Full wwPDB EM Validation Report ⓘ

Jul 8, 2024 – 01:54 pm BST

PDB ID	:	7QJ5
EMDB ID	:	EMD-14010
Title	:	Structure of recombinant human gamma-Tubulin Ring Complex (spokes 1-14)
Authors	:	Zupa, E.; Pfeffer, S.
Deposited on	:	2021-12-16
Resolution	:	8.70 Å(reported)
Based on initial models	:	6X0U, 7AS4, 6V6S, 6L81

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:

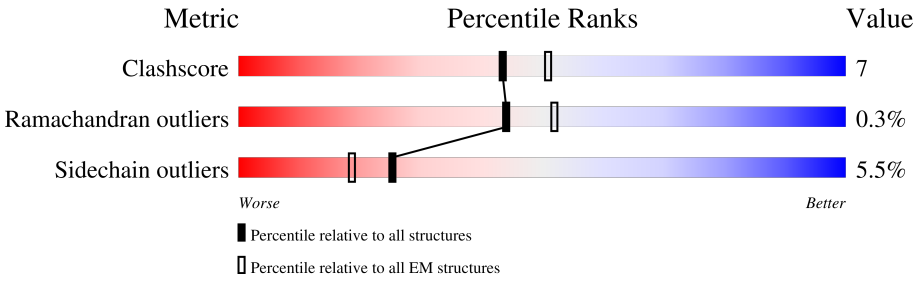
EMDB validation analysis	:	0.0.1.dev92
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

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 8.70 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=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	1	451	57% 62% 27% · 7%
1	2	451	49% 62% 27% · 7%
1	O	451	30% 63% 25% · 7%
1	P	451	27% 64% 24% · 7%
1	Q	451	11% 65% 24% · 7%
1	R	451	· 63% 25% · 7%
1	S	451	63% 25% · 7%
1	T	451	64% 25% · 7%

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Mol	Chain	Length	Quality of chain
1	U	451	64% 24% 7%
1	V	451	65% 23% 7%
1	W	451	65% 24% 7%
1	X	451	63% 26% 7%
1	Y	451	61% 27% 7%
1	Z	451	62% 27% 7%
2	e	375	33% 93%
3	A	902	10% 58% 9% 32%
3	C	902	61% 8% 31%
3	E	902	61% 9% 29%
3	G	902	61% 10% 29%
3	M	902	26% 59% 10% 29%
4	B	907	8% 56% 11% 33%
4	D	907	56% 7% 36%
4	F	907	57% 9% 34%
4	H	907	57% 8% 35%
4	N	907	24% 53% 12% 35%
4	a	907	13% 87%
4	f	907	11% 88%
4	h	907	11% 88%
4	j	907	11% 88%
5	b	82	78% 21%
5	d	82	9% 71% 28%
5	g	82	29% 77% 21%
5	i	82	10% 79% 21%

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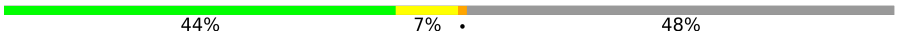
Mol	Chain	Length	Quality of chain
5	k	82	
5	m	82	
6	I	667	
6	K	667	
7	J	1024	
7	l	1024	
8	L	1819	
8	c	1819	

2 Entry composition (i)

There are 8 unique types of molecules in this entry. The entry contains 126600 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 Tubulin gamma-1 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	2	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	O	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	P	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	Q	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	R	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	S	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	T	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	U	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	V	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	W	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	X	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	Y	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		
1	Z	420	Total	C	N	O	S	0	0
			3373	2134	586	638	15		

- Molecule 2 is a protein called actin, cytoplasmic 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	e	364	Total	C	N	O	S	0	0
			2847	1803	476	548	20		

- Molecule 3 is a protein called Gamma-tubulin complex component 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	A	613	Total	C	N	O	S	0	0
			4978	3212	831	903	32		
3	C	620	Total	C	N	O	S	0	0
			5044	3257	845	910	32		
3	G	640	Total	C	N	O	S	0	0
			5216	3359	878	946	33		
3	M	636	Total	C	N	O	S	0	0
			5186	3342	871	940	33		
3	E	640	Total	C	N	O	S	0	0
			5216	3359	878	946	33		

- Molecule 4 is a protein called Gamma-tubulin complex component 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	B	610	Total	C	N	O	S	0	0
			5029	3203	888	913	25		
4	D	581	Total	C	N	O	S	0	0
			4796	3061	842	868	25		
4	F	599	Total	C	N	O	S	0	0
			4941	3151	871	894	25		
4	H	594	Total	C	N	O	S	0	0
			4907	3130	864	888	25		
4	N	594	Total	C	N	O	S	0	0
			4907	3130	864	888	25		
4	a	116	Total	C	N	O	S	0	0
			933	591	171	169	2		
4	j	107	Total	C	N	O	S	0	0
			863	545	161	155	2		
4	h	107	Total	C	N	O	S	0	0
			863	545	161	155	2		
4	f	107	Total	C	N	O	S	0	0
			863	545	161	155	2		

- Molecule 5 is a protein called Mitotic-spindle organizing protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	b	65	Total	C	N	O	S	0	0
			484	299	85	96	4		
5	g	65	Total	C	N	O	S	0	0
			484	299	85	96	4		
5	i	65	Total	C	N	O	S	0	0
			484	299	85	96	4		

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Mol	Chain	Residues	Atoms					AltConf	Trace
5	m	65	Total	C	N	O	S	0	0
			484	299	85	96	4		
5	k	65	Total	C	N	O	S	0	0
			484	299	85	96	4		
5	d	59	Total	C	N	O	S	0	0
			454	281	79	90	4		

- Molecule 6 is a protein called Gamma-tubulin complex component 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	I	521	Total	C	N	O	S	0	0
			4225	2737	720	750	18		
6	K	562	Total	C	N	O	S	0	0
			4579	2964	781	816	18		

- Molecule 7 is a protein called Gamma-tubulin complex component 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	J	534	Total	C	N	O	S	0	0
			4429	2893	737	776	23		
7	l	108	Total	C	N	O	S	0	0
			875	556	151	167	1		

- Molecule 8 is a protein called Gamma-tubulin complex component 6.

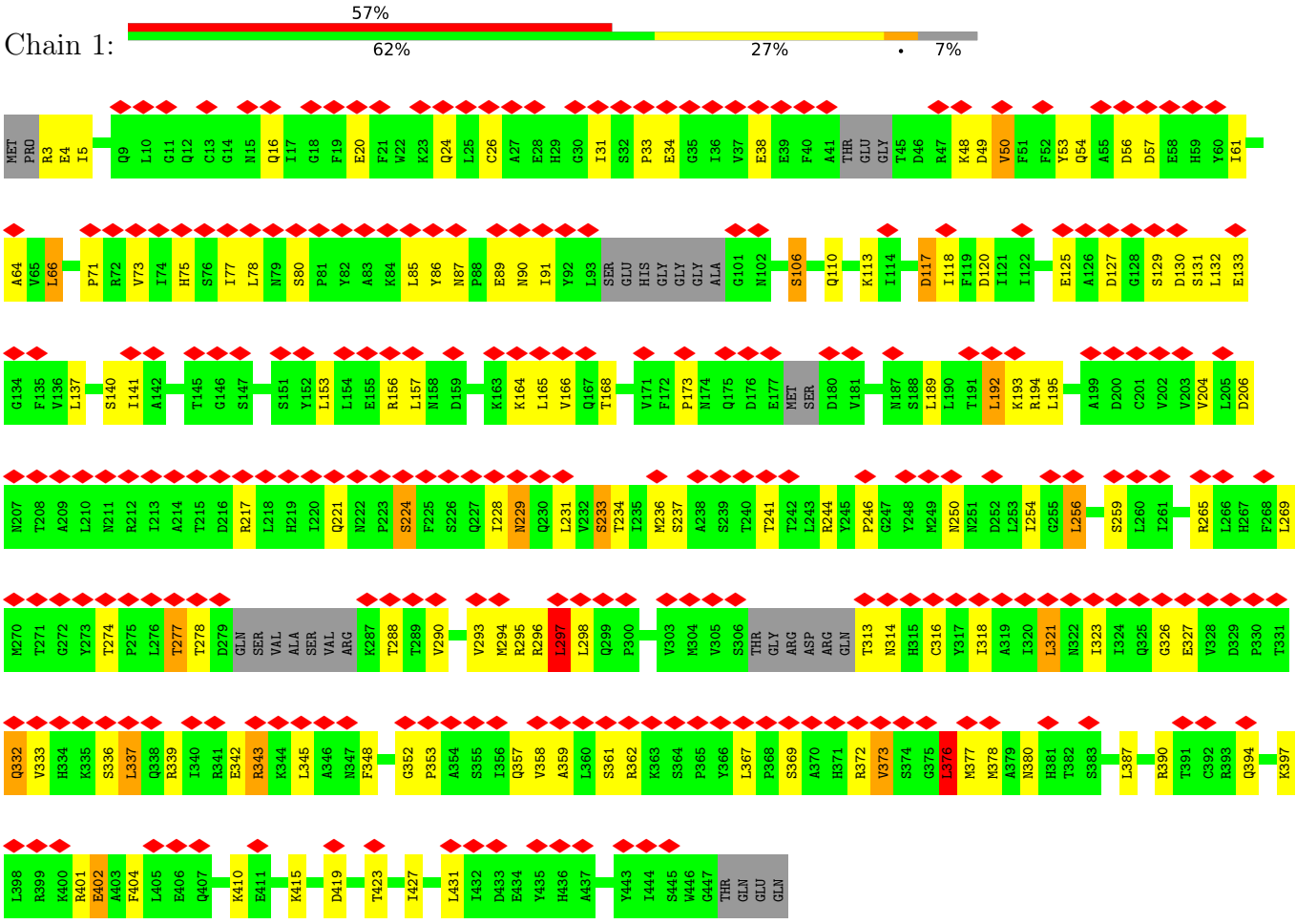
Mol	Chain	Residues	Atoms					AltConf	Trace
8	L	566	Total	C	N	O	S	0	0
			4587	3000	773	789	25		
8	c	158	Total	C	N	O	S	0	0
			1220	771	209	232	8		

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.

