Full wwPDB EM Validation Report

Jun 17, 2025 – 09:31 AM JST

PDB ID	:	8ZDO / pdb_00008zdo
EMDB ID	:	EMD-39996
Title	:	Cryo-EM structure of Mycobacteriophage Douge baseplate (gp13, gp17, gp23, gp16, gp18 and gp20)
Authors	:	Maharana, J.; Wang, C.H.; Tsai, L.A.; Lowary, T.L.; Ho, M.C.
Deposited on	:	2024-05-02
Resolution	:	2.97 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*
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.

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

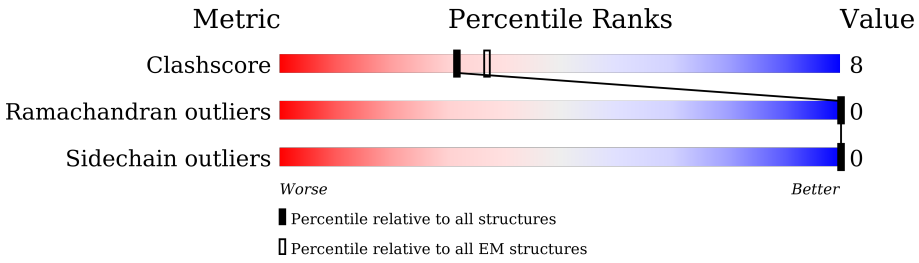
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (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 2.97 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 >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	G	300	12% 80% 20%
1	H	300	11% 81% 19%
1	I	300	11% 79% 21%
1	J	300	11% 81% 19%
1	K	300	12% 79% 21%
1	L	300	9% 81% 19%
1	M	300	10% 82% 18%
1	N	300	10% 81% 19%

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Mol	Chain	Length	Quality of chain
1	O	300	10% 81% 19%
1	P	300	10% 84% 16%
1	Q	300	11% 82% 18%
1	R	300	9% 80% 20%
2	S	1699	98%
2	T	1699	98%
2	U	1699	98%
3	a	311	5% 85% 15%
3	b	311	84% 16%
3	c	311	82% 18%
3	d	311	82% 18%
3	e	311	81% 19%
3	f	311	80% 20%
3	g	311	84% 16%
3	h	311	80% 20%
3	i	311	5% 83% 17%
3	j	311	82% 18%
3	k	311	83% 17%
3	l	311	80% 20%
4	m	295	75% 23%
4	n	295	70% 28%
4	o	295	75% 23%
4	p	295	74% 24%
4	q	295	74% 24%
4	r	295	74% 24%

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Mol	Chain	Length	Quality of chain
5	s	587	
5	t	587	
5	u	587	
6	v	878	
6	w	878	
6	x	878	

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 86910 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 Tail tube protein (gp13).

Mol	Chain	Residues	Atoms					AltConf	Trace
1	G	299	Total	C	N	O	S	0	0
			2256	1438	367	448	3		
1	H	299	Total	C	N	O	S	0	0
			2256	1438	367	448	3		
1	I	299	Total	C	N	O	S	0	0
			2256	1438	367	448	3		
1	J	299	Total	C	N	O	S	0	0
			2256	1438	367	448	3		
1	K	299	Total	C	N	O	S	0	0
			2256	1438	367	448	3		
1	L	299	Total	C	N	O	S	0	0
			2256	1438	367	448	3		
1	M	299	Total	C	N	O	S	0	0
			2256	1438	367	448	3		
1	N	299	Total	C	N	O	S	0	0
			2256	1438	367	448	3		
1	O	299	Total	C	N	O	S	0	0
			2256	1438	367	448	3		
1	P	299	Total	C	N	O	S	0	0
			2256	1438	367	448	3		
1	Q	299	Total	C	N	O	S	0	0
			2256	1438	367	448	3		
1	R	299	Total	C	N	O	S	0	0
			2256	1438	367	448	3		

- Molecule 2 is a protein called Tape measure protein (gp16).

Mol	Chain	Residues	Atoms				AltConf	Trace
2	S	42	Total	C	N	O	0	0
			327	201	62	64		
2	T	42	Total	C	N	O	0	0
			327	201	62	64		
2	U	42	Total	C	N	O	0	0
			327	201	62	64		

- Molecule 3 is a protein called Baseplate upper protein (gp23).

Mol	Chain	Residues	Atoms					AltConf	Trace
3	a	311	Total	C	N	O	S	0	0
			2372	1519	388	453	12		
3	b	311	Total	C	N	O	S	0	0
			2372	1519	388	453	12		
3	c	311	Total	C	N	O	S	0	0
			2372	1519	388	453	12		
3	d	311	Total	C	N	O	S	0	0
			2372	1519	388	453	12		
3	e	311	Total	C	N	O	S	0	0
			2372	1519	388	453	12		
3	f	311	Total	C	N	O	S	0	0
			2372	1519	388	453	12		
3	g	311	Total	C	N	O	S	0	0
			2372	1519	388	453	12		
3	h	311	Total	C	N	O	S	0	0
			2372	1519	388	453	12		
3	i	311	Total	C	N	O	S	0	0
			2372	1519	388	453	12		
3	j	311	Total	C	N	O	S	0	0
			2372	1519	388	453	12		
3	k	311	Total	C	N	O	S	0	0
			2372	1519	388	453	12		
3	l	311	Total	C	N	O	S	0	0
			2372	1519	388	453	12		

- Molecule 4 is a protein called Distal tail protein (gp17).

Mol	Chain	Residues	Atoms					AltConf	Trace
4	m	290	Total	C	N	O	S	0	0
			2343	1497	397	440	9		
4	n	290	Total	C	N	O	S	0	0
			2343	1497	397	440	9		
4	o	290	Total	C	N	O	S	0	0
			2343	1497	397	440	9		
4	p	290	Total	C	N	O	S	0	0
			2343	1497	397	440	9		
4	q	290	Total	C	N	O	S	0	0
			2343	1497	397	440	9		
4	r	290	Total	C	N	O	S	0	0
			2343	1497	397	440	9		

- Molecule 5 is a protein called Baseplate hub protein (gp18).

Mol	Chain	Residues	Atoms					AltConf	Trace
5	s	586	Total	C	N	O	S	0	0
			4582	2937	768	863	14		
5	t	586	Total	C	N	O	S	0	0
			4582	2937	768	863	14		
5	u	586	Total	C	N	O	S	0	0
			4582	2937	768	863	14		

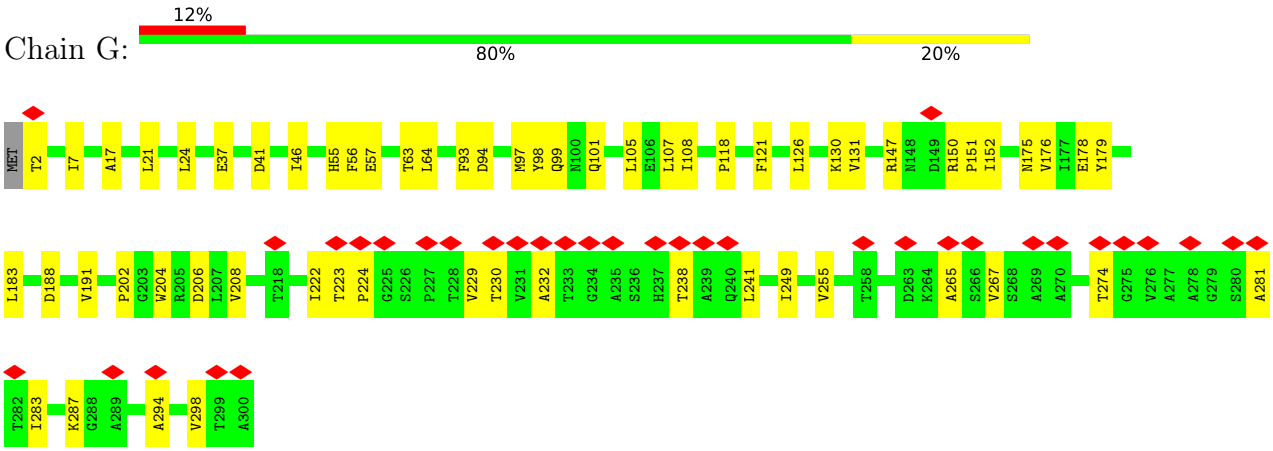
- Molecule 6 is a protein called Central fiber protein (gp20).

Mol	Chain	Residues	Atoms					AltConf	Trace
6	v	115	Total	C	N	O	S	0	0
			863	547	143	171	2		
6	w	115	Total	C	N	O	S	0	0
			863	547	143	171	2		
6	x	115	Total	C	N	O	S	0	0
			863	547	143	171	2		

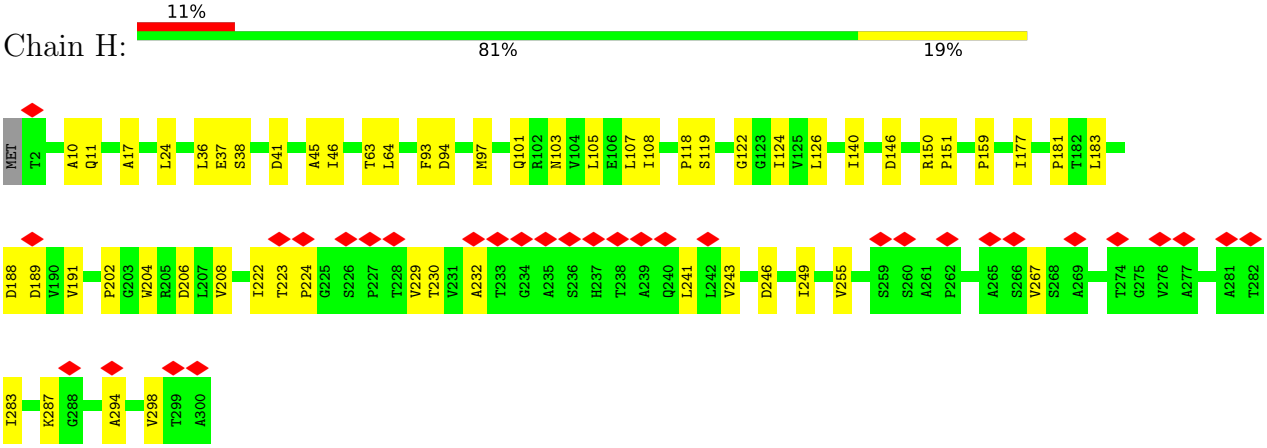
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

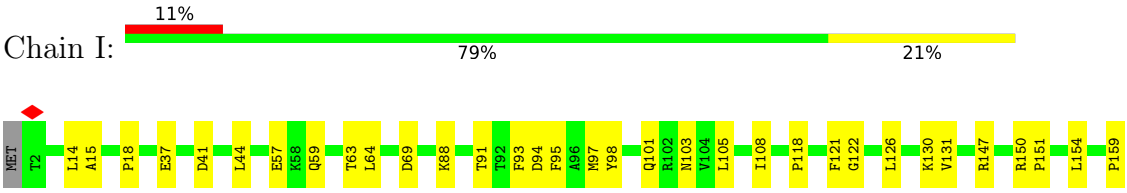
• Molecule 1: Tail tube protein (gp13)

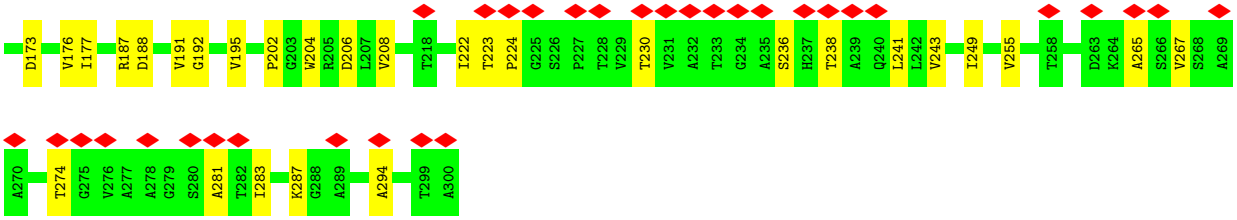


• Molecule 1: Tail tube protein (gp13)

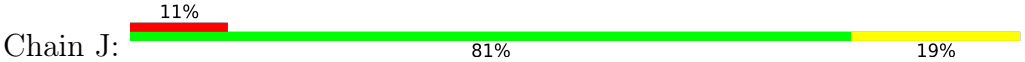


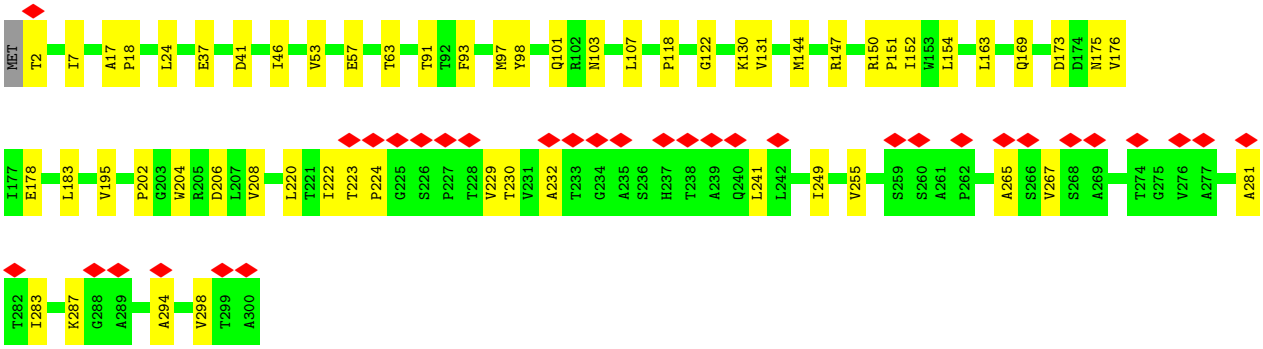
• Molecule 1: Tail tube protein (gp13)



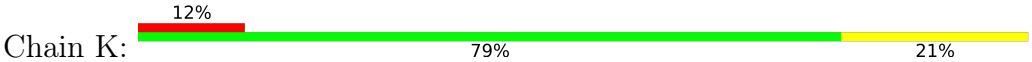


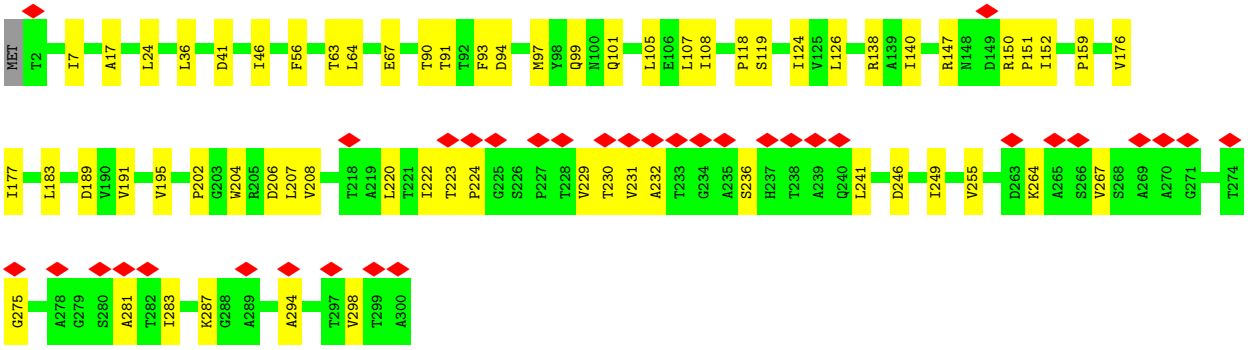
• Molecule 1: Tail tube protein (gp13)



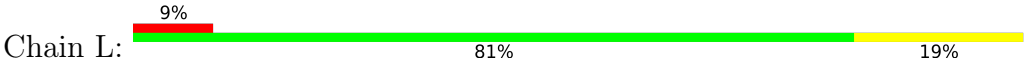


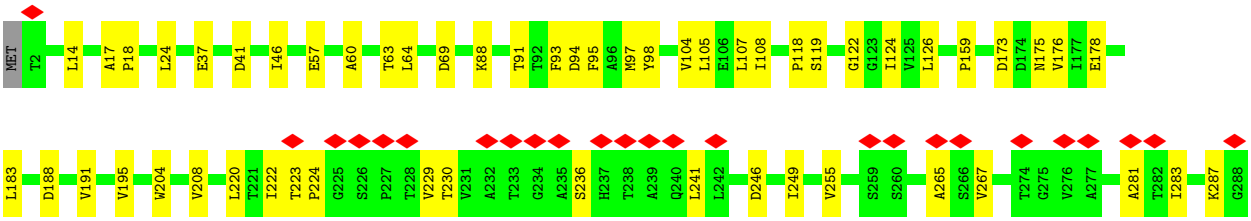
• Molecule 1: Tail tube protein (gp13)

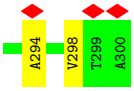




• Molecule 1: Tail tube protein (gp13)

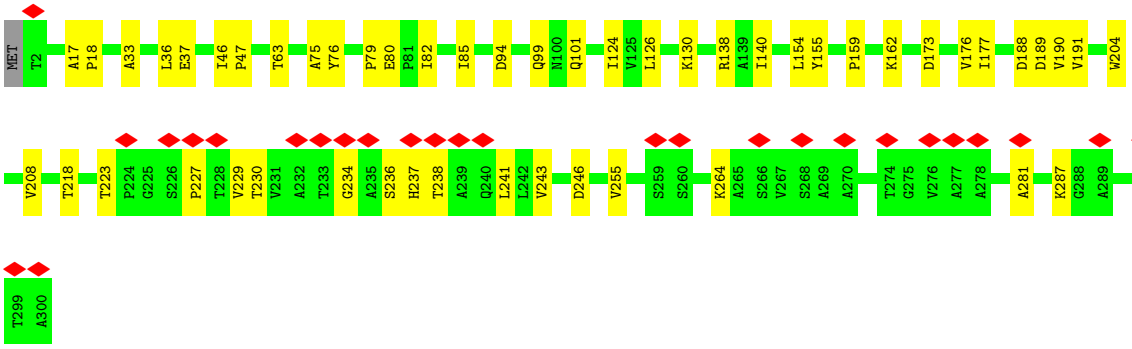






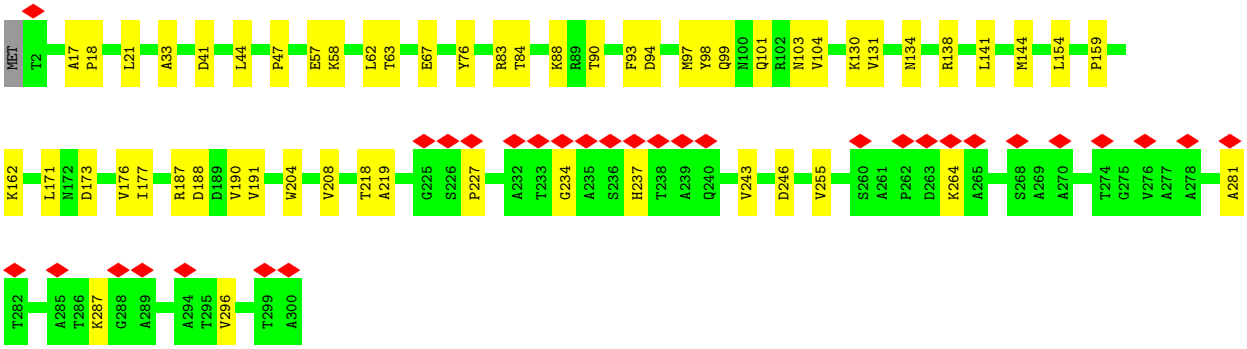
• Molecule 1: Tail tube protein (gp13)

Chain M:



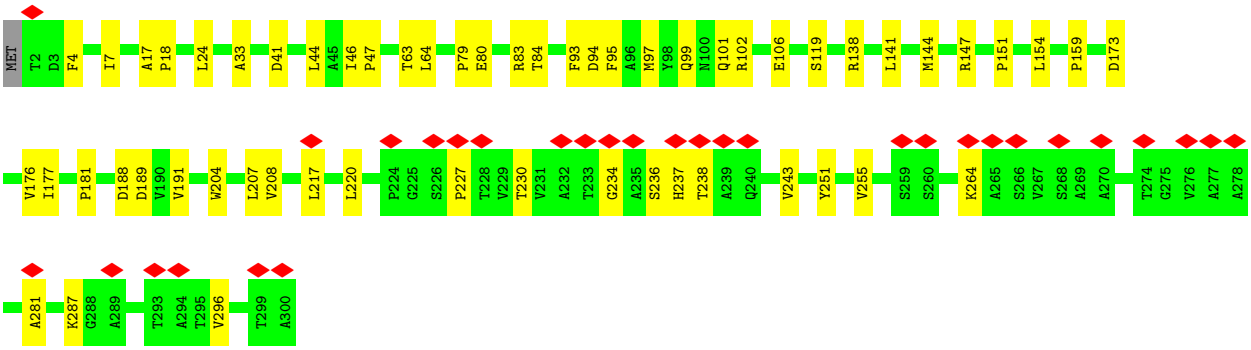
• Molecule 1: Tail tube protein (gp13)

Chain N:



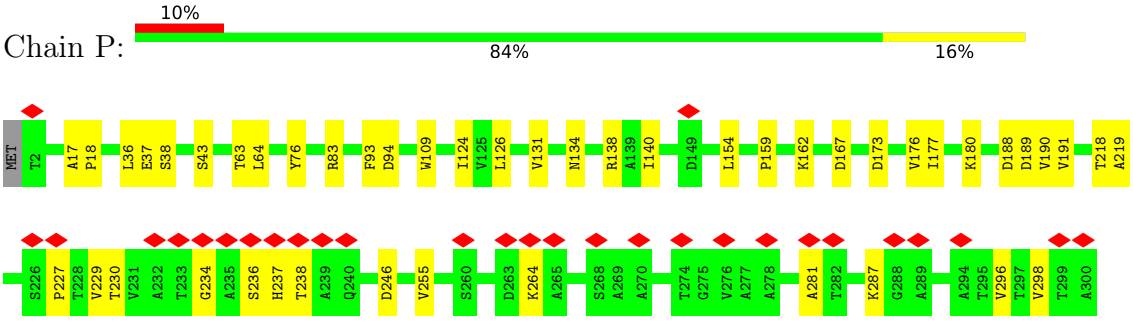
• Molecule 1: Tail tube protein (gp13)

Chain O:



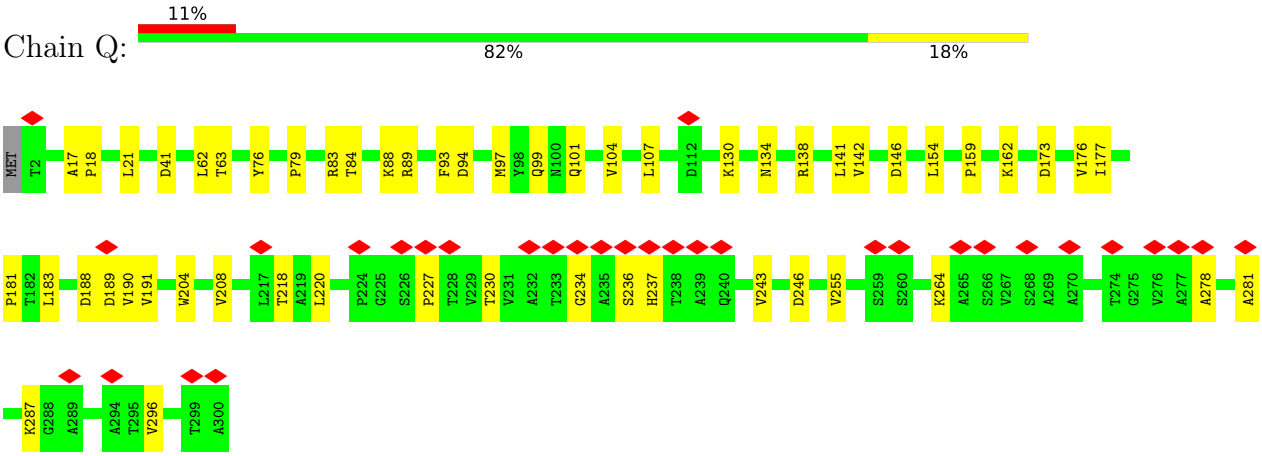
• Molecule 1: Tail tube protein (gp13)

Chain P:



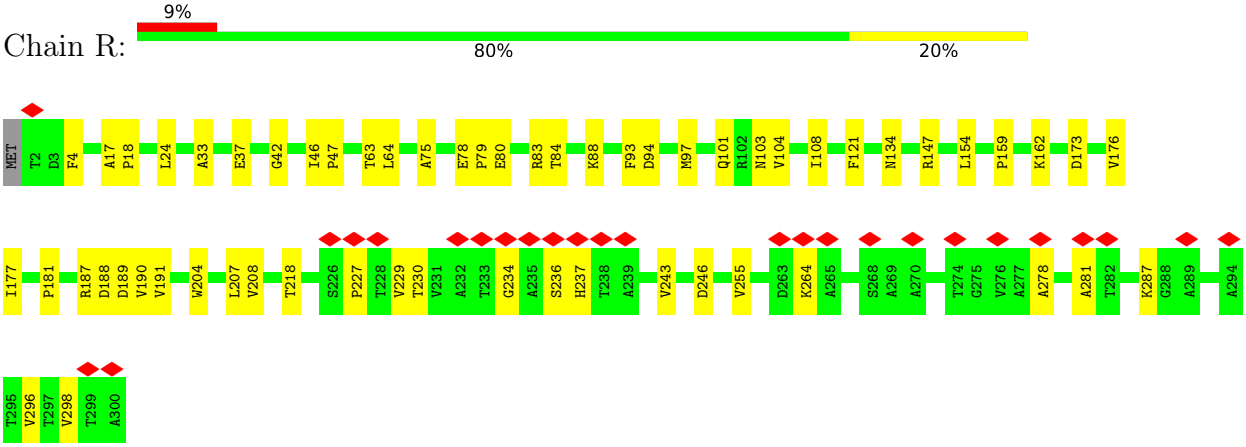
• Molecule 1: Tail tube protein (gp13)

Chain Q:



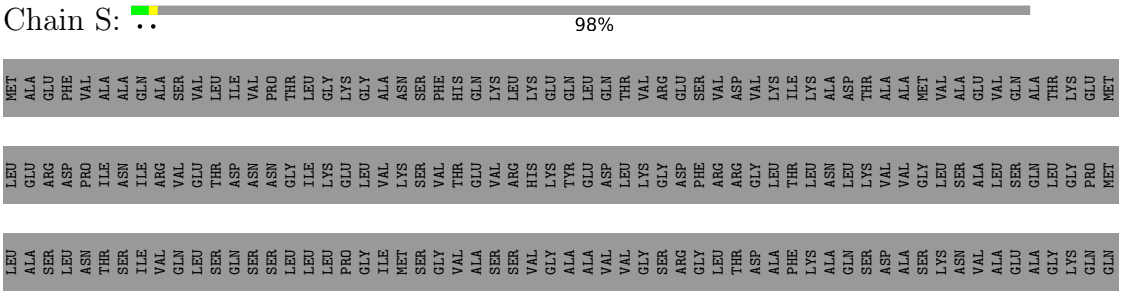
• Molecule 1: Tail tube protein (gp13)

Chain R:



• Molecule 2: Tape measure protein (gp16)

Chain S:



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

ALA PHE GLN GLN GLN ARG ASP ALA LEU GLY LEU ALA LYS ALA GLU SER GLN LEU ALA GLU THR ARG ARG ARG ASN VAL ARG LEU GLY GLN ASP VAL ALA GLU ALA ASN ALA LYS GLY VAL ASN GLY ASN ASP ALA VAL VAL ALA ALA GLN GLU ARG LEU THR LYS ALA LEU GLU ASP LEU

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

ASP LEU PRO ILE LEU GLU ARG GLY LEU ALA GLY ILE ALA GLY ALA ILE ASN GLY ASN LEU LYS THR ALA MET SER GLN LEU ALA THR ASP GLU ASN LYS GLY PHE LEU GLY ARG ILE PHE GLY ASN THR GLU GLU ALA GLN ASN ARG PHE SER THR ALA LEU LYS PRO LEU LEU ASP SER

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

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

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

ASN LEU LEU LEU SER SER GLU THR GLY MET VAL GLY ALA ALA LYS LYS ALA GLY ARG ALA VAL GLY LYS GLY GLU GLY LEU THR GLY LYS LEU GLY VAL LEU ALA GLY MET VAL GLY GLN GLY VAL VAL MET THR GLY LEU SER LEU VAL ALA GLY PHE LEU ILE ASN GLU TRP VAL

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

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

ASN GLN ASN ALA ALA PRO ASP LYS LYS ILE THR ASN ASP VAL LEU ALA ASP ILE ALA THR GLY VAL ASN PRO GLU SER LYS LYS LEU PHE GLU ASP ALA LYS LYS SER ASN LEU ILE HIS PHE ASN GLU SER ASP LEU LEU TYR GLY TYR ASN LYS PRO TRP GLY PHE ILE PRO GLY THR

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

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

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

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

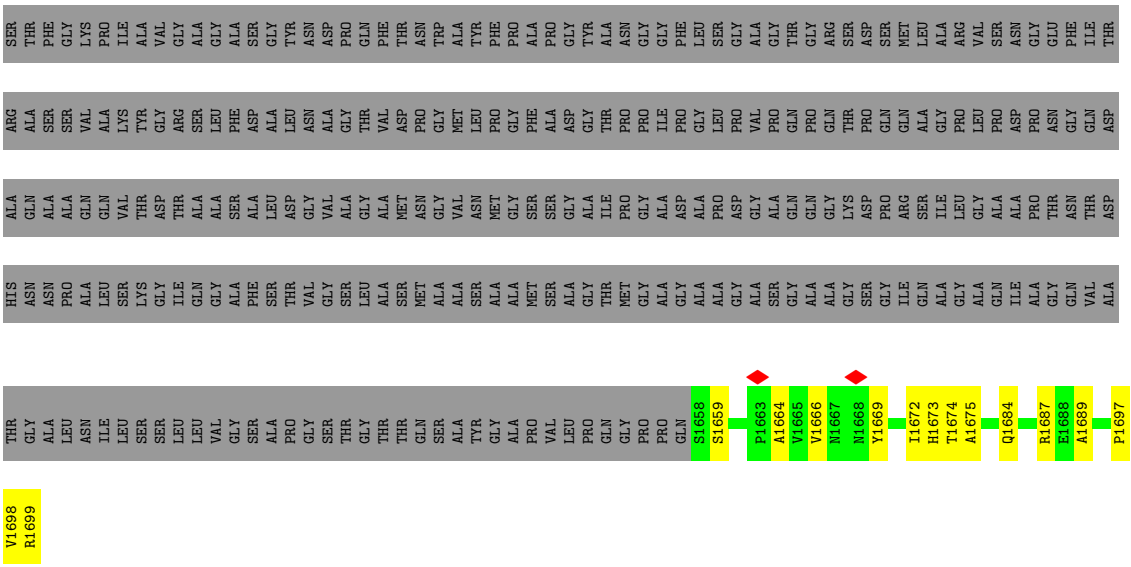
PRO VAL ILE PRO MET PRO ASP LEU ALA ASN PRO GLY LEU TYR ASP PRO ALA THR GLY LYS TYR GLY ALA ALA PRO ALA SER ALA VAL GLN GLN PRO LEU LYS PRO GLY VAL ASP GLY ASP LYS GLY GLU THR SER GLY PRO ASN VAL PRO PRO THR ASP PRO ARG SER PRO GLY TYR LYS

GLN PRO ASN HIS GLY LEU GLY GLY SER PRO GLY PRO GLY ASN GLY THR PRO HIS LEU THR GLY PRO GLY GLY THR PRO VAL SER PRO GLY ALA ALA SER ALA LEU PRO SER ASN GLY GLY ILE PRO GLY LEU THR PRO SER ALA THR ASP PRO LEU GLY LEU SER GLY LEU PRO LYS GLU

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

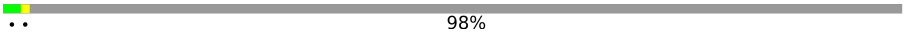
PRO LEU ALA ASP GLY GLN ASN PRO TYR VAL GLY THR SER ILE TYR ASP ALA SER PHE ASP PRO ALA SER GLN ARG ALA SER ASN MET ALA GLU LEU MET ARG GLY LYS PRO TYR THR TRP GLY GLY SER SER LEU ASP GLY THR ASP CYS SER GLY LEU VAL MET TYR VAL VAL ASP ALA

