
4:P:154:ILE:HB	4:P:220:ILE:HB	1.93	0.49
4:S:721:GLU:OE2	4:S:767:TYR:OH	2.26	0.49
4:T:586:GLN:OE1	4:T:599:ARG:NH2	2.45	0.49
3:a:107:MET:HE1	3:b:105:GLN:HG2	1.93	0.49
5:e:144:ARG:HA	5:e:160:LEU:HD13	1.93	0.49
6:p:14:LYS:O	6:p:18:GLU:HG3	2.13	0.49
6:u:370:THR:OG1	6:u:373:GLU:OE1	2.21	0.49
4:x:38:GLU:OE2	4:x:527:LYS:NZ	2.37	0.49
1:4:12:MET:HB3	6:t:532:LEU:HB3	1.95	0.49
4:S:16:SER:HB3	4:S:23:ARG:HD3	1.95	0.49
6:m:115:ARG:NH1	6:n:90:GLU:OE2	2.46	0.49
6:m:386:GLY:HA2	6:m:389:TYR:CE2	2.47	0.49
6:q:527:ALA:O	6:q:532:LEU:N	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:t:69:LEU:HD21	6:t:268:TYR:CD2	2.47	0.49
6:t:405:LEU:HD22	6:t:417:LEU:HD11	1.94	0.49
1:3:7:ILE:HA	6:u:530:VAL:HG21	1.94	0.49
1:6:10:PRO:HD2	6:s:512:MET:HE1	1.95	0.49
3:O:13:LEU:HD12	3:O:20:PHE:HE1	1.77	0.49
4:P:728:LYS:H	5:g:36:ALA:HB1	1.77	0.49
4:T:125:THR:OG1	4:T:312:LEU:O	2.28	0.49
5:i:193:LEU:HG	6:j:281:ASN:HB3	1.95	0.49
6:p:386:GLY:HA2	6:p:389:TYR:CE1	2.47	0.49
3:D:107:MET:HE1	3:I:105:GLN:HG2	1.94	0.49
4:P:44:LYS:NZ	4:P:772:GLU:O	2.46	0.49
4:T:71:ARG:HH22	4:T:125:THR:HG23	1.77	0.49
5:V:14:LEU:HA	5:V:32:LEU:HD11	1.94	0.49
5:e:193:LEU:HG	6:p:281:ASN:HB3	1.95	0.49
6:j:290:SER:HB3	6:k:344:VAL:HG21	1.95	0.49
6:l:368:ARG:HH22	6:l:370:THR:HB	1.77	0.49
6:n:69:LEU:HD21	6:n:268:TYR:CD2	2.47	0.49
4:x:165:LEU:HD11	4:x:196:LEU:HD13	1.94	0.49
1:0:5:PRO:O	1:AA:11:LYS:HG2	2.13	0.49
3:A:25:GLU:HG2	5:d:9:GLU:HG2	1.93	0.49
4:Q:423:VAL:HG12	4:Q:425:THR:HG23	1.95	0.49
4:S:632:THR:HG23	4:S:640:ILE:HG23	1.94	0.49
6:n:195:ARG:O	6:n:199:GLU:HG3	2.11	0.49
3:M:110:ALA:O	3:M:114:ARG:HG2	2.13	0.48
4:P:16:SER:HB3	4:P:23:ARG:HD3	1.95	0.48
4:P:645:GLN:HG2	4:P:646:PRO:O	2.12	0.48
4:Q:67:HIS:CG	4:Q:118:MET:HG2	2.47	0.48
4:R:184:GLN:HB2	4:R:187:HIS:CD2	2.47	0.48
5:X:154:PRO:HG2	5:X:155:GLU:OE1	2.12	0.48
5:e:169:ARG:O	5:e:173:GLU:HG3	2.13	0.48
6:j:423:GLU:OE1	6:j:423:GLU:N	2.45	0.48
6:m:290:SER:HB3	6:n:344:VAL:HG21	1.95	0.48
6:q:289:MET:HE2	6:q:334:LYS:NZ	2.28	0.48
6:t:172:ALA:HA	6:t:261:GLY:HA2	1.95	0.48
6:u:24:ARG:HD3	6:u:167:VAL:HG12	1.95	0.48
1:3:4:SER:HB3	6:u:516:ALA:HA	1.95	0.48
1:6:3:PHE:HA	6:r:525:ALA:HB1	1.95	0.48
4:S:51:LEU:HD11	4:S:575:ARG:HB2	1.94	0.48
5:V:130:MET:HE2	5:V:130:MET:HA	1.95	0.48
6:l:73:LEU:HD21	6:l:388:VAL:HG23	1.94	0.48
6:s:144:LEU:HB3	6:s:161:TYR:HB2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:12:GLN:HA	3:I:72:THR:HG22	1.94	0.48
4:R:285:ASP:O	4:R:289:LYS:N	2.45	0.48
5:U:147:ASN:O	5:U:152:GLY:N	2.38	0.48
3:b:12:GLN:HA	3:b:72:THR:HG22	1.94	0.48
3:C:130:ASP:OD1	3:H:138:ASN:ND2	2.42	0.48
3:J:12:GLN:HA	3:J:72:THR:HG22	1.95	0.48
4:P:715:THR:HA	4:P:731:MET:O	2.13	0.48
6:k:86:LEU:HD23	6:k:423:GLU:HB3	1.94	0.48
6:p:39:ILE:HD12	6:p:66:LEU:HD23	1.94	0.48
6:t:132:GLU:OE1	6:u:258:ARG:NH2	2.46	0.48
6:u:306:THR:HG22	6:u:326:ASP:HB2	1.96	0.48
3:E:76:ARG:NH2	3:E:119:ASP:OD2	2.47	0.48
4:Q:167:VAL:HG12	4:Q:175:ALA:HB3	1.94	0.48
4:R:332:CYS:SG	4:R:382:ILE:HG12	2.54	0.48
4:T:78:TYR:HD2	4:T:564:ILE:HD11	1.79	0.48
4:T:288:ARG:HB3	4:T:290:VAL:HG22	1.94	0.48
4:T:794:ILE:HD11	2:z:87:LEU:HD21	1.95	0.48
5:i:24:ILE:HG13	5:i:26:GLU:HG2	1.96	0.48
6:n:172:ALA:HA	6:n:261:GLY:HA2	1.95	0.48
6:s:517:THR:HG21	6:t:511:GLY:HA3	1.95	0.48
3:L:110:ALA:O	3:L:114:ARG:HG2	2.13	0.48
3:N:92:SER:HA	4:x:640:ILE:HD12	1.96	0.48
4:Q:68:LEU:HD13	4:Q:78:TYR:HE1	1.78	0.48
4:S:700:ARG:NH2	5:U:26:GLU:OE2	2.47	0.48
4:S:715:THR:HA	4:S:731:MET:O	2.14	0.48
6:j:172:ALA:HA	6:j:261:GLY:HA2	1.94	0.48
6:o:306:THR:HG22	6:o:326:ASP:HB2	1.96	0.48
6:o:423:GLU:HG2	6:o:423:GLU:O	2.14	0.48
6:o:506:ALA:O	6:o:510:GLN:HG3	2.14	0.48
6:t:498:GLN:OE1	6:u:492:MET:HG3	2.14	0.48
6:u:423:GLU:HG2	6:u:423:GLU:O	2.14	0.48
4:x:66:ILE:HD13	4:x:564:ILE:HD12	1.96	0.48
4:x:68:LEU:HD13	4:x:78:TYR:HE1	1.78	0.48
4:x:703:LEU:N	4:x:759:GLY:O	2.43	0.48
3:D:55:ARG:HH21	5:X:2:ARG:HE	1.61	0.48
5:Z:147:ASN:O	5:Z:152:GLY:N	2.32	0.48
6:n:484:THR:O	6:n:488:LYS:HG3	2.13	0.48
6:q:397:GLN:HB3	6:q:425:THR:HG21	1.96	0.48
6:s:220:ASP:HB2	6:s:227:LEU:HG	1.95	0.48
4:x:118:MET:HE3	4:x:125:THR:HB	1.96	0.48
1:AB:13:ASP:HB2	6:l:536:ILE:HG22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:109:THR:OG1	4:P:115:ASP:OD2	2.29	0.48
4:P:722:ASN:OD1	4:P:725:SER:N	2.39	0.48
4:S:464:ARG:O	4:S:498:ASN:ND2	2.34	0.48
5:d:193:LEU:HG	6:r:281:ASN:HB3	1.96	0.48
5:e:24:ILE:HG13	5:e:26:GLU:HG2	1.95	0.48
6:s:255:ARG:H	6:s:395:GLU:HG2	1.78	0.48
6:s:289:MET:HE2	6:s:334:LYS:NZ	2.29	0.48
3:L:84:ARG:HA	3:L:105:GLN:HE22	1.79	0.48
3:O:25:GLU:O	3:O:77:ARG:NH1	2.44	0.48
4:P:793:GLY:HA3	2:v:87:LEU:C	2.39	0.48
4:Q:78:TYR:HD2	4:Q:564:ILE:HD11	1.78	0.48
4:R:66:ILE:HD13	4:R:564:ILE:HD12	1.96	0.48
4:R:167:VAL:HG12	4:R:175:ALA:HB3	1.95	0.48
4:R:288:ARG:HB3	4:R:290:VAL:HG22	1.96	0.48
4:T:188:VAL:O	4:T:191:THR:HG22	2.14	0.48
4:T:314:ARG:HH11	4:T:318:GLY:HA2	1.79	0.48
5:U:187:ASP:OD1	6:r:295:LYS:NZ	2.43	0.48
6:j:39:ILE:HD12	6:j:66:LEU:HD23	1.94	0.48
6:n:14:LYS:O	6:n:18:GLU:HG3	2.13	0.48
1:3:3:PHE:HA	6:u:525:ALA:HB1	1.95	0.48
3:C:9:LEU:HG	3:C:23:PRO:HG2	1.95	0.48
4:Q:188:VAL:O	4:Q:191:THR:HG22	2.14	0.48
4:T:357:ARG:NH1	4:T:389:ASP:O	2.44	0.48
5:U:2:ARG:HE	3:a:55:ARG:HH21	1.60	0.48
3:c:25:GLU:O	3:c:77:ARG:NH1	2.41	0.48
5:g:193:LEU:HG	6:l:281:ASN:HB3	1.96	0.48
6:k:82:THR:HA	6:k:118:MET:HE2	1.96	0.48
6:m:220:ASP:HB2	6:m:227:LEU:HG	1.94	0.48
6:r:255:ARG:HB3	6:r:265:GLY:HA3	1.95	0.48
6:s:89:SER:HB3	6:s:92:GLU:HB2	1.96	0.48
4:x:154:ILE:HB	4:x:220:ILE:HB	1.95	0.48
3:C:81:THR:HG23	3:M:107:MET:HE3	1.95	0.47
3:M:124:ASN:HB3	3:M:130:ASP:HB2	1.94	0.47
4:R:118:MET:HE3	4:R:125:THR:HB	1.96	0.47
4:S:285:ASP:O	4:S:289:LYS:N	2.43	0.47
4:T:78:TYR:CD2	4:T:564:ILE:HD11	2.49	0.47
6:q:255:ARG:HB3	6:q:265:GLY:HA3	1.95	0.47
1:9:11:LYS:NZ	6:o:534:PRO:O	2.46	0.47
4:P:464:ARG:O	4:P:498:ASN:ND2	2.34	0.47
4:R:141:VAL:HG22	4:R:300:GLU:HG2	1.96	0.47
5:V:179:GLY:HA3	5:V:181:TYR:CE2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:X:147:ASN:O	5:X:152:GLY:N	2.37	0.47
5:h:194:LEU:HD22	6:t:288:LYS:HG2	1.94	0.47
6:o:24:ARG:HD3	6:o:167:VAL:HG12	1.95	0.47
6:s:523:MET:HE3	6:t:512:MET:HG2	1.96	0.47
4:P:285:ASP:O	4:P:289:LYS:N	2.45	0.47
4:S:596:MET:HA	4:S:596:MET:HE2	1.96	0.47
6:l:386:GLY:HA2	6:l:389:TYR:HE1	1.78	0.47
4:x:188:VAL:O	4:x:191:THR:HG22	2.15	0.47
3:C:25:GLU:HG2	5:e:8:VAL:HA	1.97	0.47
4:R:68:LEU:HD13	4:R:78:TYR:HE1	1.78	0.47
5:U:15:SER:O	5:d:45:ARG:NH2	2.47	0.47
5:X:187:ASP:OD1	6:l:295:LYS:NZ	2.43	0.47
5:Y:130:MET:HE2	5:Y:130:MET:HA	1.95	0.47
5:i:169:ARG:O	5:i:173:GLU:HG3	2.14	0.47
6:k:255:ARG:HB3	6:k:265:GLY:HA3	1.96	0.47
6:m:77:LEU:O	6:m:397:GLN:NE2	2.48	0.47
6:p:255:ARG:HB3	6:p:265:GLY:HA3	1.94	0.47
6:r:386:GLY:HA2	6:r:389:TYR:HE1	1.78	0.47
6:s:289:MET:HE2	6:s:334:LYS:HZ3	1.80	0.47
3:B:9:LEU:HG	3:B:23:PRO:HG2	1.96	0.47
3:E:60:LEU:HD11	3:E:73:ILE:HD12	1.97	0.47
3:G:45:THR:HB	3:G:48:THR:HG22	1.95	0.47
6:p:290:SER:HB3	6:q:344:VAL:HG21	1.95	0.47
6:q:13:ALA:N	6:q:231:GLU:OE1	2.45	0.47
3:A:60:LEU:HD11	3:A:73:ILE:HD12	1.95	0.47
3:H:120:THR:HG22	3:H:121:ILE:H	1.80	0.47
6:p:405:LEU:HD22	6:p:417:LEU:HD11	1.97	0.47
1:AC:13:ASP:HB3	6:k:533:GLN:NE2	2.30	0.47
3:C:25:GLU:O	3:C:77:ARG:HD3	2.15	0.47
4:Q:577:SER:O	4:Q:591:ARG:NH2	2.48	0.47
4:Q:684:ILE:HB	4:Q:696:GLU:HB2	1.95	0.47
4:T:68:LEU:HD13	4:T:78:TYR:HE1	1.79	0.47
4:T:167:VAL:HG12	4:T:175:ALA:HB3	1.96	0.47
5:Y:154:PRO:HG2	5:Y:155:GLU:OE1	2.15	0.47
3:b:54:THR:OG1	3:b:57:THR:HG22	2.15	0.47
5:f:169:ARG:O	5:f:173:GLU:HG3	2.14	0.47
6:k:17:TYR:HB2	6:k:180:VAL:HG11	1.97	0.47
6:l:195:ARG:O	6:l:199:GLU:HG2	2.14	0.47