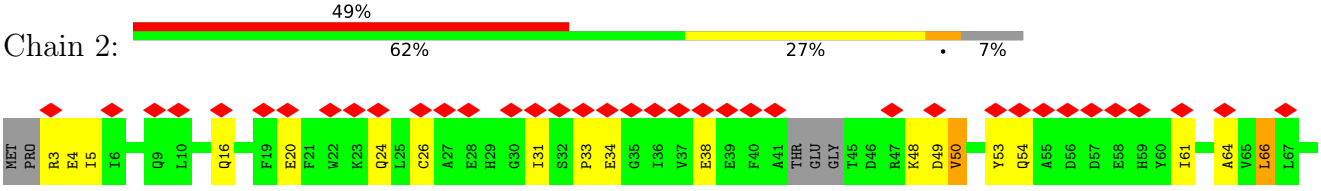
• Molecule 1: Tubulin gamma-1 chain

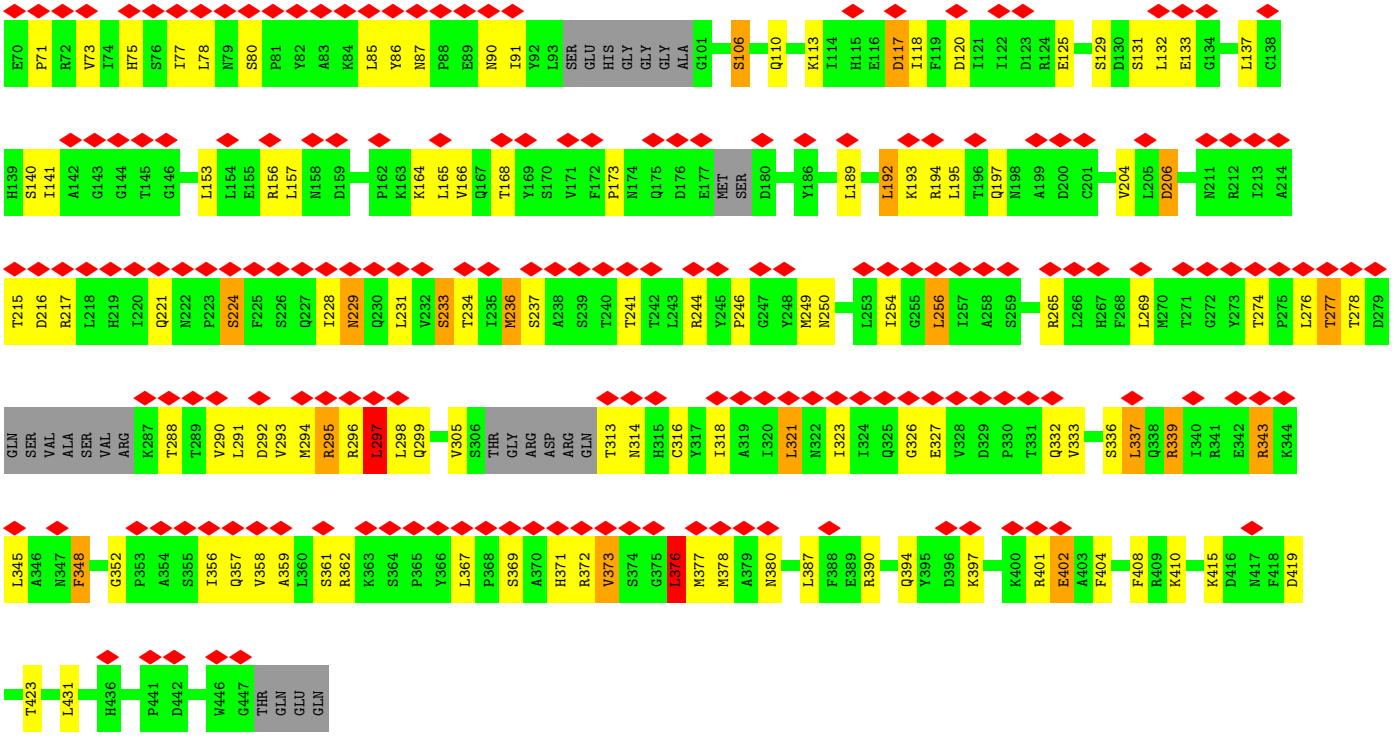
Chain 1:



• Molecule 1: Tubulin gamma-1 chain

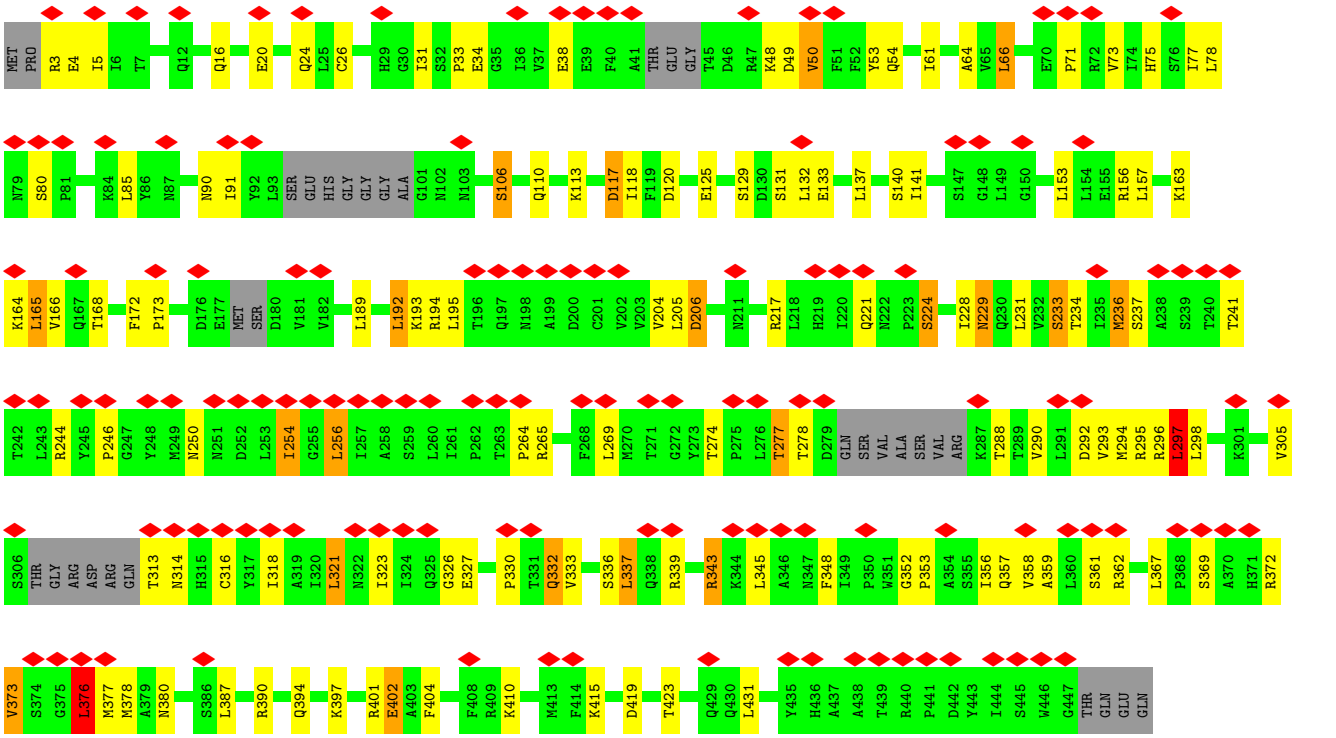
Chain 2:





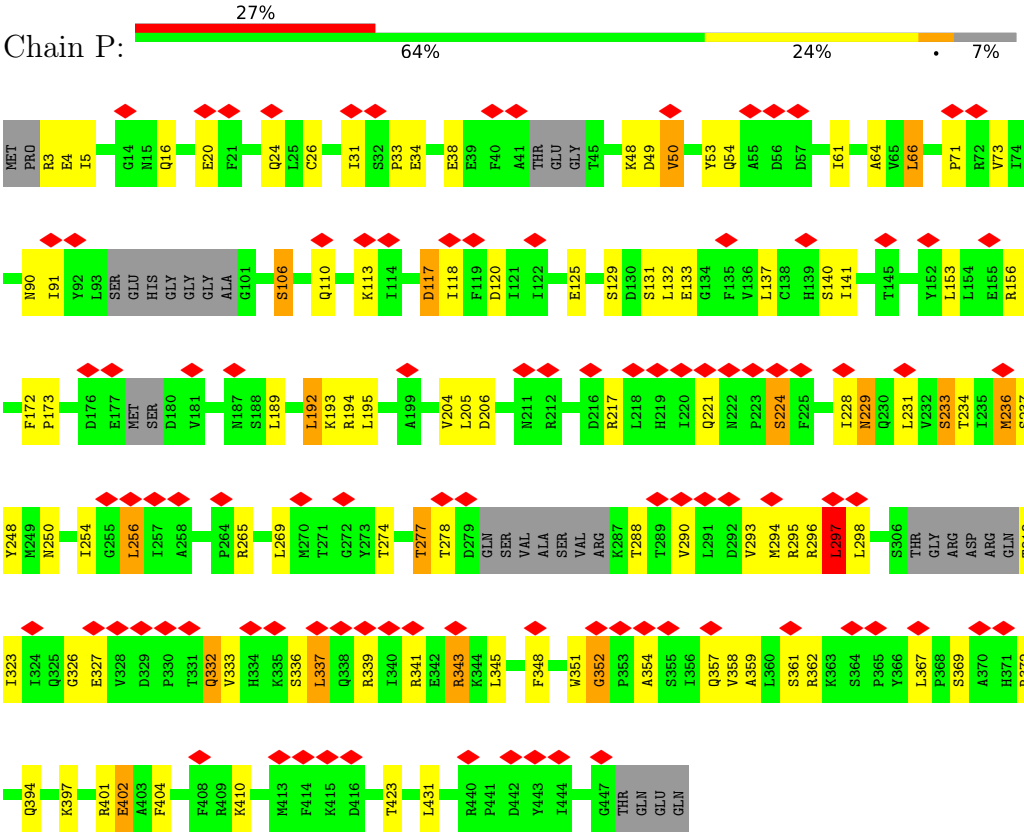
• Molecule 1: Tubulin gamma-1 chain

Chain O:



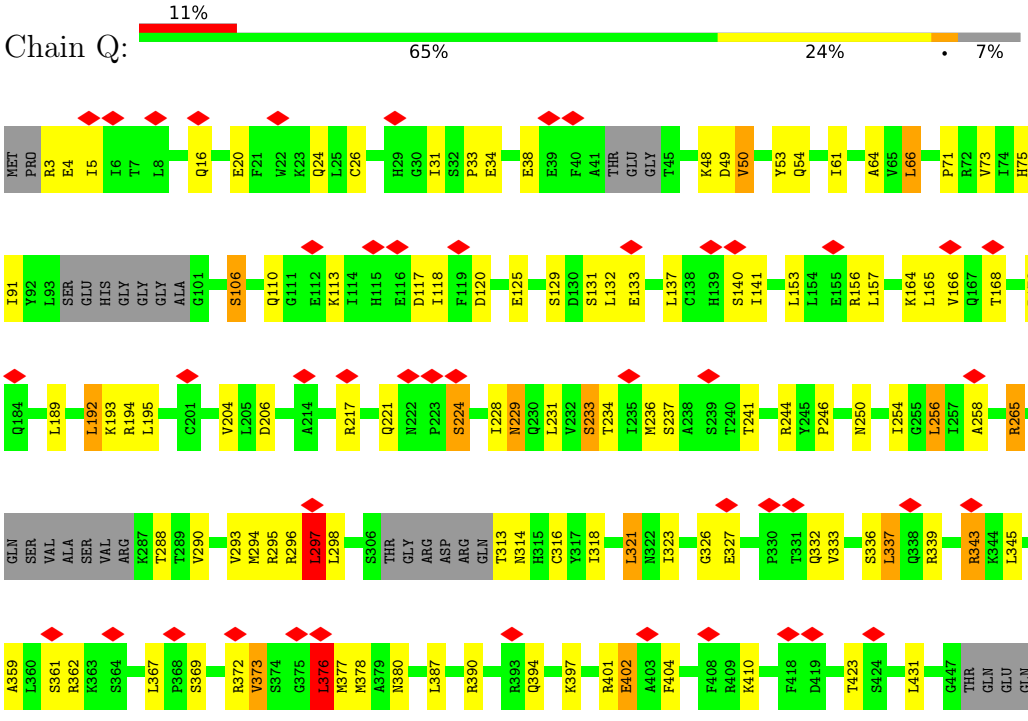
• Molecule 1: Tubulin gamma-1 chain

Chain P:



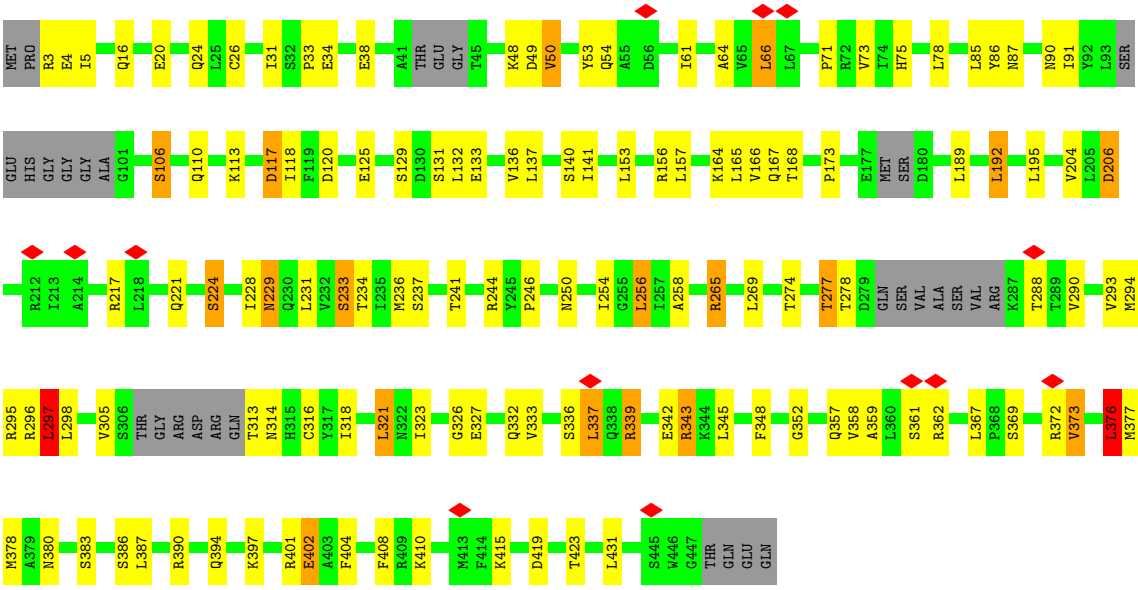
• Molecule 1: Tubulin gamma-1 chain

Chain Q:



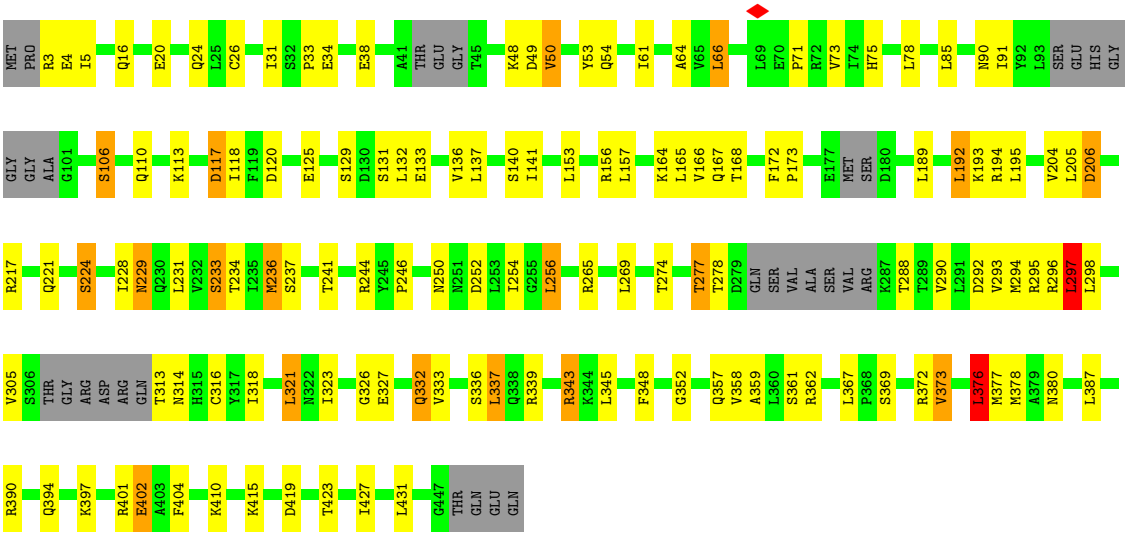
• Molecule 1: Tubulin gamma-1 chain

Chain R:



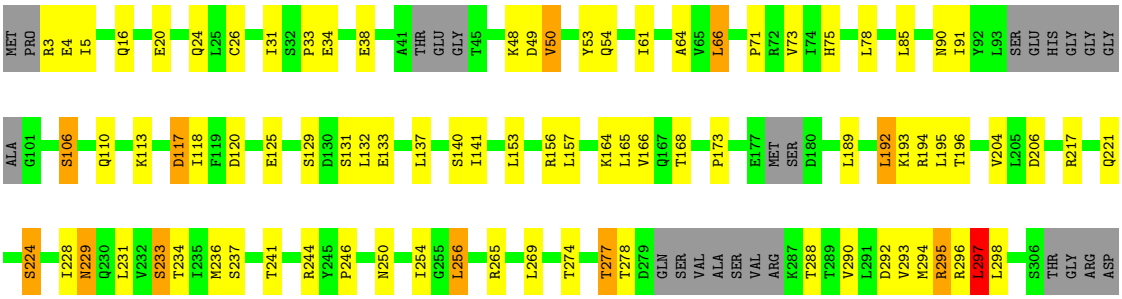
• Molecule 1: Tubulin gamma-1 chain

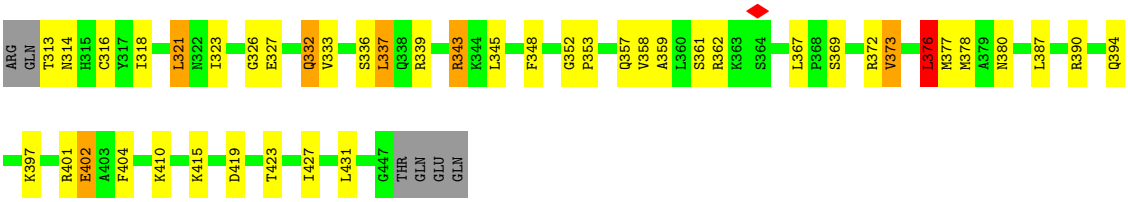
Chain S:



• Molecule 1: Tubulin gamma-1 chain

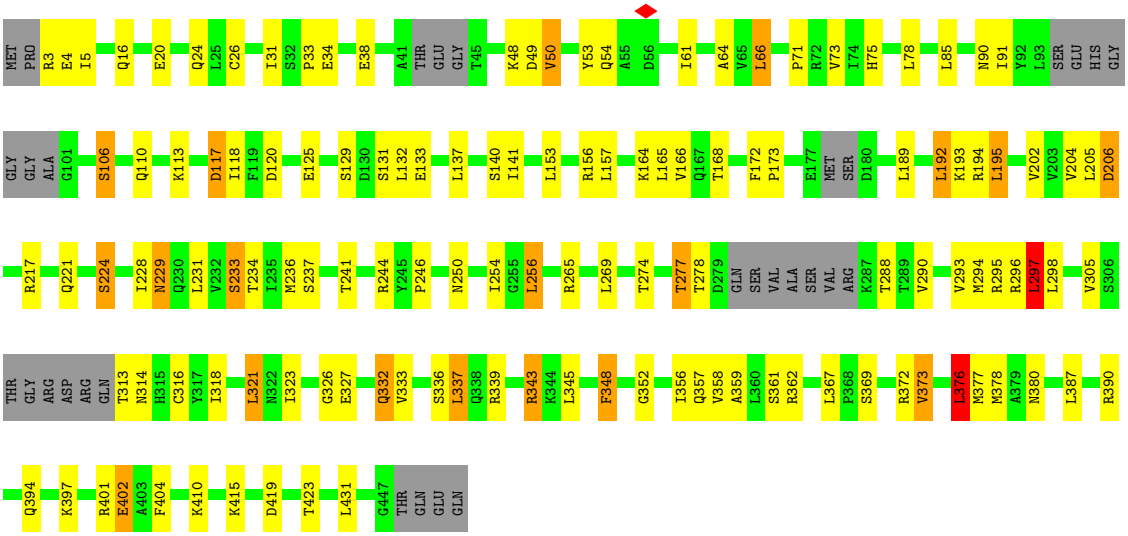
Chain T:





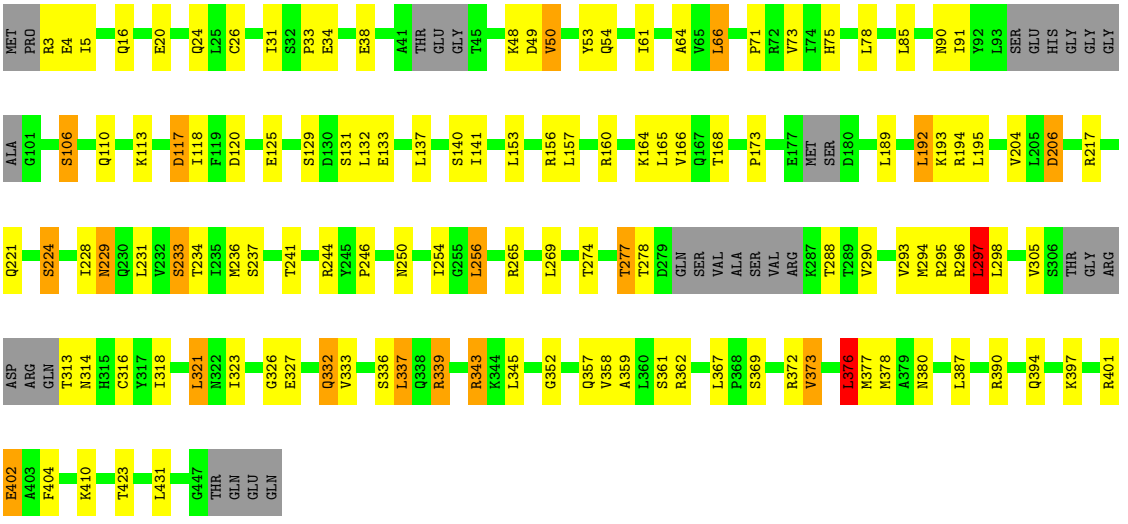
• Molecule 1: Tubulin gamma-1 chain

Chain U:



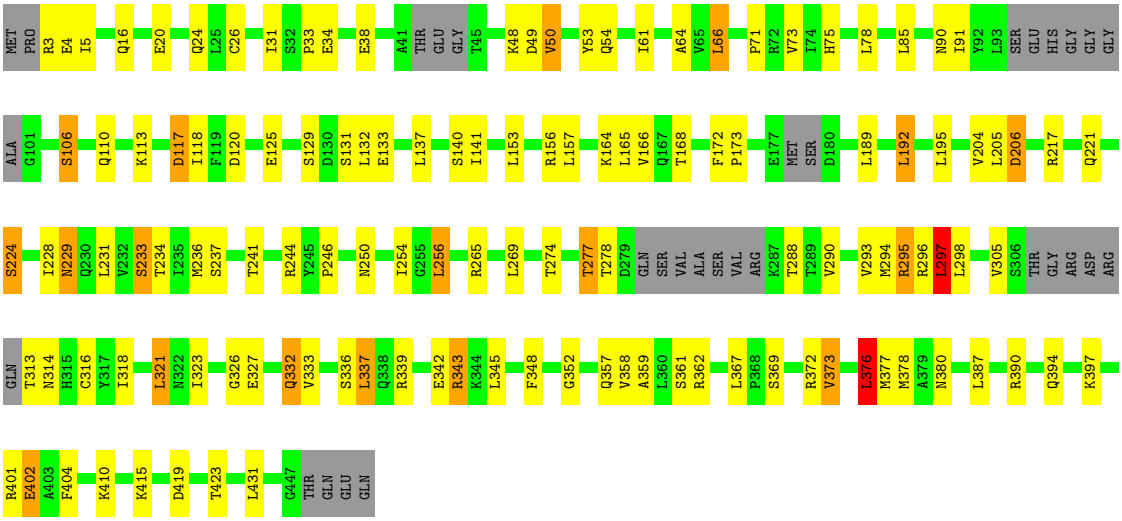
• Molecule 1: Tubulin gamma-1 chain

Chain V:



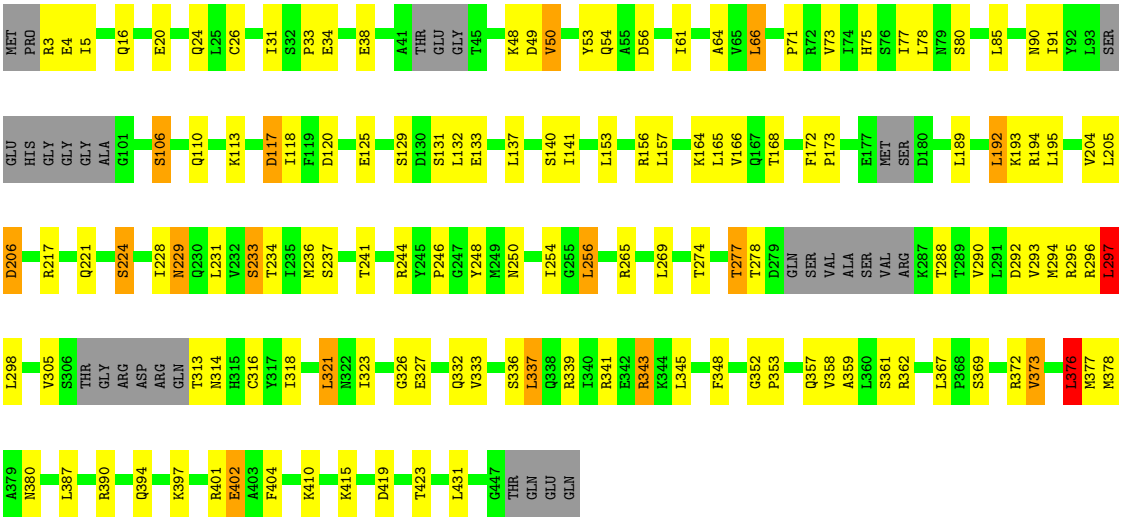
• Molecule 1: Tubulin gamma-1 chain

Chain W:



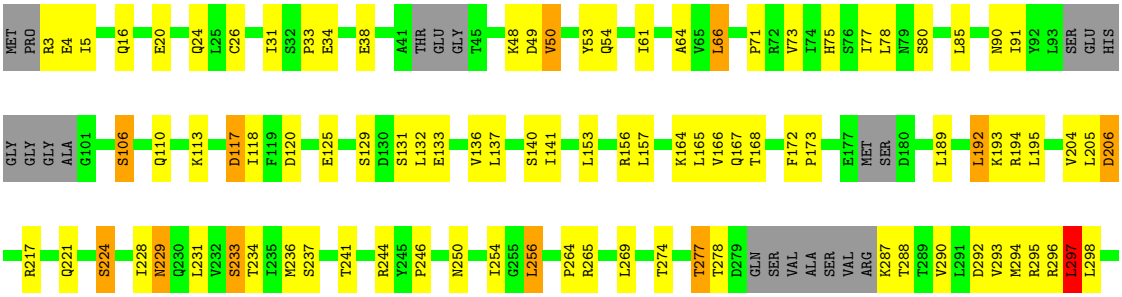
• Molecule 1: Tubulin gamma-1 chain

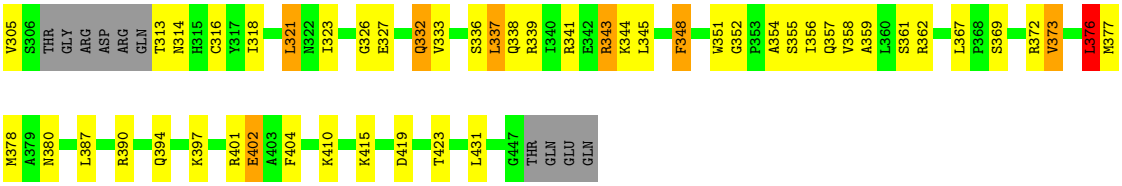
Chain X:



• Molecule 1: Tubulin gamma-1 chain

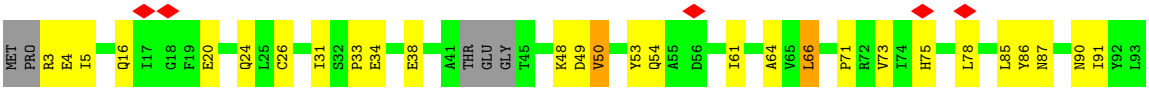
Chain Y:

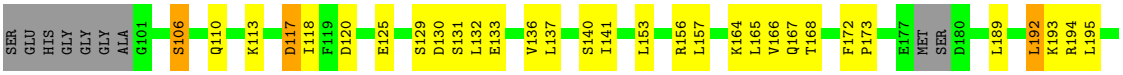


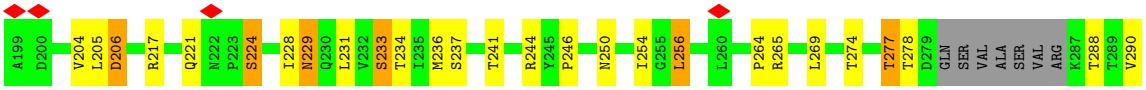


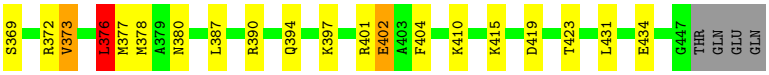
• Molecule 1: Tubulin gamma-1 chain

Chain Z:



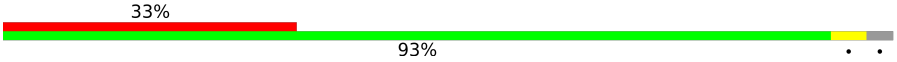


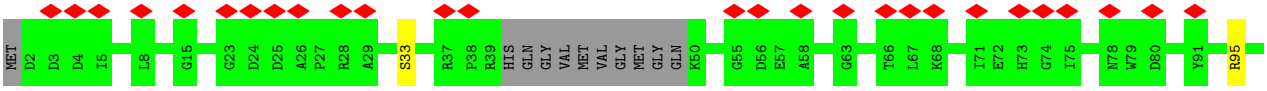


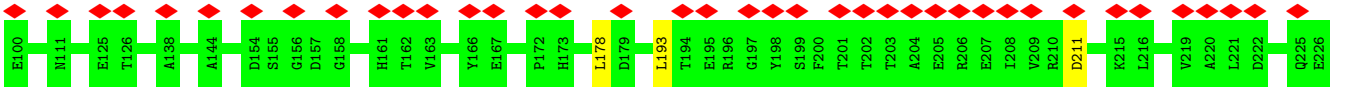


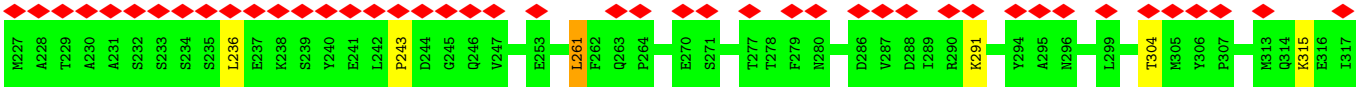
• Molecule 2: actin, cytoplasmic 1

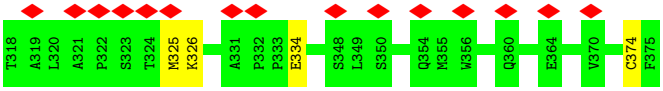
Chain e:





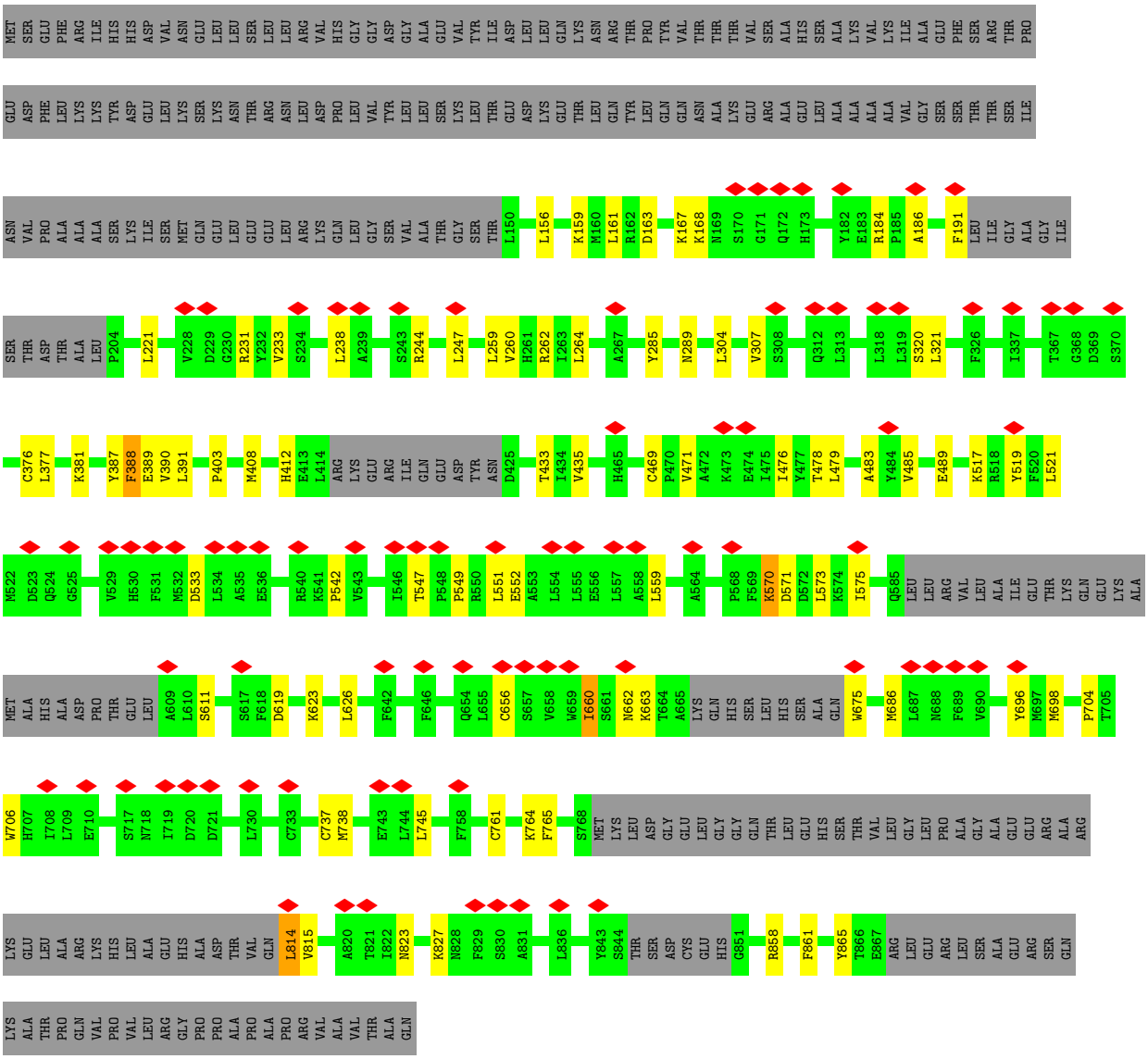






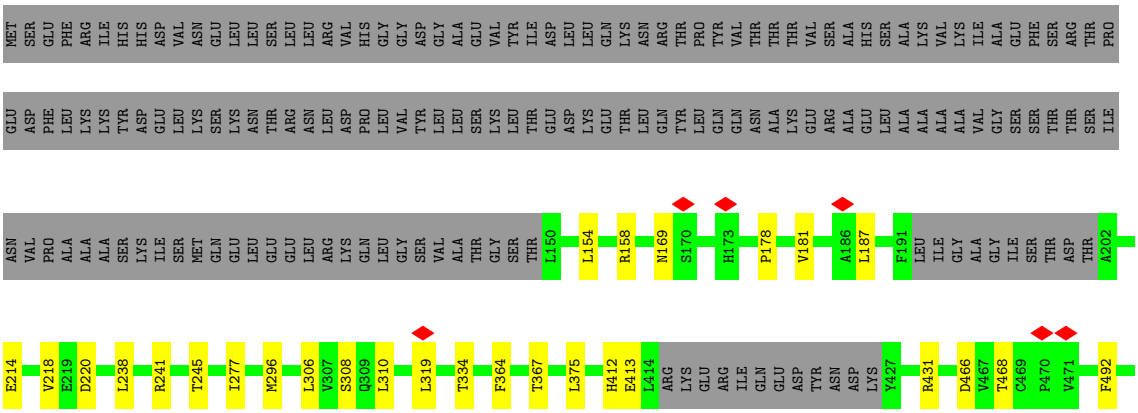
• Molecule 3: Gamma-tubulin complex component 2