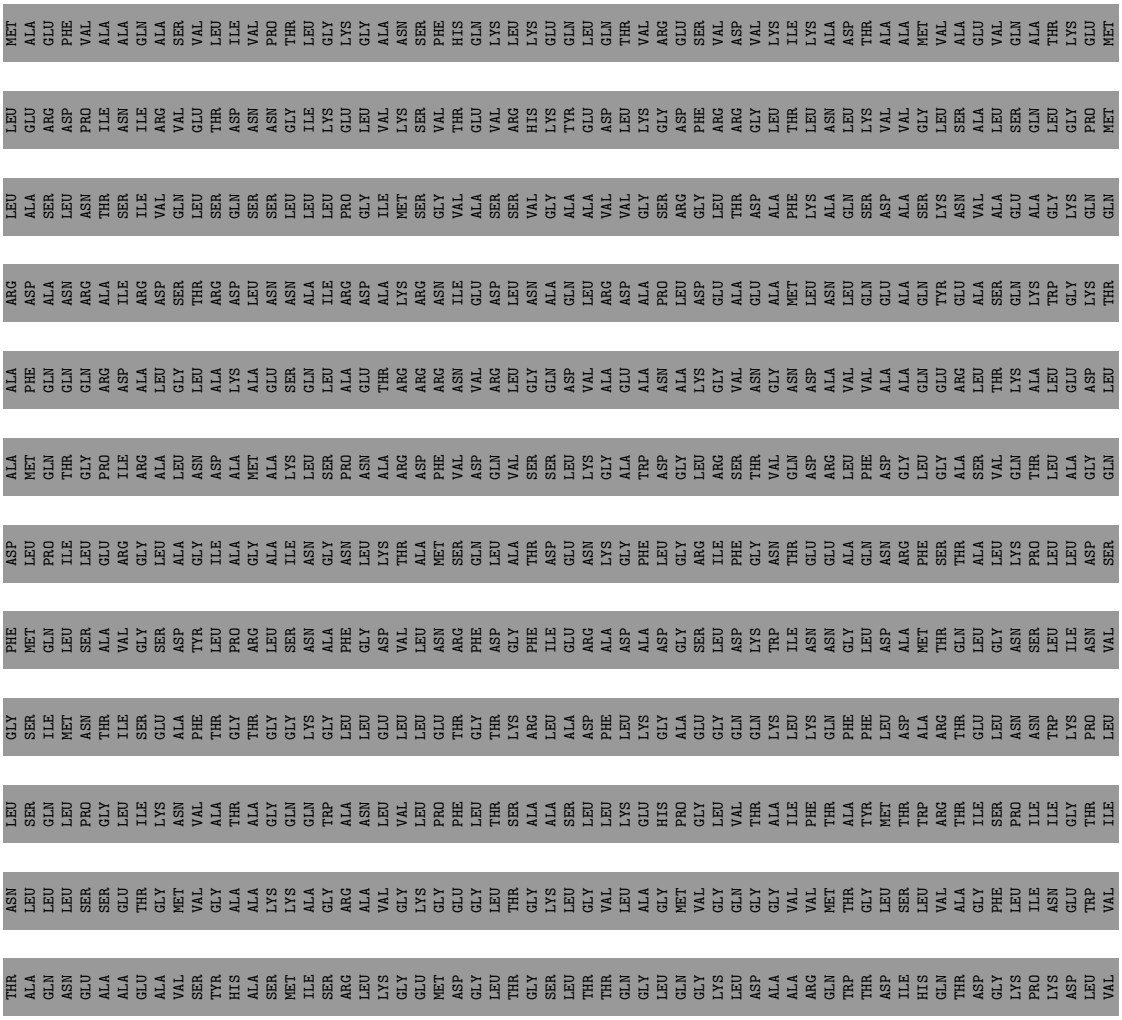
TYR GLU GLY LYS GLU PHE SER GLY ARG THR GLY GLY THR GLY GLY PHE ALA SER SER LEU PRO ALA LYS GLY GLY VAL ILE ILE SER ASP PRO SER GLN ALA PRO PRO GLY THR LEU ARG VAL GLY TRP ASN ALA SER HIS THR ALA GLY THR LEU PRO ASP GLY ARG ASN PHE GLU SER

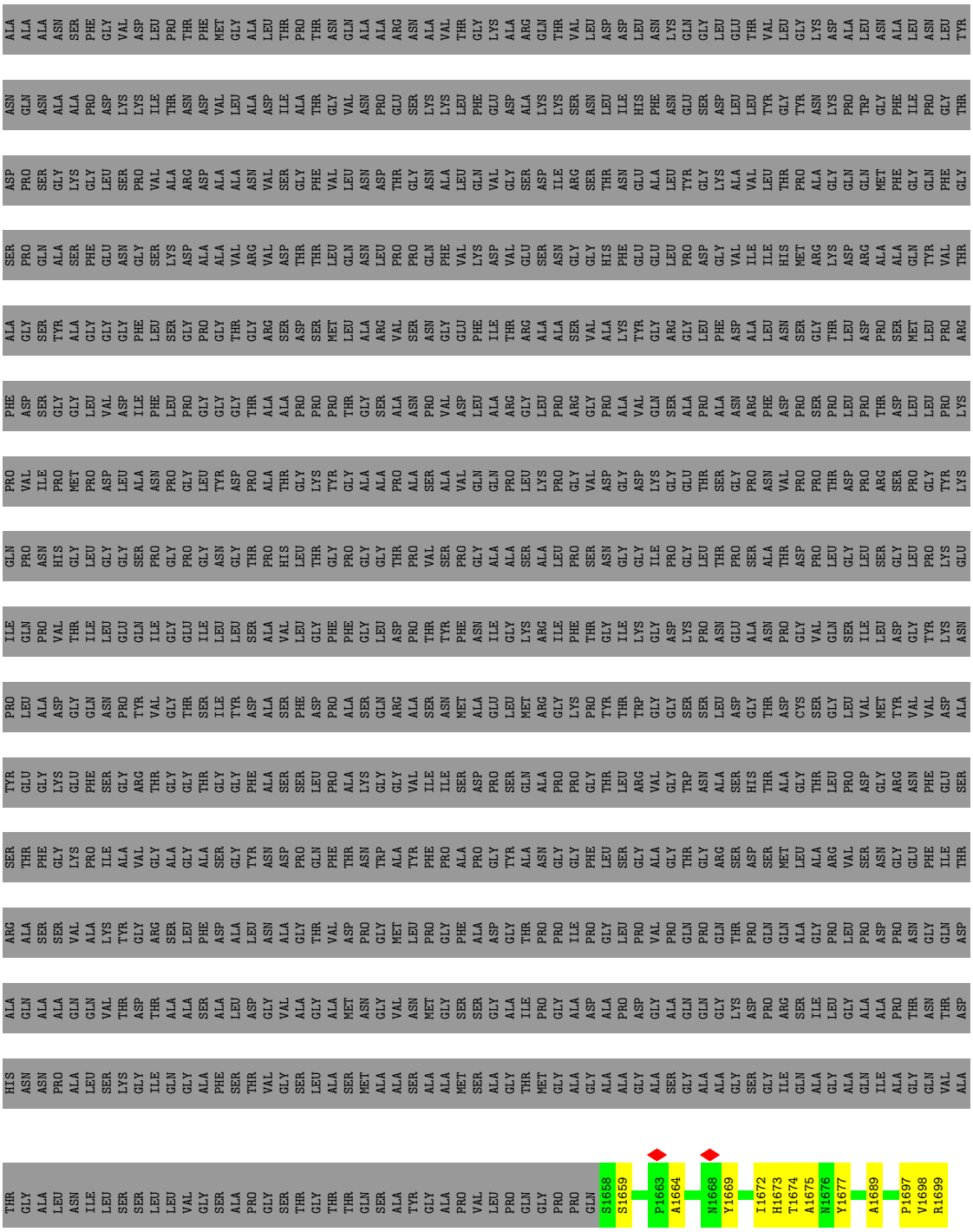


• Molecule 2: Tape measure protein (gp16)

Chain T:

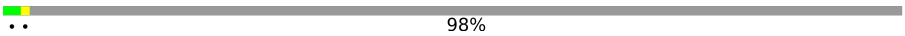






• Molecule 2: Tape measure protein (gp16)

Chain U:



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

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

ALA PHE GLN GLN ARG ASP ALA LEU GLY LEU ALA LYS ALA GLU SER GLN LEU ALA GLU THR ARG ARG ARG ASN VAL ARG LEU GLY GLN ASP VAL ALA GLU ALA ASN ALA LYS GLY VAL ASN GLY ASN ASP ALA VAL VAL ALA ALA GLN GLU ARG LEU THR LYS ALA LEU GLU ASP LEU

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

ASP LEU PRO ILE LEU GLU ARG GLY LEU ALA GLY ILE ALA GLY ALA ILE ASN GLY ASN LEU LYS THR ALA MET SER GLN LEU ALA THR ASP GLU ASN LYS GLY PHE LEU GLY ARG ILE PHE GLY ASN THR GLU GLU ALA GLN ASN ARG PHE SER THR ALA LEU LYS PRO LEU LEU ASP SER

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

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

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

ASN LEU LEU LEU SER SER GLU THR GLY MET VAL GLY ALA ALA LYS LYS ALA GLY ARG ALA VAL GLY LYS GLY GLU GLY LEU THR GLY LYS LEU GLY VAL LEU ALA GLY MET VAL GLY GLN GLY GLY VAL VAL MET THR GLY LEU SER LEU VAL ALA GLY PHE LEU ILE ASN GLU TRP VAL

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

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

ASN GLN ASN ALA ALA PRO ASP LYS LYS ILE THR ASN ASP VAL LEU ALA ASP ILE ALA THR GLY VAL ASN PRO GLU SER LYS LYS LEU PHE GLU ASP ALA LYS LYS SER ASN LEU ILE HIS PHE ASN GLU SER ASP LEU LEU TYR GLY TYR ASN LYS PRO TRP GLY PHE ILE PRO GLY THR

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

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

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

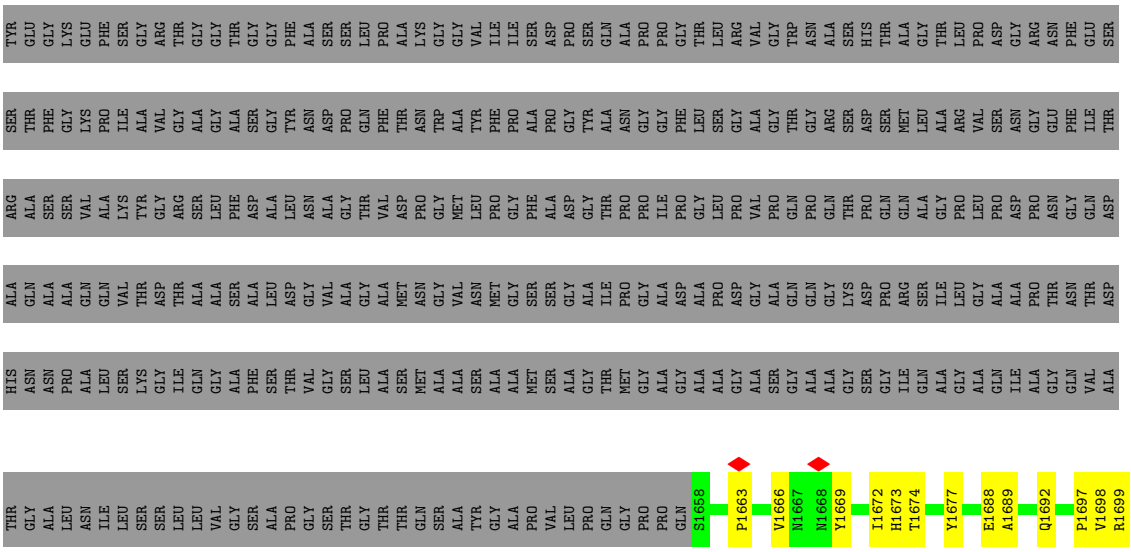
PHE ASP SER GLY GLY LEU VAL ASP ILE PHE LEU PRO GLY GLY GLY THR ALA ALA PRO PRO PRO THR GLY SER ALA ASN PRO VAL ASP LEU ALA ARG GLY LEU PRO ARG GLY PRO ALA VAL GLN SER ALA PRO ALA ASN ARG PHE ASP PRO SER PRO LEU PRO THR ASP LEU LEU PRO LYS

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

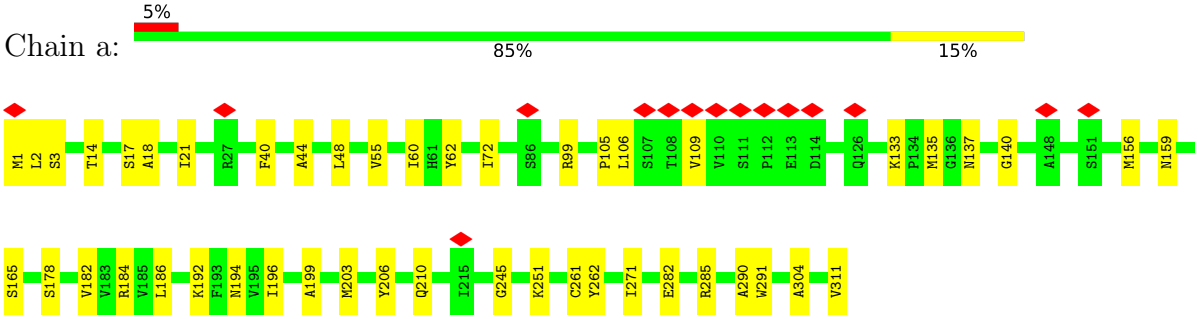
GLN PRO ASN HIS GLY LEU GLY GLY SER PRO GLY PRO GLY ASN GLY THR PRO HIS LEU THR GLY PRO GLY GLY THR PRO VAL SER PRO GLY ALA ALA SER ALA LEU PRO SER ASN GLY GLY ILE PRO GLY LEU THR PRO SER ALA THR ASP PRO LEU GLY LEU SER GLY LEU PRO LYS GLU

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

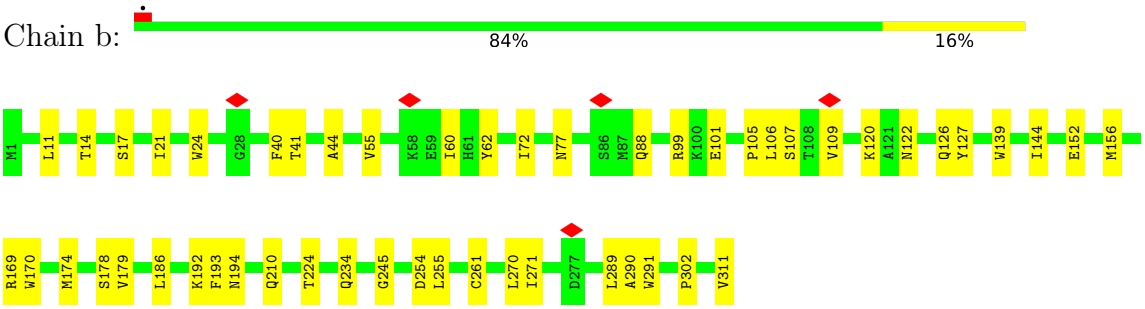
PRO LEU ALA ASP GLY GLN ASN PRO TYR VAL GLY THR SER ILE TYR ASP ALA SER PHE ASP PRO ALA SER GLN ARG ALA SER ASN MET ALA GLU LEU MET ARG GLY LYS PRO TYR THR TRP GLY GLY SER SER LEU ASP GLY THR ASP CYS SER GLY LEU VAL MET TYR VAL VAL ASP ALA



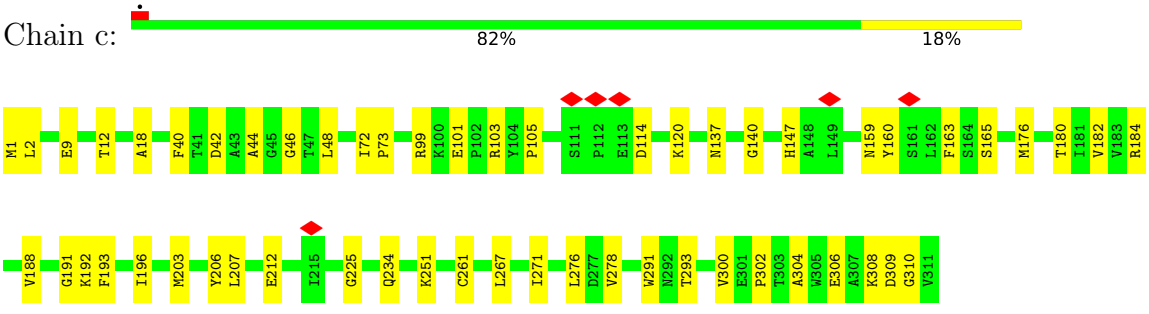
• Molecule 3: Baseplate upper protein (gp23)



• Molecule 3: Baseplate upper protein (gp23)

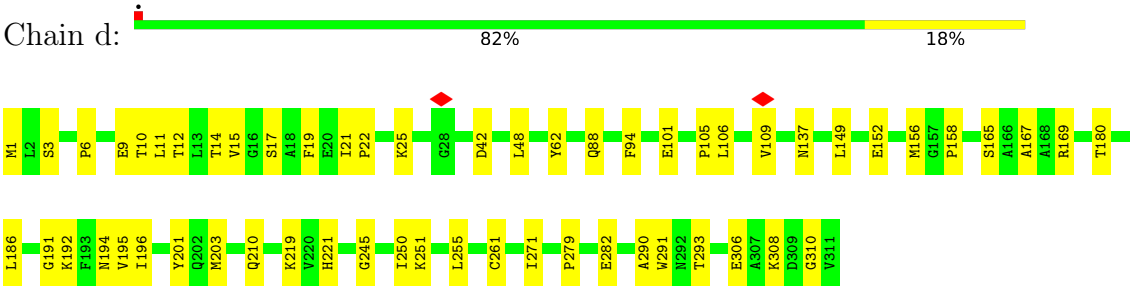


• Molecule 3: Baseplate upper protein (gp23)



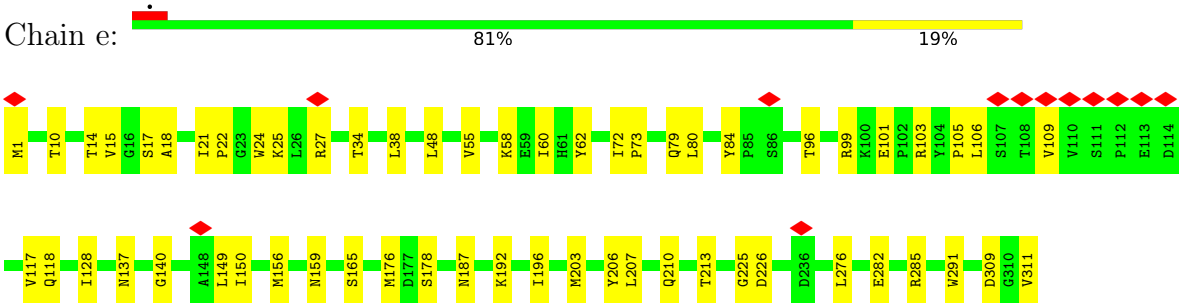
• Molecule 3: Baseplate upper protein (gp23)

Chain d:



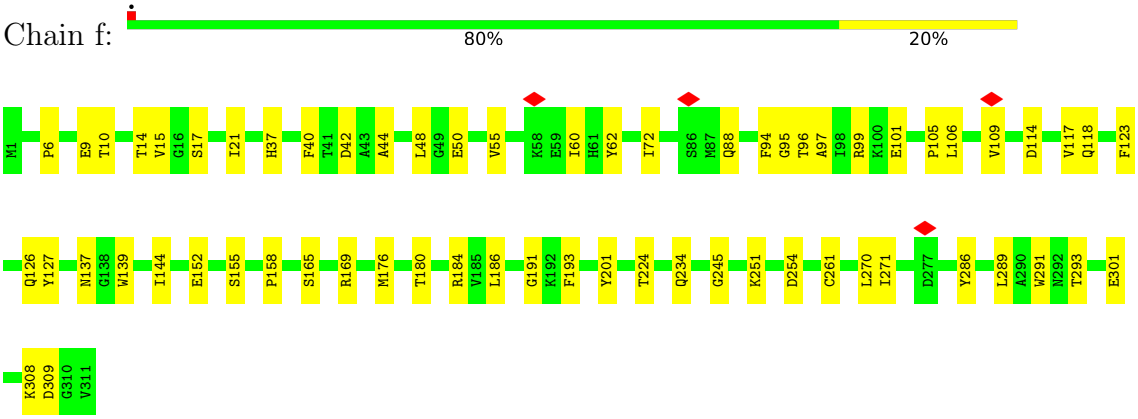
• Molecule 3: Baseplate upper protein (gp23)

Chain e:



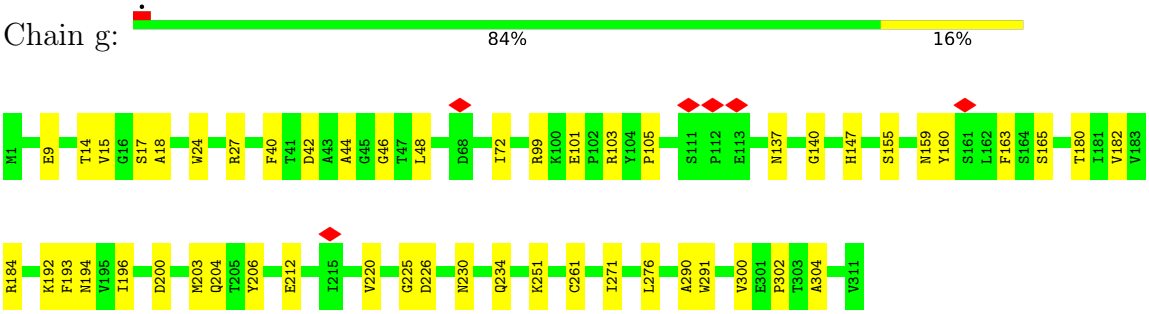
• Molecule 3: Baseplate upper protein (gp23)

Chain f:



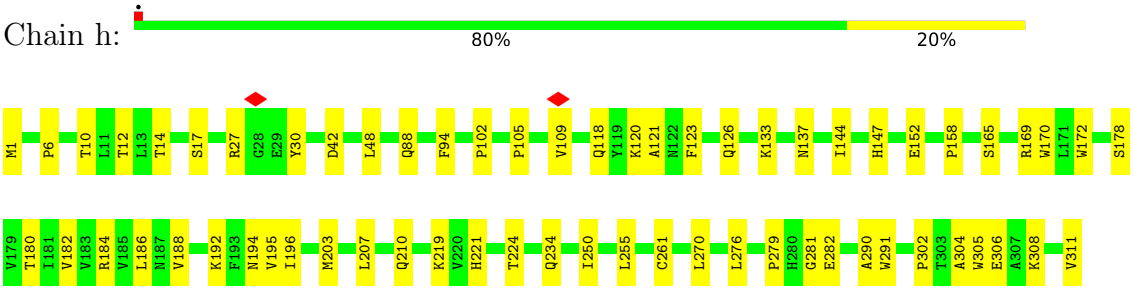
• Molecule 3: Baseplate upper protein (gp23)

Chain g:



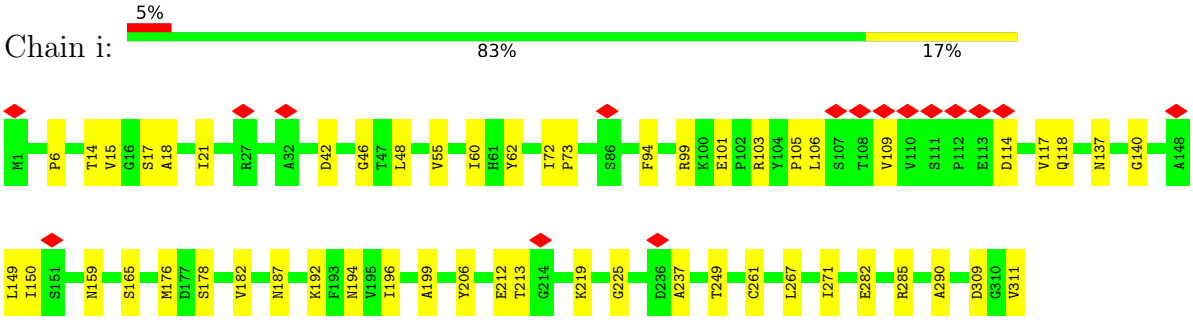
• Molecule 3: Baseplate upper protein (gp23)

Chain h:



• Molecule 3: Baseplate upper protein (gp23)

Chain i:



• Molecule 3: Baseplate upper protein (gp23)

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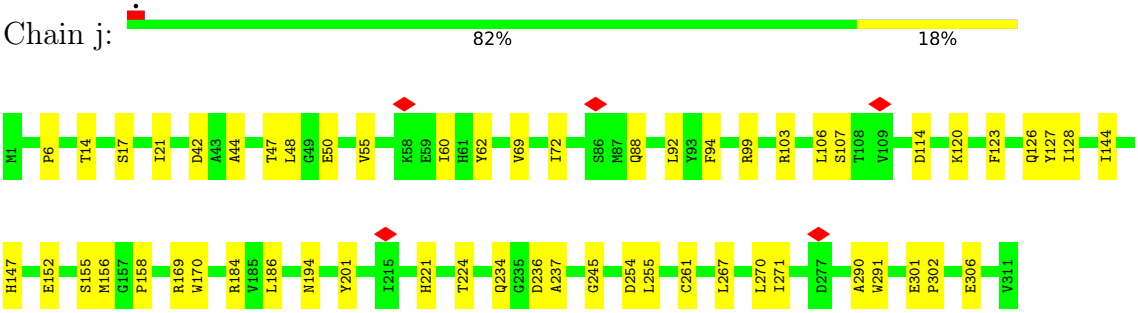
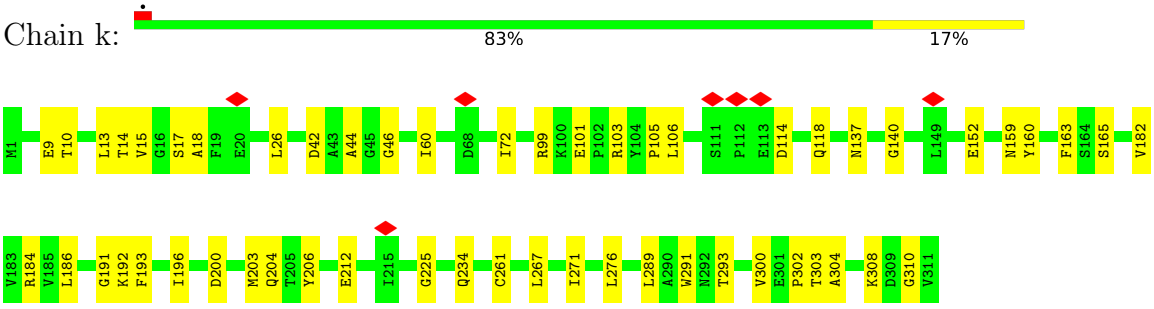


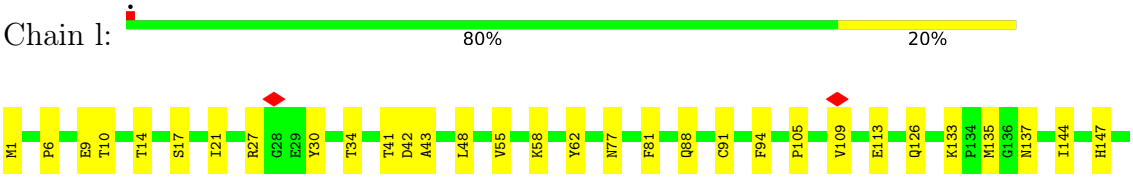
• Molecule 3: Baseplate upper protein (gp23)

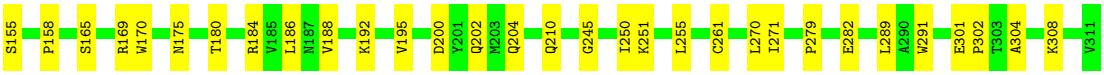
Chain k:



• Molecule 3: Baseplate upper protein (gp23)

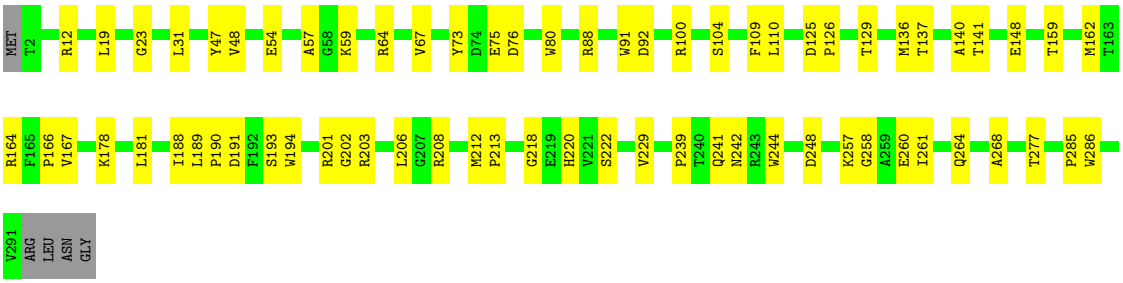
Chain l:





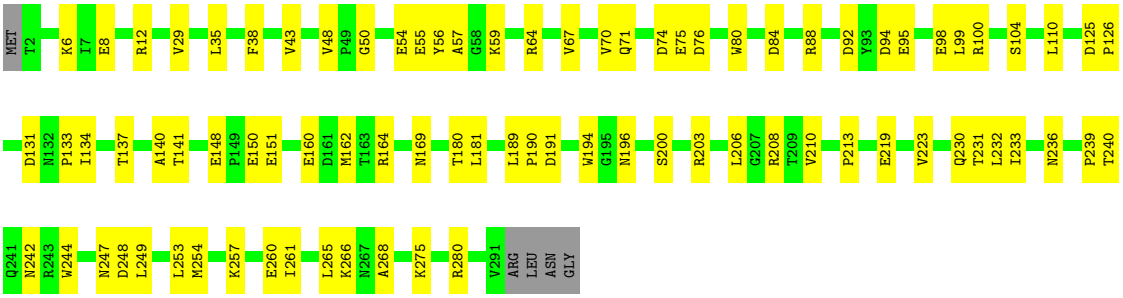
• Molecule 4: Distal tail protein (gp17)

Chain m:



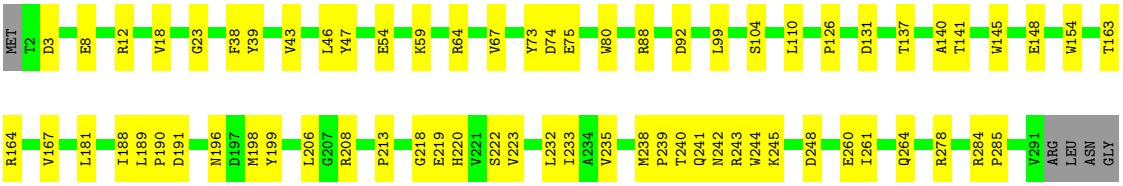
• Molecule 4: Distal tail protein (gp17)

Chain n:



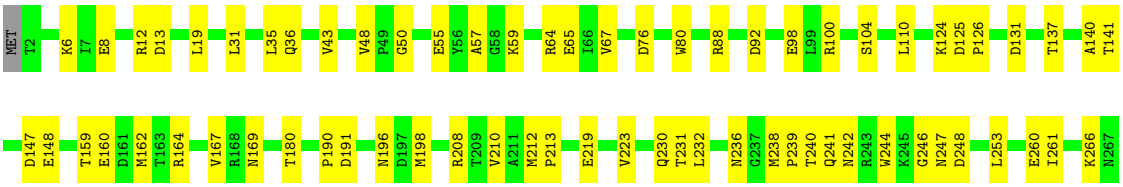
• Molecule 4: Distal tail protein (gp17)

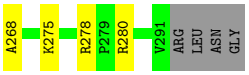
Chain o:



• Molecule 4: Distal tail protein (gp17)