6:m:477:ASP:HB3	6:n:469:ARG:HH22	1.79	0.47
6:n:357:MET:HE3	6:n:381:LEU:O	2.15	0.47
6:n:405:LEU:HD22	6:n:417:LEU:HD11	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:n:498:GLN:OE1	6:o:492:MET:HG3	2.15	0.47
6:s:481:ILE:HG23	6:t:466:ILE:HD11	1.96	0.47
6:t:255:ARG:NH1	6:t:395:GLU:OE1	2.47	0.47
4:x:700:ARG:NE	4:x:702:GLN:OE1	2.48	0.47
1:AA:5:PRO:O	1:AB:11:LYS:HG2	2.14	0.47
3:B:81:THR:HG23	3:L:107:MET:HE3	1.96	0.47
4:R:188:VAL:O	4:R:191:THR:HG22	2.15	0.47
4:T:684:ILE:HB	4:T:696:GLU:HB2	1.97	0.47
5:Z:144:ARG:NH2	5:h:162:GLU:OE1	2.47	0.47
3:a:25:GLU:O	3:a:77:ARG:HD3	2.15	0.47
3:b:137:VAL:HG23	3:b:138:ASN:ND2	2.30	0.47
6:j:255:ARG:HB3	6:j:265:GLY:HA3	1.96	0.47
6:q:17:TYR:HB2	6:q:180:VAL:HG11	1.97	0.47
6:q:353:SER:HA	6:q:358:LEU:HD12	1.97	0.47
6:t:205:LYS:HD2	6:t:209:GLU:HG2	1.95	0.47
4:x:479:VAL:HG11	4:x:482:VAL:HG23	1.96	0.47
4:x:714:GLY:HA3	4:x:774:THR:HB	1.97	0.47
1:AA:3:PHE:HA	6:m:525:ALA:HB1	1.97	0.47
4:Q:314:ARG:HH11	4:Q:318:GLY:HA2	1.79	0.47
4:R:700:ARG:NE	4:R:702:GLN:OE1	2.48	0.47
4:T:16:SER:HB3	4:T:23:ARG:HD3	1.96	0.47
6:j:118:MET:O	6:j:122:GLU:HG3	2.15	0.47
6:k:290:SER:HB3	6:l:344:VAL:HG21	1.97	0.47
6:m:289:MET:HE2	6:m:334:LYS:NZ	2.29	0.47
6:s:306:THR:HG21	6:s:327:ILE:HG12	1.97	0.47
6:t:290:SER:HB3	6:u:344:VAL:HG21	1.97	0.47
6:t:357:MET:HE1	6:t:385:LEU:HB2	1.96	0.47
6:u:144:LEU:HB3	6:u:161:TYR:HB2	1.97	0.47
4:x:317:ASP:OD2	4:x:317:ASP:N	2.47	0.47
1:AD:13:ASP:HB3	6:j:533:GLN:HB3	1.96	0.47
3:O:83:ASP:O	3:O:105:GLN:NE2	2.48	0.47
4:P:700:ARG:NH2	5:X:26:GLU:OE1	2.47	0.47
4:Q:67:HIS:CD2	4:Q:118:MET:HG2	2.50	0.47
5:Z:141:LYS:HG3	5:Z:164:GLU:OE2	2.15	0.47
5:d:187:ASP:OD1	6:q:295:LYS:NZ	2.45	0.47
5:f:36:ALA:HB1	4:x:728:LYS:H	1.80	0.47
5:i:169:ARG:HG3	5:i:170:LEU:HD22	1.96	0.47
6:o:435:ARG:NH2	6:p:472:ASN:OD1	2.47	0.47
4:x:617:HIS:CE1	4:x:619:PRO:HD2	2.50	0.47
1:6:12:MET:HB3	6:r:532:LEU:HB3	1.97	0.46
1:9:4:SER:HB3	6:o:516:ALA:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:60:LEU:HD11	3:B:73:ILE:HD12	1.97	0.46
3:E:10:THR:HG21	5:Y:74:TYR:CE2	2.50	0.46
3:I:137:VAL:HG23	3:I:138:ASN:ND2	2.29	0.46
4:P:357:ARG:HG2	4:P:371:THR:HA	1.97	0.46
4:T:728:LYS:H	5:e:36:ALA:HB1	1.80	0.46
6:k:397:GLN:HB3	6:k:425:THR:HG21	1.96	0.46
6:m:255:ARG:HB3	6:m:265:GLY:HA3	1.95	0.46
6:m:481:ILE:HG23	6:n:466:ILE:HD11	1.96	0.46
6:n:297:ILE:HD12	6:n:330:LEU:HD23	1.97	0.46
6:o:305:ILE:HD11	6:o:323:ARG:HG3	1.97	0.46
6:q:527:ALA:HA	6:q:532:LEU:HB2	1.97	0.46
6:t:306:THR:HG21	6:t:327:ILE:HG12	1.97	0.46
4:x:288:ARG:HB3	4:x:290:VAL:HG22	1.96	0.46
1:3:3:PHE:HE2	1:4:12:MET:HE1	1.80	0.46
4:R:585:LEU:HD22	4:R:599:ARG:HB2	1.98	0.46
5:i:99:ARG:NH2	5:i:111:ASP:OD2	2.39	0.46
5:i:137:TRP:HA	5:i:167:ALA:HB1	1.98	0.46
6:j:260:ASP:OD2	6:u:162:ARG:HD3	2.15	0.46
6:j:405:LEU:HD22	6:j:417:LEU:HD11	1.96	0.46
6:m:144:LEU:HB3	6:m:161:TYR:HB2	1.95	0.46
6:q:74:MET:HE3	6:q:78:PHE:HB2	1.98	0.46
6:q:513:ALA:HB1	6:r:508:LEU:HA	1.96	0.46
6:t:187:PHE:HZ	6:t:199:GLU:HG2	1.80	0.46
3:I:54:THR:OG1	3:I:57:THR:HG22	2.15	0.46
4:Q:16:SER:HB3	4:Q:23:ARG:HD3	1.96	0.46
4:R:75:GLU:HG3	4:R:314:ARG:NH1	2.30	0.46
4:R:317:ASP:OD1	4:R:317:ASP:N	2.47	0.46
4:T:577:SER:O	4:T:591:ARG:NH2	2.48	0.46
5:Y:136:TYR:HE1	5:i:49:LYS:HE3	1.81	0.46
6:j:492:MET:HE1	6:u:494:GLN:NE2	2.30	0.46
6:q:255:ARG:H	6:q:395:GLU:HG2	1.81	0.46
4:x:141:VAL:HG22	4:x:300:GLU:HG2	1.96	0.46
1:AA:12:MET:H	1:AA:12:MET:HG2	1.42	0.46
3:D:76:ARG:NH2	3:D:119:ASP:OD2	2.49	0.46
4:P:188:VAL:O	4:P:191:THR:HG22	2.15	0.46
4:P:365:ASN:HA	4:P:394:ALA:HA	1.98	0.46
4:P:479:VAL:HG22	4:x:477:GLN:O	2.15	0.46
4:R:714:GLY:HA3	4:R:774:THR:HB	1.97	0.46
4:S:197:ALA:HA	4:S:220:ILE:HD11	1.97	0.46
3:a:60:LEU:HD11	3:a:73:ILE:HD12	1.97	0.46
6:k:494:GLN:NE2	6:l:492:MET:SD	2.89	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:n:357:MET:HE1	6:n:385:LEU:HB2	1.97	0.46
6:p:89:SER:OG	6:p:92:GLU:HB2	2.15	0.46
6:p:297:ILE:HD12	6:p:330:LEU:HD23	1.96	0.46
6:q:73:LEU:HD21	6:q:388:VAL:HG23	1.98	0.46
6:q:86:LEU:HD23	6:q:423:GLU:HB3	1.98	0.46
6:s:198:VAL:HG22	6:s:232:VAL:HG11	1.97	0.46
6:u:97:LEU:HD11	6:u:103:LEU:HB2	1.97	0.46
2:1:87:LEU:C	4:R:793:GLY:HA3	2.41	0.46
3:B:25:GLU:O	3:B:77:ARG:HD3	2.16	0.46
3:C:60:LEU:HD11	3:C:73:ILE:HD12	1.96	0.46
3:G:107:MET:HE1	3:L:105:GLN:HG2	1.97	0.46
4:P:414:LEU:HD23	4:P:416:TRP:HE1	1.81	0.46
4:Q:589:PRO:HD3	4:Q:636:PRO:HA	1.97	0.46
6:j:89:SER:OG	6:j:92:GLU:HB2	2.16	0.46
6:o:73:LEU:HD22	6:o:389:TYR:HB3	1.98	0.46
6:o:287:VAL:O	6:o:290:SER:OG	2.29	0.46
6:u:305:ILE:HD11	6:u:323:ARG:HG3	1.97	0.46
1:9:13:ASP:HB3	6:o:533:GLN:NE2	2.30	0.46
3:E:25:GLU:HG2	5:g:9:GLU:HG2	1.97	0.46
3:E:121:ILE:HG13	3:O:129:LEU:HD13	1.97	0.46
3:F:62:LYS:HE3	5:d:72:ASP:HA	1.97	0.46
4:T:357:ARG:NH2	4:T:387:ASP:O	2.49	0.46
5:W:187:ASP:OD1	6:n:295:LYS:NZ	2.48	0.46
6:k:386:GLY:HA2	6:k:389:TYR:CE1	2.50	0.46
6:s:517:THR:HA	6:s:523:MET:HG2	1.97	0.46
6:t:357:MET:HE3	6:t:381:LEU:O	2.16	0.46
2:w:87:LEU:C	4:x:793:GLY:HA3	2.41	0.46
4:x:746:LEU:HD11	4:x:774:THR:HG22	1.98	0.46
3:C:27:LEU:HD21	3:C:104:ILE:HG22	1.98	0.46
3:M:84:ARG:HA	3:M:105:GLN:HE22	1.80	0.46
4:P:464:ARG:HB2	4:P:467:PHE:O	2.16	0.46
4:P:746:LEU:HD11	4:P:774:THR:HG22	1.97	0.46
4:Q:78:TYR:CD2	4:Q:564:ILE:HD11	2.49	0.46
4:Q:617:HIS:CE1	4:Q:619:PRO:HD2	2.50	0.46
4:R:9:LYS:HD2	4:S:21:ILE:HD12	1.98	0.46
4:R:67:HIS:CG	4:R:118:MET:HG2	2.50	0.46
4:S:48:LEU:HD22	4:S:545:PHE:CD1	2.50	0.46
4:S:357:ARG:HG2	4:S:371:THR:HA	1.98	0.46
4:T:477:GLN:O	4:x:479:VAL:HG22	2.15	0.46
3:a:76:ARG:NH2	3:a:119:ASP:OD2	2.48	0.46
3:b:132:ARG:HB2	3:b:134:ARG:NH1	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:k:73:LEU:HD21	6:k:388:VAL:HG23	1.97	0.46
6:k:144:LEU:HB3	6:k:161:TYR:HB2	1.97	0.46
6:m:517:THR:HA	6:m:523:MET:HG2	1.97	0.46
6:r:24:ARG:HD3	6:r:167:VAL:HG12	1.98	0.46
6:t:14:LYS:O	6:t:18:GLU:HG3	2.16	0.46
6:u:506:ALA:O	6:u:510:GLN:HG3	2.16	0.46
2:2:87:LEU:C	4:Q:793:GLY:HA3	2.41	0.46
1:7:11:LYS:HD3	6:r:529:SER:HB3	1.98	0.46
4:Q:686:GLN:O	4:Q:694:SER:N	2.49	0.46
4:Q:700:ARG:NE	4:Q:702:GLN:OE1	2.49	0.46
4:S:628:ARG:HH11	4:S:645:GLN:HE22	1.64	0.46
5:V:154:PRO:HG2	5:V:155:GLU:OE1	2.15	0.46
6:k:89:SER:HB3	6:k:92:GLU:HB2	1.98	0.46
6:m:306:THR:HG21	6:m:327:ILE:HG12	1.98	0.46
3:A:117:THR:HA	3:A:120:THR:HG22	1.97	0.46
3:I:124:ASN:ND2	3:I:130:ASP:HB2	2.31	0.46
4:P:3:LEU:HD21	5:g:151:PHE:O	2.16	0.46
4:P:438:ASN:HB3	4:x:411:GLU:HA	1.97	0.46
4:S:188:VAL:O	4:S:191:THR:HG22	2.15	0.46
5:f:179:GLY:HA3	5:f:181:TYR:CE2	2.51	0.46
6:k:13:ALA:N	6:k:231:GLU:OE1	2.43	0.46
6:m:89:SER:HB3	6:m:92:GLU:HB2	1.97	0.46
6:o:306:THR:HG21	6:o:327:ILE:HG12	1.98	0.46
6:p:363:GLN:HA	6:q:373:GLU:OE2	2.16	0.46
6:u:357:MET:HE1	6:u:384:THR:OG1	2.15	0.46
4:x:464:ARG:HB2	4:x:467:PHE:O	2.16	0.46
4:S:701:LEU:HD13	4:S:787:TYR:HB2	1.97	0.46
4:T:700:ARG:NE	4:T:702:GLN:OE1	2.47	0.46
5:U:154:PRO:HG2	5:U:155:GLU:OE2	2.16	0.46
5:U:183:MET:HE2	6:p:319:PHE:CZ	2.51	0.46
5:g:187:ASP:OD1	6:k:295:LYS:NZ	2.44	0.46
5:i:50:ILE:HD11	5:i:145:GLN:OE1	2.16	0.46
6:j:297:ILE:HD12	6:j:330:LEU:HD23	1.98	0.46
6:o:144:LEU:HB3	6:o:161:TYR:HB2	1.96	0.46
6:p:46:ASP:OD1	6:p:47:SER:N	2.48	0.46
6:q:144:LEU:HB3	6:q:161:TYR:HB2	1.97	0.46
6:q:386:GLY:HA2	6:q:389:TYR:CE1	2.50	0.46
6:r:397:GLN:HB3	6:r:425:THR:HG21	1.98	0.46
6:s:24:ARG:HD3	6:s:167:VAL:HG12	1.98	0.46
6:u:445:CYS:SG	6:u:474:ILE:HG13	2.56	0.46
4:x:67:HIS:CG	4:x:118:MET:HG2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:97:ILE:HG23	4:x:531:LEU:HD21	1.98	0.45
3:D:25:GLU:O	3:D:77:ARG:HD3	2.15	0.45
4:Q:285:ASP:O	4:Q:289:LYS:N	2.49	0.45
4:R:589:PRO:HD3	4:R:636:PRO:HA	1.98	0.45
5:V:155:GLU:CD	5:V:155:GLU:H	2.24	0.45