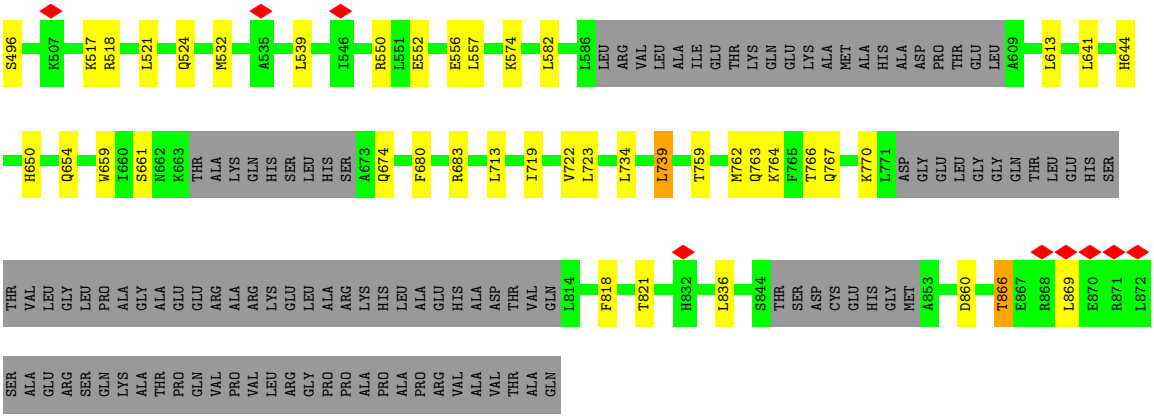
Chain A:



• Molecule 3: Gamma-tubulin complex component 2

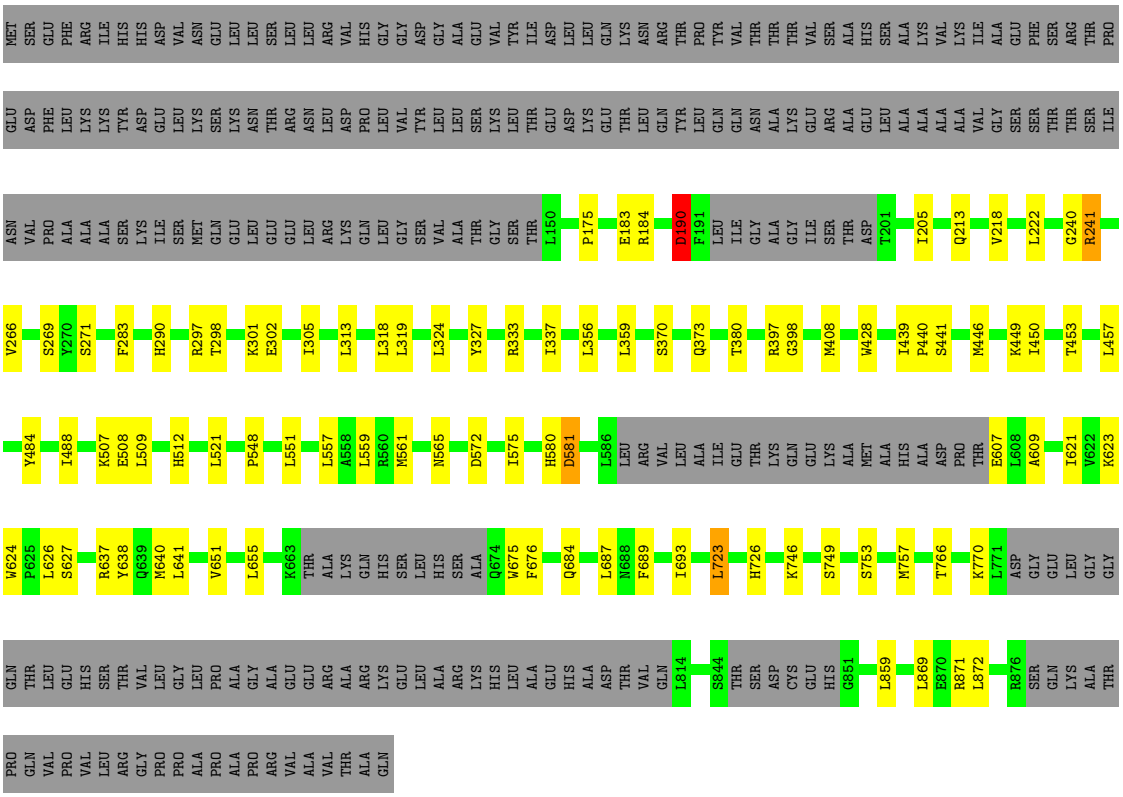
Chain C:





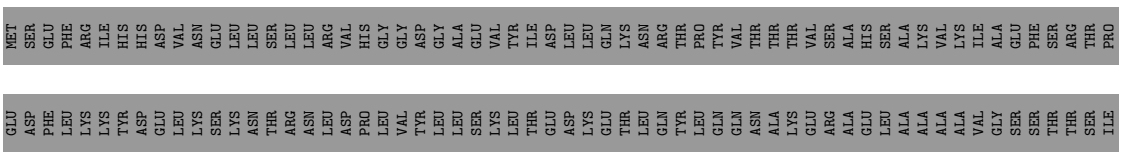
• Molecule 3: Gamma-tubulin complex component 2

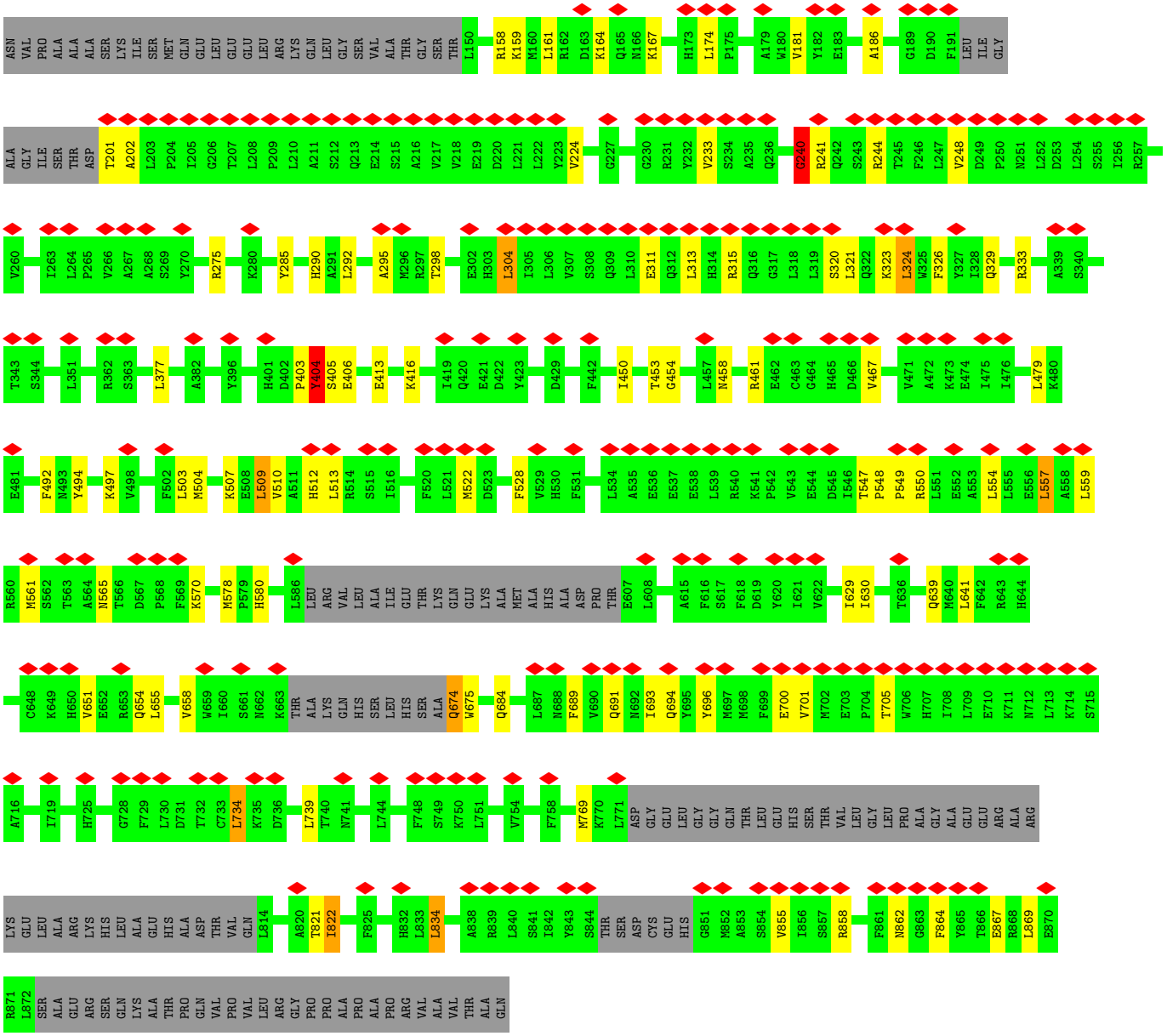
Chain G:



• Molecule 3: Gamma-tubulin complex component 2

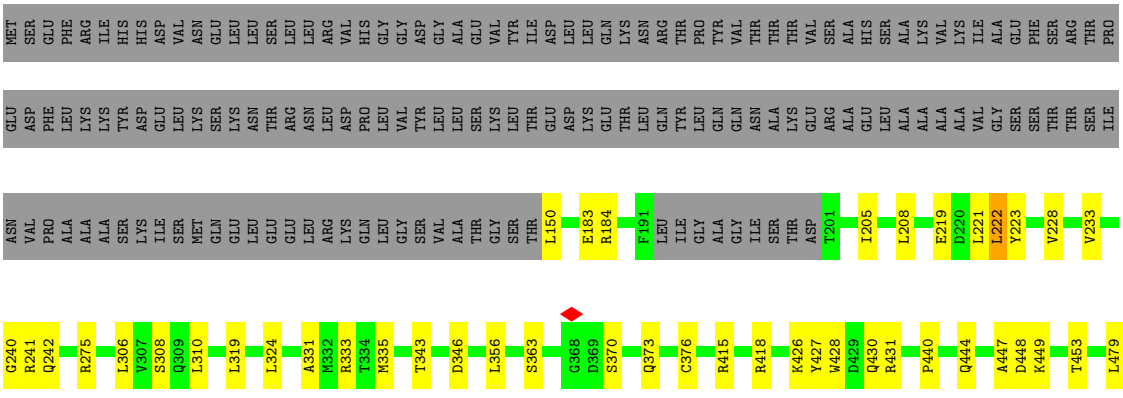
Chain M:

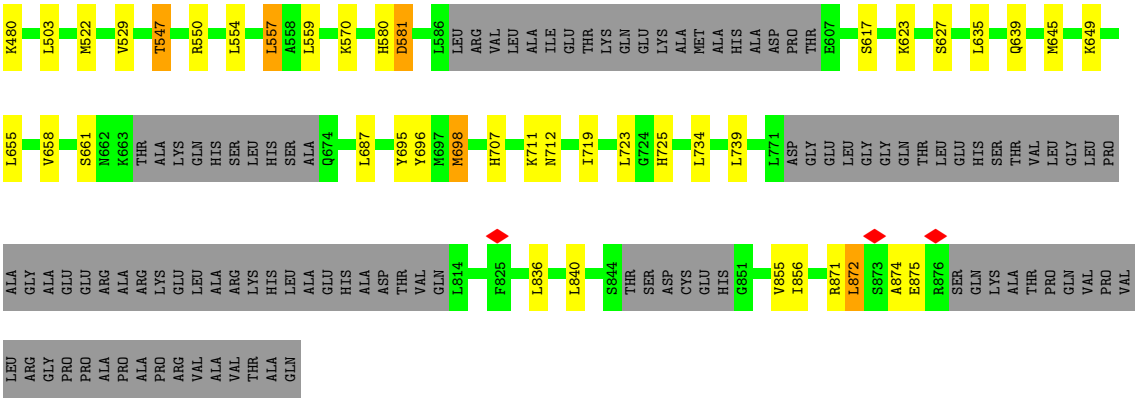




• Molecule 3: Gamma-tubulin complex component 2

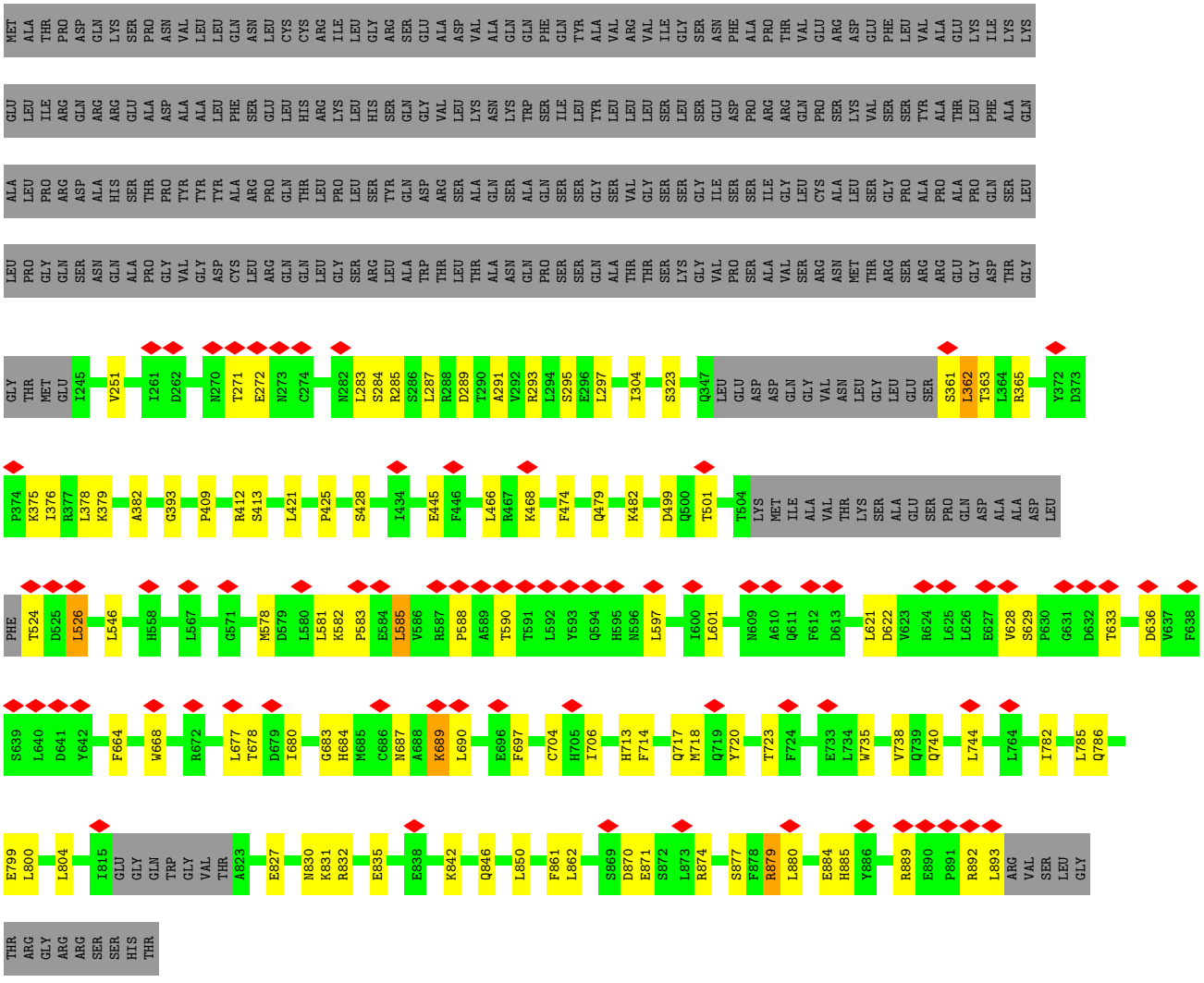
Chain E:





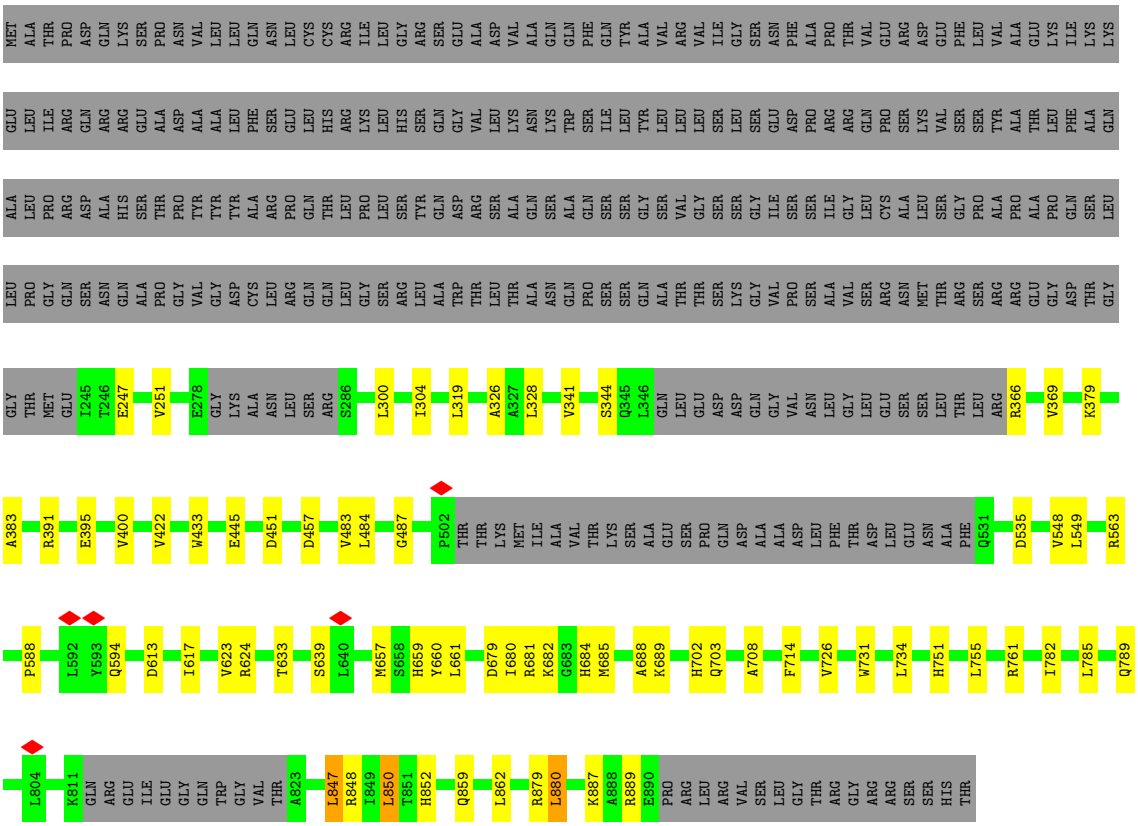
• Molecule 4: Gamma-tubulin complex component 3

Chain B:



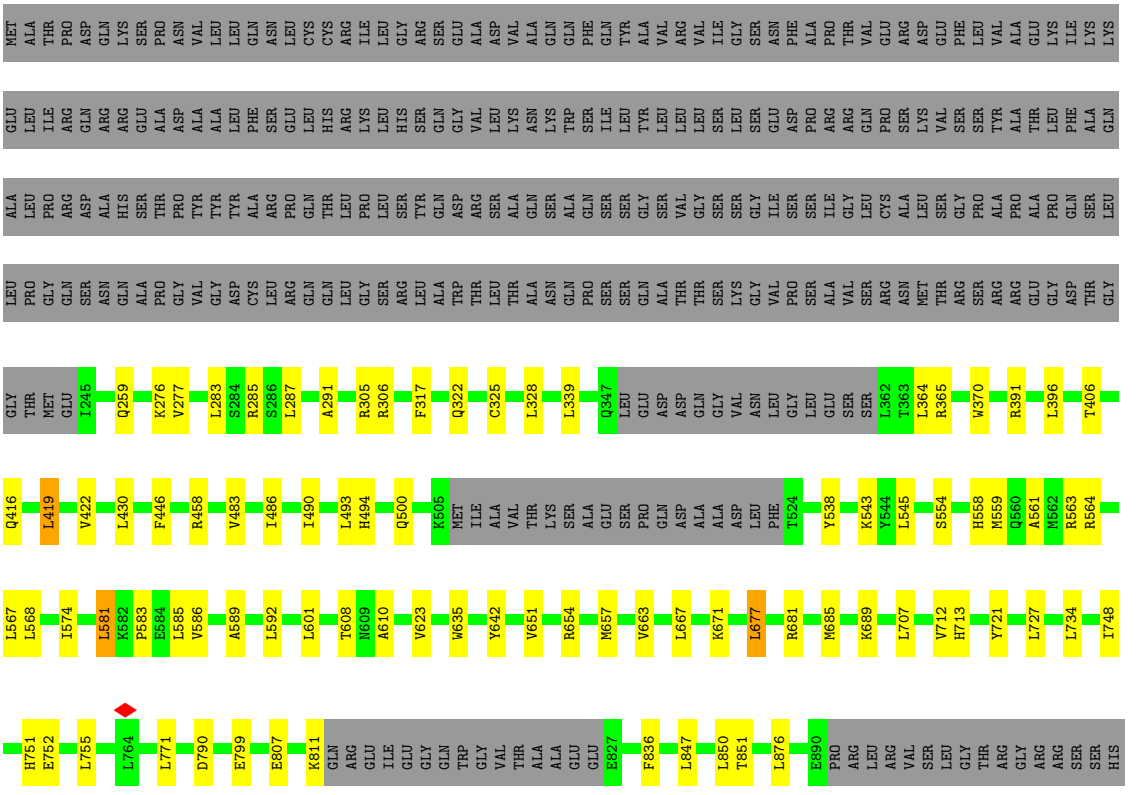
• Molecule 4: Gamma-tubulin complex component 3

Chain D:

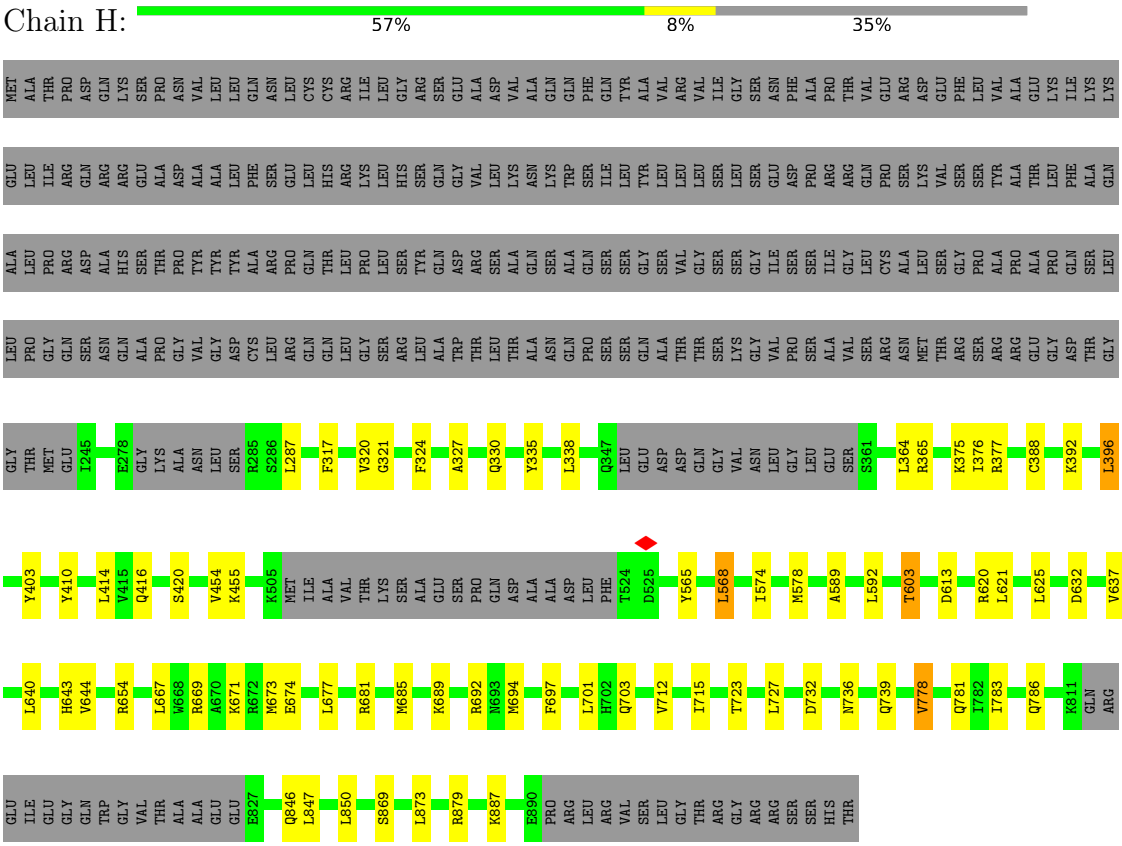


• Molecule 4: Gamma-tubulin complex component 3

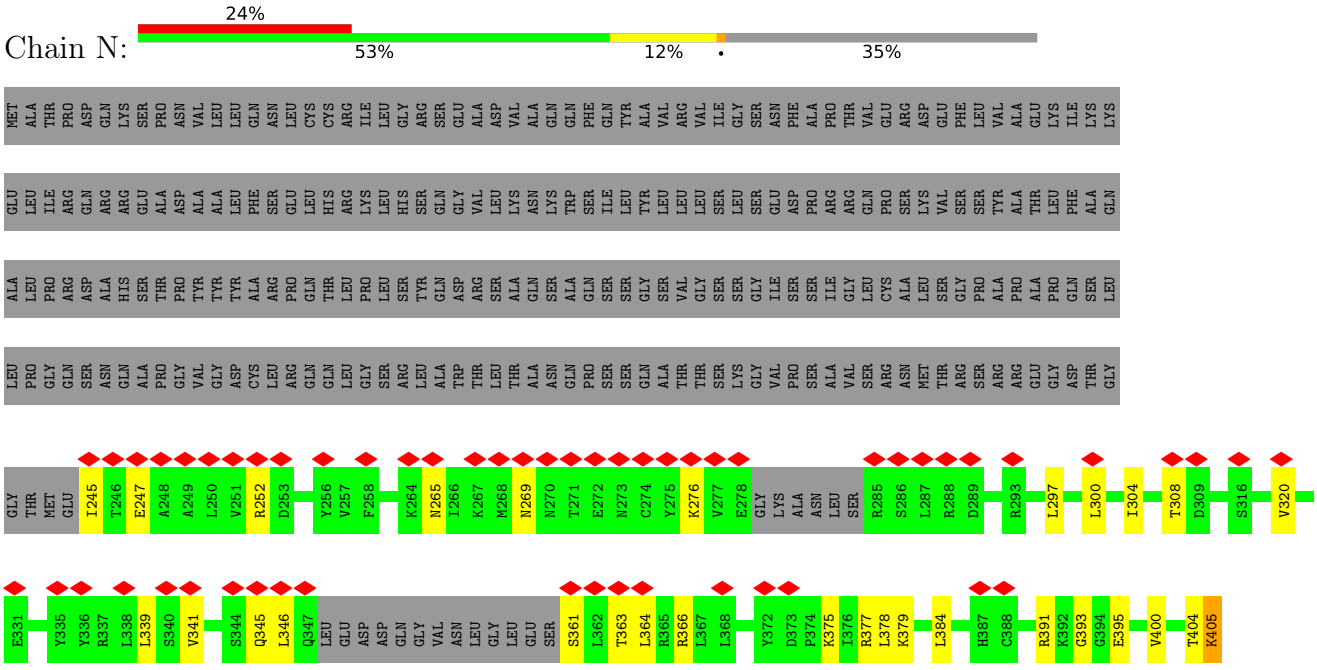
Chain F: 57% 9% 34%

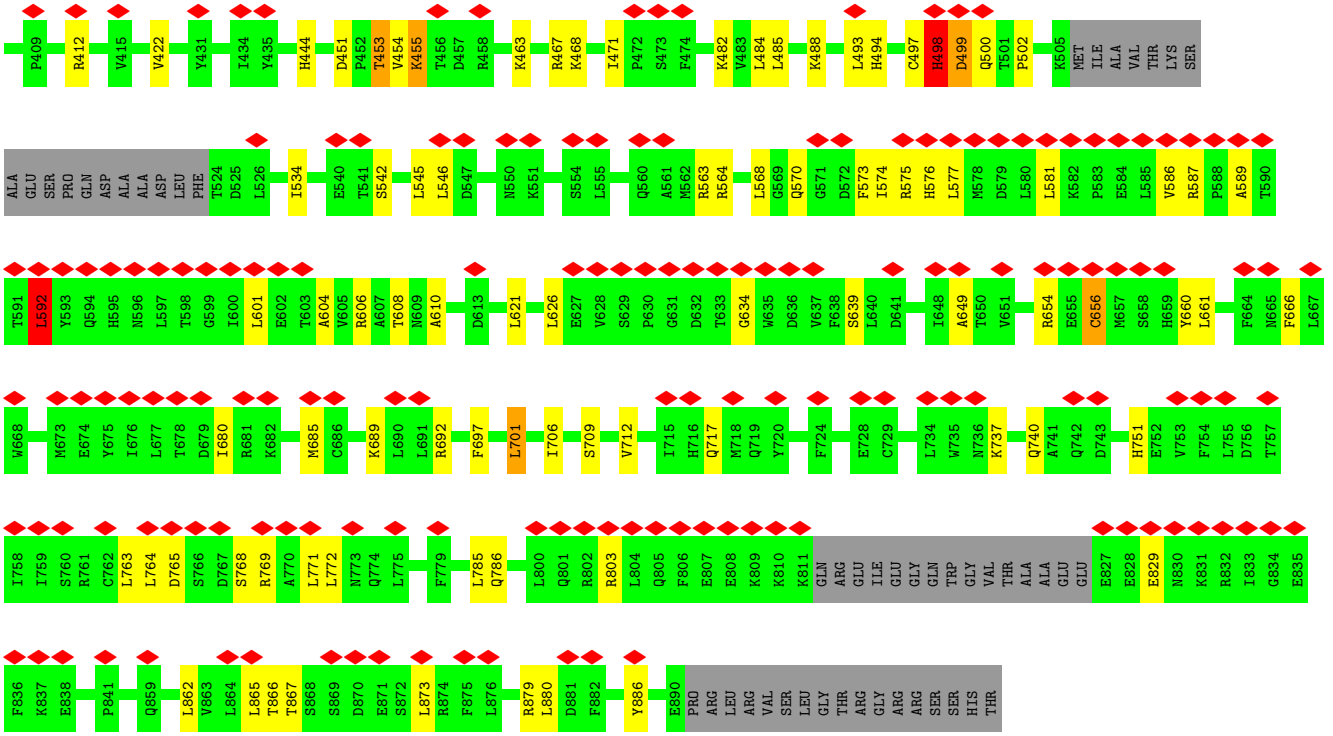


• Molecule 4: Gamma-tubulin complex component 3



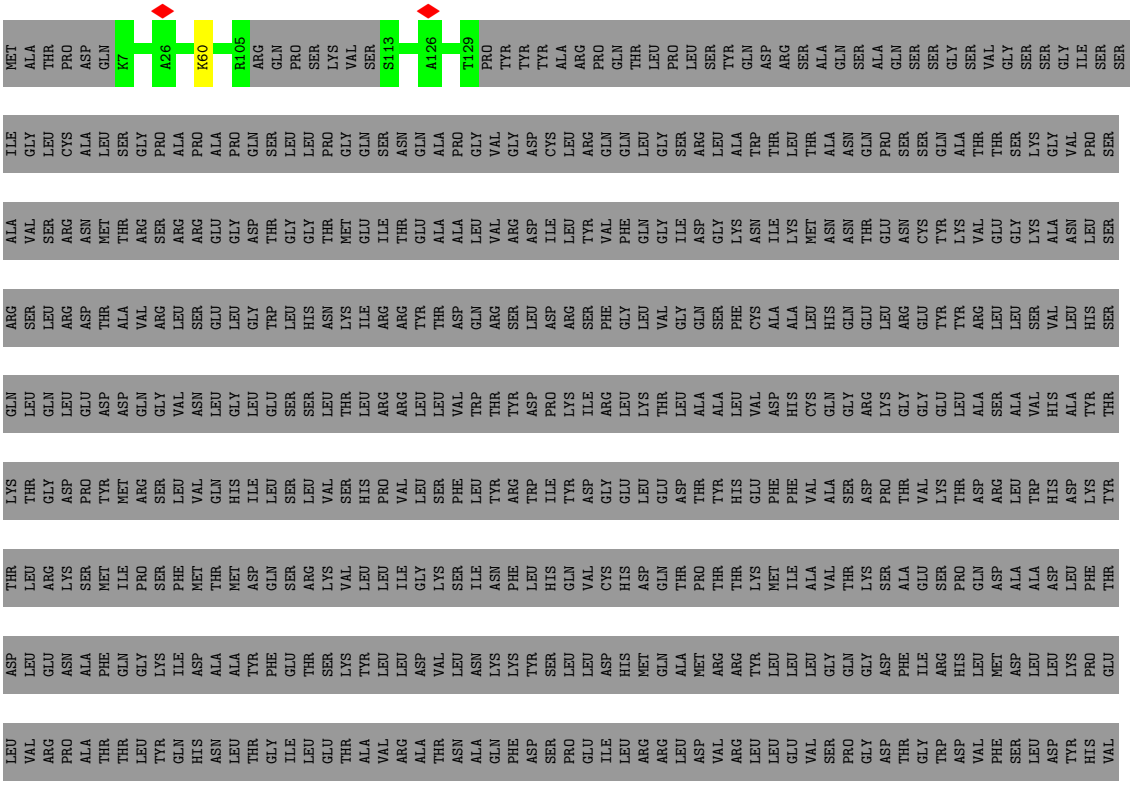
• Molecule 4: Gamma-tubulin complex component 3