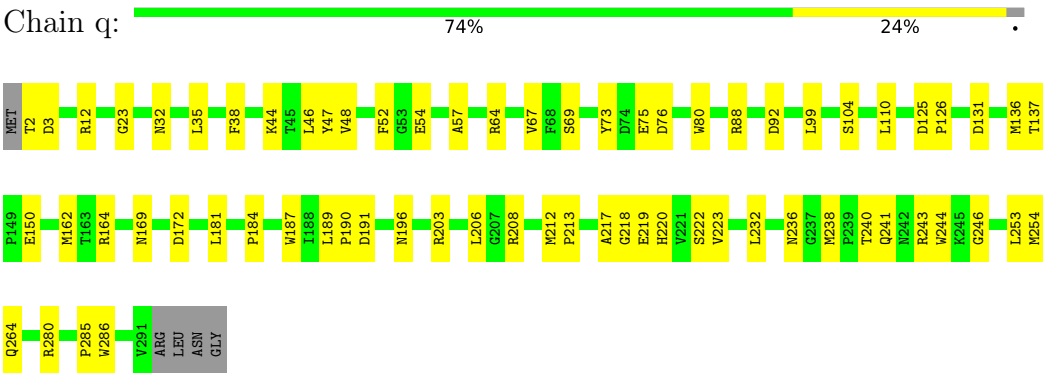
Chain p:





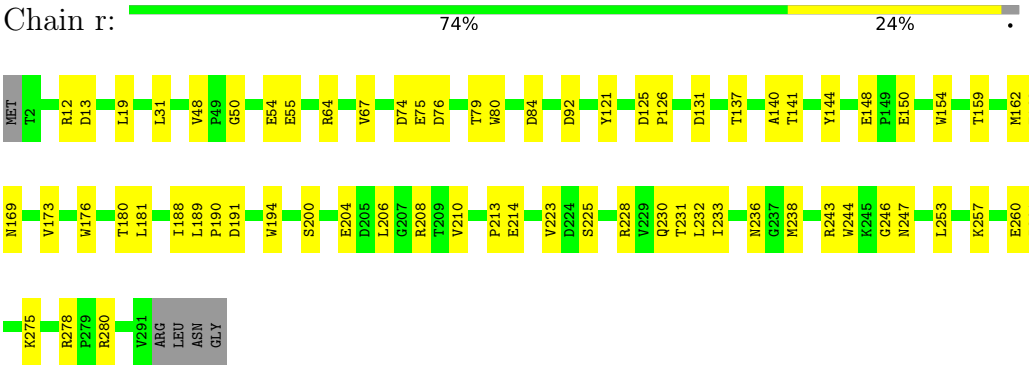
• Molecule 4: Distal tail protein (gp17)

Chain q:



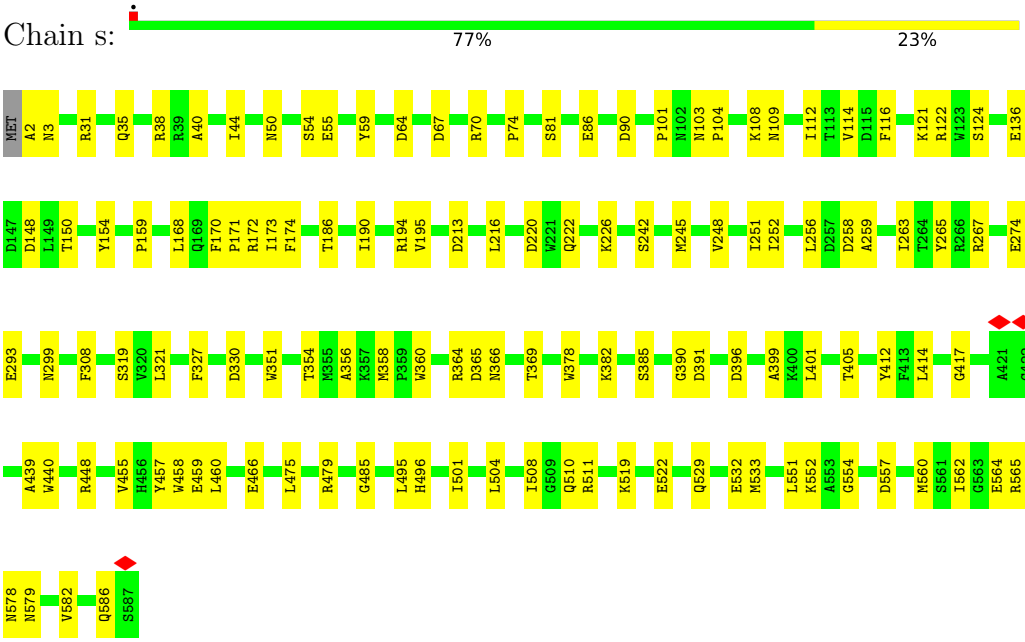
• Molecule 4: Distal tail protein (gp17)

Chain r:



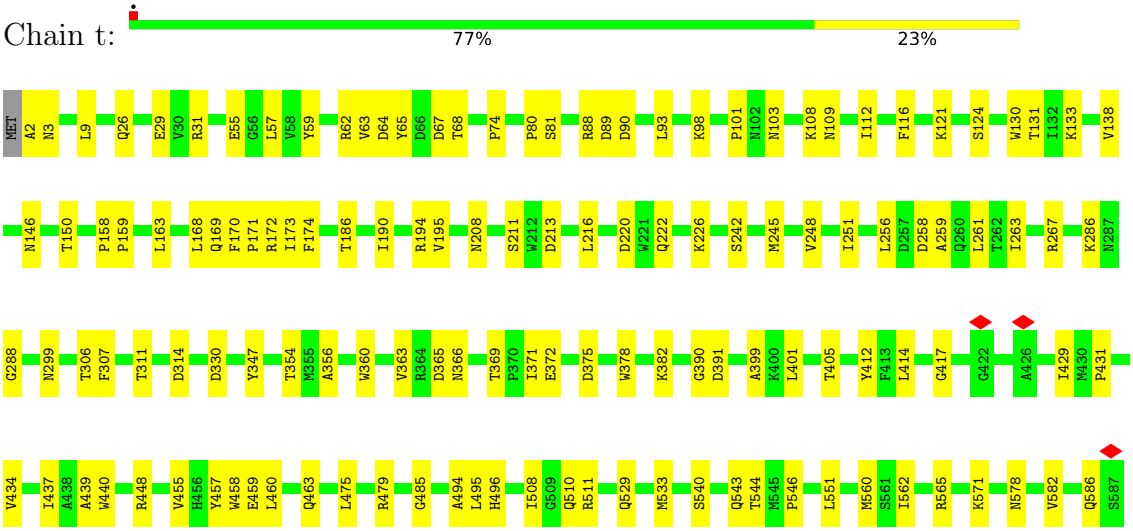
• Molecule 5: Baseplate hub protein (gp18)

Chain s:



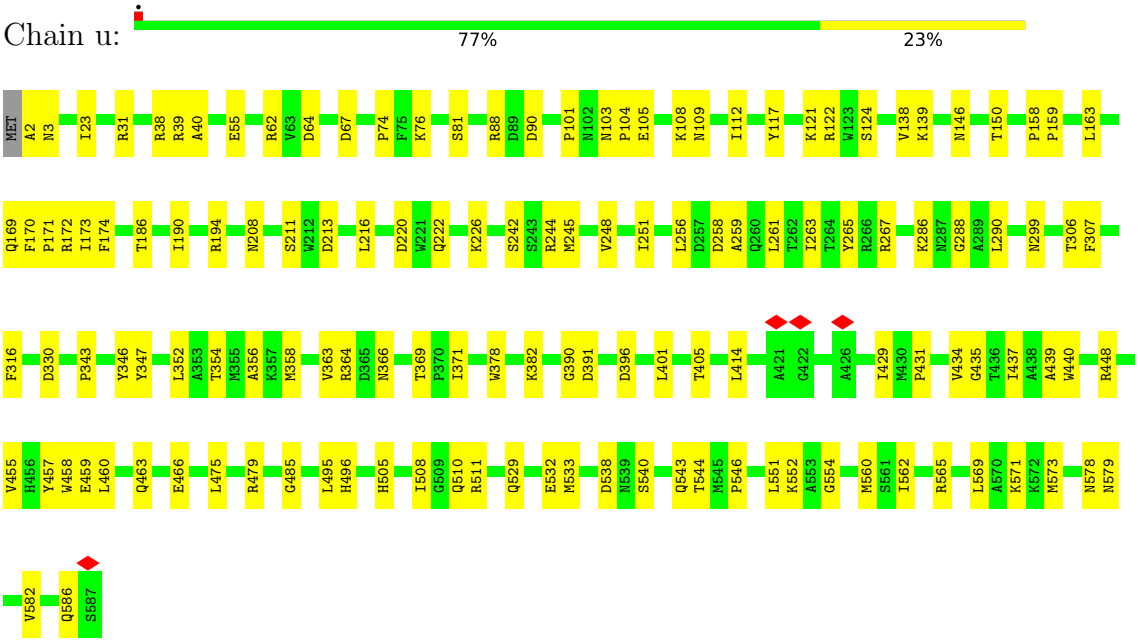
• Molecule 5: Baseplate hub protein (gp18)

Chain t:



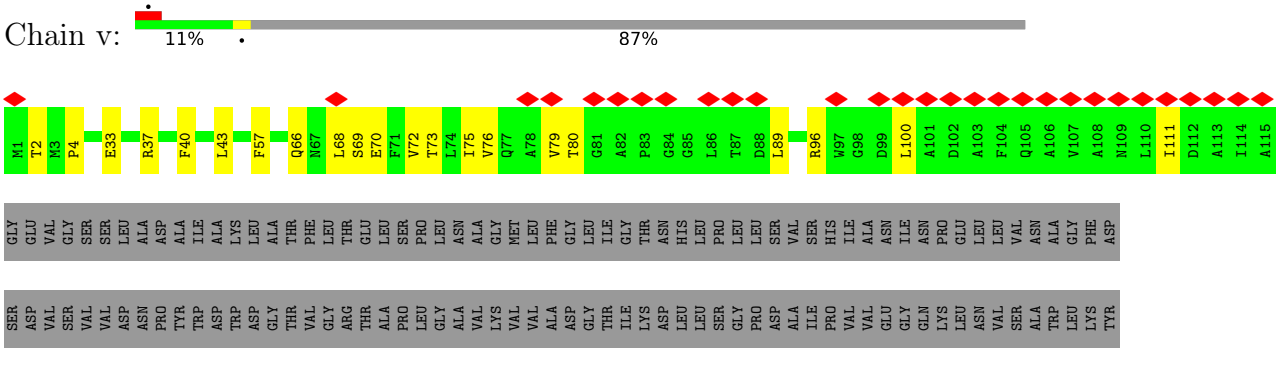
• Molecule 5: Baseplate hub protein (gp18)

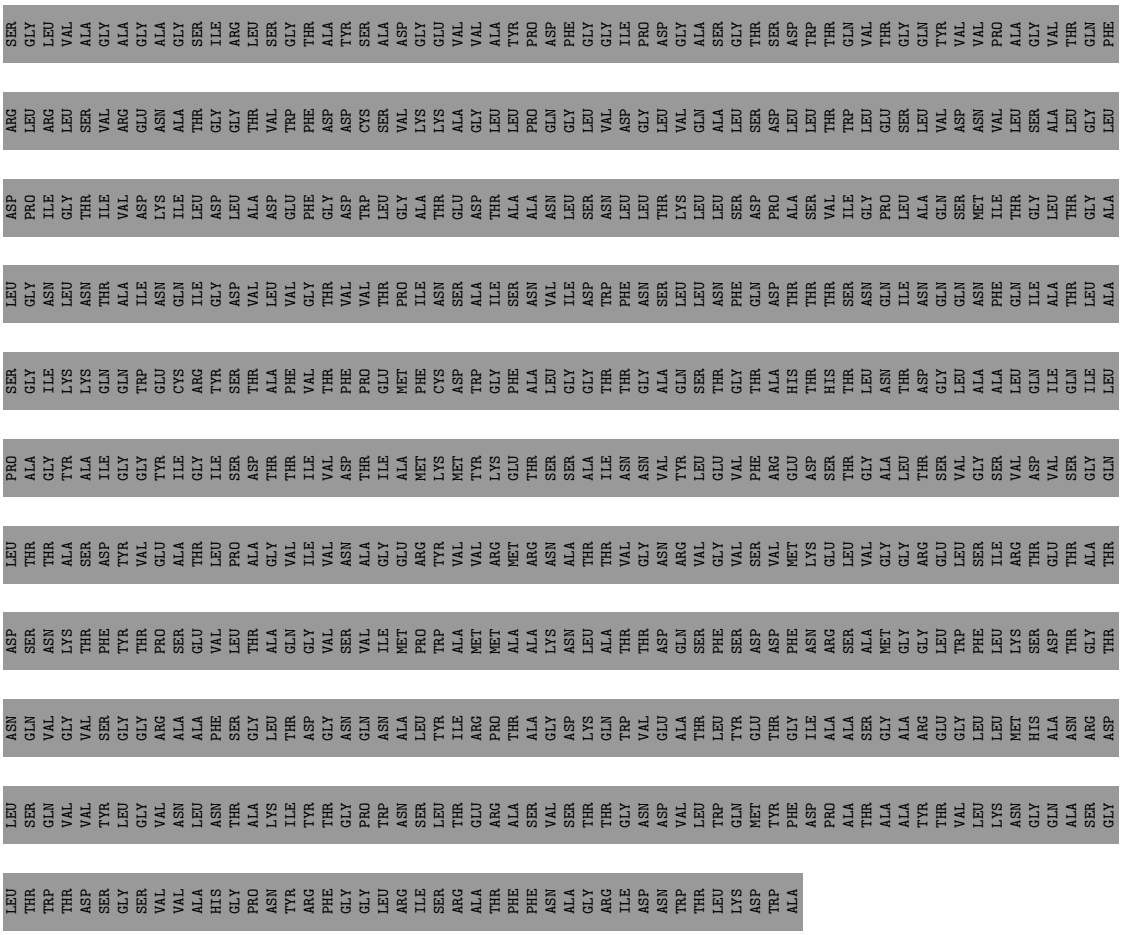
Chain u:



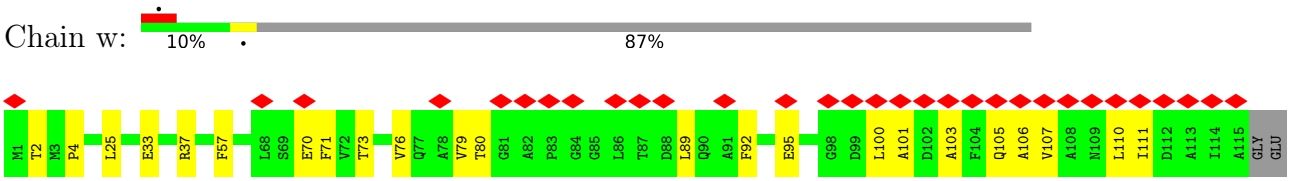
• Molecule 6: Central fiber protein (gp20)

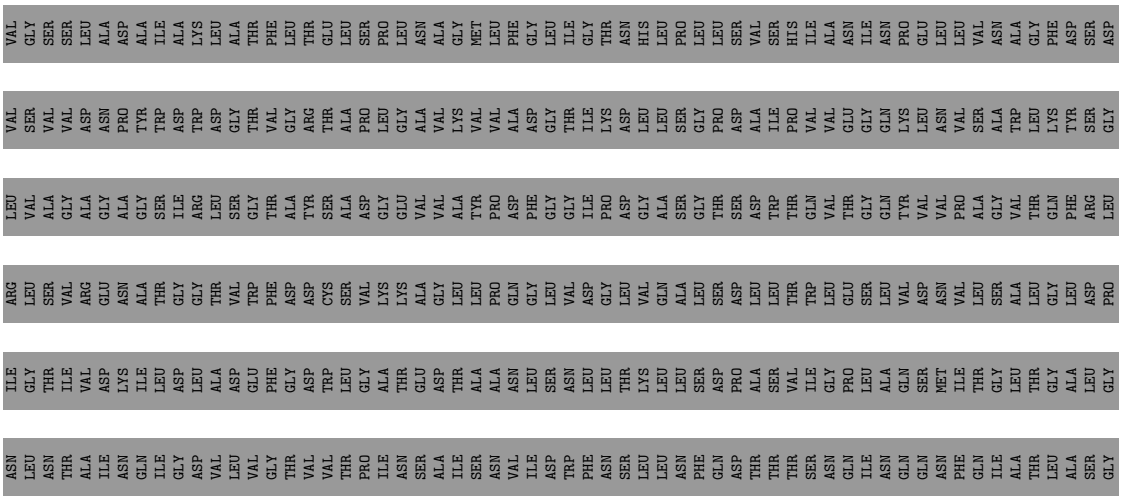
Chain v:

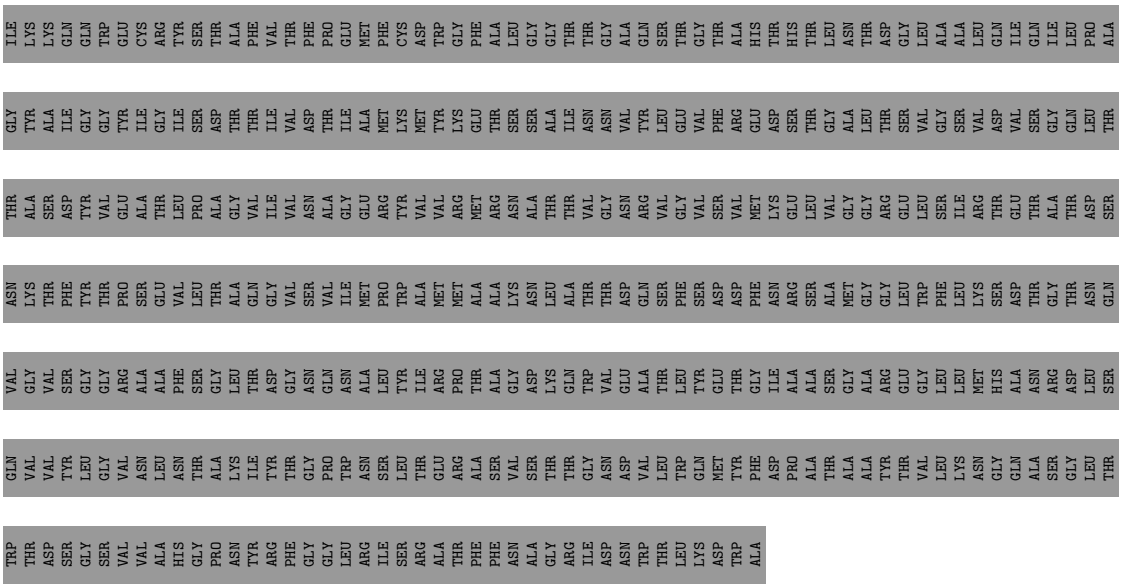




• Molecule 6: Central fiber protein (gp20)

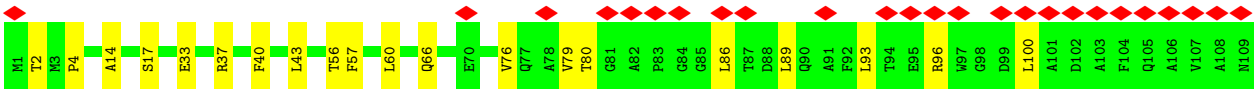


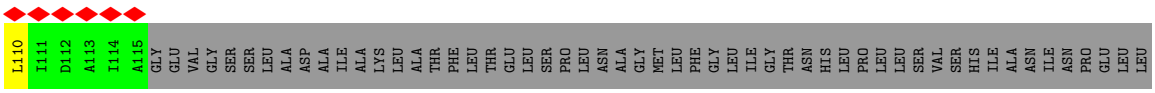


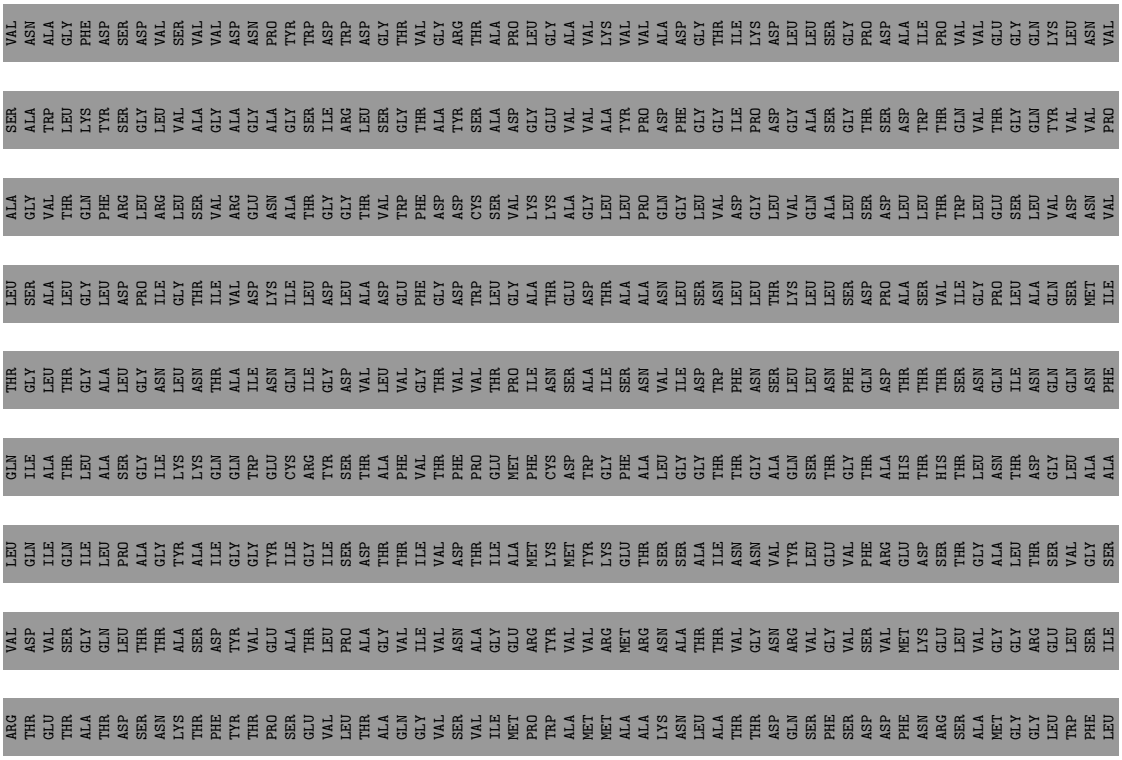


• Molecule 6: Central fiber protein (gp20)

Chain x:







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

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

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

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	78927	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	430	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	3.556	Depositor
Minimum map value	-1.951	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.092	Depositor
Recommended contour level	0.4	Depositor
Map size (Å)	543.232, 543.232, 543.232	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.061, 1.061, 1.061	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	G	0.15	0/2306	0.27	0/3159
1	H	0.15	0/2306	0.29	0/3159
1	I	0.15	0/2306	0.28	0/3159
1	J	0.15	0/2306	0.28	0/3159
1	K	0.15	0/2306	0.29	0/3159
1	L	0.15	0/2306	0.28	0/3159
1	M	0.15	0/2306	0.29	0/3159
1	N	0.15	0/2306	0.29	0/3159
1	O	0.15	0/2306	0.29	0/3159
1	P	0.15	0/2306	0.28	0/3159
1	Q	0.14	0/2306	0.28	0/3159
1	R	0.15	0/2306	0.29	0/3159
2	S	0.15	0/334	0.43	0/452
2	T	0.14	0/334	0.42	0/452
2	U	0.13	0/334	0.42	0/452
3	a	0.14	0/2439	0.30	0/3333
3	b	0.14	0/2439	0.28	0/3333
3	c	0.14	0/2439	0.28	0/3333
3	d	0.14	0/2439	0.28	0/3333
3	e	0.14	0/2439	0.29	0/3333
3	f	0.14	0/2439	0.29	0/3333
3	g	0.13	0/2439	0.28	0/3333
3	h	0.14	0/2439	0.29	0/3333
3	i	0.14	0/2439	0.29	0/3333
3	j	0.14	0/2439	0.28	0/3333
3	k	0.13	0/2439	0.28	0/3333
3	l	0.14	0/2439	0.28	0/3333
4	m	0.18	0/2418	0.29	0/3307
4	n	0.17	0/2418	0.31	0/3307
4	o	0.19	0/2418	0.31	0/3307
4	p	0.17	0/2418	0.31	0/3307
4	q	0.17	0/2418	0.30	0/3307
4	r	0.18	0/2418	0.30	0/3307
5	s	0.18	0/4700	0.30	0/6413

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
5	t	0.17	0/4700	0.30	0/6413
5	u	0.18	0/4700	0.31	0/6413
6	v	0.13	0/882	0.23	0/1204
6	w	0.13	0/882	0.25	0/1204
6	x	0.14	0/882	0.24	0/1204
All	All	0.16	0/89196	0.29	0/121953