5:Y:155:GLU:CD	5:Y:155:GLU:H	2.24	0.45
6:k:255:ARG:H	6:k:395:GLU:HG2	1.81	0.45
6:m:159:LYS:NZ	6:m:160:LEU:O	2.48	0.45
6:m:255:ARG:H	6:m:395:GLU:HG2	1.81	0.45
6:n:353:SER:HB3	6:n:358:LEU:HB2	1.99	0.45
4:S:464:ARG:HB2	4:S:467:PHE:O	2.16	0.45
4:T:48:LEU:HD22	4:T:545:PHE:CD1	2.52	0.45
3:c:49:ASP:O	3:c:61:THR:N	2.49	0.45
5:g:17:VAL:O	5:g:21:LEU:HG	2.17	0.45
6:j:363:GLN:HA	6:k:373:GLU:OE2	2.16	0.45
6:l:24:ARG:HD3	6:l:167:VAL:HG12	1.98	0.45
6:l:397:GLN:HB3	6:l:425:THR:HG21	1.98	0.45
6:n:290:SER:HB3	6:o:344:VAL:HG21	1.98	0.45
4:x:357:ARG:HD3	4:x:369:SER:O	2.17	0.45
4:x:715:THR:HA	4:x:731:MET:O	2.16	0.45
1:5:5:PRO:O	1:6:11:LYS:HG2	2.16	0.45
3:A:10:THR:HG21	5:V:74:TYR:CE2	2.51	0.45
3:I:132:ARG:HB2	3:I:134:ARG:NH1	2.31	0.45
3:J:62:LYS:HE3	5:g:72:ASP:HA	1.97	0.45
3:M:24:PHE:HE1	3:M:32:VAL:HG22	1.82	0.45
4:P:165:LEU:HD22	4:P:196:LEU:HD22	1.98	0.45
4:P:332:CYS:SG	4:P:382:ILE:HG12	2.57	0.45
4:Q:357:ARG:HD3	4:Q:369:SER:O	2.16	0.45
4:R:266:MET:HE3	4:R:266:MET:HB3	1.79	0.45
4:S:332:CYS:SG	4:S:382:ILE:HG12	2.56	0.45
4:T:71:ARG:HB2	4:T:75:GLU:HB2	1.98	0.45
5:V:172:MET:O	5:V:176:MET:HG2	2.17	0.45
5:Y:15:SER:O	5:i:45:ARG:NH2	2.50	0.45
6:k:74:MET:HE3	6:k:78:PHE:HB2	1.98	0.45
6:q:66:LEU:HD11	6:q:139:VAL:HB	1.99	0.45
6:t:169:GLN:OE1	6:t:178:GLN:NE2	2.43	0.45
6:u:73:LEU:HD21	6:u:388:VAL:HG23	1.98	0.45
4:x:708:VAL:HG23	4:x:755:PHE:HE1	1.81	0.45
3:F:132:ARG:HH11	3:F:134:ARG:HH22	1.64	0.45
4:Q:728:LYS:H	5:i:36:ALA:HB1	1.81	0.45
4:S:3:LEU:HD21	5:d:151:PHE:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:T:67:HIS:CD2	4:T:118:MET:HG2	2.51	0.45
5:Z:179:GLY:HA3	5:Z:181:TYR:CE2	2.51	0.45
3:a:129:LEU:HD13	3:b:121:ILE:HG12	1.98	0.45
6:o:73:LEU:HD21	6:o:388:VAL:HG23	1.97	0.45
6:o:445:CYS:SG	6:o:474:ILE:HG13	2.56	0.45
6:p:385:LEU:HD23	6:p:389:TYR:CE1	2.52	0.45
6:q:220:ASP:HB2	6:q:227:LEU:HG	1.98	0.45
6:u:73:LEU:HD22	6:u:389:TYR:HB3	1.98	0.45
4:x:332:CYS:SG	4:x:382:ILE:HG12	2.56	0.45
1:AB:10:PRO:HD2	6:m:512:MET:HE1	1.98	0.45
3:B:25:GLU:HG2	5:i:8:VAL:HA	1.98	0.45
4:R:640:ILE:HD12	3:c:92:SER:HA	1.97	0.45
4:T:589:PRO:HD3	4:T:636:PRO:HA	1.97	0.45
5:W:85:LEU:HD22	5:e:132:GLU:HG2	1.99	0.45
5:W:176:MET:HG3	6:l:321:THR:HG23	1.98	0.45
3:a:13:LEU:HD11	3:a:36:LEU:HD22	1.98	0.45
3:b:124:ASN:ND2	3:b:130:ASP:HB2	2.30	0.45
6:j:380:GLU:HB2	6:u:359:ASN:ND2	2.32	0.45
6:o:362:VAL:HG12	6:o:377:VAL:HG23	1.98	0.45
3:C:4:VAL:HG11	5:W:77:LEU:HD12	1.99	0.45
3:D:129:LEU:HD13	3:I:121:ILE:HG12	1.99	0.45
3:E:133:GLY:H	3:J:138:ASN:HB3	1.81	0.45
4:P:197:ALA:HA	4:P:220:ILE:HD11	1.97	0.45
4:R:90:ASP:OD1	4:R:94:ASN:N	2.46	0.45
4:R:617:HIS:CE1	4:R:619:PRO:HD2	2.51	0.45
4:S:257:LEU:HD11	4:S:282:VAL:HG21	1.99	0.45
4:S:522:LYS:HE3	4:S:542:HIS:CE1	2.52	0.45
4:T:357:ARG:HD3	4:T:369:SER:O	2.16	0.45
4:T:793:GLY:HA3	2:y:87:LEU:C	2.41	0.45
5:Z:148:ASN:ND2	5:Z:157:GLU:OE1	2.50	0.45
5:Z:169:ARG:O	5:Z:173:GLU:HG3	2.16	0.45
5:e:50:ILE:HD11	5:e:145:GLN:OE1	2.17	0.45
5:h:176:MET:HG3	6:r:321:THR:HG23	1.99	0.45
6:k:66:LEU:HD11	6:k:139:VAL:HB	1.99	0.45
6:k:353:SER:HA	6:k:358:LEU:HD12	1.97	0.45
6:q:289:MET:HE2	6:q:334:LYS:HZ3	1.82	0.45
6:t:353:SER:HB3	6:t:358:LEU:HB2	1.98	0.45
1:4:11:LYS:HD2	6:u:529:SER:HB3	1.97	0.45
1:AB:12:MET:HB3	6:l:532:LEU:HB3	1.99	0.45
3:D:10:THR:HG21	5:X:74:TYR:CE2	2.52	0.45
4:P:270:VAL:HG21	4:x:290:VAL:HG21	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:T:212:THR:HB	4:T:223:THR:HB	1.99	0.45
4:T:665:ARG:HH11	4:T:665:ARG:HG3	1.82	0.45
6:m:527:ALA:O	6:m:532:LEU:N	2.50	0.45
6:n:169:GLN:OE1	6:n:178:GLN:NE2	2.43	0.45
6:t:297:ILE:HD12	6:t:330:LEU:HD23	1.98	0.45
6:u:255:ARG:HB3	6:u:265:GLY:HA3	1.98	0.45
3:D:60:LEU:HD11	3:D:73:ILE:HD12	1.97	0.45
3:E:25:GLU:O	3:E:77:ARG:HD3	2.17	0.45
3:G:54:THR:OG1	3:G:57:THR:HG22	2.17	0.45
4:P:290:VAL:HG21	4:Q:270:VAL:HG21	1.99	0.45
4:P:686:GLN:O	4:P:694:SER:N	2.49	0.45
4:S:217:GLN:NE2	4:T:241:ASP:OD1	2.49	0.45
4:S:357:ARG:HD3	4:S:369:SER:O	2.17	0.45
4:S:696:GLU:HG3	2:z:87:LEU:HD22	1.99	0.45
4:T:285:ASP:O	4:T:289:LYS:N	2.49	0.45
6:m:357:MET:SD	6:m:385:LEU:HB2	2.57	0.45
6:n:64:ARG:NH2	6:n:360:SER:OG	2.45	0.45
6:n:255:ARG:NH1	6:n:395:GLU:OE1	2.50	0.45
6:o:359:ASN:ND2	6:p:380:GLU:HB2	2.32	0.45
6:p:510:GLN:HG2	6:q:507:ALA:HB2	1.99	0.45
6:s:190:LEU:HD11	6:s:211:ILE:HG13	1.99	0.45
6:u:362:VAL:HG12	6:u:377:VAL:HG23	1.98	0.45
4:x:414:LEU:HB3	4:x:416:TRP:HE1	1.82	0.45
1:6:5:PRO:HB2	6:r:512:MET:HG2	1.99	0.45
3:D:13:LEU:HD11	3:D:36:LEU:HD22	1.98	0.45
3:I:45:THR:HB	3:I:48:THR:HG22	1.98	0.45
4:P:709:ASN:O	4:P:779:ILE:N	2.48	0.45
4:R:357:ARG:HD3	4:R:369:SER:O	2.16	0.45
4:R:715:THR:HA	4:R:731:MET:O	2.16	0.45
4:R:728:LYS:H	5:Z:36:ALA:HB1	1.81	0.45
4:R:746:LEU:HD11	4:R:774:THR:HG22	1.99	0.45
5:g:50:ILE:HD12	5:g:141:LYS:HE3	1.98	0.45
6:l:131:PHE:CE2	6:l:135:LYS:HD2	2.52	0.45
6:m:24:ARG:HD3	6:m:167:VAL:HG12	1.98	0.45
6:m:77:LEU:HD21	6:m:389:TYR:HB2	1.99	0.45
6:s:49:ASN:OD1	6:s:51:SER:OG	2.30	0.45
6:s:77:LEU:O	6:s:397:GLN:NE2	2.50	0.45
3:A:25:GLU:O	3:A:77:ARG:HD3	2.17	0.45
3:E:116:LEU:HD11	3:O:114:ARG:HD3	1.99	0.45
4:P:357:ARG:HD3	4:P:369:SER:O	2.17	0.45
4:P:357:ARG:NH1	4:P:389:ASP:O	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:R:531:LEU:HD21	2:y:97:ILE:HG23	1.99	0.45
4:S:414:LEU:HD23	4:S:416:TRP:HE1	1.81	0.45
4:T:607:TYR:HB3	4:T:663:GLU:OE1	2.17	0.45
4:T:700:ARG:NH2	5:V:26:GLU:OE2	2.50	0.45
3:b:45:THR:HB	3:b:48:THR:HG22	1.99	0.45
6:j:16:VAL:HG22	6:j:19:ARG:HH21	1.82	0.45
6:j:226:TYR:CE2	6:j:246:LYS:HD2	2.52	0.45
3:F:101:VAL:HG11	5:d:33:GLU:OE2	2.18	0.44
4:P:701:LEU:HD13	4:P:787:TYR:HB2	1.98	0.44
4:Q:48:LEU:HD22	4:Q:545:PHE:CD1	2.52	0.44
4:S:288:ARG:HB3	4:S:290:VAL:HG22	1.98	0.44
4:S:746:LEU:HD11	4:S:774:THR:HG22	1.98	0.44
4:T:536:ARG:HA	4:T:536:ARG:HD2	1.75	0.44
5:h:60:THR:OG1	5:h:181:TYR:OH	2.25	0.44
6:k:134:LEU:HD23	6:k:137:LEU:HD12	1.99	0.44
6:m:357:MET:HE3	6:m:381:LEU:HB3	1.99	0.44
6:p:16:VAL:HG22	6:p:19:ARG:HH21	1.82	0.44
6:q:134:LEU:HD23	6:q:137:LEU:HD12	2.00	0.44
6:s:73:LEU:HD22	6:s:389:TYR:HB3	1.99	0.44
6:s:208:ASP:HB2	6:t:169:GLN:HE22	1.82	0.44
6:u:255:ARG:NH2	6:u:258:ARG:HB3	2.32	0.44
3:J:101:VAL:HG11	5:g:33:GLU:OE2	2.18	0.44
3:M:74:GLU:OE2	3:M:76:ARG:NH1	2.51	0.44
4:Q:71:ARG:NH2	4:Q:125:THR:HG23	2.33	0.44
4:Q:665:ARG:HH11	4:Q:665:ARG:HG3	1.82	0.44
4:R:414:LEU:HB3	4:R:416:TRP:HE1	1.83	0.44
4:S:414:LEU:HD11	4:S:483:LYS:HE2	1.98	0.44
6:j:329:PHE:HB3	6:k:334:LYS:HD3	1.99	0.44
6:j:449:TRP:HB3	6:k:455:MET:SD	2.56	0.44
6:n:187:PHE:HZ	6:n:199:GLU:HG2	1.82	0.44
6:o:61:VAL:O	6:o:65:GLY:N	2.44	0.44
6:o:357:MET:HE1	6:o:384:THR:OG1	2.16	0.44
6:q:290:SER:HB3	6:r:344:VAL:HG21	1.98	0.44
4:P:522:LYS:HE3	4:P:542:HIS:CE1	2.52	0.44
4:Q:536:ARG:HA	4:Q:536:ARG:HD2	1.74	0.44
4:R:464:ARG:HB2	4:R:467:PHE:O	2.16	0.44
5:U:74:TYR:CE2	3:a:10:THR:HG21	2.52	0.44
5:U:169:ARG:O	5:U:173:GLU:HG3	2.17	0.44
5:V:136:TYR:HE1	5:e:49:LYS:HE3	1.81	0.44
5:V:136:TYR:CE1	5:e:53:GLN:HG3	2.52	0.44
6:m:513:ALA:O	6:m:517:THR:HG22	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:r:131:PHE:CE2	6:r:135:LYS:HD2	2.52	0.44
6:t:82:THR:HA	6:t:118:MET:HE2	2.00	0.44
6:u:306:THR:HG21	6:u:327:ILE:HG12	1.98	0.44
6:u:398:LEU:HD23	6:u:398:LEU:HA	1.83	0.44
4:Q:607:TYR:HB3	4:Q:663:GLU:OE1	2.16	0.44
4:R:216:GLY:HA3	4:R:219:PHE:CZ	2.53	0.44
4:R:714:GLY:N	4:R:775:PRO:O	2.28	0.44
4:S:44:LYS:HE3	4:S:776:LEU:HD23	1.99	0.44
4:S:793:GLY:HA3	2:z:87:LEU:C	2.41	0.44
5:e:187:ASP:OD1	6:o:295:LYS:NZ	2.43	0.44
6:k:359:ASN:ND2	6:l:380:GLU:HB2	2.33	0.44
6:l:323:ARG:HB2	6:l:326:ASP:OD2	2.18	0.44
6:n:131:PHE:CE2	6:n:135:LYS:HD2	2.53	0.44
6:q:359:ASN:ND2	6:r:380:GLU:HB2	2.33	0.44
6:s:413:GLN:HA	6:t:92:GLU:OE2	2.17	0.44
6:u:71:SER:O	6:u:75:LEU:HG	2.17	0.44
4:x:589:PRO:HD3	4:x:636:PRO:HA	1.99	0.44
1:AC:7:ILE:HA	6:k:530:VAL:HG21	1.99	0.44
3:D:106:THR:HG23	3:N:107:MET:HG2	2.00	0.44
3:H:54:THR:OG1	3:H:57:THR:HG22	2.17	0.44
3:N:85:LEU:H	3:N:105:GLN:NE2	2.15	0.44
3:O:49:ASP:O	3:O:61:THR:N	2.50	0.44
4:R:741:LEU:HG	3:a:94:LEU:HB2	2.00	0.44
4:T:42:LEU:HD12	4:T:42:LEU:HA	1.89	0.44
5:Y:136:TYR:CE1	5:i:53:GLN:HG3	2.52	0.44
5:d:169:ARG:O	5:d:173:GLU:HG3	2.17	0.44
6:k:289:MET:HE2	6:k:334:LYS:HZ3	1.82	0.44
4:x:88:VAL:HG11	4:x:320:PHE:CE1	2.53	0.44
4:Q:212:THR:HB	4:Q:223:THR:HB	1.99	0.44
4:S:290:VAL:HG21	4:T:270:VAL:HG21	1.99	0.44
4:T:525:MET:HE3	4:T:525:MET:HB3	1.86	0.44
5:V:15:SER:O	5:e:45:ARG:NH2	2.50	0.44
5:d:17:VAL:O	5:d:21:LEU:HG	2.17	0.44
6:m:413:GLN:HA	6:n:92:GLU:OE2	2.17	0.44
6:u:228:ARG:HD2	6:u:244:TYR:CE2	2.53	0.44
4:x:266:MET:HE3	4:x:266:MET:HB3	1.79	0.44
1:4:11:LYS:HG2	1:4:11:LYS:O	2.17	0.44
3:F:46:ILE:HD12	3:F:50:TYR:CE2	2.53	0.44
3:I:84:ARG:HA	3:I:105:GLN:HE22	1.82	0.44
4:S:323:LYS:HG3	4:S:324:TRP:O	2.17	0.44
5:X:169:ARG:O	5:X:173:GLU:HG3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Z:144:ARG:HA	5:Z:160:LEU:HD13	2.00	0.44
5:d:144:ARG:HA	5:d:160:LEU:HD13	1.99	0.44
6:n:8:LEU:HD13	6:n:178:GLN:HB3	2.00	0.44
6:o:71:SER:O	6:o:75:LEU:HG	2.17	0.44
6:s:445:CYS:SG	6:s:474:ILE:HG13	2.58	0.44
6:t:46:ASP:OD1	6:t:47:SER:N	2.50	0.44
6:t:91:TYR:O	6:t:95:GLN:HG2	2.18	0.44
6:u:61:VAL:O	6:u:65:GLY:N	2.42	0.44
4:x:153:LEU:HB2	4:x:247:VAL:HB	1.98	0.44
3:D:9:LEU:HG	3:D:23:PRO:HG2	1.99	0.44
4:R:78:TYR:HD2	4:R:564:ILE:HD11	1.82	0.44
4:S:66:ILE:HD13	4:S:564:ILE:HD12	2.00	0.44
4:T:464:ARG:HB2	4:T:467:PHE:O	2.18	0.44
5:g:169:ARG:O	5:g:173:GLU:HG3	2.18	0.44
6:j:74:MET:HE3	6:j:78:PHE:HB2	2.00	0.44
6:l:198:VAL:HG22	6:l:232:VAL:HG11	1.98	0.44
6:m:208:ASP:HB2	6:n:169:GLN:HE22	1.82	0.44
6:n:42:LEU:HD12	6:n:42:LEU:HA	1.81	0.44
6:t:374:ILE:HA	6:t:377:VAL:HG22	2.00	0.44
6:u:150:PRO:HB2	6:u:411:THR:HG21	2.00	0.44
1:6:13:ASP:HB3	6:r:533:GLN:HB3	1.99	0.44
3:B:4:VAL:HG11	5:h:77:LEU:HD12	1.99	0.44
3:B:117:THR:HA	3:B:120:THR:HG22	2.00	0.44
3:J:132:ARG:HH11	3:J:134:ARG:HH22	1.65	0.44
4:P:436:GLU:HG2	4:x:355:ARG:NE	2.32	0.44
4:T:61:GLY:O	4:T:566:ARG:NH1	2.51	0.44
4:T:364:GLU:H	4:T:364:GLU:CD	2.25	0.44
3:a:9:LEU:HG	3:a:23:PRO:HG2	1.99	0.44
3:c:85:LEU:H	3:c:105:GLN:NE2	2.16	0.44
5:d:147:ASN:O	5:d:152:GLY:N	2.36	0.44
5:d:149:ARG:HH11	5:d:149:ARG:HG3	1.82	0.44
5:h:59:TRP:HD1	5:h:62:ASN:HD21	1.66	0.44
5:i:187:ASP:OD1	6:u:295:LYS:NZ	2.43	0.44
6:j:385:LEU:HD23	6:j:389:TYR:CE1	2.52	0.44
6:k:220:ASP:HB2	6:k:227:LEU:HG	1.99	0.44
6:o:513:ALA:O	6:o:517:THR:HG22	2.18	0.44
6:p:442:LEU:O	6:p:446:VAL:HG23	2.18	0.44
6:q:445:CYS:SG	6:q:474:ILE:HG13	2.58	0.44
6:r:423:GLU:OE1	6:r:423:GLU:N	2.51	0.44
4:x:44:LYS:HE3	4:x:776:LEU:HD23	2.00	0.44
2:z:89:VAL:O	2:z:91:ARG:HG3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:9:7:ILE:O	1:9:7:ILE:HG13	2.18	0.43
1:AC:8:LYS:HD3	1:AC:8:LYS:HA	1.77	0.43
3:B:10:THR:HG21	5:h:74:TYR:CE2	2.53	0.43
4:P:44:LYS:HE3	4:P:776:LEU:HD23	1.99	0.43
4:Q:439:LEU:HD21	4:Q:442:GLN:HG3	2.00	0.43
4:R:290:VAL:HG21	4:S:270:VAL:HG21	1.99	0.43
4:R:703:LEU:N	4:R:759:GLY:O	2.47	0.43
4:S:86:ILE:HB	4:S:98:VAL:HG11	2.00	0.43
5:U:60:THR:OG1	5:U:181:TYR:OH	2.22	0.43
5:g:149:ARG:HH11	5:g:149:ARG:HG3	1.82	0.43
5:h:85:LEU:HD22	5:i:132:GLU:HG2	1.99	0.43
6:k:506:ALA:O	6:k:510:GLN:HG3	2.18	0.43
6:n:329:PHE:HB3	6:o:334:LYS:HD3	2.00	0.43
6:n:374:ILE:HA	6:n:377:VAL:HG22	2.00	0.43
6:p:329:PHE:HB3	6:q:334:LYS:HD3	1.99	0.43
1:7:5:PRO:HB2	6:q:512:MET:HE3	1.99	0.43
1:7:8:LYS:NZ	6:q:523:MET:HG2	2.33	0.43
3:F:54:THR:OG1	3:F:57:THR:HG22	2.18	0.43
4:Q:166:ILE:HB	4:Q:236:LYS:HB2	2.00	0.43
4:Q:180:PRO:HG2	4:Q:190:ASN:HD22	1.84	0.43
4:Q:364:GLU:H	4:Q:364:GLU:CD	2.25	0.43
4:S:357:ARG:NH1	4:S:389:ASP:O	2.47	0.43
6:j:138:VAL:HG12	6:j:269:ILE:HG12	2.00	0.43
6:m:21:LYS:HB3	6:m:21:LYS:HE3	1.92	0.43
6:m:97:LEU:HD11	6:m:103:LEU:HB2	2.00	0.43
6:n:69:LEU:HD21	6:n:268:TYR:HD2	1.83	0.43
6:o:527:ALA:O	6:o:532:LEU:N	2.51	0.43
6:p:159:LYS:NZ	6:p:160:LEU:O	2.46	0.43
6:t:131:PHE:CE2	6:t:135:LYS:HD2	2.53	0.43
6:t:506:ALA:O	6:t:510:GLN:HG3	2.18	0.43
6:u:13:ALA:HB3	6:u:231:GLU:HB3	2.00	0.43
3:C:10:THR:HG21	5:W:74:TYR:CE2	2.53	0.43
3:E:117:THR:HG23	3:J:116:LEU:HD23	2.00	0.43
3:G:37:ILE:HG12	3:G:41:ARG:HE	1.83	0.43
3:H:53:ALA:HB3	3:H:57:THR:HG23	1.99	0.43
3:H:60:LEU:HD13	3:H:64:TRP:HD1	1.83	0.43
3:J:53:ALA:HB3	3:J:57:THR:HG23	2.00	0.43
3:J:54:THR:OG1	3:J:57:THR:HG22	2.18	0.43
4:P:21:ILE:HG13	4:P:22:LEU:HD22	1.99	0.43
5:Z:9:GLU:HG2	3:a:25:GLU:HG2	2.00	0.43
3:c:110:ALA:O	3:c:114:ARG:HG2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:i:172:MET:O	5:i:176:MET:HG2	2.17	0.43
6:l:66:LEU:HD11	6:l:139:VAL:HB	2.00	0.43
6:l:256:MET:O	6:l:391:ILE:HD11	2.18	0.43
6:n:362:VAL:HB	6:n:374:ILE:HG23	1.99	0.43
6:r:169:GLN:OE1	6:r:178:GLN:NE2	2.46	0.43
6:r:256:MET:O	6:r:391:ILE:HD11	2.18	0.43
6:u:513:ALA:O	6:u:517:THR:HG22	2.19	0.43
3:G:53:ALA:HB3	3:G:57:THR:HG23	1.99	0.43
4:P:479:VAL:HG11	4:P:482:VAL:CG2	2.48	0.43
6:m:445:CYS:SG	6:m:474:ILE:HG13	2.58	0.43
6:n:46:ASP:OD1	6:n:47:SER:N	2.50	0.43
6:o:379:SER:HA	6:o:382:GLU:HG2	2.01	0.43
6:q:465:MET:HA	6:q:465:MET:HE3	2.01	0.43
6:t:362:VAL:HB	6:t:374:ILE:HG23	1.99	0.43
6:t:506:ALA:HB1	6:u:503:ASN:HD22	1.82	0.43
3:H:46:ILE:HD12	3:H:50:TYR:CE2	2.53	0.43
4:Q:357:ARG:NH1	4:Q:389:ASP:O	2.47	0.43
5:Z:50:ILE:HG21	5:Z:141:LYS:HB3	2.00	0.43
6:k:452:LEU:HD22	6:k:463:LEU:HD22	2.00	0.43
6:o:150:PRO:HB2	6:o:411:THR:HG21	2.00	0.43
6:t:69:LEU:HD21	6:t:268:TYR:HD2	1.83	0.43
4:x:78:TYR:HD2	4:x:564:ILE:HD11	1.81	0.43
4:x:157:ARG:HH22	4:x:245:ASN:CG	2.26	0.43
1:0:11:LYS:O	1:0:11:LYS:HG2	2.17	0.43
1:4:3:PHE:HA	6:t:525:ALA:HB1	2.01	0.43
1:8:8:LYS:HD3	1:8:8:LYS:HA	1.85	0.43
3:A:9:LEU:HG	3:A:23:PRO:HG2	1.99	0.43
3:A:29:ARG:HH11	3:A:52:PHE:HB2	1.84	0.43
3:G:60:LEU:HD13	3:G:64:TRP:HD1	1.83	0.43
4:P:672:ASN:ND2	4:P:771:ASP:O	2.51	0.43
4:T:532:ASN:N	4:x:486:GLU:OE2	2.45	0.43
5:W:172:MET:O	5:W:176:MET:HG2	2.18	0.43
5:X:172:MET:O	5:X:176:MET:HG2	2.19	0.43
5:g:184:LEU:HD23	5:g:184:LEU:HA	1.90	0.43
6:o:359:ASN:O	6:o:362:VAL:HG22	2.19	0.43
6:q:176:VAL:HG11	6:q:179:MET:HE2	2.01	0.43
6:s:386:GLY:HA2	6:s:389:TYR:CE2	2.53	0.43
3:C:5:ILE:HG23	3:C:115:ASP:HB3	1.98	0.43
3:K:83:ASP:O	3:K:105:GLN:NE2	2.49	0.43
4:Q:464:ARG:HB2	4:Q:467:PHE:O	2.18	0.43
4:S:709:ASN:O	4:S:779:ILE:N	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:T:715:THR:HA	4:T:731:MET:O	2.19	0.43
5:Y:169:ARG:O	5:Y:173:GLU:HG3	2.18	0.43
6:l:423:GLU:OE1	6:l:423:GLU:N	2.51	0.43
6:n:226:TYR:CE2	6:n:246:LYS:HD2	2.54	0.43
6:p:6:THR:HA	6:p:10:GLU:HG2	2.01	0.43
6:r:374:ILE:HA	6:r:377:VAL:HG22	2.01	0.43
6:u:359:ASN:O	6:u:362:VAL:HG22	2.18	0.43
2:w:89:VAL:O	2:w:91:ARG:HG3	2.19	0.43
1:4:11:LYS:HE2	1:4:11:LYS:HB3	1.66	0.43
3:A:120:THR:OG1	3:K:121:ILE:HG23	2.18	0.43
3:E:9:LEU:HG	3:E:23:PRO:HG2	2.00	0.43
3:L:124:ASN:HB3	3:L:130:ASP:HB2	1.99	0.43
4:Q:9:LYS:HD3	4:Q:9:LYS:HA	1.72	0.43
4:Q:411:GLU:HA	4:R:438:ASN:HB3	2.00	0.43
4:Q:746:LEU:HD11	4:Q:774:THR:HG22	2.00	0.43
5:V:169:ARG:O	5:V:173:GLU:HG3	2.18	0.43
5:V:184:LEU:HD23	5:V:184:LEU:HA	1.84	0.43
5:W:17:VAL:HG11	5:W:32:LEU:HD21	2.00	0.43
5:Y:32:LEU:O	5:g:2:ARG:NH2	2.51	0.43
3:a:106:THR:HG23	3:c:107:MET:HG2	2.01	0.43
5:h:169:ARG:O	5:h:173:GLU:HG3	2.19	0.43
6:k:235:MET:HE3	6:k:236:GLU:H	1.82	0.43
6:k:465:MET:HA	6:k:465:MET:HE3	2.01	0.43
6:l:374:ILE:HA	6:l:377:VAL:HG22	2.01	0.43
6:o:398:LEU:HD23	6:o:398:LEU:HA	1.83	0.43