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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	G	2256	0	2233	45	0
1	H	2256	0	2233	44	0
1	I	2256	0	2233	46	0
1	J	2256	0	2233	40	0
1	K	2256	0	2233	44	0
1	L	2256	0	2233	43	0
1	M	2256	0	2233	45	0
1	N	2256	0	2233	48	0
1	O	2256	0	2233	44	0
1	P	2256	0	2233	39	0
1	Q	2256	0	2233	46	0
1	R	2256	0	2233	44	0
2	S	327	0	305	15	0
2	T	327	0	305	11	0
2	U	327	0	305	14	0
3	a	2372	0	2294	35	0
3	b	2372	0	2294	35	0
3	c	2372	0	2294	39	0
3	d	2372	0	2294	43	0
3	e	2372	0	2294	39	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	f	2372	0	2294	43	0
3	g	2372	0	2294	34	0
3	h	2372	0	2294	42	0
3	i	2372	0	2294	36	0
3	j	2372	0	2294	41	0
3	k	2372	0	2294	41	0
3	l	2372	0	2294	42	0
4	m	2343	0	2248	49	0
4	n	2343	0	2248	59	0
4	o	2343	0	2248	52	0
4	p	2343	0	2248	54	0
4	q	2343	0	2248	54	0
4	r	2343	0	2248	53	0
5	s	4582	0	4473	111	0
5	t	4582	0	4473	103	0
5	u	4582	0	4473	107	0
6	v	863	0	814	21	0
6	w	863	0	814	21	0
6	x	863	0	814	21	0
All	All	86910	0	84588	1449	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 (1449) 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)
4:p:12:ARG:HD2	4:p:92:ASP:HB2	1.58	0.86
5:t:63:VAL:HG23	5:t:93:LEU:HD12	1.63	0.81
6:v:111:ILE:HD11	6:w:110:LEU:HD21	1.64	0.80
2:T:1697:PRO:HG3	5:u:571:LYS:HA	1.65	0.79
6:w:79:VAL:HG23	6:w:80:THR:HG23	1.65	0.78
4:q:12:ARG:HD2	4:q:92:ASP:HB2	1.66	0.76
4:r:64:ARG:HB2	4:r:140:ALA:HB3	1.66	0.76
4:o:213:PRO:HD3	4:o:244:TRP:CD1	2.21	0.76
3:k:118:GLN:HE22	3:l:175:ASN:HB3	1.50	0.76
3:c:72:ILE:O	3:c:99:ARG:NH2	2.18	0.76
3:g:72:ILE:O	3:g:99:ARG:NH2	2.20	0.75
2:S:1697:PRO:HG3	5:s:571:LYS:HA	1.67	0.75
4:n:64:ARG:HB2	4:n:140:ALA:HB3	1.69	0.74
3:h:137:ASN:ND2	3:h:165:SER:O	2.20	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:n:12:ARG:HD3	4:n:92:ASP:HB2	1.69	0.74
1:K:147:ARG:HH22	1:K:207:LEU:HD11	1.52	0.73
2:U:1697:PRO:HG3	5:t:571:LYS:HA	1.70	0.73
3:e:192:LYS:HB3	3:e:210:GLN:HE21	1.54	0.72
4:o:12:ARG:HD2	4:o:92:ASP:HB2	1.70	0.72
5:t:508:ILE:HD11	5:t:533:MET:HG2	1.70	0.72
3:c:140:GLY:O	3:c:159:ASN:ND2	2.21	0.72
3:d:137:ASN:ND2	3:d:165:SER:O	2.22	0.72
3:l:137:ASN:ND2	3:l:165:SER:O	2.23	0.72
4:q:222:SER:OG	5:t:31:ARG:NH2	2.23	0.72
3:g:140:GLY:O	3:g:159:ASN:ND2	2.22	0.72
1:N:264:LYS:HB2	1:N:281:ALA:HB2	1.72	0.71
3:f:72:ILE:O	3:f:99:ARG:NH1	2.22	0.71
4:o:232:LEU:HD13	4:o:240:THR:HG22	1.72	0.71
3:k:140:GLY:O	3:k:159:ASN:ND2	2.22	0.71
3:j:72:ILE:O	3:j:99:ARG:NH1	2.23	0.71
5:s:139:LYS:NZ	5:t:365:ASP:OD2	2.23	0.71
2:S:1672:ILE:HG22	2:T:1674:THR:HA	1.73	0.71
1:R:83:ARG:NH1	4:n:131:ASP:OD2	2.25	0.70
3:h:118:GLN:NE2	3:h:306:GLU:OE2	2.23	0.70
6:v:79:VAL:HG23	6:v:80:THR:HG23	1.73	0.70
3:c:261:CYS:HB3	3:c:271:ILE:HG22	1.73	0.70
4:o:64:ARG:HB2	4:o:140:ALA:HB3	1.74	0.70
1:O:264:LYS:HB2	1:O:281:ALA:HB2	1.72	0.70
3:g:137:ASN:ND2	3:g:165:SER:O	2.25	0.70
5:t:74:PRO:HG2	5:t:81:SER:HB2	1.73	0.70
1:H:255:VAL:HG12	1:H:287:LYS:HB2	1.73	0.70
5:t:582:VAL:HG23	5:u:390:GLY:HA2	1.72	0.70
1:Q:264:LYS:HB2	1:Q:281:ALA:HB2	1.73	0.69
5:t:55:GLU:HG2	5:t:220:ASP:HA	1.73	0.69
1:R:264:LYS:HB2	1:R:281:ALA:HB2	1.74	0.69
4:m:222:SER:OG	5:s:31:ARG:NH2	2.23	0.69
3:k:137:ASN:ND2	3:k:165:SER:O	2.26	0.69
4:m:64:ARG:HB2	4:m:140:ALA:HB3	1.72	0.69
5:u:354:THR:O	5:u:510:GLN:NE2	2.25	0.69
1:H:177:ILE:HD12	1:I:154:LEU:HD11	1.74	0.69
1:P:264:LYS:HB2	1:P:281:ALA:HB2	1.74	0.69
4:o:219:GLU:OE2	4:o:240:THR:OG1	2.10	0.69
4:r:236:ASN:HD21	4:r:238:MET:HE2	1.58	0.69
1:I:222:ILE:HG21	1:I:294:ALA:HB2	1.75	0.68
1:L:222:ILE:HG21	1:L:294:ALA:HB2	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:u:74:PRO:HG2	5:u:81:SER:HB2	1.75	0.68
3:a:156:MET:HE3	3:a:291:TRP:HH2	1.57	0.68
3:c:137:ASN:ND2	3:c:165:SER:O	2.25	0.68
4:p:64:ARG:HB2	4:p:140:ALA:HB3	1.74	0.68
5:s:74:PRO:HG2	5:s:81:SER:HB2	1.74	0.68
1:M:264:LYS:HB2	1:M:281:ALA:HB2	1.74	0.68
5:t:311:THR:OG1	5:t:314:ASP:OD1	2.12	0.68
6:x:79:VAL:HG23	6:x:80:THR:HG23	1.73	0.68
3:i:105:PRO:HB2	4:p:148:GLU:HB2	1.76	0.68
2:S:1674:THR:HA	2:U:1672:ILE:HG22	1.77	0.67
5:s:582:VAL:HG23	5:t:390:GLY:HA2	1.76	0.67
4:q:64:ARG:HB2	4:q:140:ALA:HB3	1.76	0.67
1:N:177:ILE:HD12	1:O:154:LEU:HD11	1.77	0.67
4:m:191:ASP:OD2	4:m:208:ARG:NH1	2.28	0.67
4:q:191:ASP:OD2	4:q:208:ARG:NH1	2.28	0.67
2:S:1684:GLN:OE1	2:S:1687:ARG:NH2	2.28	0.66
4:n:164:ARG:HB3	4:n:260:GLU:HB3	1.76	0.66
1:M:154:LEU:HD11	1:R:177:ILE:HD12	1.78	0.66
1:N:255:VAL:HG12	1:N:287:LYS:HB2	1.77	0.66
1:G:99:GLN:OE1	1:G:101:GLN:NE2	2.29	0.66
3:k:261:CYS:HB3	3:k:271:ILE:HG22	1.77	0.66
3:e:140:GLY:O	3:e:159:ASN:ND2	2.29	0.66
4:n:150:GLU:OE1	4:n:280:ARG:NH1	2.28	0.66
1:K:222:ILE:HG21	1:K:294:ALA:HB2	1.77	0.66
1:P:177:ILE:HD12	1:Q:154:LEU:HD11	1.77	0.66
4:o:248:ASP:OD2	5:u:364:ARG:NH1	2.28	0.66
1:N:177:ILE:HG13	1:O:18:PRO:HD3	1.77	0.66
3:g:105:PRO:HB2	4:o:148:GLU:HB2	1.77	0.66
5:s:586:GLN:HG2	5:t:391:ASP:HB3	1.78	0.66
1:G:222:ILE:HG21	1:G:294:ALA:HB2	1.78	0.66
4:p:190:PRO:HG3	4:p:261:ILE:HB	1.78	0.66
5:u:508:ILE:HG12	5:u:533:MET:HE2	1.76	0.65
4:q:162:MET:HG3	4:q:264:GLN:HG2	1.77	0.65
5:s:508:ILE:HG12	5:s:533:MET:HE2	1.79	0.65
4:q:223:VAL:HG22	4:q:232:LEU:HD23	1.77	0.65
4:q:203:ARG:HA	4:q:206:LEU:HG	1.77	0.65
5:s:391:ASP:HB3	5:u:586:GLN:HG2	1.78	0.65
5:u:55:GLU:HG2	5:u:220:ASP:HA	1.77	0.65
1:G:175:ASN:ND2	1:G:178:GLU:OE2	2.30	0.65
1:J:222:ILE:HG21	1:J:294:ALA:HB2	1.79	0.65
3:k:105:PRO:HB2	4:q:148:GLU:HB2	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:s:365:ASP:OD2	5:u:139:LYS:NZ	2.30	0.65
1:Q:255:VAL:HG12	1:Q:287:LYS:HB2	1.79	0.65
4:r:12:ARG:HD3	4:r:92:ASP:HB2	1.79	0.65
3:i:182:VAL:HG12	3:j:255:LEU:HD12	1.78	0.65
5:t:372:GLU:HG3	5:t:494:ALA:HB3	1.78	0.65
3:f:55:VAL:HG12	3:f:60:ILE:HG12	1.77	0.64
4:n:56:TYR:O	5:u:39:ARG:NH2	2.30	0.64
1:M:177:ILE:HD12	1:N:154:LEU:HD11	1.78	0.64
1:N:188:ASP:HB3	1:N:191:VAL:HG22	1.79	0.64
4:o:223:VAL:HG22	4:o:232:LEU:HD23	1.79	0.64
1:L:175:ASN:ND2	1:L:178:GLU:OE2	2.30	0.64
4:p:191:ASP:OD2	4:p:208:ARG:NH1	2.30	0.64
3:e:105:PRO:HB2	4:n:148:GLU:HB2	1.80	0.64
1:H:222:ILE:HD11	1:H:241:LEU:HB3	1.80	0.64
1:J:24:LEU:HD22	1:J:46:ILE:HG21	1.80	0.64
4:m:203:ARG:HA	4:m:206:LEU:HG	1.79	0.64
4:p:164:ARG:HB3	4:p:260:GLU:HB3	1.79	0.64
1:M:18:PRO:HD3	1:R:177:ILE:HG13	1.80	0.64
1:O:177:ILE:HG13	1:P:18:PRO:HD3	1.78	0.64
6:v:66:GLN:N	6:v:70:GLU:OE2	2.30	0.64
1:I:204:TRP:O	1:I:208:VAL:HG23	1.97	0.64
3:i:137:ASN:ND2	3:i:165:SER:O	2.32	0.63
3:j:42:ASP:HB3	3:j:48:LEU:HD11	1.79	0.63
1:K:204:TRP:O	1:K:208:VAL:HG23	1.99	0.63
1:O:177:ILE:HD12	1:P:154:LEU:HD11	1.79	0.63
3:c:105:PRO:HB2	4:m:148:GLU:HB2	1.79	0.63
1:L:204:TRP:O	1:L:208:VAL:HG23	1.99	0.63
1:N:204:TRP:O	1:N:208:VAL:HG23	1.99	0.63
1:P:188:ASP:HB3	1:P:191:VAL:HG22	1.81	0.63
4:r:191:ASP:OD2	4:r:208:ARG:NH1	2.30	0.63
3:f:37:HIS:NE2	3:f:50:GLU:OE1	2.31	0.63
3:f:261:CYS:HB3	3:f:271:ILE:HG22	1.80	0.63
3:k:9:GLU:OE1	3:l:1:MET:N	2.32	0.63
4:m:48:VAL:HG12	5:u:138:VAL:HG13	1.81	0.63
4:n:98:GLU:OE2	4:n:100:ARG:NH1	2.32	0.63
5:s:172:ARG:NH1	5:t:434:VAL:O	2.32	0.63
6:v:76:VAL:HG22	6:v:89:LEU:HB2	1.80	0.63
3:c:9:GLU:OE1	3:d:1:MET:N	2.31	0.62
3:g:192:LYS:HG2	3:g:212:GLU:HG2	1.81	0.62
3:k:192:LYS:HG2	3:k:212:GLU:HG2	1.81	0.62
4:n:191:ASP:OD2	4:n:208:ARG:NH1	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:204:TRP:O	1:O:208:VAL:HG23	1.99	0.62
2:U:1672:ILE:HG13	2:U:1673:HIS:N	2.13	0.62
3:c:192:LYS:HG2	3:c:212:GLU:HG2	1.81	0.62
4:n:190:PRO:HG3	4:n:261:ILE:HB	1.81	0.62
4:o:222:SER:OG	5:u:31:ARG:NH2	2.32	0.62
1:Q:97:MET:HE3	1:Q:104:VAL:HG13	1.81	0.62
4:q:150:GLU:HG3	4:q:280:ARG:HH21	1.64	0.62
1:P:83:ARG:NH1	4:p:131:ASP:OD2	2.31	0.62
1:R:255:VAL:HG12	1:R:287:LYS:HB2	1.80	0.62
5:t:429:ILE:HD11	6:x:37:ARG:HG3	1.81	0.62
1:O:188:ASP:HB3	1:O:191:VAL:HG22	1.82	0.62
3:c:103:ARG:NH2	4:m:104:SER:O	2.32	0.62
5:s:146:ASN:HB3	5:s:150:THR:HG21	1.82	0.62
3:c:44:ALA:HA	3:f:106:LEU:HB2	1.82	0.62
3:f:127:TYR:OH	4:n:236:ASN:ND2	2.31	0.62
3:i:140:GLY:O	3:i:159:ASN:ND2	2.31	0.62
4:r:164:ARG:HB3	4:r:260:GLU:HB3	1.82	0.62
1:O:83:ARG:NH1	4:q:131:ASP:OD2	2.33	0.62
4:m:162:MET:HG3	4:m:264:GLN:HG2	1.82	0.62
1:I:177:ILE:HD12	1:J:154:LEU:HD11	1.82	0.62
3:a:21:ILE:HB	3:a:62:TYR:HB2	1.82	0.62
1:K:222:ILE:HG13	1:K:224:PRO:HD2	1.82	0.62
1:O:255:VAL:HG12	1:O:287:LYS:HB2	1.82	0.62
1:M:188:ASP:HB3	1:M:191:VAL:HG22	1.82	0.61
1:Q:177:ILE:HD12	1:R:154:LEU:HD11	1.82	0.61
5:s:434:VAL:O	5:u:172:ARG:NH1	2.33	0.61
5:t:172:ARG:NH1	5:u:434:VAL:O	2.33	0.61
4:q:189:LEU:HD12	4:q:212:MET:HE3	1.81	0.61
5:u:363:VAL:HG12	5:u:371:ILE:HD13	1.83	0.61
3:e:118:GLN:HE21	3:f:114:ASP:HA	1.65	0.61
3:g:103:ARG:NH2	4:o:104:SER:O	2.33	0.61
3:i:106:LEU:HD22	3:i:109:VAL:HG22	1.81	0.61
4:p:98:GLU:OE2	4:p:100:ARG:NH1	2.34	0.61
1:M:255:VAL:HG12	1:M:287:LYS:HB2	1.81	0.61
3:b:106:LEU:HB2	3:k:44:ALA:HA	1.81	0.61
5:s:267:ARG:NH1	5:s:288:GLY:O	2.33	0.61
1:H:64:LEU:HD23	1:H:93:PHE:HB3	1.83	0.61
1:R:188:ASP:HB3	1:R:191:VAL:HG22	1.82	0.61
3:e:137:ASN:ND2	3:e:165:SER:O	2.34	0.61
1:Q:204:TRP:O	1:Q:208:VAL:HG23	2.00	0.61
2:U:1699:ARG:NH2	5:t:578:ASN:OD1	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:36:LEU:HD21	1:M:140:ILE:HD13	1.83	0.61
1:N:83:ARG:NH1	4:r:131:ASP:OD2	2.32	0.61
1:R:204:TRP:O	1:R:208:VAL:HG23	2.00	0.61
3:i:21:ILE:HB	3:i:62:TYR:HB2	1.83	0.61
5:u:466:GLU:HA	5:u:579:ASN:HD21	1.66	0.61
5:u:552:LYS:NZ	5:u:554:GLY:O	2.34	0.60
3:g:9:GLU:OE1	3:h:1:MET:N	2.33	0.60
1:J:204:TRP:O	1:J:208:VAL:HG23	2.01	0.60
1:G:151:PRO:HD2	1:G:202:PRO:HG2	1.84	0.60
1:H:107:LEU:HD11	1:H:183:LEU:HD21	1.84	0.60
1:P:138:ARG:NH1	1:P:159:PRO:O	2.35	0.60
3:l:261:CYS:HB3	3:l:271:ILE:HG22	1.82	0.60
5:s:475:LEU:HD21	6:x:4:PRO:HD2	1.84	0.60
2:T:1698:VAL:HG11	5:s:460:LEU:HD21	1.83	0.60
1:H:222:ILE:HG21	1:H:294:ALA:HB2	1.83	0.60
1:K:99:GLN:NE2	1:K:101:GLN:OE1	2.35	0.60
1:Q:97:MET:HE1	1:Q:107:LEU:HD23	1.83	0.60
2:U:1672:ILE:HG13	2:U:1673:HIS:H	1.67	0.60
3:i:103:ARG:NH2	4:p:104:SER:O	2.34	0.60
3:k:184:ARG:HB3	3:k:304:ALA:HB3	1.82	0.60
1:I:57:GLU:OE2	1:I:59:GLN:NE2	2.34	0.60
1:Q:83:ARG:NH1	4:o:131:ASP:OD2	2.34	0.60
1:Q:188:ASP:HB3	1:Q:191:VAL:HG22	1.83	0.60
4:q:220:HIS:NE2	5:t:3:ASN:O	2.28	0.60
1:L:222:ILE:HD11	1:L:241:LEU:HB3	1.83	0.60
1:H:204:TRP:O	1:H:208:VAL:HG23	2.02	0.60
1:H:224:PRO:HG2	1:H:241:LEU:HA	1.84	0.60
3:f:42:ASP:HB3	3:f:48:LEU:HD11	1.84	0.60
5:u:267:ARG:NH1	5:u:288:GLY:O	2.34	0.60
1:G:204:TRP:O	1:G:208:VAL:HG23	2.02	0.59
4:q:238:MET:HE3	5:t:347:TYR:HA	1.84	0.59
1:M:204:TRP:O	1:M:208:VAL:HG13	2.01	0.59
3:h:178:SER:HB2	3:h:311:VAL:HG13	1.83	0.59
4:p:236:ASN:HD21	4:p:238:MET:HE3	1.67	0.59
5:s:258:ASP:HB3	6:x:2:THR:HG23	1.85	0.59
1:G:224:PRO:HG2	1:G:241:LEU:HA	1.83	0.59
1:Q:177:ILE:HG13	1:R:18:PRO:HD3	1.83	0.59
3:h:281:GLY:HA3	4:n:164:ARG:HH22	1.67	0.59
4:m:59:LYS:NZ	4:n:94:ASP:OD2	2.35	0.59
4:r:190:PRO:HG3	4:r:261:ILE:HB	1.84	0.59
5:u:366:ASN:H	5:u:369:THR:HB	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:224:PRO:HG2	1:I:241:LEU:HA	1.84	0.59
1:J:224:PRO:HG2	1:J:241:LEU:HA	1.84	0.59
3:h:169:ARG:HD2	3:h:170:TRP:O	2.02	0.59
4:o:191:ASP:OD2	4:o:208:ARG:NH1	2.34	0.59
5:s:248:VAL:HA	5:s:251:ILE:HD12	1.83	0.59
3:d:261:CYS:HB3	3:d:271:ILE:HG22	1.85	0.59
4:n:48:VAL:HB	5:u:496:HIS:HB3	1.84	0.59
1:M:99:GLN:NE2	1:M:101:GLN:OE1	2.35	0.59
3:h:126:GLN:HA	3:h:144:ILE:HG21	1.84	0.59
5:s:194:ARG:NH2	5:t:459:GLU:OE2	2.26	0.59
1:P:255:VAL:HG12	1:P:287:LYS:HB2	1.85	0.59
3:a:105:PRO:HB2	4:r:148:GLU:HB2	1.84	0.59
3:k:72:ILE:O	3:k:99:ARG:NH2	2.36	0.59
5:s:511:ARG:HA	5:s:529:GLN:HA	1.84	0.59
3:g:44:ALA:HA	3:j:106:LEU:HB2	1.83	0.59
3:g:180:THR:HG23	3:g:251:LYS:HG2	1.85	0.59
4:n:213:PRO:HD3	4:n:244:TRP:CD1	2.38	0.59
4:q:67:VAL:HG22	4:q:137:THR:HG23	1.84	0.59
3:j:103:ARG:NH1	4:p:13:ASP:O	2.33	0.59
1:G:99:GLN:NE2	1:H:11:GLN:H	2.00	0.58
4:n:203:ARG:HA	4:n:206:LEU:HG	1.84	0.58
4:r:223:VAL:HG22	4:r:232:LEU:HD23	1.83	0.58
1:N:97:MET:HE2	1:N:104:VAL:HG13	1.85	0.58
1:J:222:ILE:HD11	1:J:241:LEU:HB3	1.85	0.58
1:K:222:ILE:HD11	1:K:241:LEU:HB3	1.86	0.58
1:L:222:ILE:HG13	1:L:224:PRO:HD2	1.84	0.58
1:P:190:VAL:HG23	1:P:191:VAL:HG13	1.86	0.58
3:a:106:LEU:HD22	3:a:109:VAL:HG22	1.85	0.58
3:a:282:GLU:HG3	3:a:285:ARG:HH21	1.67	0.58
3:e:21:ILE:HB	3:e:62:TYR:HB2	1.85	0.58
3:e:207:LEU:HD23	3:e:276:LEU:HD12	1.86	0.58
5:t:401:LEU:O	5:t:405:THR:OG1	2.16	0.58
1:P:176:VAL:HG12	1:Q:17:ALA:HB2	1.85	0.58
1:K:64:LEU:HD23	1:K:93:PHE:HB3	1.85	0.58
2:T:1672:ILE:HG22	2:U:1674:THR:HA	1.85	0.58
3:a:140:GLY:O	3:a:159:ASN:ND2	2.36	0.58
3:c:1:MET:N	3:f:9:GLU:OE2	2.34	0.58
4:r:12:ARG:CD	4:r:92:ASP:HB2	2.34	0.58
5:t:88:ARG:HH11	5:t:90:ASP:HB3	1.69	0.58
1:Q:138:ARG:NH1	1:Q:159:PRO:O	2.37	0.58
3:a:1:MET:SD	3:d:12:THR:OG1	2.62	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:224:PRO:HG2	1:L:241:LEU:HA	1.84	0.58
4:o:88:ARG:O	4:o:88:ARG:NH1	2.35	0.58
5:s:354:THR:O	5:s:510:GLN:NE2	2.37	0.58
5:s:390:GLY:HA2	5:u:582:VAL:HG23	1.85	0.58
3:d:158:PRO:HG3	3:d:291:TRP:HB2	1.86	0.58
3:k:267:LEU:HD21	3:l:251:LYS:HE2	1.86	0.58
4:m:12:ARG:HD3	4:m:92:ASP:HB2	1.84	0.58
4:q:2:THR:OG1	4:r:125:ASP:OD2	2.21	0.58
6:w:111:ILE:HD13	6:x:110:LEU:HD21	1.86	0.58
5:t:259:ALA:HB2	6:v:2:THR:HG21	1.86	0.57
5:t:354:THR:O	5:t:510:GLN:NE2	2.37	0.57
1:K:177:ILE:HG13	1:L:18:PRO:HD3	1.86	0.57
1:K:24:LEU:HD22	1:K:46:ILE:HG21	1.86	0.57
5:t:248:VAL:HA	5:t:251:ILE:HD12	1.85	0.57
3:j:126:GLN:HA	3:j:144:ILE:HG21	1.85	0.57
2:T:1699:ARG:NH2	5:u:578:ASN:OD1	2.38	0.57
3:a:72:ILE:O	3:a:99:ARG:NH2	2.33	0.57
4:n:6:LYS:NZ	4:n:8:GLU:OE2	2.36	0.57
4:o:232:LEU:HB2	4:o:241:GLN:HB2	1.85	0.57
4:o:238:MET:HE3	5:u:347:TYR:HA	1.86	0.57
4:q:164:ARG:HB3	4:q:260:GLU:HB3	1.86	0.57
3:c:180:THR:HG23	3:c:251:LYS:HG2	1.85	0.57
4:n:181:LEU:HD11	4:n:189:LEU:HD11	1.86	0.57
5:s:55:GLU:HG2	5:s:220:ASP:HA	1.85	0.57
1:K:224:PRO:HG2	1:K:241:LEU:HA	1.86	0.57
1:M:234:GLY:O	1:M:237:HIS:ND1	2.38	0.57
3:l:158:PRO:HG3	3:l:291:TRP:HB2	1.87	0.57
3:f:186:LEU:HD12	3:f:245:GLY:H	1.68	0.57
4:m:194:TRP:O	4:m:257:LYS:NZ	2.37	0.57
1:M:173:ASP:OD2	1:N:58:LYS:NZ	2.37	0.57
3:a:137:ASN:ND2	3:a:165:SER:O	2.37	0.57
3:f:184:ARG:HE	3:f:245:GLY:HA2	1.69	0.57
4:o:181:LEU:HD11	4:o:189:LEU:HD11	1.87	0.57
1:K:107:LEU:HD11	1:K:183:LEU:HD21	1.86	0.56
3:b:261:CYS:HB3	3:b:271:ILE:HG22	1.86	0.56
3:l:180:THR:HB	3:l:308:LYS:HG2	1.86	0.56
4:n:223:VAL:HG22	4:n:232:LEU:HD23	1.87	0.56
4:p:213:PRO:HD3	4:p:244:TRP:CD1	2.40	0.56
5:s:455:VAL:HA	5:u:222:GLN:OE1	2.05	0.56
1:L:64:LEU:HD23	1:L:93:PHE:HB3	1.87	0.56
1:N:130:LYS:HD3	1:N:131:VAL:HG23	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:g:194:ASN:HB2	3:g:290:ALA:HB3	1.86	0.56
5:s:116:PHE:HB2	5:s:121:LYS:HB3	1.86	0.56
3:j:184:ARG:HE	3:j:245:GLY:HA2	1.71	0.56
1:N:162:LYS:HE3	1:O:84:THR:HG23	1.88	0.56
3:e:79:GLN:HE21	3:h:102:PRO:HD2	1.70	0.56
4:m:88:ARG:O	4:m:88:ARG:NH1	2.37	0.56
5:s:354:THR:OG1	5:s:360:TRP:NE1	2.37	0.56
3:f:123:PHE:HB3	3:f:144:ILE:HD12	1.87	0.56
3:j:127:TYR:OH	4:p:236:ASN:ND2	2.37	0.56
5:t:258:ASP:HB3	6:v:2:THR:HG23	1.88	0.56
5:t:511:ARG:HA	5:t:529:GLN:HA	1.88	0.56
5:s:401:LEU:O	5:s:405:THR:OG1	2.18	0.56
6:x:93:LEU:HD23	6:x:96:ARG:HD3	1.87	0.56
1:M:177:ILE:HG13	1:N:18:PRO:HD3	1.87	0.56
3:c:2:LEU:HG	3:f:9:GLU:HG2	1.88	0.56
3:f:224:THR:HG23	3:f:234:GLN:HG3	1.88	0.56
5:u:475:LEU:HD21	6:w:4:PRO:HD2	1.87	0.55
1:I:177:ILE:HG13	1:J:18:PRO:HD3	1.86	0.55
2:S:1699:ARG:NH2	5:t:463:GLN:OE1	2.39	0.55
3:f:21:ILE:HB	3:f:62:TYR:HB2	1.88	0.55
4:r:48:VAL:HG22	5:s:496:HIS:HB3	1.88	0.55
1:M:80:GLU:HG3	1:R:88:LYS:HB2	1.88	0.55
1:M:138:ARG:NH1	1:M:188:ASP:OD2	2.37	0.55
3:j:155:SER:OG	3:j:301:GLU:OE1	2.24	0.55
4:r:150:GLU:OE2	4:r:280:ARG:NH1	2.40	0.55
1:H:177:ILE:HG13	1:I:18:PRO:HD3	1.89	0.55
3:k:103:ARG:NH2	4:q:104:SER:O	2.39	0.55
4:m:91:TRP:CD1	4:m:136:MET:HE1	2.42	0.55
4:m:220:HIS:NE2	5:s:3:ASN:O	2.33	0.55
5:u:76:LYS:HG2	5:u:532:GLU:HG2	1.87	0.55
5:u:540:SER:OG	5:u:543:GLN:O	2.25	0.55
5:u:538:ASP:OD2	5:u:543:GLN:NE2	2.39	0.55
3:b:194:ASN:HB2	3:b:290:ALA:HB3	1.88	0.55
1:G:64:LEU:HD23	1:G:93:PHE:HB3	1.88	0.55
1:H:24:LEU:HD22	1:H:46:ILE:HG21	1.87	0.55
1:H:36:LEU:HD21	1:H:140:ILE:HD13	1.89	0.55
1:Q:88:LYS:HB2	1:R:80:GLU:HG3	1.89	0.55
3:k:182:VAL:HG12	3:l:255:LEU:HD12	1.87	0.55
6:v:100:LEU:HD11	6:x:100:LEU:HD11	1.89	0.55
3:f:152:GLU:HB3	3:f:186:LEU:HD21	1.88	0.55
3:g:18:ALA:HB2	3:h:88:GLN:HB2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:p:169:ASN:HB2	4:p:253:LEU:HG	1.89	0.55
1:P:138:ARG:NH1	1:P:188:ASP:OD2	2.39	0.55
3:f:14:THR:HB	3:f:17:SER:HB3	1.89	0.55
4:m:48:VAL:HG13	4:m:57:ALA:HB2	1.89	0.54
4:m:189:LEU:HD12	4:m:212:MET:HE3	1.90	0.54
4:q:213:PRO:HD3	4:q:244:TRP:CD1	2.42	0.54
4:r:74:ASP:OD1	4:r:75:GLU:N	2.39	0.54
4:r:80:TRP:CH2	4:r:126:PRO:HB2	2.41	0.54
5:u:88:ARG:HH11	5:u:90:ASP:HB3	1.70	0.54
1:G:222:ILE:HG13	1:G:224:PRO:HD2	1.87	0.54
1:P:219:ALA:HB3	1:P:246:ASP:HB3	1.88	0.54
3:e:24:TRP:HA	3:e:27:ARG:HG3	1.89	0.54
4:o:245:LYS:HG2	5:u:358:MET:HE1	1.88	0.54
4:p:248:ASP:OD2	5:t:62:ARG:NE	2.40	0.54
4:r:214:GLU:O	4:r:243:ARG:NH1	2.37	0.54
3:j:21:ILE:HB	3:j:62:TYR:HB2	1.88	0.54
5:s:101:PRO:HB3	5:t:378:TRP:CE2	2.43	0.54
1:G:21:LEU:HB3	1:G:56:PHE:HZ	1.72	0.54
1:I:222:ILE:HD11	1:I:241:LEU:HB3	1.90	0.54
1:N:44:LEU:HD22	1:O:4:PHE:HE1	1.72	0.54
1:R:234:GLY:O	1:R:237:HIS:ND1	2.39	0.54
3:k:234:GLN:HG2	3:k:276:LEU:HD22	1.90	0.54
3:c:120:LYS:HE2	3:d:255:LEU:HD21	1.88	0.54
3:j:169:ARG:HD2	3:j:170:TRP:O	2.07	0.54
4:o:284:ARG:HH12	4:p:88:ARG:HG2	1.73	0.54
1:M:138:ARG:NH1	1:M:159:PRO:O	2.41	0.54
1:M:190:VAL:HG23	1:M:191:VAL:HG13	1.90	0.54
5:t:586:GLN:HG2	5:u:391:ASP:HB3	1.88	0.54
6:x:33:GLU:O	6:x:37:ARG:HB2	2.07	0.54
3:a:184:ARG:HB3	3:a:304:ALA:HB3	1.90	0.54
3:f:176:MET:HE3	3:f:309:ASP:HB3	1.90	0.54
3:g:184:ARG:HB3	3:g:304:ALA:HB3	1.90	0.54
3:h:180:THR:HB	3:h:308:LYS:HG2	1.90	0.54
4:o:73:TYR:OH	4:o:75:GLU:OE2	2.25	0.54
4:p:48:VAL:HG22	5:t:496:HIS:HB3	1.87	0.54
1:P:177:ILE:HG13	1:Q:18:PRO:HD3	1.90	0.54
4:p:148:GLU:O	4:p:280:ARG:NH1	2.41	0.54
4:p:169:ASN:ND2	4:p:253:LEU:O	2.40	0.54
5:u:248:VAL:HA	5:u:251:ILE:HD12	1.90	0.54
1:L:69:ASP:OD2	1:L:88:LYS:NZ	2.41	0.54
1:P:234:GLY:O	1:P:237:HIS:ND1	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:T:1675:ALA:O	2:U:1677:TYR:OH	2.26	0.54
3:b:178:SER:HB2	3:b:311:VAL:HG13	1.89	0.54
4:o:190:PRO:HG3	4:o:261:ILE:HB	1.90	0.54
5:u:146:ASN:HB3	5:u:150:THR:HG21	1.89	0.54
1:J:107:LEU:HD11	1:J:183:LEU:HD21	1.90	0.53
3:a:109:VAL:HG23	3:b:44:ALA:HB2	1.90	0.53
3:c:182:VAL:HB	3:c:306:GLU:HG2	1.90	0.53
4:o:188:ILE:HB	4:o:264:GLN:HB2	1.89	0.53
5:u:258:ASP:HB3	6:w:2:THR:HG23	1.89	0.53
1:M:130:LYS:HG3	1:N:187:ARG:HD2	1.90	0.53
3:e:118:GLN:HB3	3:f:176:MET:HE2	1.90	0.53
3:e:178:SER:HB3	3:e:311:VAL:HG13	1.90	0.53
1:M:79:PRO:HG2	1:M:80:GLU:OE1	2.07	0.53
4:r:167:VAL:HG23	4:r:278:ARG:HD3	1.89	0.53
5:s:552:LYS:NZ	5:s:554:GLY:O	2.41	0.53
5:t:222:GLN:HE21	5:u:458:TRP:NE1	2.07	0.53
5:u:186:THR:O	5:u:190:ILE:HG12	2.09	0.53
3:e:106:LEU:HD22	3:e:109:VAL:HG22	1.89	0.53
3:i:18:ALA:HB2	3:j:88:GLN:HB2	1.89	0.53
3:i:282:GLU:HG3	3:i:285:ARG:HH21	1.72	0.53
4:q:48:VAL:HG13	4:q:57:ALA:HB2	1.90	0.53
5:u:208:ASN:O	5:u:211:SER:OG	2.24	0.53
1:I:222:ILE:HG13	1:I:224:PRO:HD2	1.91	0.53
1:R:75:ALA:HB3	1:R:78:GLU:HB3	1.91	0.53
3:e:18:ALA:HB2	3:f:88:GLN:HB2	1.89	0.53
3:f:126:GLN:HA	3:f:144:ILE:HG21	1.91	0.53
3:g:261:CYS:HB3	3:g:271:ILE:HG22	1.91	0.53
3:h:184:ARG:HB3	3:h:304:ALA:HB3	1.90	0.53
3:i:178:SER:HB3	3:i:311:VAL:HG13	1.89	0.53
3:k:152:GLU:HG2	3:k:186:LEU:HD21	1.91	0.53
4:p:219:GLU:OE2	4:p:240:THR:OG1	2.22	0.53
1:K:119:SER:OG	1:L:37:GLU:OE1	2.21	0.53
1:R:79:PRO:HG2	1:R:80:GLU:OE1	2.08	0.53
3:b:72:ILE:O	3:b:99:ARG:NH2	2.41	0.53
3:l:126:GLN:HA	3:l:144:ILE:HG21	1.91	0.53
5:t:26:GLN:O	5:t:29:GLU:HG2	2.07	0.53
3:e:72:ILE:O	3:e:99:ARG:NH2	2.32	0.53
3:l:14:THR:HB	3:l:17:SER:HB3	1.89	0.53
4:n:169:ASN:ND2	4:n:253:LEU:O	2.41	0.53
4:p:64:ARG:HD2	4:p:110:LEU:HD21	1.89	0.53
4:r:148:GLU:O	4:r:280:ARG:NH1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:s:366:ASN:H	5:s:369:THR:HB	1.74	0.53
1:M:176:VAL:HG12	1:N:17:ALA:HB2	1.91	0.53
1:H:63:THR:HB	1:H:94:ASP:OD1	2.09	0.52
1:J:151:PRO:HD2	1:J:202:PRO:HG2	1.89	0.52
1:R:227:PRO:HD2	1:R:296:VAL:HA	1.91	0.52
3:a:186:LEU:HD23	3:a:245:GLY:H	1.75	0.52
4:o:167:VAL:HG23	4:o:278:ARG:HD3	1.91	0.52
1:I:15:ALA:O	1:I:147:ARG:NH2	2.42	0.52
3:e:176:MET:HB2	3:e:309:ASP:OD1	2.10	0.52
3:i:109:VAL:H	3:j:44:ALA:HB2	1.74	0.52
4:q:172:ASP:OD1	4:q:172:ASP:N	2.41	0.52
1:H:151:PRO:HD2	1:H:202:PRO:HG2	1.92	0.52
1:L:105:LEU:HD13	1:L:126:LEU:HD11	1.91	0.52
1:Q:234:GLY:O	1:Q:237:HIS:ND1	2.42	0.52
4:q:88:ARG:O	4:q:88:ARG:NH1	2.39	0.52
5:s:299:ASN:HB2	5:s:356:ALA:HB1	1.90	0.52
1:O:227:PRO:HD2	1:O:296:VAL:HA	1.90	0.52
3:c:196:ILE:HG21	3:c:203:MET:HE3	1.90	0.52
4:m:218:GLY:HA3	5:s:2:ALA:HA	1.91	0.52
5:s:245:MET:HG3	5:t:440:TRP:CZ3	2.44	0.52
5:t:146:ASN:HB3	5:t:150:THR:HG21	1.91	0.52
1:G:24:LEU:HD22	1:G:46:ILE:HG21	1.92	0.52
1:K:255:VAL:HG12	1:K:287:LYS:HB2	1.90	0.52
1:O:119:SER:OG	1:P:37:GLU:OE1	2.27	0.52
3:a:196:ILE:HD12	3:a:206:TYR:CE1	2.44	0.52
3:g:182:VAL:HG12	3:h:255:LEU:HD12	1.91	0.52
4:o:67:VAL:HG22	4:o:137:THR:HG23	1.89	0.52
5:u:103:ASN:O	5:u:108:LYS:NZ	2.41	0.52
1:G:55:HIS:H	1:G:99:GLN:NE2	2.07	0.52
3:h:120:LYS:HG2	3:h:306:GLU:OE1	2.09	0.52
4:r:194:TRP:O	4:r:257:LYS:NZ	2.43	0.52
5:t:186:THR:O	5:t:190:ILE:HG12	2.09	0.52
6:w:92:PHE:O	6:w:95:GLU:HG3	2.10	0.52
3:b:126:GLN:HA	3:b:144:ILE:HG21	1.90	0.52
3:h:14:THR:HB	3:h:17:SER:HB3	1.92	0.52
3:j:123:PHE:HB3	3:j:144:ILE:HD12	1.90	0.52
4:m:19:LEU:HB3	4:m:31:LEU:HB2	1.90	0.52
1:M:63:THR:HB	1:M:94:ASP:OD1	2.09	0.52
1:M:227:PRO:HD2	1:M:296:VAL:HA	1.92	0.52
1:N:99:GLN:NE2	1:N:101:GLN:OE1	2.42	0.52
2:S:1698:VAL:HG11	5:t:460:LEU:HD21	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:n:88:ARG:O	4:n:88:ARG:NH1	2.36	0.52
5:s:259:ALA:HB2	6:x:2:THR:HG21	1.91	0.52
5:u:511:ARG:HA	5:u:529:GLN:HA	1.92	0.52
1:I:230:THR:N	1:I:236:SER:O	2.42	0.52
4:p:160:GLU:HG3	4:p:266:LYS:HA	1.92	0.52
4:p:244:TRP:CH2	4:p:248:ASP:HA	2.44	0.52
6:v:96:ARG:HH22	6:x:96:ARG:HH22	1.56	0.52
1:G:222:ILE:HD11	1:G:241:LEU:HB3	1.91	0.52
1:I:130:LYS:HG3	1:I:131:VAL:HG23	1.91	0.52
1:N:234:GLY:O	1:N:237:HIS:ND1	2.42	0.52
1:R:63:THR:HB	1:R:94:ASP:OD1	2.10	0.52
3:b:152:GLU:HB3	3:b:186:LEU:HD21	1.92	0.52
3:i:196:ILE:HD12	3:i:206:TYR:CE1	2.44	0.52
4:o:220:HIS:NE2	5:u:3:ASN:O	2.29	0.52
5:t:103:ASN:O	5:t:108:LYS:NZ	2.43	0.52
5:u:495:LEU:HD11	5:u:551:LEU:HD11	1.91	0.52
4:m:190:PRO:HG3	4:m:261:ILE:HB	1.92	0.51
5:s:35:GLN:OE1	5:s:38:ARG:NH2	2.43	0.51
5:u:330:ASP:OD1	5:u:330:ASP:N	2.43	0.51
1:L:57:GLU:OE1	1:L:98:TYR:OH	2.26	0.51
1:N:190:VAL:HG23	1:N:191:VAL:HG13	1.92	0.51
1:O:79:PRO:HG2	1:O:80:GLU:OE1	2.10	0.51
3:e:196:ILE:HD12	3:e:206:TYR:CE1	2.44	0.51
3:f:10:THR:HA	3:f:96:THR:O	2.11	0.51
4:m:239:PRO:HB2	4:m:242:ASN:OD1	2.09	0.51
4:q:46:LEU:HB3	5:s:138:VAL:HG22	1.92	0.51
1:N:227:PRO:HD2	1:N:296:VAL:HA	1.92	0.51
1:O:63:THR:HB	1:O:94:ASP:OD1	2.10	0.51
1:Q:227:PRO:HD2	1:Q:296:VAL:HA	1.92	0.51
3:a:156:MET:HE3	3:a:291:TRP:CH2	2.42	0.51
3:d:194:ASN:OD1	3:d:210:GLN:NE2	2.43	0.51
3:l:169:ARG:HD2	3:l:170:TRP:O	2.10	0.51
5:s:390:GLY:O	5:s:439:ALA:HB1	2.11	0.51
1:G:107:LEU:HD11	1:G:183:LEU:HD21	1.93	0.51
1:H:119:SER:OG	1:I:37:GLU:OE1	2.23	0.51
3:a:251:LYS:HD2	3:a:262:TYR:HE2	1.74	0.51
5:t:448:ARG:NH1	5:t:485:GLY:O	2.43	0.51
1:M:36:LEU:HD12	1:M:155:TYR:CG	2.46	0.51
1:R:264:LYS:NZ	1:R:278:ALA:O	2.30	0.51
2:T:1672:ILE:HG13	2:T:1673:HIS:N	2.25	0.51
3:e:109:VAL:H	3:f:44:ALA:HB2	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:u:259:ALA:HB2	6:w:2:THR:HG21	1.91	0.51
3:a:14:THR:HB	3:a:17:SER:HB3	1.93	0.51
3:b:192:LYS:HG2	3:b:210:GLN:HE21	1.75	0.51
3:e:27:ARG:HH22	3:e:58:LYS:HD2	1.76	0.51
3:g:234:GLN:HG2	3:g:276:LEU:HD22	1.92	0.51
3:j:128:ILE:HG23	3:j:156:MET:HE3	1.92	0.51
3:k:308:LYS:NZ	3:k:310:GLY:O	2.44	0.51
4:r:213:PRO:HD3	4:r:244:TRP:CD1	2.45	0.51
3:d:195:VAL:HG11	3:d:250:ILE:HD13	1.93	0.51
3:g:193:PHE:HB2	3:g:300:VAL:HG13	1.92	0.51
3:h:195:VAL:HG11	3:h:250:ILE:HD13	1.93	0.51
3:i:14:THR:HB	3:i:17:SER:HB3	1.93	0.51
4:q:64:ARG:HD2	4:q:110:LEU:HD21	1.93	0.51
4:r:67:VAL:HG22	4:r:137:THR:HG23	1.92	0.51
5:t:173:ILE:HD12	5:t:242:SER:HB2	1.92	0.51
5:t:495:LEU:HD11	5:t:551:LEU:HD11	1.93	0.51
5:u:466:GLU:HA	5:u:579:ASN:ND2	2.26	0.51
1:N:176:VAL:HG12	1:O:17:ALA:HB2	1.93	0.51
1:Q:63:THR:HB	1:Q:94:ASP:OD1	2.11	0.51
1:Q:218:THR:OG1	1:Q:246:ASP:OD2	2.28	0.51
3:h:121:ALA:HB3	3:h:305:TRP:HB3	1.93	0.51
3:j:261:CYS:HB3	3:j:271:ILE:HG22	1.92	0.51
4:o:46:LEU:HB3	5:t:138:VAL:HG22	1.92	0.51
4:p:147:ASP:OD2	4:p:280:ARG:NH2	2.44	0.51
1:I:188:ASP:HB3	1:I:191:VAL:HG22	1.93	0.51
1:P:131:VAL:HG22	1:R:79:PRO:HG3	1.93	0.51
1:P:162:LYS:HE3	1:Q:84:THR:HG23	1.93	0.51
4:o:239:PRO:HB2	4:o:242:ASN:HB2	1.93	0.51
5:s:399:ALA:HA	5:t:431:PRO:HB2	1.93	0.51
1:N:246:ASP:N	1:N:246:ASP:OD1	2.44	0.50
2:T:1669:TYR:HB3	2:T:1672:ILE:HG21	1.92	0.50
3:b:186:LEU:HD12	3:b:245:GLY:H	1.74	0.50
3:i:149:LEU:HG	3:i:150:ILE:HG23	1.93	0.50
3:j:152:GLU:HB3	3:j:186:LEU:HD21	1.93	0.50
4:o:239:PRO:HB2	4:o:242:ASN:CB	2.41	0.50
5:t:101:PRO:HB3	5:u:378:TRP:CE2	2.46	0.50
1:O:234:GLY:O	1:O:237:HIS:ND1	2.43	0.50
1:Q:162:LYS:HE3	1:R:84:THR:HG23	1.93	0.50
3:c:196:ILE:HD12	3:c:206:TYR:CE1	2.45	0.50
3:g:147:HIS:NE2	3:g:155:SER:OG	2.40	0.50
3:k:118:GLN:NE2	3:l:175:ASN:HB3	2.23	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:n:230:GLN:HB3	4:n:233:ILE:HD11	1.93	0.50
4:q:190:PRO:HG3	4:q:261:ILE:HB	1.91	0.50
4:r:50:GLY:HA3	4:r:55:GLU:HG2	1.92	0.50
5:s:186:THR:O	5:s:190:ILE:HG12	2.11	0.50
5:u:256:LEU:HD23	5:u:261:LEU:HB2	1.92	0.50
1:I:159:PRO:HG3	1:I:191:VAL:HG21	1.93	0.50
1:R:218:THR:OG1	1:R:246:ASP:OD2	2.28	0.50
3:b:127:TYR:OH	4:r:236:ASN:ND2	2.44	0.50
5:t:390:GLY:O	5:t:439:ALA:HB1	2.11	0.50
5:t:475:LEU:HD21	6:v:4:PRO:HD2	1.92	0.50
1:H:124:ILE:HD12	1:H:126:LEU:HD21	1.93	0.50
1:N:138:ARG:NH1	1:N:159:PRO:O	2.44	0.50
1:Q:176:VAL:HG12	1:R:17:ALA:HB2	1.94	0.50
2:S:1672:ILE:HG13	2:S:1673:HIS:N	2.26	0.50
3:g:291:TRP:HE1	3:g:302:PRO:HD3	1.74	0.50
3:j:261:CYS:O	3:j:270:LEU:N	2.44	0.50
3:l:192:LYS:HD2	3:l:210:GLN:NE2	2.27	0.50
4:m:248:ASP:OD2	5:s:364:ARG:NH1	2.45	0.50
4:n:43:VAL:HG11	4:n:59:LYS:HD2	1.92	0.50
1:K:63:THR:HB	1:K:94:ASP:OD1	2.12	0.50
1:M:218:THR:OG1	1:M:246:ASP:OD2	2.28	0.50
1:O:97:MET:HE2	1:O:181:PRO:HG3	1.94	0.50
3:d:196:ILE:HD13	3:d:203:MET:HE3	1.93	0.50
3:i:109:VAL:HG23	3:j:44:ALA:HB2	1.92	0.50
4:p:43:VAL:HG11	4:p:59:LYS:HE2	1.94	0.50
4:p:223:VAL:HG22	4:p:232:LEU:HD23	1.94	0.50
1:G:147:ARG:HH21	1:G:152:ILE:HD12	1.76	0.50
1:Q:246:ASP:OD1	1:Q:246:ASP:N	2.45	0.50
4:m:241:GLN:HG3	4:m:244:TRP:HE3	1.76	0.50
4:q:73:TYR:OH	4:q:75:GLU:OE2	2.28	0.50
5:s:396:ASP:OD2	5:s:435:GLY:N	2.42	0.50
5:u:299:ASN:HB2	5:u:356:ALA:HB1	1.94	0.50
6:v:89:LEU:HD21	6:w:79:VAL:HG12	1.93	0.50
1:G:130:LYS:HG3	1:G:131:VAL:HG23	1.93	0.50
1:M:246:ASP:OD1	1:M:246:ASP:N	2.43	0.50
1:Q:142:VAL:HG22	1:R:4:PHE:HZ	1.76	0.50
3:c:291:TRP:HE1	3:c:302:PRO:HD3	1.76	0.50
4:m:213:PRO:HD3	4:m:244:TRP:CD1	2.46	0.50
5:t:299:ASN:HB2	5:t:356:ALA:HB1	1.94	0.50
1:K:151:PRO:HD2	1:K:202:PRO:HG2	1.94	0.50
1:Q:97:MET:HE2	1:Q:181:PRO:HG3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:h:27:ARG:O	3:h:30:TYR:OH	2.28	0.50
5:t:245:MET:HG3	5:u:440:TRP:CZ3	2.47	0.50
5:t:256:LEU:HD11	5:t:263:ILE:HD11	1.93	0.50
1:L:94:ASP:OD1	1:L:94:ASP:N	2.45	0.49
3:c:267:LEU:HD21	3:d:251:LYS:HE2	1.93	0.49
4:o:43:VAL:HG11	4:o:59:LYS:HE2	1.94	0.49
1:J:169:GLN:HB3	1:K:64:LEU:HB2	1.94	0.49
1:Q:264:LYS:NZ	1:Q:278:ALA:O	2.32	0.49
1:R:159:PRO:HG3	1:R:191:VAL:HG21	1.95	0.49
4:q:196:ASN:ND2	4:q:254:MET:HE3	2.26	0.49
5:s:226:LYS:HG3	5:s:293:GLU:HG3	1.92	0.49
1:I:118:PRO:HB2	1:J:249:ILE:HD11	1.93	0.49
1:L:98:TYR:HE1	1:L:178:GLU:HG2	1.77	0.49
1:L:107:LEU:HD11	1:L:183:LEU:HD21	1.94	0.49
1:Q:190:VAL:HG23	1:Q:191:VAL:HG13	1.94	0.49
3:b:21:ILE:HB	3:b:62:TYR:HB2	1.93	0.49
4:r:181:LEU:HD11	4:r:189:LEU:HD11	1.94	0.49
5:t:414:LEU:HD13	6:v:57:PHE:HB2	1.93	0.49
1:J:91:THR:HG21	1:J:195:VAL:HG21	1.95	0.49
3:k:106:LEU:HD13	3:l:43:ALA:HB1	1.95	0.49
1:I:69:ASP:OD2	1:I:88:LYS:NZ	2.45	0.49
4:m:64:ARG:HD2	4:m:110:LEU:HD21	1.94	0.49
5:s:330:ASP:OD1	5:s:330:ASP:N	2.45	0.49
5:t:222:GLN:OE1	5:u:455:VAL:HA	2.12	0.49
1:K:189:ASP:OD1	1:K:189:ASP:N	2.46	0.49
1:P:227:PRO:HD2	1:P:296:VAL:HA	1.93	0.49
3:b:261:CYS:O	3:b:270:LEU:N	2.46	0.49
3:e:149:LEU:HG	3:e:150:ILE:HG23	1.95	0.49
5:s:122:ARG:NH1	5:s:267:ARG:O	2.45	0.49
5:s:466:GLU:HA	5:s:579:ASN:HD21	1.76	0.49
5:t:213:ASP:HB3	5:t:216:LEU:HG	1.93	0.49
5:t:267:ARG:NH1	5:t:288:GLY:O	2.46	0.49
1:H:189:ASP:OD1	1:H:189:ASP:N	2.46	0.49
1:H:222:ILE:HG13	1:H:224:PRO:HD2	1.95	0.49
1:L:188:ASP:HB3	1:L:191:VAL:HG22	1.95	0.49
1:P:229:VAL:HG13	1:P:298:VAL:HG13	1.95	0.49
3:k:18:ALA:HB2	3:l:88:GLN:HB2	1.94	0.49
4:m:73:TYR:OH	4:m:75:GLU:OE2	2.30	0.49
4:p:50:GLY:HA3	4:p:55:GLU:HG2	1.94	0.49
5:t:109:ASN:ND2	5:u:455:VAL:O	2.40	0.49
1:P:63:THR:HB	1:P:94:ASP:OD1	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:b:169:ARG:HD2	3:b:170:TRP:O	2.12	0.49
3:d:219:LYS:HE2	3:d:221:HIS:CE1	2.48	0.49
3:e:38:LEU:HD12	3:e:80:LEU:HD12	1.93	0.49
3:i:267:LEU:HD22	3:j:267:LEU:HD22	1.95	0.49
3:l:21:ILE:HB	3:l:62:TYR:HB2	1.94	0.49
1:G:118:PRO:HB2	1:H:249:ILE:HD11	1.93	0.49
1:O:176:VAL:HA	1:P:17:ALA:HA	1.94	0.49
3:i:176:MET:HB2	3:i:309:ASP:OD1	2.13	0.49
3:i:194:ASN:HB2	3:i:290:ALA:HB3	1.95	0.49
4:p:167:VAL:HG23	4:p:278:ARG:HD3	1.95	0.49
1:K:124:ILE:HD12	1:K:126:LEU:HD21	1.95	0.49
1:L:159:PRO:HG3	1:L:191:VAL:HG21	1.94	0.49
1:G:94:ASP:OD1	1:G:94:ASP:N	2.46	0.48
1:K:159:PRO:HG3	1:K:191:VAL:HG21	1.94	0.48
1:O:24:LEU:HD22	1:O:46:ILE:HG21	1.95	0.48
2:S:1689:ALA:HA	5:t:562:ILE:HG13	1.95	0.48
3:a:18:ALA:HB2	3:b:88:GLN:HB2	1.95	0.48
3:a:192:LYS:HB3	3:a:210:GLN:HE21	1.77	0.48
3:j:120:LYS:HG3	3:j:306:GLU:OE1	2.13	0.48
3:l:195:VAL:HG11	3:l:250:ILE:HD13	1.94	0.48
4:o:164:ARG:HB3	4:o:260:GLU:HB3	1.95	0.48
5:u:256:LEU:HD11	5:u:263:ILE:HD11	1.95	0.48
5:u:429:ILE:HD11	6:v:37:ARG:HG3	1.95	0.48
6:w:76:VAL:HG22	6:w:89:LEU:HB2	1.94	0.48
1:I:173:ASP:OD1	1:I:173:ASP:N	2.45	0.48
3:d:6:PRO:HB2	3:d:94:PHE:HD1	1.78	0.48
4:m:239:PRO:HG3	5:s:351:TRP:HB3	1.95	0.48
4:p:212:MET:HE2	4:p:212:MET:H	1.79	0.48
4:q:169:ASN:HB2	4:q:253:LEU:HG	1.95	0.48
5:u:390:GLY:O	5:u:439:ALA:HB1	2.13	0.48
1:L:173:ASP:OD1	1:L:173:ASP:N	2.46	0.48
3:a:1:MET:N	3:d:9:GLU:OE2	2.46	0.48
4:n:12:ARG:HD2	4:n:95:GLU:OE2	2.13	0.48
4:n:160:GLU:HG3	4:n:266:LYS:HA	1.95	0.48
5:s:532:GLU:HG3	5:s:552:LYS:HE3	1.94	0.48
1:I:151:PRO:HD2	1:I:202:PRO:HG2	1.94	0.48
1:J:118:PRO:HB2	1:K:249:ILE:HD11	1.96	0.48
3:c:234:GLN:HG2	3:c:276:LEU:HD22	1.96	0.48
4:o:3:ASP:OD1	4:o:3:ASP:N	2.47	0.48
6:v:96:ARG:NH2	6:x:96:ARG:HH22	2.10	0.48
1:J:122:GLY:HA2	1:K:249:ILE:HD12	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:91:THR:HG21	1:L:195:VAL:HG21	1.96	0.48
1:M:37:GLU:OE2	1:R:121:PHE:HB2	2.13	0.48
3:d:14:THR:HB	3:d:17:SER:HB3	1.95	0.48
4:p:230:GLN:NE2	4:p:241:GLN:OE1	2.35	0.48
5:s:455:VAL:O	5:u:109:ASN:ND2	2.38	0.48
5:u:343:PRO:HD3	5:u:358:MET:HG3	1.95	0.48
5:u:448:ARG:NH1	5:u:485:GLY:O	2.46	0.48
1:P:189:ASP:OD1	1:P:189:ASP:N	2.46	0.48
3:a:133:LYS:HD3	3:a:135:MET:HE3	1.96	0.48
3:i:55:VAL:HG13	3:i:60:ILE:HG12	1.95	0.48
4:n:12:ARG:CD	4:n:92:ASP:HB2	2.40	0.48
5:t:226:LYS:HB2	5:t:226:LYS:HE3	1.69	0.48
1:N:159:PRO:HG3	1:N:191:VAL:HG21	1.95	0.48
3:h:282:GLU:OE1	4:n:164:ARG:NH1	2.43	0.48
3:h:291:TRP:HE1	3:h:302:PRO:HD3	1.77	0.48
4:o:145:TRP:CZ2	4:o:285:PRO:HG3	2.48	0.48
5:u:352:LEU:HD22	5:u:505:HIS:HE2	1.79	0.48
1:G:249:ILE:HD11	1:L:118:PRO:HB2	1.94	0.48
1:H:223:THR:OG1	1:H:224:PRO:HD3	2.14	0.48
1:M:36:LEU:HD22	1:M:46:ILE:HD13	1.95	0.48
3:b:224:THR:HG23	3:b:234:GLN:HG3	1.95	0.48
3:h:192:LYS:HD2	3:h:210:GLN:NE2	2.29	0.48
3:l:155:SER:OG	3:l:301:GLU:OE1	2.30	0.48
1:N:144:MET:HB2	1:O:4:PHE:CE2	2.49	0.48
1:P:64:LEU:HD23	1:P:93:PHE:HB3	1.96	0.48
3:j:224:THR:HG23	3:j:234:GLN:HG3	1.95	0.48
4:p:223:VAL:HA	4:p:231:THR:O	2.14	0.48
1:I:105:LEU:HA	1:I:108:ILE:HG12	1.96	0.47
1:J:223:THR:OG1	1:J:224:PRO:HD3	2.14	0.47
1:L:98:TYR:CE1	1:L:178:GLU:HG2	2.49	0.47
1:O:189:ASP:OD1	1:O:189:ASP:N	2.48	0.47
3:b:11:LEU:HD11	3:b:40:PHE:HZ	1.79	0.47
3:j:14:THR:HB	3:j:17:SER:HB3	1.96	0.47
5:s:327:PHE:O	5:s:479:ARG:NH1	2.45	0.47
1:K:223:THR:OG1	1:K:224:PRO:HD3	2.13	0.47
3:g:206:TYR:CZ	3:g:225:GLY:HA3	2.49	0.47
4:m:141:THR:HG23	4:r:54:GLU:O	2.15	0.47
4:p:67:VAL:HG22	4:p:137:THR:HG23	1.95	0.47
4:r:188:ILE:HB	4:r:264:GLN:HB2	1.96	0.47
5:t:399:ALA:HA	5:u:431:PRO:HB2	1.96	0.47
5:t:479:ARG:HD3	6:v:2:THR:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:17:ALA:HA	1:L:176:VAL:HA	1.97	0.47
1:G:223:THR:OG1	1:G:224:PRO:HD3	2.14	0.47
1:G:229:VAL:HG23	1:G:298:VAL:HG13	1.96	0.47
1:I:223:THR:OG1	1:I:224:PRO:HD3	2.15	0.47
1:L:230:THR:N	1:L:236:SER:O	2.47	0.47
2:S:1666:VAL:HG22	2:S:1672:ILE:HD11	1.96	0.47
3:h:158:PRO:HG3	3:h:291:TRP:HB2	1.97	0.47
3:i:72:ILE:O	3:i:99:ARG:NH2	2.37	0.47
3:k:291:TRP:HE1	3:k:302:PRO:HD3	1.79	0.47
3:l:289:LEU:HD13	3:l:302:PRO:HG3	1.95	0.47
4:p:19:LEU:HB3	4:p:31:LEU:HB2	1.96	0.47
5:s:440:TRP:CZ3	5:u:245:MET:HG3	2.50	0.47
1:H:146:ASP:OD1	1:H:146:ASP:N	2.44	0.47
1:I:94:ASP:OD1	1:I:94:ASP:N	2.47	0.47
3:c:206:TYR:CZ	3:c:225:GLY:HA3	2.49	0.47
3:k:42:ASP:OD1	3:k:46:GLY:N	2.47	0.47
5:s:501:ILE:HG21	5:s:504:LEU:HD12	1.97	0.47
1:G:230:THR:HG22	1:G:232:ALA:H	1.78	0.47
1:M:162:LYS:HE3	1:N:84:THR:HG23	1.96	0.47
1:M:243:VAL:HG21	1:M:255:VAL:HG21	1.97	0.47
1:O:147:ARG:HH22	1:O:207:LEU:HD11	1.79	0.47
1:Q:99:GLN:NE2	1:Q:101:GLN:OE1	2.48	0.47
3:l:6:PRO:HB2	3:l:94:PHE:HD1	1.79	0.47
4:m:54:GLU:O	4:n:141:THR:HG23	2.14	0.47
4:n:29:VAL:HA	4:n:71:GLN:O	2.14	0.47
5:s:256:LEU:HD11	5:s:263:ILE:HD11	1.96	0.47
1:J:147:ARG:HH21	1:J:152:ILE:HD12	1.80	0.47
1:K:118:PRO:HB2	1:L:249:ILE:HD11	1.95	0.47
1:P:218:THR:OG1	1:P:246:ASP:OD2	2.29	0.47
1:R:246:ASP:OD1	1:R:246:ASP:N	2.47	0.47
3:f:105:PRO:O	3:f:109:VAL:HG12	2.15	0.47
3:h:182:VAL:HB	3:h:306:GLU:HB3	1.97	0.47
3:h:207:LEU:HD22	3:h:276:LEU:HD12	1.97	0.47
3:l:10:THR:HG21	4:q:23:GLY:HA3	1.97	0.47
4:m:181:LEU:HD11	4:m:189:LEU:HD11	1.96	0.47
4:r:19:LEU:HB3	4:r:31:LEU:HB2	1.95	0.47
5:s:382:LYS:O	5:s:457:TYR:HB2	2.15	0.47
5:s:479:ARG:HD3	6:x:2:THR:O	2.15	0.47
5:t:131:THR:HG22	5:t:133:LYS:HG3	1.97	0.47
1:J:150:ARG:NE	1:J:206:ASP:OD2	2.45	0.47