6:q:228:ARG:HH12	6:q:230:GLU:HG3	1.83	0.43
6:r:66:LEU:HD11	6:r:139:VAL:HB	2.00	0.43
6:s:115:ARG:NH1	6:t:90:GLU:OE2	2.52	0.43
6:s:491:LYS:HE2	6:s:491:LYS:HB3	1.86	0.43
3:E:26:TYR:OH	3:E:55:ARG:O	2.33	0.43
4:P:257:LEU:HD11	4:P:282:VAL:HG21	2.00	0.43
4:R:497:PRO:HG3	4:R:519:ASP:HB2	2.00	0.43
4:S:446:GLN:NE2	4:S:463:PRO:HG3	2.34	0.43
6:m:198:VAL:HG22	6:m:232:VAL:HG11	2.01	0.43
6:s:359:ASN:ND2	6:t:380:GLU:HB2	2.34	0.43
6:s:519:SER:O	6:s:523:MET:HG3	2.19	0.43
6:u:484:THR:OG1	6:u:487:GLN:HG3	2.17	0.43
2:v:89:VAL:O	2:v:91:ARG:HG3	2.19	0.43
4:x:497:PRO:HG3	4:x:519:ASP:HB2	2.00	0.43
2:2:89:VAL:O	2:2:91:ARG:HG3	2.19	0.43
1:AC:5:PRO:HG2	6:k:512:MET:HE3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:G:46:ILE:HD12	3:G:50:TYR:CE2	2.54	0.43
4:P:217:GLN:NE2	4:Q:241:ASP:OD1	2.52	0.43
4:Q:141:VAL:HG22	4:Q:300:GLU:HG2	2.00	0.43
4:Q:618:ILE:HA	4:Q:621:ILE:HD12	2.00	0.43
4:R:44:LYS:HE3	4:R:776:LEU:HD23	2.00	0.43
4:T:3:LEU:HD21	5:e:151:PHE:O	2.19	0.43
6:m:74:MET:HE3	6:m:78:PHE:HB2	2.01	0.43
6:q:82:THR:HA	6:q:118:MET:HE2	2.01	0.43
6:q:456:ARG:NH1	6:r:457:ASP:OD2	2.52	0.43
1:0:3:PHE:HA	6:n:525:ALA:HB1	2.00	0.42
3:D:25:GLU:HG2	5:f:9:GLU:HG2	2.00	0.42
3:H:12:GLN:HA	3:H:72:THR:HG22	2.01	0.42
3:K:31:PHE:CE2	3:K:79:THR:HG23	2.54	0.42
4:P:86:ILE:HB	4:P:98:VAL:HG11	2.00	0.42
4:R:617:HIS:HD2	4:R:655:TRP:CZ2	2.37	0.42
5:f:50:ILE:HG21	5:f:141:LYS:HB3	2.00	0.42
6:j:159:LYS:NZ	6:j:160:LEU:O	2.46	0.42
6:l:393:SER:HA	6:l:397:GLN:HB2	2.01	0.42
6:n:82:THR:HA	6:n:118:MET:HE2	2.01	0.42
6:n:93:ALA:O	6:n:97:LEU:HG	2.19	0.42
6:q:441:LYS:HE3	6:q:476:ILE:HG22	2.01	0.42
6:s:477:ASP:O	6:t:469:ARG:NH2	2.52	0.42
6:t:226:TYR:CE2	6:t:246:LYS:HD2	2.54	0.42
4:x:67:HIS:CD2	4:x:118:MET:HG2	2.54	0.42
3:A:116:LEU:HD21	3:K:114:ARG:CZ	2.49	0.42
3:F:53:ALA:HB3	3:F:57:THR:HG23	2.00	0.42
3:L:74:GLU:OE2	3:L:76:ARG:NH1	2.52	0.42
3:M:22:ILE:HG12	3:M:56:THR:O	2.19	0.42
5:f:26:GLU:HG3	4:x:705:ARG:NH2	2.34	0.42
6:j:6:THR:HA	6:j:10:GLU:HG2	2.01	0.42
6:m:359:ASN:ND2	6:n:380:GLU:HB2	2.34	0.42
6:n:159:LYS:HD2	6:n:160:LEU:N	2.34	0.42
6:o:255:ARG:H	6:o:395:GLU:HG2	1.85	0.42
6:r:225:GLU:OE2	6:r:246:LYS:N	2.52	0.42
6:r:393:SER:HA	6:r:397:GLN:HB2	2.00	0.42
6:s:92:GLU:HA	6:s:92:GLU:OE1	2.19	0.42
6:t:37:TYR:CZ	6:t:277:ARG:HG2	2.54	0.42
6:t:159:LYS:HD2	6:t:160:LEU:N	2.34	0.42
6:t:208:ASP:HB2	6:u:169:GLN:HE22	1.85	0.42
4:x:75:GLU:HG3	4:x:314:ARG:NH1	2.34	0.42
4:x:126:PHE:CE2	4:x:353:PHE:HZ	2.36	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:x:216:GLY:HA3	4:x:219:PHE:CZ	2.54	0.42
2:1:91:ARG:HD2	4:Q:687:THR:HG23	2.02	0.42
3:E:29:ARG:HH11	3:E:52:PHE:HB2	1.84	0.42
3:N:110:ALA:O	3:N:114:ARG:HG2	2.19	0.42
4:S:594:MET:HB3	4:S:670:GLY:HA3	2.01	0.42
4:T:357:ARG:HG2	4:T:371:THR:HA	2.01	0.42
5:V:21:LEU:HB3	5:V:26:GLU:HB2	2.00	0.42
5:W:8:VAL:HG12	5:e:2:ARG:O	2.19	0.42
5:h:172:MET:O	5:h:176:MET:HG2	2.18	0.42
6:j:59:GLN:HB3	6:j:283:GLN:HG3	2.02	0.42
6:l:225:GLU:OE2	6:l:246:LYS:N	2.52	0.42
6:p:226:TYR:CE2	6:p:246:LYS:HD2	2.54	0.42
6:r:297:ILE:HD12	6:r:330:LEU:HD23	2.00	0.42
6:u:379:SER:HA	6:u:382:GLU:HG2	2.01	0.42
2:w:86:SER:O	4:x:793:GLY:N	2.52	0.42
4:x:212:THR:HB	4:x:223:THR:HB	2.02	0.42
3:D:94:LEU:HB2	4:x:741:LEU:HG	2.00	0.42
3:J:46:ILE:HD12	3:J:50:TYR:CE2	2.53	0.42
4:P:66:ILE:HD13	4:P:564:ILE:HD12	2.00	0.42
4:P:446:GLN:NE2	4:P:463:PRO:HG3	2.34	0.42
4:R:167:VAL:HG13	4:R:174:VAL:HG23	2.01	0.42
4:T:705:ARG:HH22	5:e:39:ASP:CG	2.27	0.42
5:Z:184:LEU:HD23	5:Z:184:LEU:HA	1.89	0.42
5:f:144:ARG:HA	5:f:160:LEU:HD13	2.01	0.42
6:k:24:ARG:HD3	6:k:167:VAL:HG12	2.01	0.42
6:k:91:TYR:O	6:k:95:GLN:HG2	2.20	0.42
6:l:297:ILE:HD12	6:l:330:LEU:HD23	2.01	0.42
6:l:368:ARG:HH11	6:m:368:ARG:NH2	2.18	0.42
6:s:74:MET:HE3	6:s:78:PHE:HB2	2.01	0.42
6:s:379:SER:HA	6:s:382:GLU:HG2	2.01	0.42
6:t:329:PHE:HB3	6:u:334:LYS:HD3	2.00	0.42
1:5:6:LYS:HD3	1:5:6:LYS:HA	1.88	0.42
1:8:12:MET:HB3	6:p:532:LEU:HB3	2.01	0.42
3:D:4:VAL:HG11	5:X:77:LEU:HD12	2.02	0.42
3:I:101:VAL:HG11	5:f:33:GLU:OE2	2.19	0.42
3:L:24:PHE:HE1	3:L:32:VAL:HG22	1.84	0.42
4:Q:709:ASN:O	4:Q:779:ILE:N	2.50	0.42
4:R:126:PHE:CE2	4:R:353:PHE:HZ	2.37	0.42
4:R:788:LEU:HD22	5:h:153:ALA:HA	2.02	0.42
4:S:3:LEU:HD23	4:S:3:LEU:HA	1.83	0.42
5:U:172:MET:O	5:U:176:MET:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:m:228:ARG:HD2	6:m:244:TYR:CE2	2.54	0.42
6:n:37:TYR:CZ	6:n:277:ARG:HG2	2.55	0.42
1:0:12:MET:SD	6:n:527:ALA:HB2	2.59	0.42
1:AB:5:PRO:HG3	6:k:523:MET:SD	2.60	0.42
4:P:257:LEU:HD13	4:P:291:TRP:CD2	2.55	0.42
4:Q:174:VAL:HG23	4:Q:204:MET:HG2	2.02	0.42
4:R:45:ARG:HD3	4:R:543:TRP:CD2	2.55	0.42
4:T:50:PHE:HD1	4:T:596:MET:HE3	1.84	0.42
5:V:183:MET:HB3	6:n:319:PHE:CE2	2.54	0.42
5:X:46:ILE:HD11	5:X:150:PHE:HE2	1.85	0.42
5:X:60:THR:OG1	5:X:181:TYR:OH	2.23	0.42
5:Z:33:GLU:OE2	3:b:101:VAL:HG11	2.20	0.42
6:l:364:ARG:NH2	6:l:373:GLU:OE1	2.52	0.42
6:m:190:LEU:HD11	6:m:211:ILE:HG13	1.99	0.42
6:m:379:SER:HA	6:m:382:GLU:HG2	2.01	0.42
6:n:498:GLN:NE2	6:o:495:GLN:OE1	2.52	0.42
6:p:13:ALA:N	6:p:231:GLU:OE2	2.50	0.42
6:r:364:ARG:NH2	6:r:373:GLU:OE1	2.52	0.42
6:t:368:ARG:HH11	6:u:368:ARG:NH2	2.17	0.42
4:x:417:SER:OG	4:x:418:ASP:N	2.53	0.42
3:E:120:THR:OG1	3:O:121:ILE:HG23	2.18	0.42
4:P:48:LEU:HD22	4:P:545:PHE:CD1	2.54	0.42
4:Q:525:MET:HE3	4:Q:525:MET:HB3	1.86	0.42
4:Q:715:THR:HA	4:Q:731:MET:O	2.19	0.42
5:W:23:SER:HA	5:f:149:ARG:HG2	2.02	0.42
5:W:183:MET:HB3	6:l:319:PHE:CE2	2.55	0.42
5:h:169:ARG:HG3	6:s:302:PRO:HB2	2.01	0.42
6:j:442:LEU:O	6:j:446:VAL:HG23	2.20	0.42
6:m:92:GLU:OE1	6:m:92:GLU:HA	2.19	0.42
6:m:99:ASP:OD1	6:m:101:ASP:HB3	2.19	0.42
6:n:91:TYR:O	6:n:95:GLN:HG2	2.19	0.42
6:q:91:TYR:O	6:q:95:GLN:HG2	2.20	0.42
6:q:114:GLU:OE2	6:q:435:ARG:HD2	2.19	0.42
6:s:423:GLU:O	6:s:423:GLU:HG2	2.20	0.42
6:t:79:PRO:HD2	6:t:83:TRP:HB3	2.02	0.42
4:x:90:ASP:OD1	4:x:94:ASN:N	2.47	0.42
3:A:5:ILE:HG22	3:A:8:VAL:H	1.84	0.42
3:J:13:LEU:HD23	3:J:13:LEU:HA	1.95	0.42
3:L:9:LEU:HD23	3:L:10:THR:N	2.35	0.42
3:N:31:PHE:CE2	3:N:79:THR:HG23	2.55	0.42
4:P:721:GLU:OE2	4:P:767:TYR:OH	2.26	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:R:599:ARG:HH21	4:R:666:MET:HE1	1.83	0.42
5:f:26:GLU:HG3	4:x:705:ARG:CZ	2.50	0.42
6:j:184:GLN:HB2	6:k:172:ALA:HB3	2.02	0.42
6:k:445:CYS:SG	6:k:474:ILE:HG13	2.59	0.42
6:l:517:THR:HG21	6:m:511:GLY:HA3	2.02	0.42
6:m:373:GLU:O	6:m:377:VAL:HG22	2.20	0.42
6:n:16:VAL:HG22	6:n:19:ARG:HH21	1.85	0.42
6:o:255:ARG:HB3	6:o:265:GLY:HA3	2.00	0.42
6:p:74:MET:HE3	6:p:78:PHE:HB2	2.00	0.42
6:q:58:TRP:CE2	6:q:284:GLU:HG3	2.55	0.42
6:u:91:TYR:O	6:u:95:GLN:HG2	2.20	0.42
2:y:89:VAL:O	2:y:91:ARG:HG3	2.20	0.42
1:8:11:LYS:HD3	6:q:529:SER:HB3	2.02	0.42
3:A:133:GLY:H	3:F:138:ASN:HB3	1.85	0.42
1:AB:11:LYS:O	6:l:536:ILE:HG21	2.19	0.42
3:C:121:ILE:HG13	3:M:129:LEU:HD13	2.01	0.42
4:P:120:THR:HG23	4:P:125:THR:HG22	2.01	0.42
4:Q:285:ASP:HB3	4:Q:288:ARG:HB2	2.02	0.42
4:R:48:LEU:HD22	4:R:545:PHE:CD1	2.54	0.42
4:R:705:ARG:CZ	5:Z:26:GLU:HG3	2.50	0.42
4:T:216:GLY:HA3	4:T:219:PHE:CZ	2.55	0.42
4:T:405:TYR:OH	4:T:447:ASP:O	2.29	0.42
4:T:746:LEU:HD11	4:T:774:THR:HG22	2.00	0.42
5:W:153:ALA:HA	4:x:788:LEU:HD22	2.02	0.42
6:j:24:ARG:HD3	6:j:167:VAL:HG12	2.02	0.42
6:j:364:ARG:HD2	6:j:369:VAL:HG22	2.01	0.42
6:k:114:GLU:OE2	6:k:435:ARG:HD2	2.20	0.42
6:l:484:THR:O	6:l:488:LYS:HG3	2.20	0.42
6:p:59:GLN:HB3	6:p:283:GLN:HG3	2.02	0.42
6:q:190:LEU:HD13	6:q:194:ILE:HG22	2.02	0.42
6:t:331:GLN:HA	6:u:337:ASP:OD2	2.20	0.42
3:E:117:THR:HA	3:E:120:THR:HG22	2.01	0.42
3:G:37:ILE:HD11	3:G:41:ARG:HH21	1.85	0.42
3:G:101:VAL:HG11	5:i:33:GLU:OE2	2.20	0.42
3:L:19:ASP:OD1	3:L:59:SER:OG	2.29	0.42