1:J:222:ILE:HG13	1:J:224:PRO:HD2	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:147:ARG:HH21	1:K:152:ILE:HD11	1.80	0.47
1:N:138:ARG:NH1	1:N:188:ASP:OD2	2.45	0.47
1:P:167:ASP:OD1	1:P:180:LYS:HB3	2.15	0.47
1:Q:130:LYS:HG3	1:R:187:ARG:HD2	1.96	0.47
1:R:190:VAL:HG23	1:R:191:VAL:HG13	1.97	0.47
3:g:196:ILE:HD12	3:g:206:TYR:CE1	2.49	0.47
3:i:15:VAL:HG13	3:i:101:GLU:OE1	2.15	0.47
3:k:13:LEU:HB2	3:k:99:ARG:HD3	1.96	0.47
4:p:80:TRP:CH2	4:p:126:PRO:HB2	2.50	0.47
4:q:181:LEU:HD11	4:q:189:LEU:HD11	1.96	0.47
4:q:236:ASN:ND2	4:q:238:MET:SD	2.87	0.47
4:r:121:TYR:CD1	4:r:126:PRO:HB3	2.49	0.47
1:G:255:VAL:HG12	1:G:287:LYS:HB2	1.97	0.47
3:j:236:ASP:OD1	3:j:236:ASP:N	2.42	0.47
4:n:76:ASP:OD1	4:n:76:ASP:N	2.48	0.47
4:q:54:GLU:O	4:r:141:THR:HG23	2.15	0.47
5:s:414:LEU:HD13	6:x:57:PHE:HB2	1.97	0.47
6:w:33:GLU:O	6:w:37:ARG:HB2	2.15	0.47
1:J:173:ASP:OD1	1:J:173:ASP:N	2.46	0.47
1:M:230:THR:OG1	1:M:236:SER:OG	2.28	0.47
1:O:176:VAL:HG12	1:P:17:ALA:HB2	1.96	0.47
1:Q:21:LEU:HD21	1:Q:62:LEU:HD13	1.97	0.47
2:U:1698:VAL:HG11	5:u:460:LEU:HD11	1.96	0.47
3:e:15:VAL:HG13	3:e:101:GLU:OE1	2.15	0.47
3:l:105:PRO:O	3:l:109:VAL:HG12	2.15	0.47
4:n:64:ARG:HD2	4:n:110:LEU:HD21	1.96	0.47
4:n:244:TRP:CH2	4:n:248:ASP:HA	2.49	0.47
4:o:47:TYR:HB3	4:o:54:GLU:HB3	1.97	0.47
4:o:80:TRP:CH2	4:o:126:PRO:HB2	2.49	0.47
1:H:229:VAL:HG13	1:H:298:VAL:HG22	1.97	0.47
1:I:121:PHE:HB2	1:J:37:GLU:OE2	2.15	0.47
3:f:137:ASN:ND2	3:f:165:SER:O	2.48	0.47
3:h:152:GLU:HB3	3:h:186:LEU:HD21	1.96	0.47
4:m:229:VAL:HG11	5:s:31:ARG:HD3	1.97	0.47
4:p:6:LYS:NZ	4:p:8:GLU:OE2	2.35	0.47
4:p:76:ASP:OD1	4:p:76:ASP:N	2.45	0.47
4:r:204:GLU:OE1	4:r:204:GLU:N	2.44	0.47
4:r:210:VAL:HG23	4:r:247:ASN:ND2	2.30	0.47
5:s:378:TRP:CE2	5:u:101:PRO:HB3	2.49	0.47
5:t:194:ARG:NH2	5:u:459:GLU:OE2	2.27	0.47
1:K:105:LEU:HA	1:K:108:ILE:HG12	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:b:193:PHE:CZ	3:b:289:LEU:HD22	2.51	0.46
3:e:117:VAL:H	3:e:309:ASP:HB3	1.79	0.46
3:i:182:VAL:HG22	3:i:249:THR:HG23	1.97	0.46
3:i:196:ILE:HG23	3:i:206:TYR:CD1	2.50	0.46
5:s:412:TYR:CZ	5:s:417:GLY:HA3	2.50	0.46
5:s:495:LEU:HD11	5:s:551:LEU:HD11	1.96	0.46
5:s:557:ASP:HA	5:s:560:MET:HE3	1.97	0.46
1:G:265:ALA:HB3	1:G:281:ALA:HB3	1.97	0.46
1:I:95:PHE:CE2	1:I:97:MET:HE2	2.50	0.46
3:f:180:THR:HG23	3:f:251:LYS:HG2	1.97	0.46
4:p:196:ASN:HD21	4:p:198:MET:HE3	1.80	0.46
5:s:122:ARG:NH2	5:s:274:GLU:OE2	2.34	0.46
1:K:56:PHE:HA	1:K:97:MET:HA	1.95	0.46
1:M:85:ILE:HG21	4:m:129:THR:HG23	1.97	0.46
1:O:99:GLN:NE2	1:O:101:GLN:OE1	2.49	0.46
3:j:186:LEU:HD12	3:j:245:GLY:H	1.81	0.46
3:l:42:ASP:HB3	3:l:48:LEU:HD23	1.97	0.46
4:n:67:VAL:HG22	4:n:137:THR:HG23	1.97	0.46
4:q:52:PHE:HD2	4:r:228:ARG:HD3	1.80	0.46
4:r:76:ASP:OD1	4:r:76:ASP:N	2.49	0.46
1:J:229:VAL:HG23	1:J:298:VAL:HG13	1.96	0.46
1:J:265:ALA:HB3	1:J:281:ALA:HB3	1.97	0.46
1:L:57:GLU:HG3	1:L:60:ALA:H	1.80	0.46
1:R:134:ASN:HB3	1:R:162:LYS:HE2	1.97	0.46
3:e:282:GLU:HG3	3:e:285:ARG:HH21	1.79	0.46
1:J:176:VAL:HA	1:K:17:ALA:HA	1.98	0.46
1:M:189:ASP:OD1	1:M:189:ASP:N	2.48	0.46
1:Q:41:ASP:OD1	1:Q:41:ASP:N	2.48	0.46
3:a:109:VAL:H	3:b:44:ALA:HB2	1.80	0.46
3:c:184:ARG:HB3	3:c:304:ALA:HB3	1.97	0.46
3:e:196:ILE:HG21	3:e:203:MET:HE3	1.97	0.46
3:f:9:GLU:O	3:f:95:GLY:HA3	2.16	0.46
3:g:196:ILE:HG21	3:g:203:MET:HE3	1.96	0.46
3:g:220:VAL:HG23	3:g:271:ILE:HD12	1.97	0.46
3:h:42:ASP:HB3	3:h:48:LEU:HD23	1.98	0.46
3:j:194:ASN:HD22	3:j:290:ALA:HB3	1.80	0.46
3:f:169:ARG:HD3	3:f:286:TYR:HB3	1.97	0.46
3:f:201:TYR:OH	4:m:201:ARG:NH2	2.48	0.46
3:h:196:ILE:HD13	3:h:203:MET:HE3	1.97	0.46
3:i:42:ASP:OD1	3:i:46:GLY:N	2.48	0.46
3:k:26:LEU:HD23	3:k:60:ILE:HB	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:218:THR:OG1	1:N:246:ASP:OD2	2.30	0.46
3:c:12:THR:H	3:d:3:SER:HG	1.64	0.46
3:d:169:ARG:NH1	3:d:201:TYR:O	2.49	0.46
3:h:133:LYS:HE2	3:h:169:ARG:HH21	1.81	0.46
3:h:261:CYS:O	3:h:270:LEU:N	2.41	0.46
3:i:6:PRO:HB2	3:i:94:PHE:HD1	1.81	0.46
4:o:145:TRP:CE2	4:o:285:PRO:HG3	2.51	0.46
4:r:84:ASP:OD2	4:r:121:TYR:OH	2.26	0.46
4:r:230:GLN:HB3	4:r:233:ILE:HD11	1.97	0.46
5:u:479:ARG:HD3	6:w:2:THR:O	2.15	0.46
1:K:36:LEU:HD21	1:K:140:ILE:HD13	1.97	0.46
1:L:95:PHE:CE2	1:L:97:MET:HE2	2.51	0.46
1:L:220:LEU:HD11	1:L:287:LYS:HB3	1.98	0.46
1:Q:173:ASP:OD1	1:Q:173:ASP:N	2.48	0.46
1:R:97:MET:HE2	1:R:181:PRO:HG3	1.98	0.46
3:b:14:THR:HB	3:b:17:SER:HB3	1.98	0.46
5:s:448:ARG:NH1	5:s:485:GLY:O	2.49	0.46
5:s:519:LYS:HA	5:s:522:GLU:OE2	2.16	0.46
5:u:382:LYS:O	5:u:457:TYR:HB2	2.15	0.46
1:M:17:ALA:HA	1:R:176:VAL:HA	1.98	0.46
1:M:17:ALA:HB2	1:R:176:VAL:HG12	1.98	0.46
3:g:40:PHE:O	3:g:48:LEU:N	2.47	0.46
3:l:186:LEU:HD12	3:l:245:GLY:H	1.81	0.46
3:l:261:CYS:O	3:l:270:LEU:N	2.49	0.46
4:n:38:PHE:HE1	4:n:99:LEU:HD21	1.81	0.46
5:s:560:MET:HG2	5:s:564:GLU:HB3	1.98	0.46
6:x:56:THR:HG23	6:x:60:LEU:HD23	1.98	0.46
1:G:99:GLN:HE22	1:H:11:GLN:H	1.62	0.46
1:K:101:GLN:HG2	1:L:14:LEU:HD13	1.98	0.46
3:h:279:PRO:HB3	4:n:162:MET:SD	2.56	0.46
3:i:114:ASP:N	3:i:114:ASP:OD1	2.47	0.46
3:j:69:VAL:HA	3:j:72:ILE:HD12	1.98	0.46
4:m:188:ILE:HB	4:m:264:GLN:HB2	1.98	0.46
4:n:50:GLY:HA3	4:n:55:GLU:HG2	1.97	0.46
4:n:223:VAL:HA	4:n:231:THR:O	2.16	0.46
4:o:38:PHE:HE1	4:o:99:LEU:HD21	1.80	0.46
5:u:112:ILE:O	5:u:124:SER:HA	2.16	0.46
1:J:230:THR:HG22	1:J:232:ALA:H	1.81	0.45
1:N:243:VAL:HG11	1:N:255:VAL:HG11	1.97	0.45
4:o:64:ARG:HD2	4:o:110:LEU:HD21	1.97	0.45
4:q:32:ASN:HB2	4:q:69:SER:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:w:106:ALA:O	6:w:110:LEU:HD23	2.16	0.45
1:L:24:LEU:HD22	1:L:46:ILE:HG21	1.97	0.45
1:M:124:ILE:HD12	1:M:126:LEU:HD21	1.97	0.45
2:U:1669:TYR:HB3	2:U:1672:ILE:HG21	1.96	0.45
3:d:306:GLU:OE1	3:d:308:LYS:NZ	2.45	0.45
4:m:80:TRP:CH2	4:m:126:PRO:HB2	2.51	0.45
4:n:57:ALA:HB1	5:u:546:PRO:HG3	1.98	0.45
5:s:44:ILE:HG13	5:s:114:VAL:HG13	1.97	0.45
1:J:220:LEU:HD11	1:J:287:LYS:HB3	1.98	0.45
1:R:24:LEU:HD22	1:R:46:ILE:HG21	1.98	0.45
3:a:3:SER:HG	3:d:12:THR:H	1.64	0.45
3:c:18:ALA:HB2	3:d:88:GLN:HB2	1.98	0.45
3:j:147:HIS:NE2	3:j:155:SER:OG	2.43	0.45
3:k:196:ILE:HD12	3:k:206:TYR:CE1	2.51	0.45
4:q:3:ASP:OD1	4:q:3:ASP:N	2.45	0.45
4:q:48:VAL:HG12	5:s:138:VAL:HG13	1.98	0.45
4:r:223:VAL:HA	4:r:231:THR:O	2.17	0.45
4:r:246:GLY:HA2	5:s:59:TYR:CE1	2.51	0.45
5:t:354:THR:OG1	5:t:360:TRP:NE1	2.49	0.45
5:t:363:VAL:HG12	5:t:371:ILE:HD13	1.97	0.45
5:u:569:LEU:HG	5:u:573:MET:HE2	1.97	0.45
3:a:194:ASN:HB2	3:a:290:ALA:HB3	1.99	0.45
3:b:105:PRO:O	3:b:109:VAL:HG12	2.16	0.45
3:c:99:ARG:HD2	3:c:101:GLU:CD	2.41	0.45
3:d:194:ASN:HD22	3:d:290:ALA:HB3	1.80	0.45
3:f:191:GLY:HA3	3:f:293:THR:HG22	1.98	0.45
3:l:133:LYS:HE2	3:l:135:MET:HE3	1.98	0.45
4:n:248:ASP:OD2	5:u:62:ARG:NE	2.48	0.45
1:L:255:VAL:HG12	1:L:287:LYS:HB2	1.99	0.45
1:R:101:GLN:HG3	1:R:103:ASN:OD1	2.15	0.45
2:U:1688:GLU:OE1	2:U:1692:GLN:NE2	2.48	0.45
3:k:99:ARG:O	3:k:103:ARG:NH2	2.47	0.45
4:p:239:PRO:HB2	4:p:242:ASN:HB2	1.98	0.45
5:t:168:LEU:HD13	5:u:437:ILE:HD13	1.98	0.45
1:G:176:VAL:HA	1:H:17:ALA:HA	1.99	0.45
1:I:101:GLN:HG3	1:I:103:ASN:OD1	2.17	0.45
1:K:138:ARG:NH1	1:K:159:PRO:O	2.50	0.45
1:L:223:THR:OG1	1:L:224:PRO:HD3	2.16	0.45
1:N:93:PHE:CD2	1:N:141:LEU:HD21	2.51	0.45
1:P:246:ASP:N	1:P:246:ASP:OD1	2.47	0.45
1:Q:146:ASP:OD1	1:Q:146:ASP:N	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:S:1672:ILE:HG13	2:S:1673:HIS:H	1.82	0.45
3:i:48:LEU:HD13	3:i:73:PRO:HD2	1.99	0.45
5:u:540:SER:O	5:u:544:THR:OG1	2.28	0.45
1:J:46:ILE:HG13	1:K:7:ILE:HD12	1.99	0.45
1:J:255:VAL:HG12	1:J:287:LYS:HB2	1.99	0.45
1:O:159:PRO:HG3	1:O:191:VAL:HG21	1.99	0.45
4:q:80:TRP:CH2	4:q:126:PRO:HB2	2.52	0.45
5:t:112:ILE:O	5:t:124:SER:HA	2.17	0.45
1:O:138:ARG:NH1	1:O:188:ASP:OD2	2.39	0.45
1:P:173:ASP:N	1:P:173:ASP:OD1	2.49	0.45
2:U:1699:ARG:NH2	5:u:463:GLN:OE1	2.50	0.45
3:c:42:ASP:OD1	3:c:46:GLY:N	2.49	0.45
3:d:42:ASP:HB3	3:d:48:LEU:HD23	1.98	0.45
3:d:180:THR:HB	3:d:308:LYS:HG2	1.99	0.45
3:i:192:LYS:HG2	3:i:212:GLU:HG3	1.98	0.45
3:j:48:LEU:HD23	3:j:72:ILE:HA	1.98	0.45
3:l:9:GLU:HG3	3:l:10:THR:H	1.81	0.45
4:n:239:PRO:HB2	4:n:242:ASN:HB2	1.98	0.45
3:c:114:ASP:OD1	3:c:114:ASP:N	2.50	0.45
3:k:184:ARG:NH1	3:k:303:THR:OG1	2.46	0.45
4:o:8:GLU:OE2	4:o:18:VAL:HG13	2.17	0.45
5:s:458:TRP:NE1	5:u:222:GLN:HE21	2.15	0.45
5:u:38:ARG:HA	5:u:117:TYR:HE1	1.81	0.45
6:w:76:VAL:HG22	6:w:89:LEU:HD12	1.99	0.45
1:G:267:VAL:HB	1:G:283:ILE:HD12	1.99	0.45
1:H:159:PRO:HG3	1:H:191:VAL:HG21	1.99	0.45
1:N:41:ASP:OD1	1:N:41:ASP:N	2.50	0.45
1:N:94:ASP:OD1	1:N:94:ASP:N	2.47	0.45
1:Q:134:ASN:HB3	1:Q:162:LYS:HE2	1.99	0.45
3:h:224:THR:HG23	3:h:234:GLN:HG3	1.98	0.45
5:s:195:VAL:HG21	5:t:458:TRP:HB3	1.99	0.45
1:G:188:ASP:HB3	1:G:191:VAL:HG22	1.99	0.44
1:J:57:GLU:HG2	1:J:98:TYR:OH	2.16	0.44
1:K:67:GLU:HG2	1:K:90:THR:HB	1.99	0.44
1:M:243:VAL:HG11	1:M:255:VAL:HG11	1.99	0.44
3:b:107:SER:HB3	3:k:44:ALA:O	2.17	0.44
3:b:156:MET:HE3	3:b:291:TRP:HH2	1.82	0.44
3:d:105:PRO:O	3:d:109:VAL:HG12	2.17	0.44
3:e:103:ARG:NH2	4:n:104:SER:O	2.50	0.44
3:k:196:ILE:HG21	3:k:203:MET:HE3	1.99	0.44
5:t:306:THR:OG1	5:t:307:PHE:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:t:540:SER:O	5:t:544:THR:OG1	2.31	0.44
1:I:176:VAL:HA	1:J:17:ALA:HA	1.98	0.44
1:K:229:VAL:HG13	1:K:298:VAL:HG13	1.99	0.44
1:R:147:ARG:HH22	1:R:207:LEU:HD11	1.82	0.44
3:c:207:LEU:HG	3:c:278:VAL:HG21	1.99	0.44
3:f:169:ARG:NH1	3:f:201:TYR:O	2.50	0.44
4:n:54:GLU:O	4:o:141:THR:HG23	2.16	0.44
5:t:170:PHE:CD1	5:t:171:PRO:HA	2.53	0.44
6:v:33:GLU:O	6:v:37:ARG:HB2	2.17	0.44
1:I:122:GLY:HA2	1:J:249:ILE:HD12	2.00	0.44
1:N:101:GLN:HG3	1:N:103:ASN:OD1	2.17	0.44
1:N:173:ASP:OD1	1:N:173:ASP:N	2.49	0.44
3:a:182:VAL:HG12	3:b:255:LEU:HD12	1.99	0.44
3:j:55:VAL:HG22	3:j:60:ILE:HD12	1.98	0.44
4:n:196:ASN:ND2	4:n:254:MET:SD	2.90	0.44
4:q:35:LEU:HD23	4:q:35:LEU:H	1.82	0.44
5:s:222:GLN:OE1	5:t:455:VAL:HA	2.17	0.44
1:L:105:LEU:HA	1:L:108:ILE:HG12	1.98	0.44
1:M:176:VAL:HA	1:N:17:ALA:HA	1.99	0.44
3:c:191:GLY:HA3	3:c:293:THR:HG22	1.99	0.44
3:e:187:ASN:OD1	3:e:213:THR:HG21	2.18	0.44
3:f:193:PHE:CZ	3:f:289:LEU:HD22	2.53	0.44
3:f:261:CYS:O	3:f:270:LEU:N	2.49	0.44
4:n:180:THR:HB	4:n:275:LYS:HB3	1.98	0.44
4:o:74:ASP:OD1	4:o:75:GLU:N	2.49	0.44
4:p:232:LEU:HD13	4:p:240:THR:HG22	1.98	0.44
4:p:246:GLY:HA2	5:t:59:TYR:CE1	2.53	0.44
4:r:144:TYR:CE1	4:r:173:VAL:HG11	2.52	0.44
5:t:55:GLU:OE1	5:t:286:LYS:NZ	2.51	0.44
5:t:65:TYR:O	5:t:68:THR:OG1	2.34	0.44
5:t:330:ASP:N	5:t:330:ASP:OD1	2.49	0.44
5:u:64:ASP:HB3	5:u:67:ASP:HB2	1.99	0.44
5:u:173:ILE:HG22	5:u:244:ARG:HB2	2.00	0.44
5:u:414:LEU:HD13	6:w:57:PHE:HB2	2.00	0.44
1:N:63:THR:HB	1:N:94:ASP:OD1	2.18	0.44
1:O:41:ASP:OD1	1:O:41:ASP:N	2.50	0.44
3:e:22:PRO:HD2	3:e:25:LYS:HD2	1.98	0.44
3:h:10:THR:HG21	4:o:23:GLY:HA3	1.99	0.44
3:i:261:CYS:HB3	3:i:271:ILE:HG22	1.99	0.44
4:n:200:SER:HB3	5:u:40:ALA:HB2	2.00	0.44
5:s:112:ILE:O	5:s:124:SER:HA	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:s:248:VAL:O	5:s:252:ILE:HG12	2.17	0.44
5:t:363:VAL:CG1	5:t:371:ILE:HD13	2.48	0.44
2:U:1698:VAL:HG11	5:u:460:LEU:HD21	1.99	0.44
3:c:176:MET:HB2	3:c:309:ASP:OD1	2.17	0.44
4:o:54:GLU:O	4:p:141:THR:HG23	2.16	0.44
4:p:241:GLN:HG3	4:p:244:TRP:CE3	2.53	0.44
1:Q:93:PHE:CZ	1:Q:183:LEU:HD12	2.53	0.44
3:d:10:THR:HG21	4:m:23:GLY:HA3	2.00	0.44
3:e:156:MET:HE3	3:e:291:TRP:HH2	1.83	0.44
3:l:135:MET:HE1	3:l:202:GLN:HA	2.00	0.44
5:s:174:PHE:O	5:s:242:SER:HA	2.18	0.44
5:t:80:PRO:HB3	5:t:150:THR:HG22	2.00	0.44
1:H:267:VAL:HB	1:H:283:ILE:HD12	1.99	0.44
1:I:150:ARG:NH2	1:I:206:ASP:OD1	2.50	0.44
2:S:1666:VAL:HG13	2:S:1672:ILE:HD11	2.00	0.44
3:a:178:SER:HB3	3:a:311:VAL:HG13	1.99	0.44
3:b:120:LYS:NZ	3:b:122:ASN:HD22	2.16	0.44
3:c:147:HIS:CE1	3:c:188:VAL:HG21	2.53	0.44
3:h:6:PRO:HB2	3:h:94:PHE:HD1	1.83	0.44
3:j:221:HIS:CE1	3:j:237:ALA:HB2	2.53	0.44
4:p:210:VAL:HG23	4:p:247:ASN:HD21	1.81	0.44
6:v:75:ILE:HD13	6:x:86:LEU:HD11	1.98	0.44
6:x:14:ALA:HB3	6:x:17:SER:HB3	2.00	0.44
1:G:41:ASP:OD1	1:G:41:ASP:N	2.51	0.44
1:H:229:VAL:CG1	1:H:298:VAL:HG22	2.47	0.44
1:J:63:THR:O	1:J:93:PHE:HA	2.18	0.44
1:P:36:LEU:HD21	1:P:140:ILE:HD13	2.00	0.44
1:R:104:VAL:O	1:R:108:ILE:HG12	2.18	0.44
4:q:44:LYS:NZ	5:s:136:GLU:OE2	2.45	0.44
6:x:40:PHE:HD1	6:x:43:LEU:HD12	1.82	0.44
1:H:38:SER:HB2	1:H:45:ALA:HB2	2.00	0.43
1:H:63:THR:O	1:H:93:PHE:HA	2.18	0.43
1:H:101:GLN:HG3	1:H:103:ASN:OD1	2.18	0.43
1:J:267:VAL:HB	1:J:283:ILE:HD12	2.00	0.43
1:M:229:VAL:HG13	1:M:298:VAL:HG13	1.99	0.43
1:N:134:ASN:HB3	1:N:162:LYS:HE2	2.01	0.43
3:e:196:ILE:HG23	3:e:206:TYR:CD1	2.53	0.43
3:e:206:TYR:CZ	3:e:225:GLY:HA3	2.53	0.43
3:f:40:PHE:HE1	3:f:97:ALA:HB2	1.83	0.43
3:g:194:ASN:HB3	3:g:196:ILE:HD11	2.00	0.43
3:k:193:PHE:HB2	3:k:300:VAL:HG13	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:s:103:ASN:O	5:s:108:LYS:NZ	2.49	0.43
5:s:220:ASP:OD1	5:s:220:ASP:N	2.51	0.43
6:x:93:LEU:HA	6:x:96:ARG:HG2	1.98	0.43
1:M:159:PRO:HG3	1:M:191:VAL:HG21	1.99	0.43
1:O:93:PHE:CD2	1:O:141:LEU:HD21	2.53	0.43
1:Q:93:PHE:CD2	1:Q:141:LEU:HD21	2.53	0.43
3:g:200:ASP:OD1	3:g:204:GLN:N	2.41	0.43
3:k:114:ASP:N	3:k:114:ASP:OD1	2.51	0.43
3:k:206:TYR:CZ	3:k:225:GLY:HA3	2.53	0.43
4:n:194:TRP:O	4:n:257:LYS:NZ	2.51	0.43
4:q:76:ASP:OD1	4:q:76:ASP:N	2.51	0.43
1:G:37:GLU:OE1	1:L:119:SER:OG	2.31	0.43
1:M:190:VAL:HB	3:b:24:TRP:HH2	1.83	0.43
2:U:1663:PRO:HA	2:U:1666:VAL:HB	1.99	0.43
3:a:40:PHE:O	3:a:48:LEU:N	2.51	0.43
3:a:196:ILE:HG23	3:a:206:TYR:CD1	2.53	0.43
3:d:180:THR:HG23	3:d:251:LYS:HG3	2.00	0.43
3:d:191:GLY:HA3	3:d:293:THR:HG22	2.00	0.43
3:h:105:PRO:O	3:h:109:VAL:HG12	2.18	0.43
5:s:108:LYS:HA	5:s:108:LYS:HD3	1.86	0.43
5:t:195:VAL:HG21	5:u:458:TRP:HB3	2.00	0.43
5:t:256:LEU:HD23	5:t:261:LEU:HB2	1.99	0.43
5:u:213:ASP:HB3	5:u:216:LEU:HG	2.00	0.43
1:N:67:GLU:HG2	1:N:90:THR:HB	2.00	0.43
1:Q:220:LEU:HD12	1:Q:220:LEU:HA	1.89	0.43
3:c:160:TYR:HA	3:c:163:PHE:O	2.18	0.43
3:j:92:LEU:H	3:j:92:LEU:HD23	1.84	0.43
3:l:27:ARG:O	3:l:30:TYR:OH	2.27	0.43
5:s:213:ASP:HB3	5:s:216:LEU:HG	2.01	0.43
5:s:466:GLU:HA	5:s:579:ASN:ND2	2.33	0.43
5:t:382:LYS:O	5:t:457:TYR:HB2	2.19	0.43
5:t:412:TYR:CZ	5:t:417:GLY:HA3	2.54	0.43
6:w:25:LEU:HD23	6:w:25:LEU:HA	1.86	0.43
1:Q:243:VAL:HG11	1:Q:255:VAL:HG11	2.00	0.43
3:e:226:ASP:N	3:e:226:ASP:OD1	2.50	0.43
3:g:14:THR:HB	3:g:17:SER:HB3	1.99	0.43
3:k:160:TYR:HA	3:k:163:PHE:O	2.19	0.43
4:q:52:PHE:CD2	4:r:228:ARG:HD3	2.53	0.43
5:s:109:ASN:ND2	5:t:455:VAL:O	2.50	0.43
6:v:111:ILE:HD13	6:w:110:LEU:HD11	2.01	0.43
1:G:2:THR:HG22	1:G:7:ILE:HG13	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:95:PHE:O	1:O:181:PRO:HD2	2.18	0.43
1:P:38:SER:HB3	1:P:43:SER:H	1.84	0.43
1:R:173:ASP:OD1	1:R:173:ASP:N	2.50	0.43
3:d:9:GLU:HG3	3:d:10:THR:H	1.83	0.43
4:o:235:VAL:HG21	5:u:23:ILE:HG23	2.01	0.43
4:o:243:ARG:HG3	5:u:346:TYR:HB3	1.99	0.43
6:x:66:GLN:OE1	6:x:66:GLN:N	2.51	0.43
1:G:105:LEU:HA	1:G:108:ILE:HG12	2.00	0.43
1:H:118:PRO:HB2	1:I:249:ILE:HD11	1.99	0.43
1:H:188:ASP:HB3	1:H:191:VAL:HG22	2.01	0.43
1:K:231:VAL:HA	1:K:275:GLY:O	2.18	0.43
1:L:229:VAL:CG2	1:L:298:VAL:HG22	2.49	0.43
1:P:176:VAL:HA	1:Q:17:ALA:HA	2.00	0.43
3:a:261:CYS:HB3	3:a:271:ILE:HG22	2.01	0.43
3:d:279:PRO:HB3	4:r:162:MET:SD	2.58	0.43
3:g:44:ALA:O	3:j:107:SER:HB3	2.19	0.43
5:s:396:ASP:N	5:s:396:ASP:OD1	2.51	0.43
5:t:375:ASP:OD1	5:t:375:ASP:N	2.51	0.43
5:u:226:LYS:HB2	5:u:226:LYS:HE3	1.73	0.43
1:J:163:LEU:HA	1:J:183:LEU:HD23	2.00	0.43
3:b:41:THR:HG23	3:b:77:ASN:HB2	2.01	0.43
3:f:118:GLN:HG2	3:f:308:LYS:HG3	2.00	0.43
4:m:47:TYR:HB3	4:m:54:GLU:HB3	2.00	0.43
4:n:70:VAL:O	4:n:133:PRO:HA	2.18	0.43
4:o:233:ILE:HD13	4:o:233:ILE:HA	1.93	0.43
5:s:265:TYR:HB2	5:s:290:LEU:HD11	2.00	0.43
5:t:540:SER:OG	5:t:543:GLN:O	2.33	0.43
6:w:100:LEU:HD11	6:x:100:LEU:HD12	2.01	0.43
1:I:255:VAL:HG12	1:I:287:LYS:HB2	2.00	0.43
1:N:171:LEU:HD22	1:N:177:ILE:HG12	2.01	0.43
3:e:14:THR:HB	3:e:17:SER:HB3	2.01	0.43
3:k:10:THR:HG23	4:r:79:THR:OG1	2.19	0.43
4:m:242:ASN:HD22	5:s:360:TRP:CD1	2.37	0.43
4:q:181:LEU:HD22	4:q:187:TRP:CD2	2.54	0.43
4:r:159:THR:HA	4:r:268:ALA:O	2.19	0.43
1:I:91:THR:HG21	1:I:195:VAL:HG21	2.01	0.43
1:J:101:GLN:HG3	1:J:103:ASN:OD1	2.18	0.43
1:N:88:LYS:HB2	1:O:80:GLU:HG3	2.01	0.43
2:S:1699:ARG:NH2	5:s:578:ASN:OD1	2.52	0.43
3:b:174:MET:HE2	3:b:179:VAL:HG23	2.01	0.43
3:e:10:THR:HA	3:e:96:THR:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:g:42:ASP:OD1	3:g:46:GLY:N	2.49	0.43
3:j:47:THR:HG21	3:j:50:GLU:OE2	2.19	0.43
4:m:159:THR:HA	4:m:268:ALA:O	2.19	0.43
4:n:74:ASP:OD1	4:n:75:GLU:N	2.45	0.43
4:o:198:MET:HE2	4:o:199:TYR:CZ	2.54	0.43
4:p:210:VAL:HG23	4:p:247:ASN:ND2	2.34	0.43
4:q:38:PHE:HE1	4:q:99:LEU:HD21	1.83	0.43
4:q:136:MET:HE3	4:q:136:MET:HB3	1.92	0.43
4:q:232:LEU:HD12	4:q:241:GLN:HA	2.01	0.43
4:r:169:ASN:ND2	4:r:253:LEU:O	2.49	0.43
5:s:64:ASP:HB3	5:s:67:ASP:HB2	2.01	0.43
3:a:55:VAL:HG22	3:a:60:ILE:HG23	2.01	0.42
3:d:149:LEU:HD12	3:d:149:LEU:HA	1.92	0.42
3:l:147:HIS:CE1	3:l:188:VAL:HG21	2.54	0.42
4:n:80:TRP:CH2	4:n:126:PRO:HB2	2.54	0.42
1:H:243:VAL:HG11	1:H:255:VAL:HG21	2.02	0.42
1:K:230:THR:HG22	1:K:232:ALA:H	1.84	0.42
3:h:219:LYS:HE2	3:h:221:HIS:NE2	2.34	0.42
3:j:156:MET:O	3:j:302:PRO:HD2	2.19	0.42
3:l:200:ASP:OD1	3:l:204:GLN:N	2.52	0.42
3:l:291:TRP:HE1	3:l:302:PRO:HD3	1.84	0.42
5:s:358:MET:HE2	5:s:358:MET:HB2	1.88	0.42
5:u:122:ARG:NH1	5:u:267:ARG:O	2.52	0.42
1:G:57:GLU:HG2	1:G:98:TYR:OH	2.19	0.42
1:I:105:LEU:HD23	1:I:108:ILE:HD11	2.00	0.42
1:I:238:THR:HG22	1:I:274:THR:HA	2.01	0.42
1:J:144:MET:HE2	1:J:144:MET:HB3	1.87	0.42
1:L:41:ASP:OD1	1:L:41:ASP:N	2.52	0.42
1:P:159:PRO:HG3	1:P:191:VAL:HG21	2.01	0.42
1:Q:176:VAL:HA	1:R:17:ALA:HA	2.01	0.42
1:R:189:ASP:OD1	1:R:189:ASP:N	2.50	0.42
3:e:79:GLN:NE2	3:h:102:PRO:HD2	2.34	0.42
3:k:14:THR:HB	3:k:17:SER:HB3	2.01	0.42
4:m:164:ARG:HB3	4:m:260:GLU:HB3	2.02	0.42
4:n:244:TRP:CZ2	4:n:248:ASP:HA	2.54	0.42
5:s:560:MET:HB3	5:s:565:ARG:HG3	2.01	0.42
5:u:55:GLU:HB2	5:u:286:LYS:HZ3	1.84	0.42
5:u:306:THR:OG1	5:u:307:PHE:N	2.52	0.42
5:u:307:PHE:CG	5:u:316:PHE:HB3	2.55	0.42
5:u:343:PRO:HD2	5:u:346:TYR:CD2	2.54	0.42
5:u:579:ASN:O	5:u:582:VAL:HG12	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:238:THR:HG22	1:G:274:THR:HA	2.02	0.42
1:M:237:HIS:CD2	1:M:238:THR:HG23	2.54	0.42
1:R:230:THR:OG1	1:R:236:SER:OG	2.31	0.42
3:a:2:LEU:HG	3:d:9:GLU:HG2	2.01	0.42
3:c:308:LYS:NZ	3:c:310:GLY:O	2.52	0.42
4:o:8:GLU:OE1	4:o:18:VAL:HG22	2.19	0.42
5:s:90:ASP:OD1	5:s:90:ASP:N	2.48	0.42
1:K:91:THR:HG21	1:K:195:VAL:HG21	2.02	0.42
1:L:63:THR:O	1:L:93:PHE:HA	2.20	0.42
1:N:76:TYR:CE2	4:m:125:ASP:HB3	2.54	0.42
1:P:109:TRP:HA	1:Q:89:ARG:HH12	1.84	0.42
2:T:1659:SER:O	2:T:1664:ALA:HB3	2.20	0.42
3:d:192:LYS:HB3	3:d:210:GLN:NE2	2.34	0.42
3:h:123:PHE:HB3	3:h:144:ILE:HD12	2.00	0.42
3:k:152:GLU:OE2	3:k:184:ARG:NH2	2.45	0.42
4:q:184:PRO:HG3	4:q:217:ALA:HA	2.01	0.42
1:Q:189:ASP:OD1	1:Q:189:ASP:N	2.52	0.42
3:d:156:MET:HE3	3:d:291:TRP:HH2	1.84	0.42
3:d:282:GLU:OE1	4:r:164:ARG:NH1	2.53	0.42
3:e:1:MET:SD	3:h:12:THR:OG1	2.70	0.42
3:e:34:THR:HG23	3:e:84:TYR:HA	2.00	0.42
3:f:6:PRO:HB2	3:f:94:PHE:CD1	2.54	0.42
4:m:100:ARG:HG2	4:m:109:PHE:HB3	2.01	0.42
4:n:35:LEU:HD23	4:n:35:LEU:H	1.85	0.42
4:o:39:TYR:O	4:o:284:ARG:HA	2.18	0.42
4:p:180:THR:HB	4:p:275:LYS:HB3	2.02	0.42
5:s:171:PRO:HG2	5:s:173:ILE:O	2.20	0.42
5:t:174:PHE:O	5:t:242:SER:HA	2.20	0.42
1:G:98:TYR:HE1	1:G:178:GLU:HG2	1.85	0.42
1:J:41:ASP:OD1	1:J:41:ASP:N	2.53	0.42
1:R:37:GLU:HG2	1:R:42:GLY:HA2	2.00	0.42
3:c:193:PHE:HB2	3:c:300:VAL:HG13	2.01	0.42
3:c:196:ILE:HG23	3:c:206:TYR:CD1	2.55	0.42
3:g:160:TYR:HA	3:g:163:PHE:O	2.19	0.42
3:h:194:ASN:HB2	3:h:290:ALA:HB3	2.00	0.42
3:i:187:ASN:HD21	3:i:213:THR:HG21	1.84	0.42
4:r:150:GLU:HG3	4:r:278:ARG:NH2	2.35	0.42
5:s:573:MET:HE1	5:u:573:MET:HE3	2.01	0.42
5:t:57:LEU:HD12	5:t:288:GLY:HA3	2.02	0.42
5:u:121:LYS:HE2	5:u:533:MET:HE3	2.02	0.42
1:H:246:ASP:OD1	1:H:246:ASP:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:S:1669:TYR:HB3	2:S:1672:ILE:HG21	2.02	0.42
3:b:291:TRP:HE1	3:b:302:PRO:HD3	1.85	0.42
3:c:40:PHE:O	3:c:48:LEU:N	2.50	0.42
3:c:308:LYS:HD3	3:d:310:GLY:HA3	2.02	0.42
3:f:117:VAL:HG22	3:f:309:ASP:OD2	2.20	0.42
3:f:155:SER:OG	3:f:301:GLU:OE1	2.30	0.42
3:i:199:ALA:HA	3:i:206:TYR:HB3	2.02	0.42
4:p:36:GLN:NE2	4:p:65:GLU:O	2.53	0.42
4:p:57:ALA:HB1	5:t:546:PRO:HG3	2.02	0.42
5:t:9:LEU:HD12	5:t:9:LEU:HA	1.91	0.42
1:Q:79:PRO:O	4:p:124:LYS:NZ	2.52	0.42
3:e:48:LEU:HD13	3:e:73:PRO:HD2	2.02	0.42
3:e:128:ILE:HD13	3:e:128:ILE:HA	1.95	0.42
3:l:184:ARG:HB3	3:l:304:ALA:HB3	2.02	0.42
5:s:50:ASN:ND2	5:s:54:SER:OG	2.53	0.42
5:s:168:LEU:HD13	5:t:437:ILE:HD13	2.01	0.42
1:G:63:THR:O	1:G:93:PHE:HA	2.19	0.42
1:I:243:VAL:HG11	1:I:255:VAL:HG21	2.02	0.42
1:J:130:LYS:HG3	1:J:131:VAL:HG23	2.01	0.42
1:K:41:ASP:N	1:K:41:ASP:OD1	2.52	0.42
1:K:267:VAL:HB	1:K:283:ILE:HD12	2.02	0.42
1:N:227:PRO:HG2	1:N:296:VAL:HG22	2.02	0.42
1:P:134:ASN:HB3	1:P:162:LYS:HE2	2.00	0.42
3:d:152:GLU:HB3	3:d:186:LEU:HD21	2.02	0.42
3:i:219:LYS:HD3	3:i:237:ALA:HB3	2.00	0.42
4:n:84:ASP:OD1	4:n:134:ILE:HD11	2.19	0.42
4:r:154:TRP:CE2	4:r:163:THR:HB	2.55	0.42
5:s:173:ILE:HD12	5:s:242:SER:HB2	2.01	0.42
5:t:116:PHE:HB2	5:t:121:LYS:HB3	2.01	0.42
5:u:163:LEU:HD23	5:u:163:LEU:HA	1.89	0.42
1:H:105:LEU:HA	1:H:108:ILE:HG12	2.02	0.41
1:K:220:LEU:HD11	1:K:287:LYS:HB3	2.01	0.41
3:d:186:LEU:HD12	3:d:245:GLY:H	1.85	0.41
3:l:282:GLU:OE1	4:p:164:ARG:NH1	2.53	0.41
4:q:47:TYR:HB3	4:q:54:GLU:HB3	2.01	0.41
5:s:159:PRO:O	5:s:174:PHE:HB2	2.20	0.41
5:s:459:GLU:OE2	5:u:194:ARG:NH2	2.33	0.41
5:u:159:PRO:O	5:u:174:PHE:HB2	2.20	0.41
5:u:174:PHE:O	5:u:242:SER:HA	2.20	0.41
6:v:40:PHE:HD1	6:v:43:LEU:HD12	1.84	0.41
1:H:41:ASP:OD1	1:H:41:ASP:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:21:LEU:HD21	1:N:62:LEU:HD13	2.03	0.41
1:O:64:LEU:HD23	1:O:93:PHE:HB3	2.00	0.41
1:O:237:HIS:CD2	1:O:238:THR:HG23	2.55	0.41
3:b:156:MET:HE3	3:b:291:TRP:CH2	2.55	0.41
3:f:139:TRP:CE2	5:u:104:PRO:HG2	2.54	0.41
3:g:15:VAL:HG13	3:g:101:GLU:OE1	2.20	0.41
3:g:226:ASP:O	3:g:230:ASN:HB3	2.20	0.41
4:p:159:THR:HA	4:p:268:ALA:O	2.21	0.41
5:u:363:VAL:CG1	5:u:371:ILE:HD13	2.50	0.41
5:u:405:THR:HG21	5:u:431:PRO:HD3	2.02	0.41
1:H:150:ARG:NE	1:H:206:ASP:OD2	2.52	0.41
1:I:41:ASP:OD1	1:I:41:ASP:N	2.53	0.41
1:I:265:ALA:HB3	1:I:281:ALA:HB3	2.02	0.41
1:I:267:VAL:HB	1:I:283:ILE:HD12	2.02	0.41
1:K:150:ARG:NE	1:K:206:ASP:OD2	2.52	0.41
1:L:246:ASP:OD1	1:L:246:ASP:N	2.54	0.41
1:M:223:THR:HG21	1:M:241:LEU:HA	2.03	0.41
1:Q:227:PRO:HG2	1:Q:296:VAL:HG22	2.02	0.41
2:T:1689:ALA:HA	5:s:562:ILE:HG13	2.03	0.41
3:f:15:VAL:N	3:f:101:GLU:OE1	2.52	0.41
3:f:254:ASP:OD1	3:f:254:ASP:N	2.53	0.41
3:g:24:TRP:HA	3:g:27:ARG:HD3	2.02	0.41
3:l:41:THR:OG1	3:l:77:ASN:OD1	2.31	0.41
4:m:76:ASP:OD1	4:m:76:ASP:N	2.48	0.41
4:q:219:GLU:OE2	4:q:243:ARG:NH2	2.54	0.41
4:r:164:ARG:HD3	4:r:164:ARG:HA	1.85	0.41
5:s:170:PHE:CG	5:s:171:PRO:HA	2.55	0.41
6:w:103:ALA:O	6:w:107:VAL:HG23	2.20	0.41
1:I:64:LEU:HD23	1:I:93:PHE:HB3	2.03	0.41
1:N:243:VAL:HG21	1:N:255:VAL:HG21	2.02	0.41
3:c:48:LEU:HD13	3:c:73:PRO:HD2	2.01	0.41
3:c:291:TRP:HE1	3:c:302:PRO:CD	2.33	0.41
3:d:11:LEU:HD22	3:d:19:PHE:HE1	1.85	0.41
3:h:219:LYS:HE2	3:h:221:HIS:CE1	2.55	0.41
3:l:34:THR:HB	3:l:55:VAL:HG11	2.03	0.41
4:r:200:SER:HB3	5:s:40:ALA:HB2	2.03	0.41
5:s:70:ARG:HB3	5:s:86:GLU:HB2	2.02	0.41
5:s:366:ASN:OD1	5:s:366:ASN:N	2.54	0.41
5:t:64:ASP:HB3	5:t:67:ASP:HB2	2.02	0.41
5:u:401:LEU:HD22	5:u:431:PRO:HA	2.03	0.41
1:I:105:LEU:HD13	1:I:126:LEU:HD11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:187:ARG:NH1	1:I:192:GLY:O	2.53	0.41
1:M:76:TYR:CE2	4:n:125:ASP:HB3	2.56	0.41
3:b:139:TRP:CE2	5:s:104:PRO:HG2	2.56	0.41
3:g:99:ARG:HD2	3:g:101:GLU:OE1	2.20	0.41
4:o:73:TYR:HB2	4:o:131:ASP:OD1	2.20	0.41
5:s:385:SER:O	5:s:459:GLU:HA	2.20	0.41
5:u:158:PRO:HB2	5:u:169:GLN:OE1	2.20	0.41
5:u:396:ASP:OD2	5:u:435:GLY:N	2.42	0.41
6:v:69:SER:O	6:v:73:THR:HG23	2.20	0.41
1:H:97:MET:HE2	1:H:181:PRO:HG3	2.01	0.41
1:M:75:ALA:HB2	1:M:82:ILE:HD13	2.01	0.41
1:N:33:ALA:HB2	1:N:47:PRO:HG2	2.03	0.41
1:O:102:ARG:NH1	1:O:106:GLU:OE2	2.54	0.41
1:O:173:ASP:OD1	1:O:173:ASP:N	2.52	0.41
1:O:220:LEU:HD12	1:O:220:LEU:HA	1.88	0.41
3:c:99:ARG:HD2	3:c:101:GLU:OE1	2.20	0.41
4:m:193:SER:OG	4:m:202:GLY:O	2.29	0.41
4:r:180:THR:HB	4:r:275:LYS:HB3	2.02	0.41
5:t:101:PRO:HG3	5:t:130:TRP:HZ2	1.85	0.41
5:t:159:PRO:O	5:t:174:PHE:HB2	2.20	0.41
5:t:163:LEU:HD23	5:t:163:LEU:HA	1.85	0.41
5:t:171:PRO:HG2	5:t:173:ILE:O	2.21	0.41
5:u:265:TYR:HB2	5:u:290:LEU:HD11	2.02	0.41
6:v:72:VAL:HG22	6:w:71:PHE:CE1	2.55	0.41
1:G:98:TYR:CE1	1:G:178:GLU:HG2	2.56	0.41
1:G:105:LEU:HD13	1:G:126:LEU:HD11	2.03	0.41
1:H:101:GLN:HB3	1:I:14:LEU:HD13	2.02	0.41
1:K:230:THR:N	1:K:236:SER:O	2.45	0.41
1:L:265:ALA:HB3	1:L:281:ALA:HB3	2.03	0.41
1:O:230:THR:N	1:O:236:SER:O	2.52	0.41
1:R:33:ALA:HB2	1:R:47:PRO:HG2	2.02	0.41
1:R:64:LEU:HD23	1:R:93:PHE:HB3	2.02	0.41
3:d:22:PRO:HD2	3:d:25:LYS:HD2	2.03	0.41
3:j:169:ARG:NH1	3:j:201:TYR:O	2.54	0.41
3:k:15:VAL:HG13	3:k:101:GLU:OE1	2.20	0.41
4:q:150:GLU:CG	4:q:280:ARG:HH21	2.32	0.41
4:r:13:ASP:OD1	4:r:13:ASP:N	2.51	0.41
5:t:93:LEU:HD23	5:t:93:LEU:HA	1.79	0.41
5:u:170:PHE:CD1	5:u:171:PRO:HA	2.55	0.41
1:G:55:HIS:CE1	1:H:10:ALA:HB1	2.56	0.41
1:G:150:ARG:NE	1:G:206:ASP:OD2	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:229:VAL:O	1:H:298:VAL:HA	2.20	0.41
1:M:33:ALA:HB2	1:M:47:PRO:HG2	2.03	0.41
3:e:55:VAL:HG13	3:e:60:ILE:HG12	2.03	0.41
3:j:254:ASP:N	3:j:254:ASP:OD1	2.54	0.41
4:q:218:GLY:HA3	5:t:2:ALA:HA	2.03	0.41
5:s:148:ASP:HB2	5:s:265:TYR:CD2	2.56	0.41
5:t:208:ASN:O	5:t:211:SER:OG	2.34	0.41
5:t:560:MET:HE3	5:t:565:ARG:HG2	2.01	0.41
1:G:249:ILE:HD12	1:L:122:GLY:HA2	2.03	0.41
1:I:57:GLU:HG2	1:I:98:TYR:OH	2.20	0.41
1:I:63:THR:O	1:I:93:PHE:HA	2.21	0.41
1:J:2:THR:HG22	1:J:7:ILE:HG13	2.02	0.41
1:J:175:ASN:ND2	1:J:178:GLU:OE2	2.39	0.41
1:K:176:VAL:HA	1:L:17:ALA:HA	2.03	0.41
1:L:124:ILE:HD12	1:L:126:LEU:HD21	2.02	0.41
1:M:227:PRO:HG2	1:M:296:VAL:HG22	2.03	0.41
1:N:57:GLU:HG2	1:N:98:TYR:OH	2.20	0.41
1:O:33:ALA:HB2	1:O:47:PRO:HG2	2.01	0.41
1:O:44:LEU:HD12	1:O:44:LEU:HA	1.96	0.41
1:O:227:PRO:HG2	1:O:296:VAL:HG22	2.03	0.41
1:P:94:ASP:OD1	1:P:94:ASP:N	2.52	0.41
1:P:237:HIS:CD2	1:P:238:THR:HG23	2.56	0.41
1:Q:159:PRO:HG3	1:Q:191:VAL:HG21	2.03	0.41
2:S:1675:ALA:O	2:T:1677:TYR:OH	2.38	0.41
3:a:196:ILE:HG21	3:a:203:MET:HE3	2.03	0.41
3:i:206:TYR:CZ	3:i:225:GLY:HA3	2.55	0.41
3:j:6:PRO:HB2	3:j:94:PHE:CD1	2.56	0.41
3:k:191:GLY:HA3	3:k:293:THR:HG22	2.03	0.41
3:k:193:PHE:CZ	3:k:289:LEU:HD22	2.56	0.41
3:l:58:LYS:HB2	3:l:58:LYS:HE3	1.75	0.41
3:l:81:PHE:CE2	3:l:91:CYS:HB2	2.55	0.41
4:m:67:VAL:HG22	4:m:137:THR:HG23	2.03	0.41
4:m:166:PRO:HB3	4:m:260:GLU:OE2	2.21	0.41
4:o:196:ASN:ND2	4:o:198:MET:SD	2.94	0.41
4:o:218:GLY:HA3	5:u:2:ALA:HA	2.03	0.41
4:p:35:LEU:HD23	4:p:35:LEU:H	1.84	0.41
4:p:147:ASP:OD1	4:p:148:GLU:N	2.51	0.41
4:q:48:VAL:HG12	5:s:138:VAL:CG1	2.51	0.41
4:q:244:TRP:O	4:q:246:GLY:N	2.54	0.41
4:r:206:LEU:HD23	4:r:206:LEU:HA	1.96	0.41
5:s:170:PHE:CD1	5:s:171:PRO:HA	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:t:121:LYS:HE2	5:t:533:MET:HE3	2.02	0.41
6:v:68:LEU:O	6:v:72:VAL:HG23	2.21	0.41
6:x:76:VAL:HG22	6:x:89:LEU:HB2	2.02	0.41
1:N:44:LEU:HD23	1:O:7:ILE:HD12	2.02	0.41
2:S:1659:SER:O	2:S:1664:ALA:HB3	2.21	0.41
2:U:1689:ALA:HA	5:u:562:ILE:HG13	2.03	0.41
3:b:55:VAL:HG22	3:b:60:ILE:HD12	2.03	0.41
3:i:117:VAL:HG23	3:j:114:ASP:O	2.21	0.41
3:i:187:ASN:OD1	3:i:213:THR:HG21	2.21	0.41
3:l:279:PRO:HB3	4:p:162:MET:SD	2.61	0.41
4:o:154:TRP:CE2	4:o:163:THR:HB	2.56	0.41
4:o:206:LEU:HD23	4:o:206:LEU:HA	1.92	0.41
5:s:508:ILE:HD11	5:s:533:MET:HG2	2.02	0.41
5:u:560:MET:HB3	5:u:565:ARG:HG3	2.02	0.41
1:G:97:MET:HE1	1:G:107:LEU:HD23	2.03	0.40
1:G:121:PHE:HB2	1:H:37:GLU:OE2	2.21	0.40
1:J:53:VAL:HG11	1:J:97:MET:HE2	2.03	0.40
1:L:267:VAL:HB	1:L:283:ILE:HD12	2.03	0.40
1:R:229:VAL:HG13	1:R:298:VAL:HG13	2.03	0.40
3:a:199:ALA:HA	3:a:206:TYR:HB3	2.03	0.40
3:b:11:LEU:HD11	3:b:40:PHE:CZ	2.56	0.40
3:b:14:THR:HG23	3:b:101:GLU:HB3	2.03	0.40
3:d:6:PRO:HB2	3:d:94:PHE:CD1	2.56	0.40
3:f:158:PRO:HG3	3:f:291:TRP:HB2	2.02	0.40
3:h:147:HIS:CE1	3:h:188:VAL:HG21	2.56	0.40
4:m:88:ARG:HA	4:m:88:ARG:HD2	1.94	0.40
4:n:219:GLU:OE2	4:n:240:THR:OG1	2.35	0.40
4:n:265:LEU:HD11	4:n:268:ALA:HB2	2.02	0.40
1:I:44:LEU:HD12	1:I:44:LEU:HA	1.92	0.40
1:L:97:MET:SD	1:L:104:VAL:HG13	2.61	0.40
1:O:144:MET:HE3	1:O:151:PRO:HB3	2.02	0.40
1:Q:76:TYR:CE2	4:p:125:ASP:HB3	2.57	0.40
3:d:167:ALA:HB1	3:d:203:MET:HE1	2.02	0.40
3:h:172:TRP:CE2	4:n:203:ARG:HD3	2.56	0.40
4:m:285:PRO:HB2	4:m:286:TRP:CE3	2.57	0.40
4:r:162:MET:HE2	4:r:164:ARG:HE	1.86	0.40
5:t:366:ASN:H	5:t:369:THR:HB	1.85	0.40
1:G:108:ILE:HD13	1:G:179:TYR:CD1	2.56	0.40
1:K:264:LYS:HB2	1:K:281:ALA:HB2	2.03	0.40
1:N:219:ALA:HB3	1:N:246:ASP:HB3	2.04	0.40
1:O:243:VAL:HG21	1:O:255:VAL:HG21	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:124:ILE:HD12	1:P:126:LEU:HD21	2.02	0.40
1:Q:230:THR:OG1	1:Q:236:SER:OG	2.30	0.40
3:k:118:GLN:NE2	3:l:113:GLU:O	2.55	0.40
3:k:200:ASP:OD1	3:k:204:GLN:N	2.46	0.40
3:l:180:THR:HG23	3:l:251:LYS:HG3	2.03	0.40
4:m:167:VAL:O	4:m:258:GLY:CA	2.69	0.40
4:m:178:LYS:HB3	4:m:277:THR:HB	2.04	0.40
5:s:222:GLN:HE21	5:t:458:TRP:NE1	2.20	0.40
6:w:70:GLU:O	6:w:73:THR:OG1	2.34	0.40
6:w:101:ALA:O	6:w:105:GLN:HG2	2.21	0.40
1:H:122:GLY:HA2	1:I:249:ILE:HD12	2.03	0.40
1:O:217:LEU:HD22	1:O:251:TYR:CZ	2.57	0.40
1:P:76:TYR:CE2	4:q:125:ASP:HB3	2.56	0.40
3:d:15:VAL:HG13	3:d:101:GLU:OE1	2.22	0.40
3:j:158:PRO:HG3	3:j:291:TRP:HB2	2.02	0.40
4:n:151:GLU:HB3	4:n:275:LYS:HZ2	1.86	0.40
4:q:232:LEU:HD13	4:q:240:THR:HG22	2.03	0.40
4:q:285:PRO:HB2	4:q:286:TRP:CE3	2.56	0.40
4:r:176:TRP:HE3	4:r:225:SER:HB3	1.86	0.40
5:s:154:TYR:CG	5:t:457:TYR:HB3	2.57	0.40
5:s:321:LEU:HD22	5:s:330:ASP:HB2	2.03	0.40
1:H:230:THR:HG22	1:H:232:ALA:H	1.86	0.40
1:K:246:ASP:OD1	1:K:246:ASP:N	2.53	0.40
1:P:230:THR:OG1	1:P:236:SER:OG	2.31	0.40
1:R:243:VAL:HG11	1:R:255:VAL:HG11	2.04	0.40
3:a:44:ALA:HA	3:d:106:LEU:HB2	2.04	0.40
3:a:159:ASN:OD1	3:a:159:ASN:N	2.54	0.40
3:a:196:ILE:HG23	3:a:206:TYR:CG	2.56	0.40
3:b:254:ASP:N	3:b:254:ASP:OD1	2.54	0.40
3:d:21:ILE:HB	3:d:62:TYR:HB2	2.04	0.40
3:f:139:TRP:HZ2	5:u:105:GLU:HG2	1.86	0.40
3:g:196:ILE:HG23	3:g:206:TYR:CD1	2.57	0.40
3:h:152:GLU:OE1	3:h:186:LEU:HD11	2.21	0.40
3:i:118:GLN:HE21	3:j:114:ASP:HA	1.86	0.40
3:k:289:LEU:HD13	3:k:302:PRO:HG3	2.04	0.40
3:l:6:PRO:HB2	3:l:94:PHE:CD1	2.56	0.40
4:n:210:VAL:HG23	4:n:247:ASN:ND2	2.37	0.40
4:n:248:ASP:OD1	4:n:249:LEU:N	2.53	0.40
5:s:308:PHE:CD2	5:s:319:SER:HB2	2.56	0.40
5:t:89:ASP:HB3	5:t:98:LYS:NZ	2.36	0.40
5:t:158:PRO:HB2	5:t:169:GLN:OE1	2.21	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	G	297/300 (99%)	292 (98%)	5 (2%)	0	100	100
1	H	297/300 (99%)	289 (97%)	8 (3%)	0	100	100
1	I	297/300 (99%)	289 (97%)	8 (3%)	0	100	100
1	J	297/300 (99%)	290 (98%)	7 (2%)	0	100	100
1	K	297/300 (99%)	289 (97%)	8 (3%)	0	100	100
1	L	297/300 (99%)	290 (98%)	7 (2%)	0	100	100
1	M	297/300 (99%)	291 (98%)	6 (2%)	0	100	100
1	N	297/300 (99%)	290 (98%)	7 (2%)	0	100	100
1	O	297/300 (99%)	289 (97%)	8 (3%)	0	100	100
1	P	297/300 (99%)	290 (98%)	7 (2%)	0	100	100
1	Q	297/300 (99%)	290 (98%)	7 (2%)	0	100	100
1	R	297/300 (99%)	290 (98%)	7 (2%)	0	100	100
2	S	40/1699 (2%)	35 (88%)	5 (12%)	0	100	100
2	T	40/1699 (2%)	35 (88%)	5 (12%)	0	100	100
2	U	40/1699 (2%)	35 (88%)	5 (12%)	0	100	100
3	a	309/311 (99%)	300 (97%)	9 (3%)	0	100	100
3	b	309/311 (99%)	304 (98%)	5 (2%)	0	100	100
3	c	309/311 (99%)	306 (99%)	3 (1%)	0	100	100
3	d	309/311 (99%)	303 (98%)	6 (2%)	0	100	100
3	e	309/311 (99%)	303 (98%)	6 (2%)	0	100	100
3	f	309/311 (99%)	306 (99%)	3 (1%)	0	100	100
3	g	309/311 (99%)	306 (99%)	3 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	h	309/311 (99%)	304 (98%)	5 (2%)	0	100	100
3	i	309/311 (99%)	306 (99%)	3 (1%)	0	100	100
3	j	309/311 (99%)	306 (99%)	3 (1%)	0	100	100
3	k	309/311 (99%)	306 (99%)	3 (1%)	0	100	100
3	l	309/311 (99%)	302 (98%)	7 (2%)	0	100	100
4	m	288/295 (98%)	276 (96%)	12 (4%)	0	100	100
4	n	288/295 (98%)	280 (97%)	8 (3%)	0	100	100
4	o	288/295 (98%)	277 (96%)	11 (4%)	0	100	100
4	p	288/295 (98%)	276 (96%)	12 (4%)	0	100	100
4	q	288/295 (98%)	278 (96%)	10 (4%)	0	100	100
4	r	288/295 (98%)	276 (96%)	12 (4%)	0	100	100
5	s	584/587 (100%)	563 (96%)	21 (4%)	0	100	100
5	t	584/587 (100%)	564 (97%)	20 (3%)	0	100	100
5	u	584/587 (100%)	567 (97%)	17 (3%)	0	100	100
6	v	113/878 (13%)	110 (97%)	3 (3%)	0	100	100
6	w	113/878 (13%)	109 (96%)	4 (4%)	0	100	100
6	x	113/878 (13%)	110 (97%)	3 (3%)	0	100	100
All	All	11211/18594 (60%)	10922 (97%)	289 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	G	242/243 (100%)	242 (100%)	0	100	100
1	H	242/243 (100%)	242 (100%)	0	100	100
1	I	242/243 (100%)	242 (100%)	0	100	100
1	J	242/243 (100%)	242 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	K	242/243 (100%)	242 (100%)	0	100	100
1	L	242/243 (100%)	242 (100%)	0	100	100
1	M	242/243 (100%)	242 (100%)	0	100	100
1	N	242/243 (100%)	242 (100%)	0	100	100
1	O	242/243 (100%)	242 (100%)	0	100	100
1	P	242/243 (100%)	242 (100%)	0	100	100
1	Q	242/243 (100%)	242 (100%)	0	100	100
1	R	242/243 (100%)	242 (100%)	0	100	100
2	S	33/1284 (3%)	33 (100%)	0	100	100
2	T	33/1284 (3%)	33 (100%)	0	100	100
2	U	33/1284 (3%)	33 (100%)	0	100	100
3	a	253/253 (100%)	253 (100%)	0	100	100
3	b	253/253 (100%)	253 (100%)	0	100	100
3	c	253/253 (100%)	253 (100%)	0	100	100
3	d	253/253 (100%)	253 (100%)	0	100	100
3	e	253/253 (100%)	253 (100%)	0	100	100
3	f	253/253 (100%)	253 (100%)	0	100	100
3	g	253/253 (100%)	253 (100%)	0	100	100
3	h	253/253 (100%)	253 (100%)	0	100	100
3	i	253/253 (100%)	253 (100%)	0	100	100
3	j	253/253 (100%)	253 (100%)	0	100	100
3	k	253/253 (100%)	253 (100%)	0	100	100
3	l	253/253 (100%)	253 (100%)	0	100	100
4	m	254/258 (98%)	254 (100%)	0	100	100
4	n	254/258 (98%)	254 (100%)	0	100	100
4	o	254/258 (98%)	254 (100%)	0	100	100
4	p	254/258 (98%)	254 (100%)	0	100	100
4	q	254/258 (98%)	254 (100%)	0	100	100
4	r	254/258 (98%)	254 (100%)	0	100	100
5	s	487/488 (100%)	487 (100%)	0	100	100
5	t	487/488 (100%)	487 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	u	487/488 (100%)	487 (100%)	0	100	100
6	v	87/691 (13%)	87 (100%)	0	100	100
6	w	87/691 (13%)	87 (100%)	0	100	100
6	x	87/691 (13%)	87 (100%)	0	100	100
All	All	9285/14889 (62%)	9285 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (81) such sidechains are listed below:

Mol	Chain	Res	Type
1	G	66	ASN
1	G	99	GLN
1	G	101	GLN
1	H	169	GLN
1	J	66	ASN
1	K	66	ASN
1	K	169	GLN
1	L	148	ASN
1	M	87	ASN
1	M	240	GLN
1	N	59	GLN
1	N	87	ASN
1	N	111	GLN
1	O	87	ASN
1	P	117	GLN
1	P	240	GLN
1	Q	87	ASN
1	Q	111	GLN
1	Q	115	ASN
1	R	240	GLN
2	S	1673	HIS
2	S	1685	GLN
2	T	1673	HIS
2	T	1691	GLN
3	a	64	GLN
3	a	88	GLN
3	b	37	HIS
3	b	210	GLN
3	b	234	GLN

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Mol	Chain	Res	Type
3	c	64	GLN
3	c	77	ASN
3	c	137	ASN
3	c	239	ASN
3	d	64	GLN
3	d	187	ASN
3	d	194	ASN
3	d	204	GLN
3	d	210	GLN
3	e	118	GLN
3	e	210	GLN
3	g	64	GLN
3	g	137	ASN
3	g	240	ASN
3	h	64	GLN
3	h	74	HIS
3	h	88	GLN
3	h	187	ASN
3	i	88	GLN
3	j	79	GLN
3	j	175	ASN
3	j	194	ASN
3	j	210	GLN
3	j	221	HIS
3	j	234	GLN
3	k	64	GLN
3	k	77	ASN
3	k	118	GLN
3	k	202	GLN
3	k	240	ASN
3	l	64	GLN
3	l	187	ASN
3	l	253	ASN
4	n	26	GLN
4	n	62	GLN
4	n	236	ASN
4	o	16	HIS
4	o	36	GLN
4	o	62	GLN
4	p	26	GLN
4	p	236	ASN
4	q	62	GLN

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Mol	Chain	Res	Type
4	q	264	GLN
4	r	127	HIS
4	r	132	ASN
4	r	236	ASN
4	r	264	GLN
5	s	392	ASN
5	t	160	ASN
5	t	392	ASN
5	u	392	ASN
6	v	21	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

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.

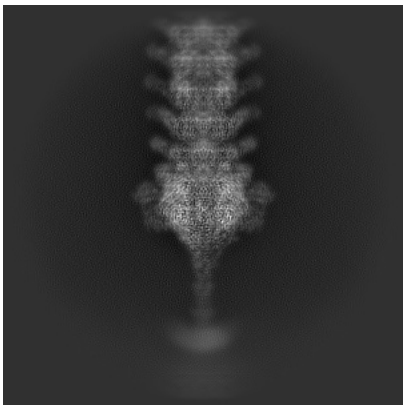
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-39996. These allow visual inspection of the internal detail of the map and identification of artifacts.

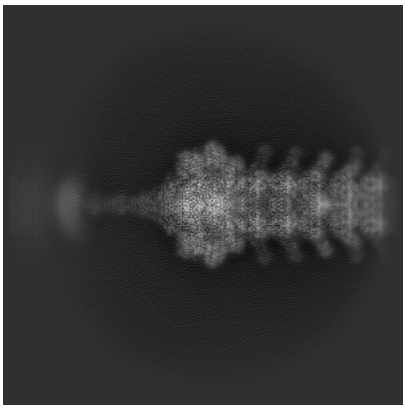
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

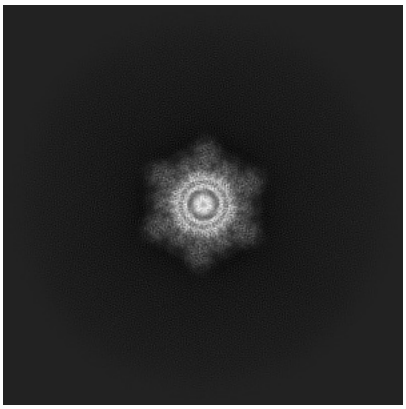
6.1.1 Primary map



X

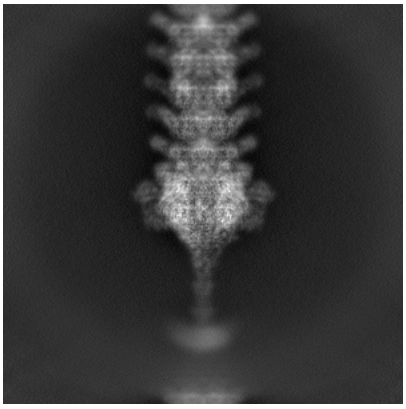


Y

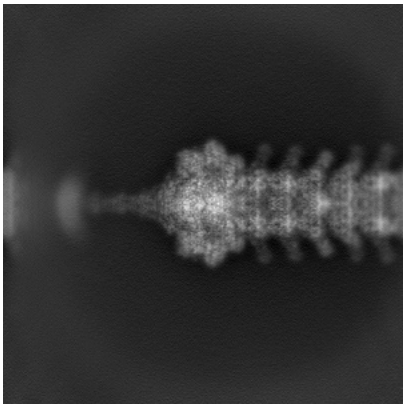


Z

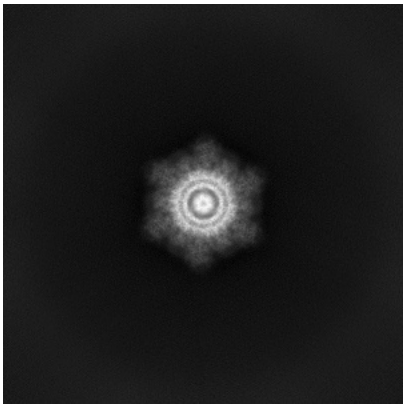
6.1.2 Raw map



X



Y

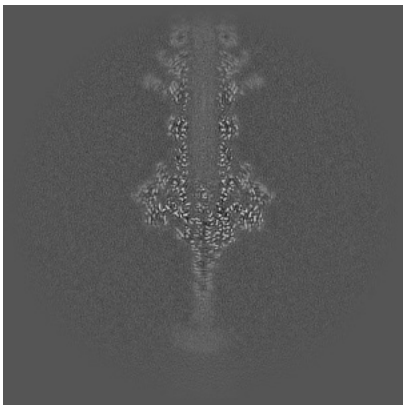


Z

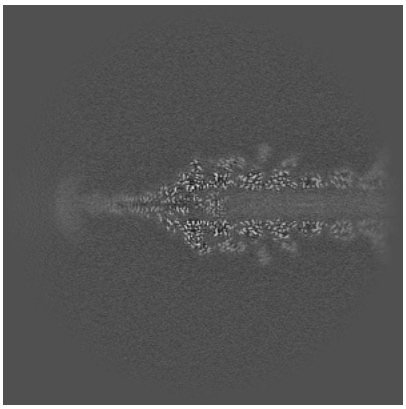
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

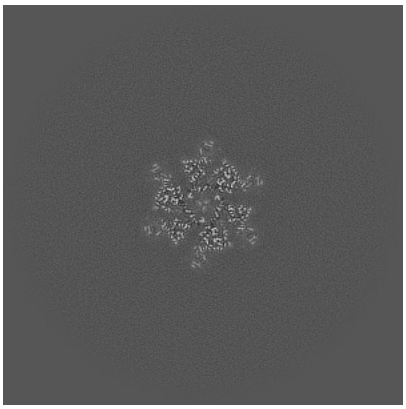
6.2.1 Primary map



X Index: 256

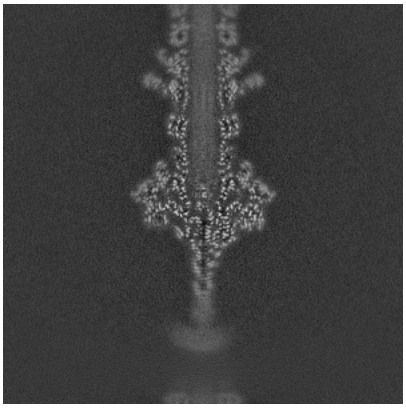


Y Index: 256

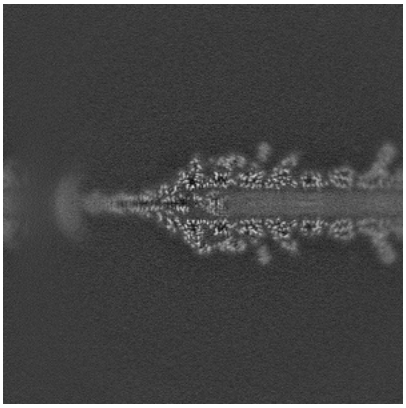


Z Index: 256

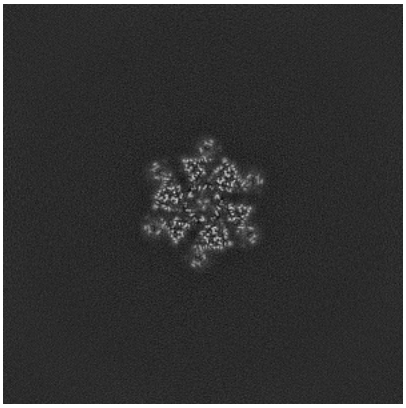
6.2.2 Raw map



X Index: 256



Y Index: 256

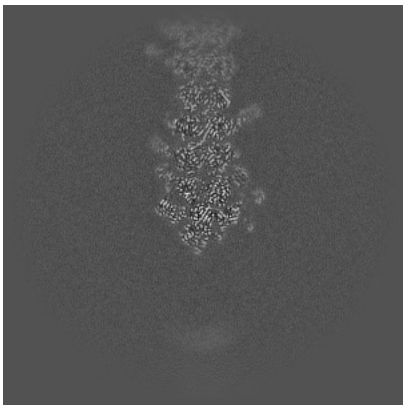


Z Index: 256

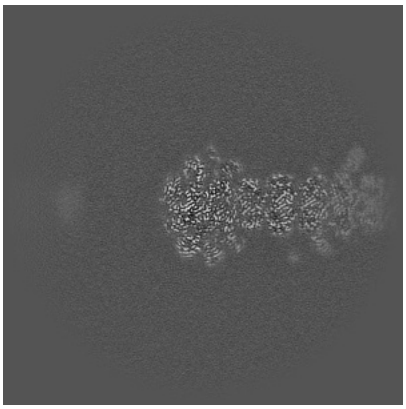
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