4:P:411:GLU:HA	4:Q:438:ASN:HB3	2.02	0.42
4:Q:705:ARG:HH22	5:i:39:ASP:CG	2.28	0.42
4:R:67:HIS:CD2	4:R:118:MET:HG2	2.55	0.42
4:R:705:ARG:NH2	5:Z:26:GLU:HG3	2.34	0.42
4:T:174:VAL:HG23	4:T:204:MET:HG2	2.02	0.42
4:T:700:ARG:NH2	5:V:39:ASP:OD1	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:W:155:GLU:H	5:W:155:GLU:CD	2.28	0.42
3:b:84:ARG:HA	3:b:105:GLN:HE22	1.85	0.42
6:l:169:GLN:OE1	6:l:178:GLN:NE2	2.47	0.42
1:3:7:ILE:H	1:3:7:ILE:HG12	1.57	0.41
4:P:700:ARG:HH22	5:X:39:ASP:CG	2.28	0.41
4:R:411:GLU:HA	4:S:438:ASN:HB3	2.01	0.41
5:W:60:THR:OG1	5:W:181:TYR:OH	2.21	0.41
3:c:132:ARG:HB2	3:c:134:ARG:NE	2.35	0.41
6:k:13:ALA:HB2	6:k:216:HIS:HB2	2.02	0.41
6:k:58:TRP:CE2	6:k:284:GLU:HG3	2.55	0.41
6:k:491:LYS:HE2	6:k:491:LYS:HB3	1.96	0.41
6:l:46:ASP:OD1	6:l:47:SER:N	2.53	0.41
6:l:255:ARG:NH1	6:l:395:GLU:OE1	2.53	0.41
6:l:498:GLN:OE1	6:m:492:MET:HG3	2.19	0.41
6:m:91:TYR:O	6:m:95:GLN:HG2	2.20	0.41
6:n:331:GLN:HA	6:o:337:ASP:OD2	2.20	0.41
6:u:192:GLU:O	6:u:196:LYS:HG3	2.19	0.41
1:9:8:LYS:NZ	6:o:516:ALA:HB1	2.35	0.41
3:B:5:ILE:HG23	3:B:115:ASP:HB3	2.00	0.41
3:M:44:LEU:HD23	3:M:60:LEU:HD11	2.02	0.41
4:P:477:GLN:HA	4:Q:479:VAL:HG22	2.02	0.41
4:Q:160:GLN:HA	4:Q:160:GLN:OE1	2.20	0.41
4:S:106:TYR:O	4:S:129:ASN:ND2	2.46	0.41
4:S:165:LEU:HD22	4:S:196:LEU:HD22	2.01	0.41
4:S:357:ARG:NH2	4:S:387:ASP:O	2.53	0.41
4:T:446:GLN:HE21	4:T:463:PRO:HG3	1.85	0.41
5:W:169:ARG:HG3	6:m:302:PRO:HB2	2.01	0.41
5:Z:166:GLU:HA	5:Z:169:ARG:HG2	2.01	0.41
6:j:173:PHE:CE1	6:u:159:LYS:HE3	2.55	0.41
6:l:59:GLN:HB3	6:l:283:GLN:HG3	2.03	0.41
6:p:179:MET:HE3	6:p:251:TYR:HB2	2.01	0.41
6:r:149:GLU:HA	6:r:150:PRO:HD3	1.93	0.41
6:s:373:GLU:O	6:s:377:VAL:HG22	2.20	0.41
6:t:191:PRO:HD2	6:t:194:ILE:HD12	2.02	0.41
6:u:520:PRO:HA	6:u:523:MET:HE3	2.02	0.41
4:x:45:ARG:HD3	4:x:543:TRP:CD2	2.55	0.41
4:x:48:LEU:HD22	4:x:545:PHE:CD1	2.54	0.41
2:1:89:VAL:O	2:1:91:ARG:HG3	2.20	0.41
1:AB:5:PRO:HB2	6:l:512:MET:HG2	2.03	0.41
4:P:9:LYS:HE3	4:Q:697:ASP:OD1	2.20	0.41
4:Q:332:CYS:SG	4:Q:382:ILE:HG12	2.60	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:Q:617:HIS:HD2	4:Q:655:TRP:CZ2	2.38	0.41
4:R:701:LEU:HD13	4:R:787:TYR:HB2	2.02	0.41
5:U:26:GLU:OE1	5:U:27:PRO:HD2	2.20	0.41
5:W:169:ARG:O	5:W:173:GLU:HG3	2.19	0.41
6:l:7:GLY:O	6:l:10:GLU:HG3	2.20	0.41
6:n:168:VAL:HG12	6:n:264:TYR:CE2	2.55	0.41
6:p:191:PRO:HD2	6:p:194:ILE:HD12	2.02	0.41
6:p:364:ARG:HD2	6:p:369:VAL:HG22	2.02	0.41
6:p:381:LEU:HA	6:p:384:THR:HG22	2.02	0.41
6:r:255:ARG:NH1	6:r:395:GLU:OE1	2.53	0.41
6:r:368:ARG:HH11	6:s:368:ARG:NH2	2.18	0.41
6:s:134:LEU:HD23	6:s:134:LEU:HA	1.92	0.41
6:s:375:ARG:HH21	6:s:376:TYR:HB2	1.85	0.41
6:s:404:LEU:HD23	6:s:404:LEU:HA	1.92	0.41
6:s:527:ALA:O	6:s:532:LEU:N	2.53	0.41
6:t:42:LEU:HD12	6:t:42:LEU:HA	1.81	0.41
4:x:42:LEU:HD12	4:x:42:LEU:HA	1.88	0.41
4:x:617:HIS:HD2	4:x:655:TRP:CZ2	2.38	0.41
1:9:5:PRO:HG3	6:n:523:MET:SD	2.60	0.41
3:D:120:THR:OG1	3:N:121:ILE:HG23	2.19	0.41
3:L:44:LEU:HD23	3:L:60:LEU:HD11	2.03	0.41
4:P:357:ARG:NH2	4:P:387:ASP:O	2.53	0.41
4:P:700:ARG:NE	4:P:702:GLN:OE1	2.53	0.41
5:d:50:ILE:HD12	5:d:141:LYS:HE3	2.01	0.41
5:h:50:ILE:HG21	5:h:141:LYS:HB3	2.02	0.41
5:h:183:MET:HB3	6:r:319:PHE:CE2	2.55	0.41
6:k:176:VAL:HG11	6:k:179:MET:HE2	2.02	0.41
6:l:128:VAL:O	6:l:132:GLU:HG2	2.21	0.41
6:l:362:VAL:HB	6:l:374:ILE:HG23	2.03	0.41
6:o:501:MET:O	6:o:505:ALA:N	2.34	0.41
6:p:138:VAL:HG12	6:p:269:ILE:HG12	2.01	0.41
6:q:408:LEU:HB3	6:q:414:ILE:HG23	2.02	0.41
6:s:99:ASP:OD1	6:s:101:ASP:HB3	2.20	0.41
6:s:323:ARG:HB2	6:s:326:ASP:OD2	2.20	0.41
6:u:409:GLN:HG3	6:u:414:ILE:HD11	2.01	0.41
4:x:618:ILE:HA	4:x:621:ILE:HD12	2.01	0.41
1:3:3:PHE:HD2	1:4:11:LYS:NZ	2.18	0.41
1:3:3:PHE:HD2	1:4:11:LYS:HZ1	1.68	0.41
3:A:40:ASP:OD2	3:A:40:ASP:N	2.53	0.41
3:H:101:VAL:HG11	5:e:33:GLU:OE2	2.21	0.41
3:M:49:ASP:O	3:M:61:THR:N	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:P:67:HIS:CG	4:P:118:MET:HG2	2.55	0.41
4:Q:42:LEU:HD12	4:Q:42:LEU:HA	1.90	0.41
4:S:67:HIS:CG	4:S:118:MET:HG2	2.55	0.41
4:T:285:ASP:HB3	4:T:288:ARG:HB2	2.02	0.41
4:T:317:ASP:OD1	4:T:317:ASP:N	2.53	0.41
4:T:709:ASN:O	4:T:779:ILE:N	2.50	0.41
5:U:77:LEU:HD12	3:a:4:VAL:HG11	2.02	0.41
6:k:5:ARG:HH12	6:k:229:TYR:HB3	1.85	0.41
6:n:368:ARG:HH11	6:o:368:ARG:NH2	2.17	0.41
6:o:91:TYR:O	6:o:95:GLN:HG2	2.21	0.41
6:r:59:GLN:HB3	6:r:283:GLN:HG3	2.02	0.41
1:3:11:LYS:HG2	1:AD:5:PRO:O	2.20	0.41
3:E:46:ILE:HD12	3:E:50:TYR:CE1	2.56	0.41
3:K:49:ASP:O	3:K:61:THR:N	2.50	0.41
3:N:49:ASP:O	3:N:61:THR:N	2.49	0.41
4:P:525:MET:HE3	4:P:525:MET:HB3	1.89	0.41
4:Q:50:PHE:HD1	4:Q:596:MET:HE3	1.84	0.41
4:Q:357:ARG:HG2	4:Q:371:THR:HA	2.03	0.41
4:R:161:TYR:O	4:R:163:ARG:NH1	2.54	0.41
4:R:531:LEU:HB2	4:R:536:ARG:CG	2.51	0.41
4:S:157:ARG:HH22	4:S:245:ASN:CG	2.24	0.41
4:S:672:ASN:ND2	4:S:771:ASP:O	2.51	0.41
4:S:687:THR:HG23	2:y:91:ARG:HD2	2.02	0.41
4:T:71:ARG:NH2	4:T:125:THR:HG23	2.35	0.41
4:T:160:GLN:HA	4:T:160:GLN:OE1	2.20	0.41
4:T:446:GLN:NE2	4:T:463:PRO:HG3	2.36	0.41
5:f:172:MET:O	5:f:176:MET:HG2	2.21	0.41
5:g:172:MET:O	5:g:176:MET:HG2	2.21	0.41
6:j:13:ALA:N	6:j:231:GLU:OE2	2.50	0.41
6:j:179:MET:HE3	6:j:251:TYR:HB2	2.01	0.41
6:j:334:LYS:HD3	6:u:329:PHE:HB3	2.02	0.41
6:n:79:PRO:HD2	6:n:83:TRP:HB3	2.02	0.41
6:n:357:MET:CE	6:n:385:LEU:HB2	2.50	0.41
6:p:168:VAL:HG12	6:p:264:TYR:CE2	2.56	0.41
6:p:193:ASP:OD1	6:p:194:ILE:HG13	2.20	0.41
6:s:513:ALA:O	6:s:517:THR:HG22	2.21	0.41
4:x:585:LEU:HD22	4:x:599:ARG:HB2	2.03	0.41
3:A:46:ILE:HD12	3:A:50:TYR:CE1	2.55	0.41
3:D:5:ILE:HG23	3:D:115:ASP:HB3	2.03	0.41
4:P:61:GLY:O	4:P:566:ARG:NH1	2.54	0.41
4:Q:3:LEU:HD21	5:i:151:PHE:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:Q:61:GLY:O	4:Q:566:ARG:NH1	2.54	0.41
4:S:257:LEU:HD13	4:S:291:TRP:CD2	2.55	0.41
4:S:700:ARG:NE	4:S:702:GLN:OE1	2.53	0.41
4:T:9:LYS:HD3	4:T:9:LYS:HA	1.71	0.41
5:U:85:LEU:HD22	5:Z:132:GLU:HG2	2.02	0.41
5:Z:95:ILE:O	5:Z:106:ARG:HG2	2.21	0.41
5:e:172:MET:O	5:e:176:MET:HG2	2.19	0.41
5:f:166:GLU:HA	5:f:169:ARG:HG2	2.02	0.41
6:p:24:ARG:HD3	6:p:167:VAL:HG12	2.01	0.41
6:q:5:ARG:HH12	6:q:229:TYR:HB3	1.85	0.41
6:s:18:GLU:HA	6:s:21:LYS:HD3	2.02	0.41
6:s:228:ARG:HD2	6:s:244:TYR:CE2	2.56	0.41
4:x:405:TYR:OH	4:x:447:ASP:O	2.37	0.41
4:x:675:PHE:CD1	4:x:776:LEU:HD21	2.56	0.41
1:AD:12:MET:HB2	6:j:532:LEU:HB3	2.03	0.41
3:F:13:LEU:HD11	3:F:36:LEU:HD22	2.03	0.41
3:G:124:ASN:HD22	3:G:128:HIS:HB2	1.85	0.41
3:K:124:ASN:ND2	3:K:128:HIS:O	2.54	0.41
4:P:285:ASP:HB3	4:P:288:ARG:HB2	2.03	0.41
4:P:628:ARG:HA	4:P:645:GLN:NE2	2.35	0.41
4:Q:68:LEU:HD13	4:Q:78:TYR:CE1	2.56	0.41
4:Q:446:GLN:HE21	4:Q:463:PRO:HG3	1.85	0.41
5:d:159:VAL:O	5:d:163:GLU:HG3	2.21	0.41
5:g:144:ARG:HA	5:g:160:LEU:HD13	2.01	0.41
6:k:112:MET:HE2	6:k:112:MET:HB3	1.99	0.41
6:q:69:LEU:HD23	6:q:69:LEU:HA	1.94	0.41
6:q:452:LEU:HD22	6:q:463:LEU:HD22	2.01	0.41
6:r:46:ASP:OD1	6:r:47:SER:N	2.53	0.41
6:r:362:VAL:HB	6:r:374:ILE:HG23	2.03	0.41
6:t:357:MET:CE	6:t:385:LEU:HB2	2.51	0.41
6:t:368:ARG:HH22	6:t:370:THR:HB	1.86	0.41
4:x:87:ARG:NE	4:x:95:GLU:OE1	2.45	0.41
1:AA:8:LYS:HB3	1:AA:12:MET:HG3	2.01	0.41
1:AD:4:SER:HB3	6:j:516:ALA:HA	2.02	0.41
3:B:27:LEU:HD21	3:B:104:ILE:HG22	2.03	0.41
3:E:40:ASP:OD2	3:E:40:ASP:N	2.53	0.41
3:I:13:LEU:HB2	3:I:71:THR:C	2.46	0.41
3:I:120:THR:HG22	3:I:121:ILE:N	2.35	0.41
3:L:31:PHE:CE2	3:L:79:THR:HG23	2.56	0.41
4:P:492:VAL:HB	4:P:495:TYR:HB2	2.03	0.41
4:P:721:GLU:HG2	4:P:726:ASN:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:R:239:TYR:O	4:R:242:GLN:HG3	2.21	0.41
4:S:9:LYS:HE3	4:T:697:ASP:OD1	2.21	0.41
4:S:114:ASN:O	4:S:130:ARG:NH1	2.54	0.41
4:T:86:ILE:HB	4:T:98:VAL:HG11	2.03	0.41
5:U:50:ILE:HG21	5:U:141:LYS:HB3	2.03	0.41
5:X:136:TYR:CE1	5:g:53:GLN:HG3	2.56	0.41
5:Z:149:ARG:HG2	5:h:23:SER:HA	2.03	0.41
5:f:137:TRP:HA	5:f:167:ALA:HB1	2.03	0.41
6:j:168:VAL:HG12	6:j:264:TYR:CE2	2.55	0.41
6:j:469:ARG:HH22	6:u:481:ILE:HD11	1.86	0.41
6:k:408:LEU:HB3	6:k:414:ILE:HG23	2.03	0.41
6:l:190:LEU:HD23	6:l:190:LEU:HA	1.94	0.41
6:m:59:GLN:HG3	6:m:280:GLU:OE1	2.21	0.41
6:o:58:TRP:CE2	6:o:284:GLU:HG3	2.56	0.41
6:o:228:ARG:HD2	6:o:244:TYR:CE2	2.55	0.41
6:p:194:ILE:O	6:p:198:VAL:HG23	2.20	0.41
6:q:404:LEU:HD23	6:q:404:LEU:HA	1.94	0.41
6:r:484:THR:O	6:r:488:LYS:HG3	2.21	0.41
6:t:93:ALA:O	6:t:97:LEU:HG	2.21	0.41
6:t:168:VAL:HG12	6:t:264:TYR:CE2	2.56	0.41
6:u:58:TRP:CE2	6:u:284:GLU:HG3	2.56	0.41
6:u:112:MET:HE2	6:u:112:MET:HB3	1.99	0.41
6:u:299:LEU:N	6:u:328:SER:O	2.53	0.41
4:x:72:ASP:CG	4:x:73:GLU:H	2.29	0.41
4:x:185:PRO:O	4:x:188:VAL:HG12	2.20	0.41
1:7:4:SER:HB3	6:q:516:ALA:HA	2.03	0.41
3:A:35:THR:HG23	3:A:74:GLU:HB3	2.02	0.41
3:D:121:ILE:HG13	3:N:129:LEU:HD13	2.03	0.41
3:E:35:THR:HG23	3:E:74:GLU:HB3	2.03	0.41
3:J:13:LEU:HD11	3:J:36:LEU:HD22	2.03	0.41
4:P:722:ASN:HA	4:P:763:PHE:O	2.21	0.41
4:Q:151:ASP:HB3	4:Q:249:HIS:NE2	2.36	0.41
4:Q:700:ARG:HH22	5:Y:39:ASP:CG	2.29	0.41
4:R:708:VAL:HG23	4:R:755:PHE:HE1	1.85	0.41
4:S:61:GLY:O	4:S:566:ARG:NH1	2.53	0.41
5:Y:50:ILE:HG21	5:Y:141:LYS:HB3	2.03	0.41
5:f:151:PHE:O	4:x:3:LEU:HD21	2.21	0.41
5:h:155:GLU:H	5:h:155:GLU:CD	2.29	0.41
6:m:375:ARG:HH21	6:m:376:TYR:HB2	1.85	0.41
6:n:513:ALA:O	6:n:517:THR:HG22	2.21	0.41
6:o:159:LYS:HE3	6:p:173:PHE:CE1	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:r:7:GLY:O	6:r:10:GLU:HG3	2.20	0.41
6:r:208:ASP:OD1	6:r:208:ASP:N	2.42	0.41
4:x:114:ASN:O	4:x:130:ARG:NH1	2.54	0.41
3:J:50:TYR:HA	3:J:60:LEU:HA	2.03	0.40
4:P:276:SER:HA	4:x:384:ASN:HD22	1.86	0.40
4:P:618:ILE:HA	4:P:621:ILE:HD12	2.03	0.40
4:R:42:LEU:HD12	4:R:42:LEU:HA	1.87	0.40
4:R:88:VAL:HG11	4:R:320:PHE:CE1	2.56	0.40
4:R:114:ASN:O	4:R:130:ARG:NH1	2.53	0.40
4:R:618:ILE:HA	4:R:621:ILE:HD12	2.02	0.40
5:U:169:ARG:NH1	5:U:173:GLU:OE2	2.53	0.40
5:V:50:ILE:HG21	5:V:141:LYS:HB3	2.03	0.40
5:g:183:MET:HB3	6:u:319:PHE:CE2	2.56	0.40
5:i:71:PRO:HD3	5:i:116:GLY:HA2	2.03	0.40
6:k:190:LEU:HD13	6:k:194:ILE:HG22	2.03	0.40
6:k:527:ALA:O	6:k:532:LEU:N	2.54	0.40
6:m:305:ILE:HD11	6:m:323:ARG:HG3	2.03	0.40
6:m:423:GLU:HG2	6:m:423:GLU:O	2.20	0.40
6:o:457:ASP:OD1	6:o:457:ASP:N	2.50	0.40
6:p:8:LEU:HD13	6:p:178:GLN:HB3	2.04	0.40
6:q:42:LEU:HD12	6:q:42:LEU:HA	1.90	0.40
6:s:59:GLN:HG3	6:s:280:GLU:OE1	2.21	0.40
6:s:255:ARG:HH11	6:s:255:ARG:HG3	1.86	0.40
4:x:155:ASN:HD21	4:x:258:PRO:HB3	1.86	0.40
1:AA:6:LYS:HB3	6:n:508:LEU:HD22	2.03	0.40
3:B:120:THR:OG1	3:L:121:ILE:HG23	2.21	0.40
3:F:13:LEU:HD23	3:F:13:LEU:HA	1.95	0.40
4:Q:86:ILE:HB	4:Q:98:VAL:HG11	2.03	0.40
4:Q:114:ASN:O	4:Q:130:ARG:NH1	2.55	0.40
4:R:185:PRO:O	4:R:188:VAL:HG12	2.21	0.40
4:R:417:SER:OG	4:R:418:ASP:N	2.53	0.40
4:R:675:PHE:CD1	4:R:776:LEU:HD21	2.56	0.40
4:T:100:TYR:CD1	4:T:104:SER:HB3	2.56	0.40
4:T:151:ASP:HB3	4:T:249:HIS:NE2	2.36	0.40
5:U:136:TYR:CE1	5:d:53:GLN:HG3	2.55	0.40
5:X:50:ILE:HG21	5:X:141:LYS:HB3	2.03	0.40
3:b:13:LEU:HB2	3:b:71:THR:C	2.46	0.40
3:b:120:THR:HG22	3:b:121:ILE:N	2.35	0.40
3:c:62:LYS:HE3	3:c:62:LYS:HB2	1.84	0.40
5:d:128:ASP:O	5:d:135:ARG:NH2	2.54	0.40
6:k:42:LEU:HD12	6:k:42:LEU:HA	1.90	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:m:226:TYR:CE2	6:m:246:LYS:HD2	2.56	0.40
6:m:359:ASN:HD22	6:n:380:GLU:HB2	1.85	0.40
6:n:114:GLU:OE2	6:n:435:ARG:HD2	2.22	0.40
6:r:368:ARG:NH2	6:r:370:THR:HB	2.35	0.40
6:s:129:THR:HG21	6:s:158:MET:HG3	2.04	0.40
1:9:8:LYS:HZ2	6:o:516:ALA:HB1	1.87	0.40
3:A:121:ILE:HG13	3:K:129:LEU:HD13	2.03	0.40
3:N:132:ARG:HB2	3:N:134:ARG:NE	2.36	0.40
4:P:126:PHE:CE2	4:P:353:PHE:HZ	2.40	0.40
4:Q:100:TYR:CD1	4:Q:104:SER:HB3	2.57	0.40
4:R:586:GLN:O	4:R:668:TYR:OH	2.37	0.40
4:S:45:ARG:HD3	4:S:543:TRP:CD2	2.56	0.40
4:S:275:LYS:HE2	4:S:275:LYS:HB3	1.91	0.40
5:W:50:ILE:HG21	5:W:141:LYS:HB3	2.02	0.40
5:X:169:ARG:NH1	5:X:173:GLU:OE2	2.53	0.40
5:f:95:ILE:O	5:f:106:ARG:HG2	2.21	0.40
5:g:128:ASP:O	5:g:135:ARG:NH2	2.54	0.40
6:j:254:ILE:HG12	6:j:396:LEU:HB2	2.03	0.40
6:j:495:GLN:O	6:j:499:MET:HE3	2.21	0.40
6:l:91:TYR:O	6:l:95:GLN:HG2	2.21	0.40
6:n:191:PRO:HD2	6:n:194:ILE:HD12	2.03	0.40
6:r:498:GLN:OE1	6:s:492:MET:HG3	2.21	0.40
6:s:91:TYR:O	6:s:95:GLN:HG2	2.21	0.40
6:t:8:LEU:HD13	6:t:178:GLN:HB3	2.03	0.40
3:F:120:THR:HG22	3:F:121:ILE:N	2.36	0.40
3:I:50:TYR:HA	3:I:60:LEU:HA	2.04	0.40
3:M:31:PHE:CE2	3:M:79:THR:HG23	2.56	0.40
3:M:132:ARG:HB2	3:M:134:ARG:NE	2.36	0.40
4:P:45:ARG:HD3	4:P:543:TRP:CD2	2.56	0.40
4:P:414:LEU:HB3	4:P:416:TRP:HE1	1.87	0.40
4:Q:594:MET:HB3	4:Q:670:GLY:HA3	2.04	0.40
4:Q:722:ASN:HA	4:Q:763:PHE:O	2.21	0.40
4:S:104:SER:O	4:S:108:LYS:HG3	2.22	0.40
4:S:722:ASN:HA	4:S:763:PHE:O	2.22	0.40
4:T:68:LEU:HD13	4:T:78:TYR:CE1	2.57	0.40
5:Y:26:GLU:OE1	5:Y:26:GLU:HA	2.22	0.40
6:m:255:ARG:HH11	6:m:255:ARG:HG3	1.86	0.40
6:n:368:ARG:HH22	6:n:370:THR:HB	1.86	0.40
6:p:254:ILE:HG12	6:p:396:LEU:HB2	2.03	0.40
6:p:520:PRO:HA	6:p:523:MET:HB3	2.03	0.40
6:q:24:ARG:HD3	6:q:167:VAL:HG12	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:q:385:LEU:HG	6:q:389:TYR:HE1	1.86	0.40
6:r:128:VAL:O	6:r:132:GLU:HG2	2.22	0.40
6:s:17:TYR:HB2	6:s:180:VAL:HG11	2.04	0.40
4:x:91:LEU:HD11	4:x:557:ILE:HD12	2.03	0.40
4:x:155:ASN:HB2	4:x:245:ASN:OD1	2.22	0.40
1:4:8:LYS:HA	1:4:8:LYS:HD3	1.92	0.40
1:6:5:PRO:HG3	6:q:523:MET:SD	2.62	0.40
3:C:134:ARG:HG3	3:M:129:LEU:HG	2.03	0.40
3:H:45:THR:HB	3:H:48:THR:HG22	2.03	0.40
4:Q:446:GLN:NE2	4:Q:463:PRO:HG3	2.36	0.40
4:Q:725:SER:HB2	4:Q:727:TRP:CH2	2.56	0.40
4:R:3:LEU:HD21	5:Z:151:PHE:O	2.21	0.40
4:S:618:ILE:HA	4:S:621:ILE:HD12	2.03	0.40
4:T:153:LEU:HB2	4:T:247:VAL:HB	2.03	0.40
5:Z:183:MET:HB3	6:q:319:PHE:CE2	2.56	0.40
6:k:409:GLN:HG3	6:k:414:ILE:HD11	2.04	0.40
6:l:112:MET:HE2	6:l:112:MET:HB3	1.86	0.40
6:l:368:ARG:NH2	6:l:370:THR:HB	2.35	0.40
6:l:481:ILE:HG13	6:l:482:LEU:HD22	2.04	0.40
6:m:17:TYR:HB2	6:m:180:VAL:HG11	2.04	0.40
6:m:112:MET:HE2	6:m:112:MET:HB3	2.00	0.40
6:o:5:ARG:HH12	6:o:229:TYR:HB3	1.86	0.40
6:o:329:PHE:HB3	6:p:334:LYS:HD3	2.02	0.40
6:q:77:LEU:HD21	6:q:389:TYR:HB2	2.04	0.40
6:r:168:VAL:HG12	6:r:264:TYR:CE2	2.57	0.40
6:r:404:LEU:HD23	6:r:404:LEU:HA	1.96	0.40
6:s:359:ASN:O	6:s:362:VAL:HG22	2.22	0.40
6:t:16:VAL:HG22	6:t:19:ARG:HH21	1.87	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	0	12/88 (14%)	11 (92%)	0	1 (8%)	0	1
1	3	12/88 (14%)	11 (92%)	0	1 (8%)	0	1
1	4	12/88 (14%)	11 (92%)	0	1 (8%)	0	1
1	5	12/88 (14%)	11 (92%)	0	1 (8%)	0	1
1	6	12/88 (14%)	11 (92%)	0	1 (8%)	0	1
1	7	12/88 (14%)	10 (83%)	1 (8%)	1 (8%)	0	1
1	8	12/88 (14%)	11 (92%)	0	1 (8%)	0	1
1	9	12/88 (14%)	10 (83%)	1 (8%)	1 (8%)	0	1
1	AA	12/88 (14%)	11 (92%)	0	1 (8%)	0	1
1	AB	12/88 (14%)	11 (92%)	0	1 (8%)	0	1
1	AC	12/88 (14%)	11 (92%)	0	1 (8%)	0	1
1	AD	12/88 (14%)	10 (83%)	1 (8%)	1 (8%)	0	1
2	1	13/99 (13%)	12 (92%)	1 (8%)	0	100	100
2	2	13/99 (13%)	12 (92%)	1 (8%)	0	100	100
2	v	13/99 (13%)	12 (92%)	1 (8%)	0	100	100
2	w	13/99 (13%)	12 (92%)	1 (8%)	0	100	100
2	y	13/99 (13%)	12 (92%)	1 (8%)	0	100	100
2	z	13/99 (13%)	12 (92%)	1 (8%)	0	100	100
3	A	139/553 (25%)	135 (97%)	4 (3%)	0	100	100
3	B	139/553 (25%)	134 (96%)	5 (4%)	0	100	100
3	C	139/553 (25%)	134 (96%)	5 (4%)	0	100	100
3	D	139/553 (25%)	134 (96%)	5 (4%)	0	100	100
3	E	139/553 (25%)	135 (97%)	4 (3%)	0	100	100
3	F	132/553 (24%)	128 (97%)	4 (3%)	0	100	100
3	G	132/553 (24%)	129 (98%)	3 (2%)	0	100	100