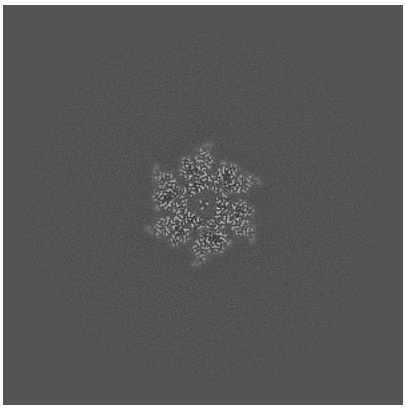
6.3.1 Primary map



X Index: 277

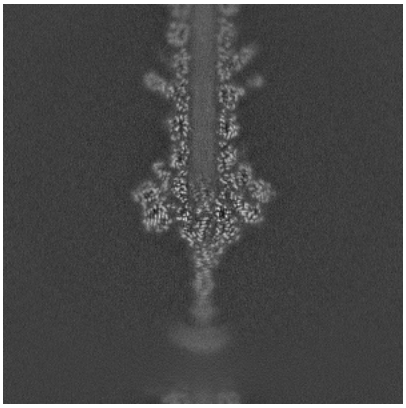


Y Index: 234

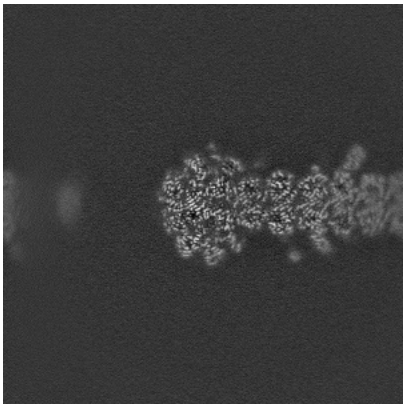


Z Index: 250

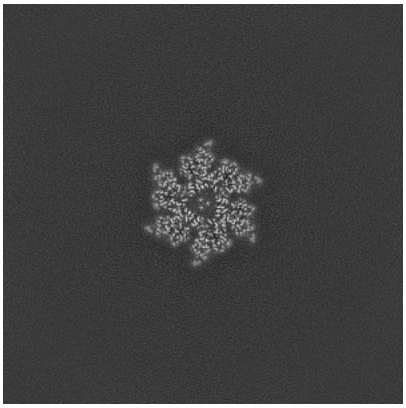
6.3.2 Raw map



X Index: 251



Y Index: 235

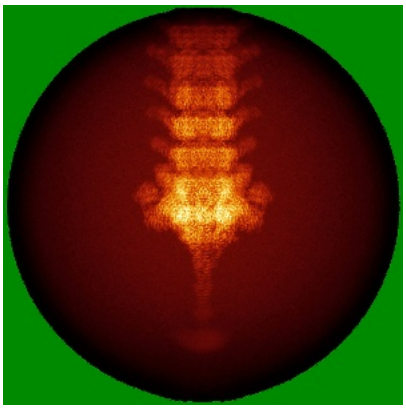


Z Index: 251

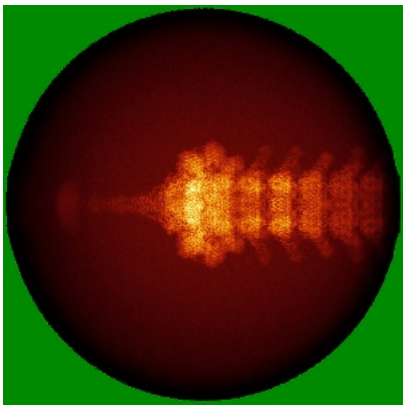
The images above show the largest variance slices of the map in three orthogonal directions.

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

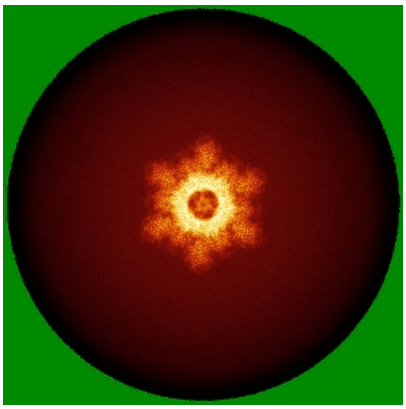
6.4.1 Primary map



X

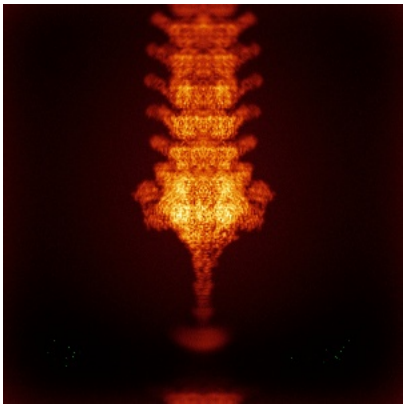


Y

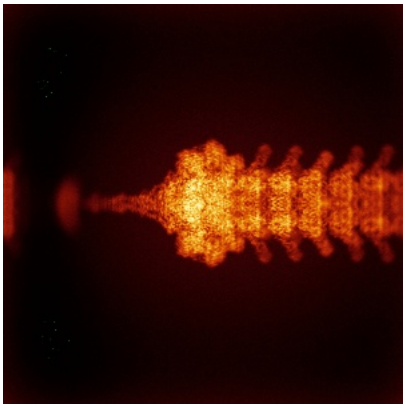


Z

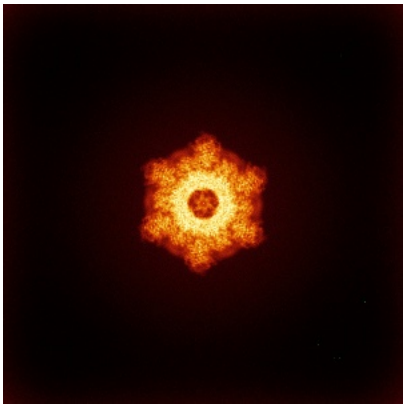
6.4.2 Raw map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.4. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

X Y Z

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

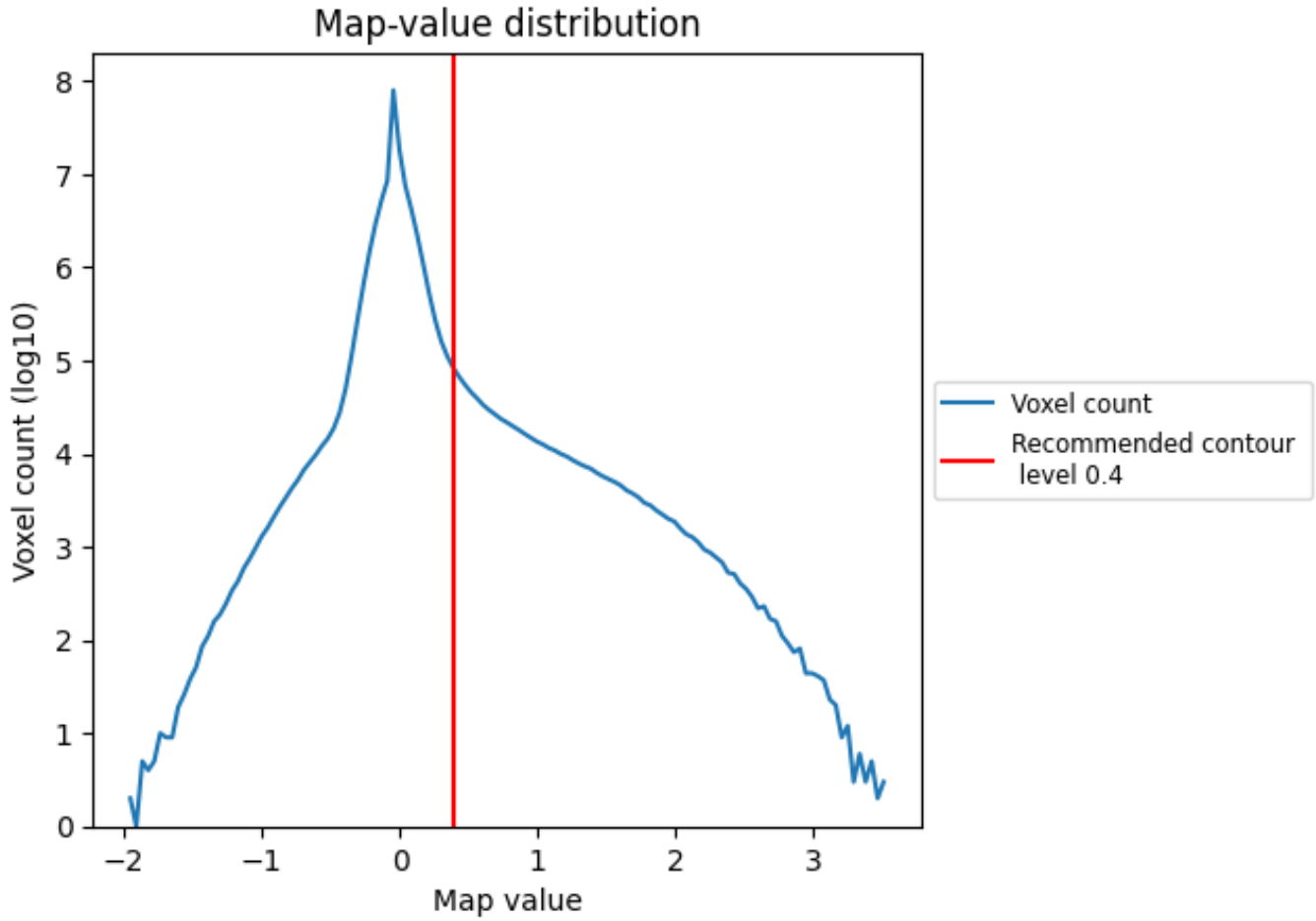
6.6 Mask visualisation (i)

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

7 Map analysis

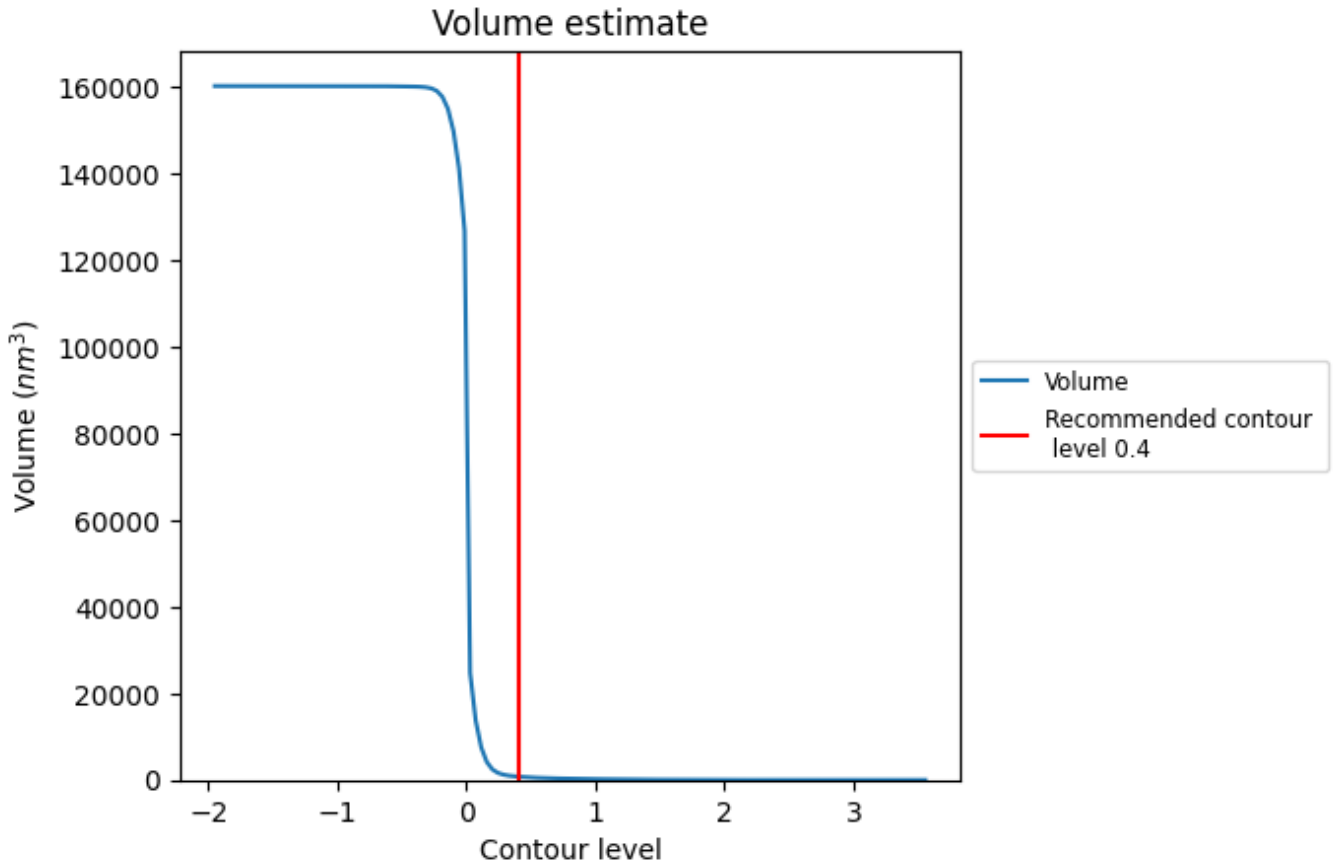
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

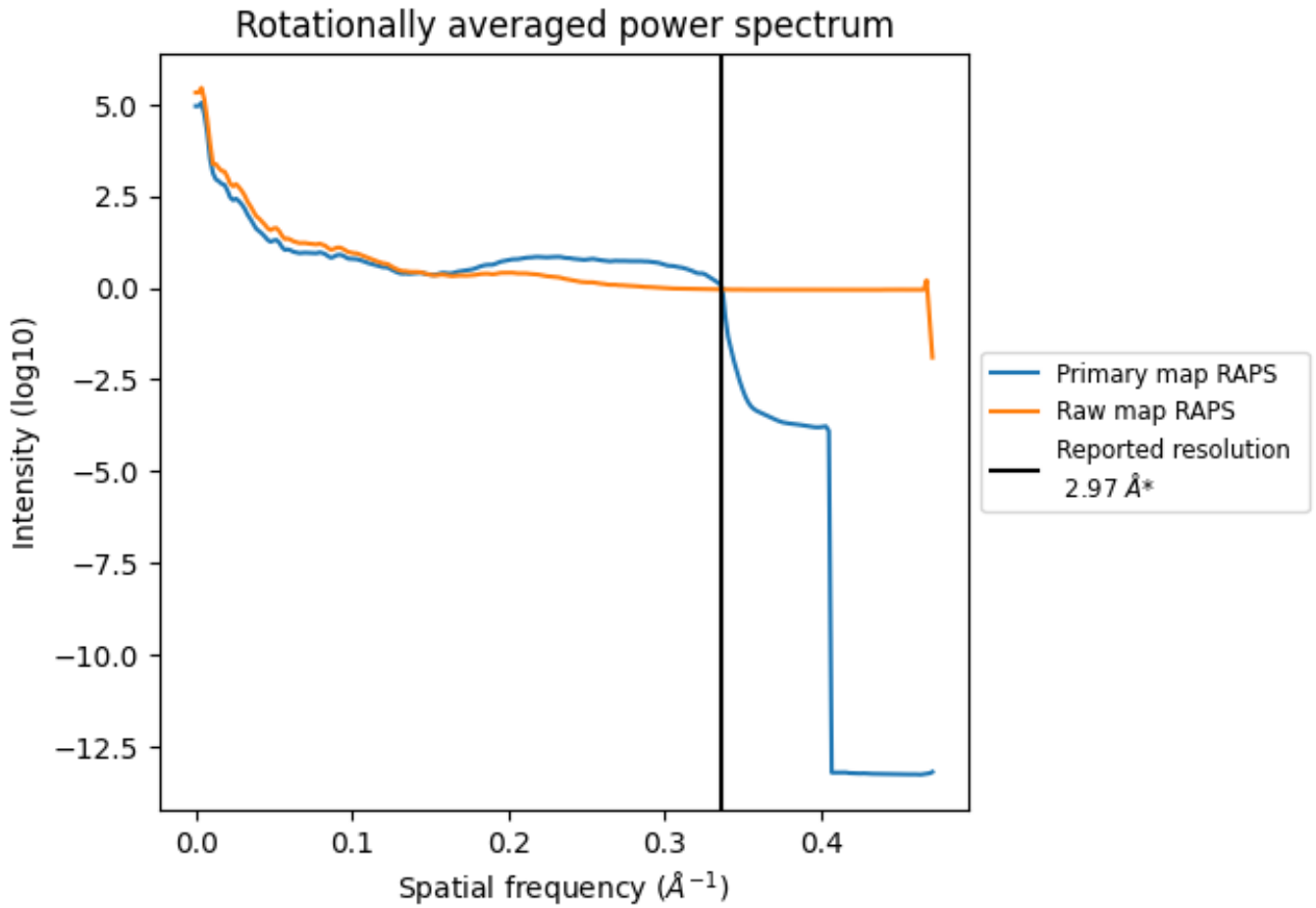
7.2 Volume estimate



The volume at the recommended contour level is 764 nm^3; this corresponds to an approximate mass of 690 kDa.

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

7.3 Rotationally averaged power spectrum (i)

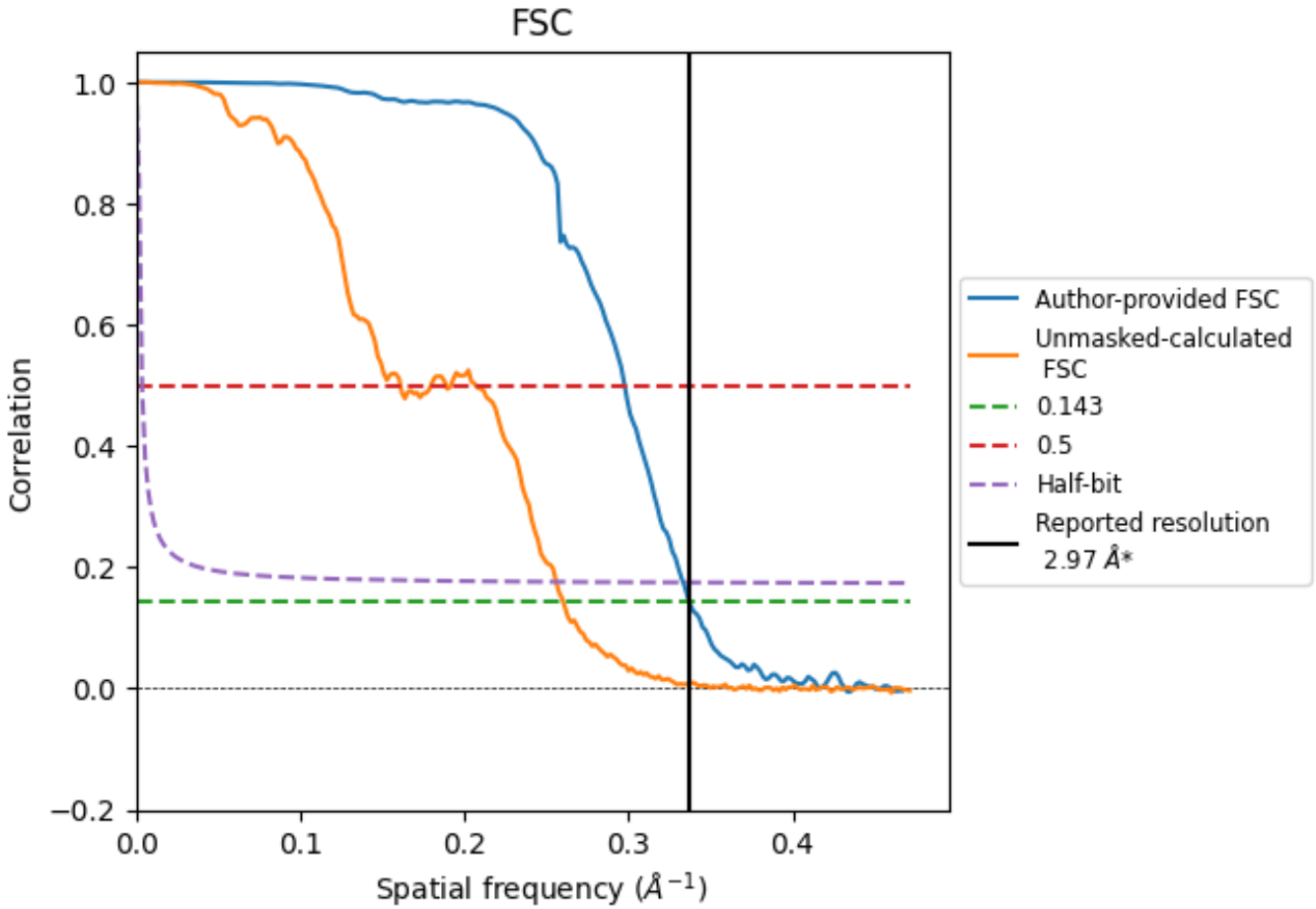


*Reported resolution corresponds to spatial frequency of 0.337 $Å^{-1}$

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.337 Å^{-1}

8.2 Resolution estimates (i)

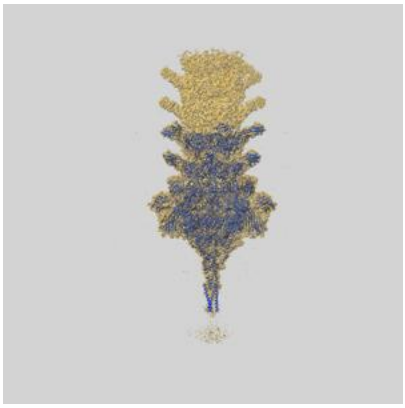
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.97	-	-
Author-provided FSC curve	2.97	3.36	3.00
Unmasked-calculated*	3.84	6.21	3.91

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.84 differs from the reported value 2.97 by more than 10 %

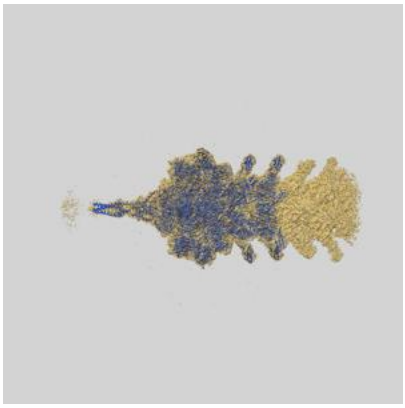
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-39996 and PDB model 8ZDO. Per-residue inclusion information can be found in section 3 on page 8.

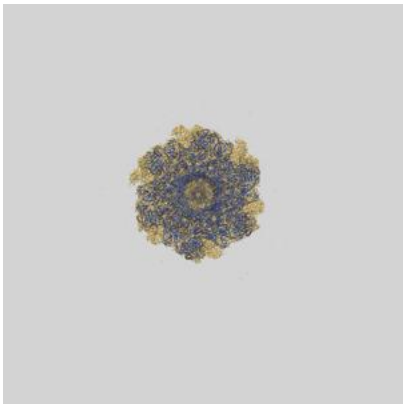
9.1 Map-model overlay



X



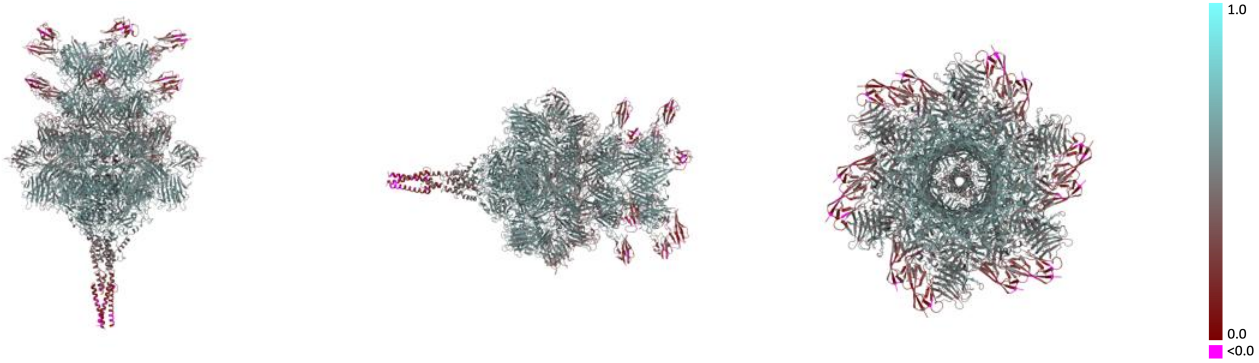
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.4 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

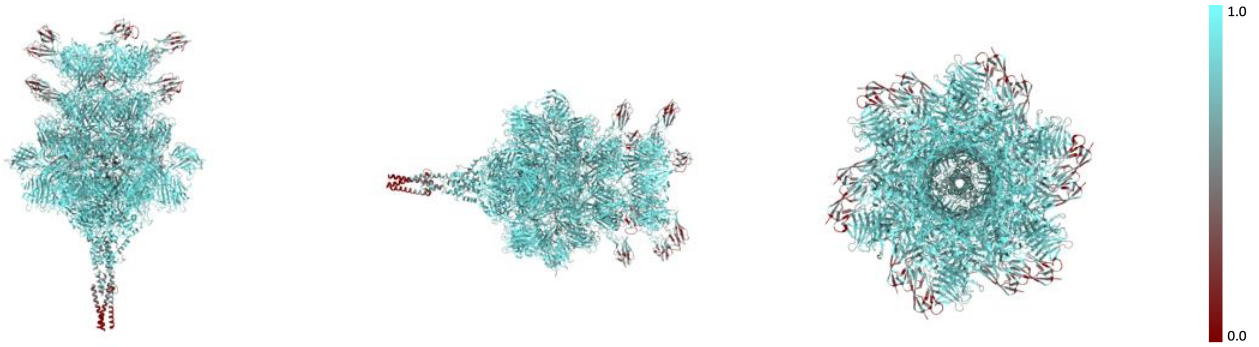
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

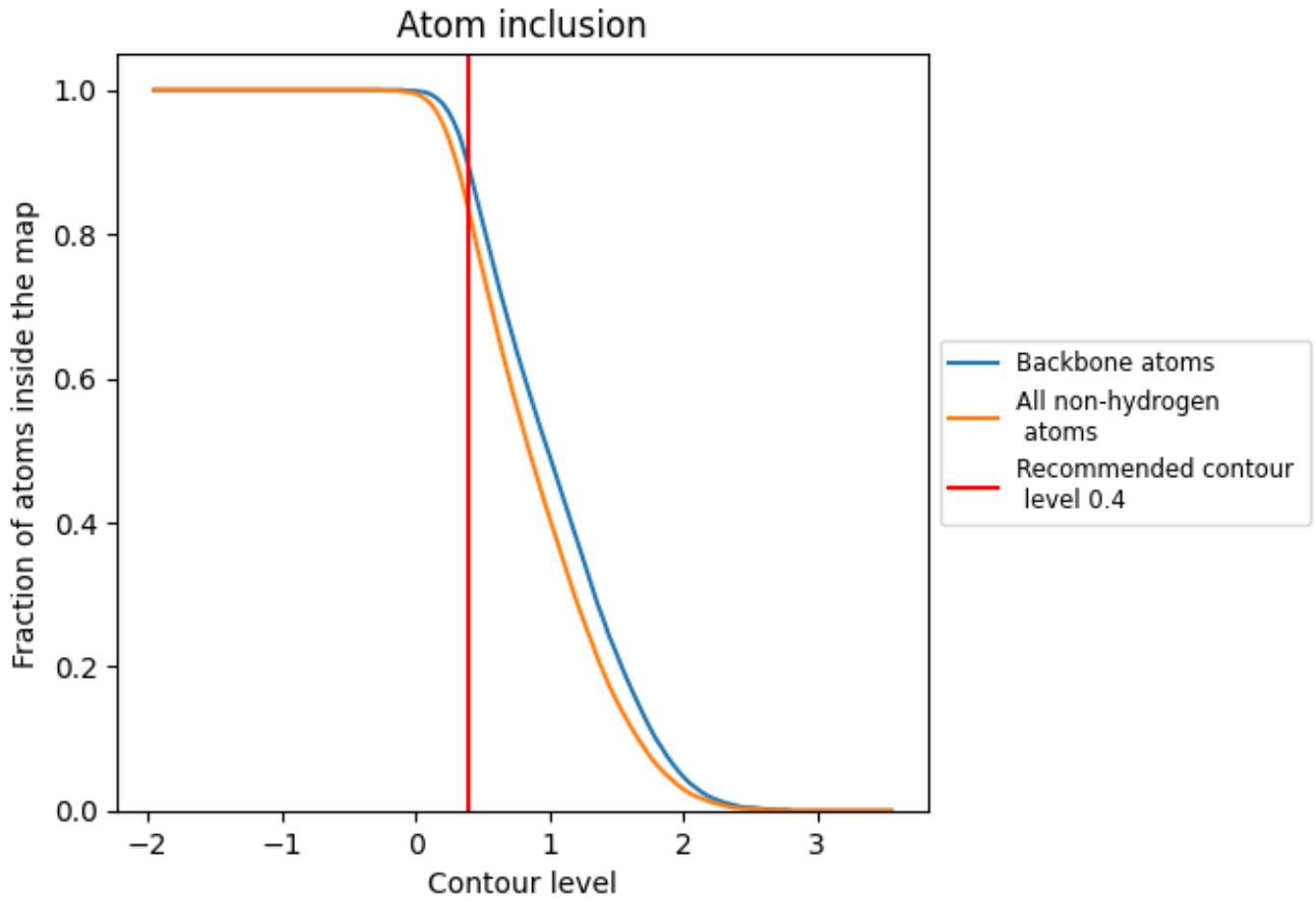
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.4).

9.4 Atom inclusion (i)



At the recommended contour level, 89% of all backbone atoms, 83% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.4) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8320	0.5120
G	0.7860	0.4900
H	0.7920	0.4920
I	0.7880	0.4900
J	0.7890	0.4930
K	0.7890	0.4910
L	0.7950	0.4940
M	0.7760	0.4810
N	0.7780	0.4820
O	0.7750	0.4800
P	0.7830	0.4830
Q	0.7770	0.4810
R	0.7800	0.4860
S	0.7800	0.4750
T	0.7580	0.4850
U	0.7640	0.4820
a	0.7900	0.4620
b	0.8480	0.5050
c	0.8120	0.4800
d	0.8570	0.5170
e	0.7900	0.4610
f	0.8440	0.5060
g	0.8120	0.4830
h	0.8590	0.5190
i	0.7900	0.4660
j	0.8530	0.5120
k	0.8040	0.4830
l	0.8590	0.5190
m	0.9160	0.5820
n	0.9190	0.5770
o	0.9130	0.5780
p	0.9140	0.5770
q	0.9160	0.5840
r	0.9190	0.5800
s	0.9010	0.5690

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Chain	Atom inclusion	Q-score
t	0.8980	0.5690
u	0.8960	0.5680
v	0.6090	0.3360
w	0.5990	0.3280
x	0.6050	0.3290