3	H	132/553 (24%)	129 (98%)	3 (2%)	0	100	100
3	I	132/553 (24%)	128 (97%)	4 (3%)	0	100	100
3	J	132/553 (24%)	129 (98%)	3 (2%)	0	100	100
3	K	134/553 (24%)	127 (95%)	7 (5%)	0	100	100
3	L	134/553 (24%)	127 (95%)	7 (5%)	0	100	100
3	M	134/553 (24%)	127 (95%)	7 (5%)	0	100	100
3	N	134/553 (24%)	127 (95%)	7 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	O	134/553 (24%)	127 (95%)	7 (5%)	0	100	100
3	a	139/553 (25%)	134 (96%)	5 (4%)	0	100	100
3	b	132/553 (24%)	128 (97%)	4 (3%)	0	100	100
3	c	134/553 (24%)	127 (95%)	7 (5%)	0	100	100
4	P	791/794 (100%)	773 (98%)	18 (2%)	0	100	100
4	Q	791/794 (100%)	775 (98%)	16 (2%)	0	100	100
4	R	791/794 (100%)	776 (98%)	15 (2%)	0	100	100
4	S	791/794 (100%)	774 (98%)	17 (2%)	0	100	100
4	T	791/794 (100%)	775 (98%)	16 (2%)	0	100	100
4	x	791/794 (100%)	774 (98%)	17 (2%)	0	100	100
5	U	194/196 (99%)	193 (100%)	1 (0%)	0	100	100
5	V	194/196 (99%)	192 (99%)	2 (1%)	0	100	100
5	W	194/196 (99%)	193 (100%)	1 (0%)	0	100	100
5	X	194/196 (99%)	193 (100%)	1 (0%)	0	100	100
5	Y	194/196 (99%)	193 (100%)	1 (0%)	0	100	100
5	Z	193/196 (98%)	191 (99%)	2 (1%)	0	100	100
5	d	193/196 (98%)	191 (99%)	2 (1%)	0	100	100
5	e	193/196 (98%)	191 (99%)	2 (1%)	0	100	100
5	f	193/196 (98%)	191 (99%)	2 (1%)	0	100	100
5	g	193/196 (98%)	191 (99%)	2 (1%)	0	100	100
5	h	194/196 (99%)	192 (99%)	2 (1%)	0	100	100
5	i	193/196 (98%)	191 (99%)	2 (1%)	0	100	100
6	j	522/536 (97%)	514 (98%)	8 (2%)	0	100	100
6	k	522/536 (97%)	513 (98%)	9 (2%)	0	100	100
6	l	522/536 (97%)	515 (99%)	7 (1%)	0	100	100
6	m	522/536 (97%)	515 (99%)	7 (1%)	0	100	100
6	n	522/536 (97%)	515 (99%)	7 (1%)	0	100	100
6	o	522/536 (97%)	513 (98%)	9 (2%)	0	100	100
6	p	522/536 (97%)	514 (98%)	8 (2%)	0	100	100
6	q	522/536 (97%)	515 (99%)	7 (1%)	0	100	100
6	r	522/536 (97%)	515 (99%)	7 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	s	522/536 (97%)	514 (98%)	8 (2%)	0	100	100
6	t	522/536 (97%)	514 (98%)	8 (2%)	0	100	100
6	u	522/536 (97%)	514 (98%)	8 (2%)	0	100	100
All	All	15984/25152 (64%)	15660 (98%)	312 (2%)	12 (0%)	50	73

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	9	9	THR
1	0	9	THR
1	6	9	THR
1	AB	9	THR
1	AC	9	THR
1	5	9	THR
1	8	9	THR
1	AA	9	THR
1	4	9	THR
1	AD	9	THR
1	3	9	THR
1	7	9	THR

### 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	0	14/73 (19%)	12 (86%)	2 (14%)	2	7
1	3	14/73 (19%)	12 (86%)	2 (14%)	2	7
1	4	14/73 (19%)	13 (93%)	1 (7%)	12	30
1	5	14/73 (19%)	14 (100%)	0	100	100
1	6	14/73 (19%)	14 (100%)	0	100	100
1	7	14/73 (19%)	13 (93%)	1 (7%)	12	30
1	8	14/73 (19%)	13 (93%)	1 (7%)	12	30

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	9	14/73 (19%)	14 (100%)	0	100	100
1	AA	14/73 (19%)	12 (86%)	2 (14%)	2	7
1	AB	14/73 (19%)	14 (100%)	0	100	100
1	AC	14/73 (19%)	12 (86%)	2 (14%)	2	7
1	AD	14/73 (19%)	13 (93%)	1 (7%)	12	30
2	1	11/72 (15%)	11 (100%)	0	100	100
2	2	11/72 (15%)	11 (100%)	0	100	100
2	v	11/72 (15%)	11 (100%)	0	100	100
2	w	11/72 (15%)	11 (100%)	0	100	100
2	y	11/72 (15%)	11 (100%)	0	100	100
2	z	11/72 (15%)	11 (100%)	0	100	100
3	A	122/451 (27%)	122 (100%)	0	100	100
3	B	122/451 (27%)	122 (100%)	0	100	100
3	C	122/451 (27%)	122 (100%)	0	100	100
3	D	122/451 (27%)	122 (100%)	0	100	100
3	E	122/451 (27%)	122 (100%)	0	100	100
3	F	117/451 (26%)	117 (100%)	0	100	100
3	G	117/451 (26%)	117 (100%)	0	100	100
3	H	117/451 (26%)	117 (100%)	0	100	100
3	I	117/451 (26%)	117 (100%)	0	100	100
3	J	117/451 (26%)	117 (100%)	0	100	100
3	K	118/451 (26%)	118 (100%)	0	100	100
3	L	118/451 (26%)	118 (100%)	0	100	100
3	M	118/451 (26%)	118 (100%)	0	100	100
3	N	118/451 (26%)	118 (100%)	0	100	100
3	O	118/451 (26%)	118 (100%)	0	100	100
3	a	122/451 (27%)	122 (100%)	0	100	100
3	b	117/451 (26%)	117 (100%)	0	100	100
3	c	118/451 (26%)	118 (100%)	0	100	100
4	P	687/688 (100%)	687 (100%)	0	100	100
4	Q	687/688 (100%)	687 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	R	687/688 (100%)	686 (100%)	1 (0%)	92	98
4	S	687/688 (100%)	687 (100%)	0	100	100
4	T	687/688 (100%)	687 (100%)	0	100	100
4	x	687/688 (100%)	686 (100%)	1 (0%)	92	98
5	U	169/169 (100%)	169 (100%)	0	100	100
5	V	169/169 (100%)	168 (99%)	1 (1%)	84	94
5	W	169/169 (100%)	169 (100%)	0	100	100
5	X	169/169 (100%)	169 (100%)	0	100	100
5	Y	169/169 (100%)	169 (100%)	0	100	100
5	Z	168/169 (99%)	168 (100%)	0	100	100
5	d	168/169 (99%)	168 (100%)	0	100	100
5	e	168/169 (99%)	168 (100%)	0	100	100
5	f	168/169 (99%)	168 (100%)	0	100	100
5	g	168/169 (99%)	168 (100%)	0	100	100
5	h	169/169 (100%)	169 (100%)	0	100	100
5	i	168/169 (99%)	168 (100%)	0	100	100
6	j	435/442 (98%)	435 (100%)	0	100	100
6	k	435/442 (98%)	435 (100%)	0	100	100
6	l	435/442 (98%)	435 (100%)	0	100	100
6	m	435/442 (98%)	435 (100%)	0	100	100
6	n	435/442 (98%)	434 (100%)	1 (0%)	92	98
6	o	435/442 (98%)	434 (100%)	1 (0%)	92	98
6	p	435/442 (98%)	435 (100%)	0	100	100
6	q	435/442 (98%)	435 (100%)	0	100	100
6	r	435/442 (98%)	435 (100%)	0	100	100
6	s	435/442 (98%)	435 (100%)	0	100	100
6	t	435/442 (98%)	435 (100%)	0	100	100
6	u	435/442 (98%)	433 (100%)	2 (0%)	86	95
All	All	13740/20886 (66%)	13721 (100%)	19 (0%)	92	98

All (19) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	0	12	MET
1	0	14	THR
1	3	7	ILE
1	3	12	MET
1	4	14	THR
1	7	7	ILE
1	8	9	THR
1	AA	9	THR
1	AA	12	MET
1	AC	9	THR
1	AC	12	MET
1	AD	12	MET
4	R	71	ARG
5	V	60	THR
6	n	423	GLU
6	o	30	ARG
6	u	30	ARG
6	u	519	SER
4	x	71	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (126) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	98	ASN
2	2	98	ASN
3	B	47	ASN
3	B	138	ASN
3	C	47	ASN
3	C	138	ASN
3	D	138	ASN
3	F	124	ASN
3	I	124	ASN
3	J	124	ASN
3	L	47	ASN
4	P	10	ASN
4	P	214	ASN
4	P	217	GLN
4	P	228	GLN
4	P	398	ASN
4	P	477	GLN
4	P	542	HIS
4	P	645	GLN
4	Q	190	ASN

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Mol	Chain	Res	Type
4	Q	207	ASN
4	Q	242	GLN
4	Q	686	GLN
4	Q	709	ASN
4	Q	723	GLN
4	Q	752	GLN
4	R	10	ASN
4	R	207	ASN
4	S	10	ASN
4	S	477	GLN
4	S	542	HIS
4	T	207	ASN
4	T	242	GLN
4	T	661	ASN
4	T	709	ASN
4	T	752	GLN
5	U	93	GLN
5	U	147	ASN
5	V	93	GLN
5	V	147	ASN
5	W	93	GLN
5	W	147	ASN
5	X	93	GLN
5	X	147	ASN
5	Y	93	GLN
5	Y	147	ASN
5	Z	93	GLN
3	a	138	ASN
3	b	124	ASN
3	c	105	GLN
5	d	37	ASN
5	d	93	GLN
5	e	93	GLN
5	f	93	GLN
5	f	109	GLN
5	g	37	ASN
5	g	93	GLN
5	h	93	GLN
5	h	147	ASN
5	i	93	GLN
6	j	36	GLN
6	j	95	GLN

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Mol	Chain	Res	Type
6	j	335	GLN
6	j	397	GLN
6	j	498	GLN
6	j	503	ASN
6	k	68	ASN
6	k	95	GLN
6	k	175	ASN
6	k	413	GLN
6	k	462	ASN
6	k	487	GLN
6	k	498	GLN
6	k	503	ASN
6	k	515	GLN
6	l	331	GLN
6	l	335	GLN
6	m	413	GLN
6	n	335	GLN
6	n	359	ASN
6	n	363	GLN
6	n	397	GLN
6	n	495	GLN
6	n	498	GLN
6	o	95	GLN
6	o	437	GLN
6	o	462	ASN
6	o	498	GLN
6	o	503	ASN
6	p	36	GLN
6	p	95	GLN
6	p	335	GLN
6	p	397	GLN
6	p	503	ASN
6	q	68	ASN
6	q	95	GLN
6	q	175	ASN
6	q	413	GLN
6	q	462	ASN
6	q	472	ASN
6	q	494	GLN
6	q	498	GLN
6	q	503	ASN
6	q	515	GLN

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Mol	Chain	Res	Type
6	r	335	GLN
6	r	363	GLN
6	r	503	ASN
6	s	413	GLN
6	s	503	ASN
6	t	335	GLN
6	t	359	ASN
6	t	363	GLN
6	t	397	GLN
6	t	495	GLN
6	u	95	GLN
6	u	359	ASN
6	u	462	ASN
6	u	487	GLN
6	u	498	GLN
6	u	533	GLN
2	w	98	ASN
4	x	10	ASN
4	x	207	ASN
4	x	548	ASN
4	x	764	ASN
2	y	98	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

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

There are no ligands in this entry.

## 5.7 Other polymers

There are no such residues in this entry.

## 5.8 Polymer linkage issues

There are no chain breaks in this entry.