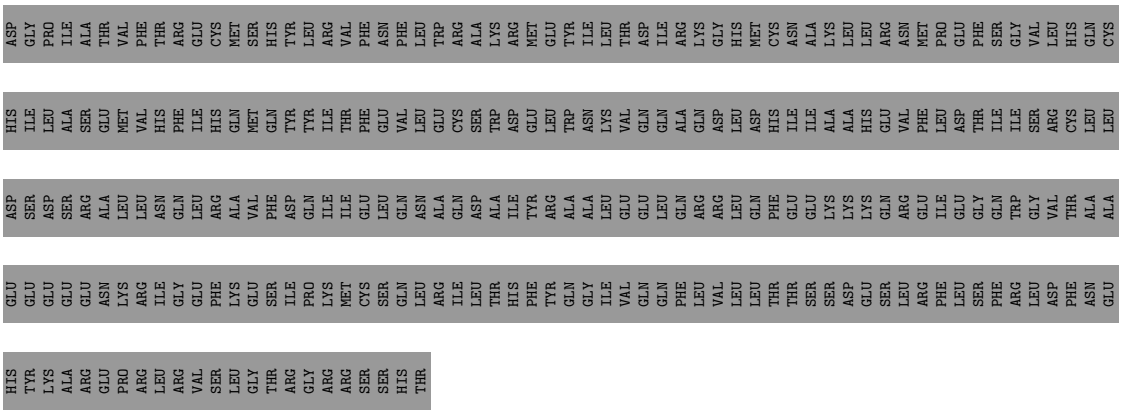




• Molecule 4: Gamma-tubulin complex component 3

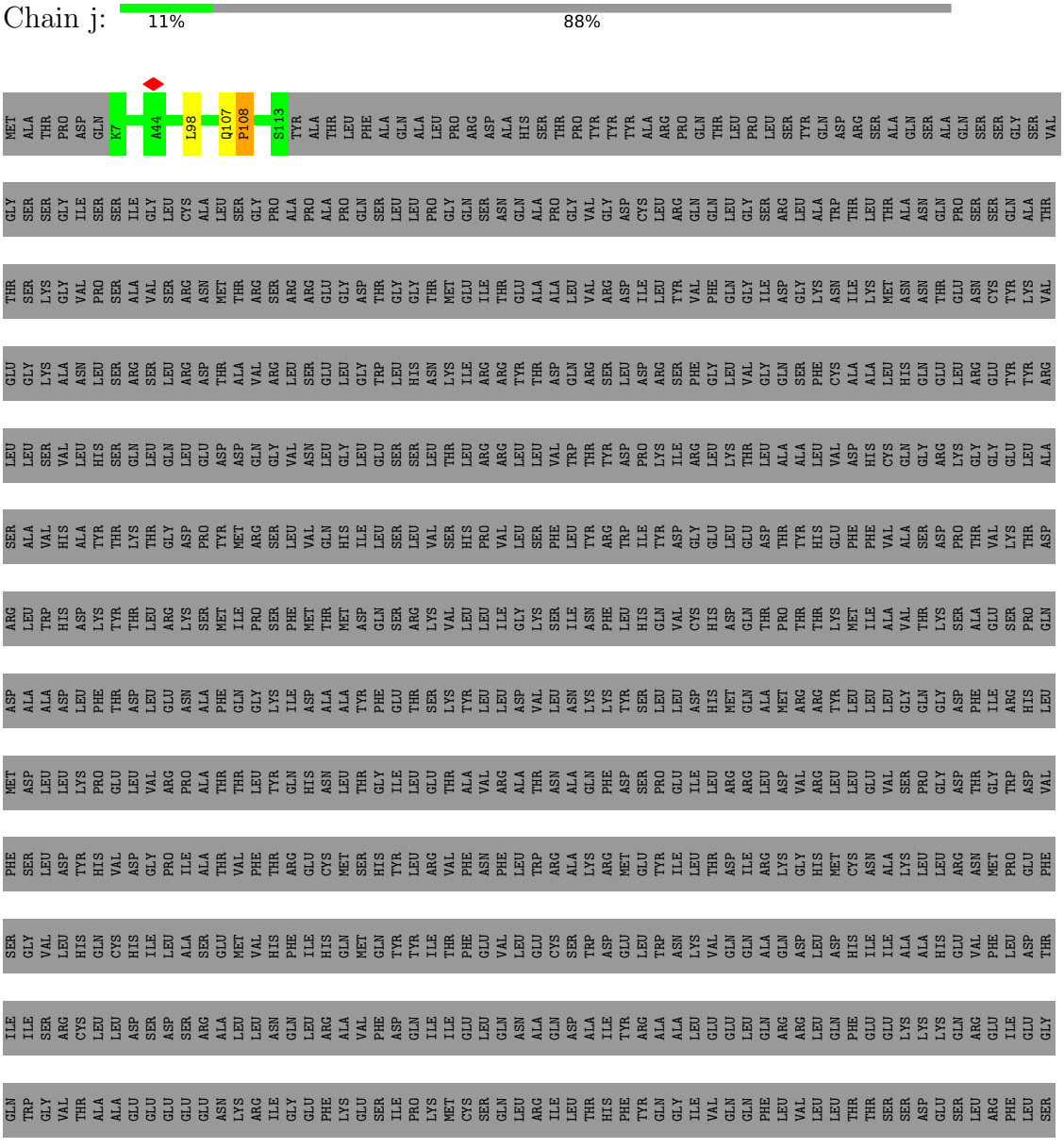
Chain a: 13% 87%





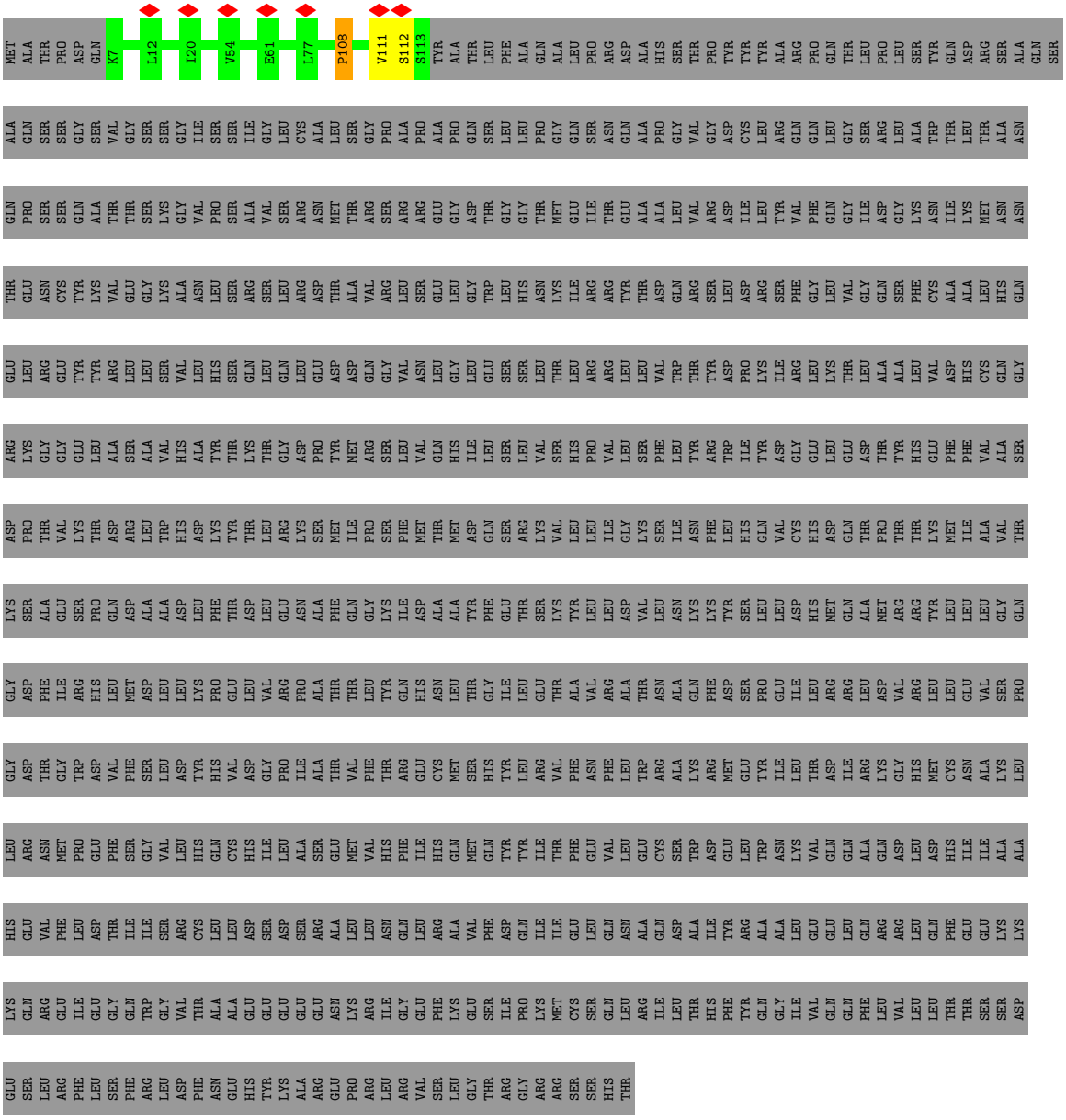
- Molecule 4: Gamma-tubulin complex component 3

Chain j:



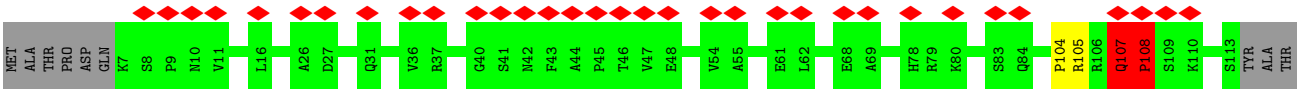
• Molecule 4: Gamma-tubulin complex component 3

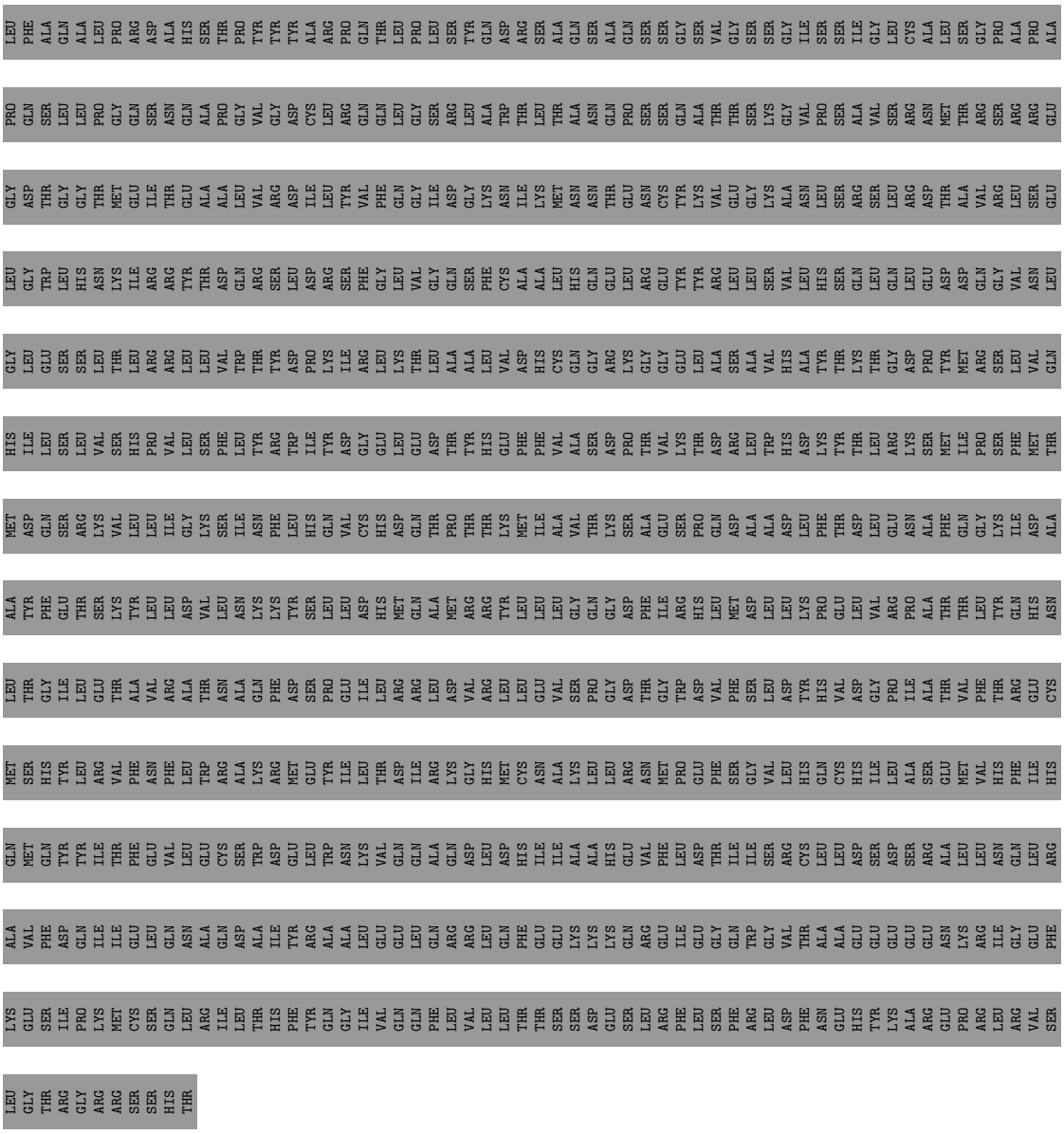
Chain h:



• Molecule 4: Gamma-tubulin complex component 3

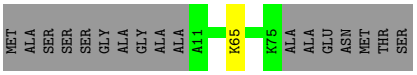
Chain f:





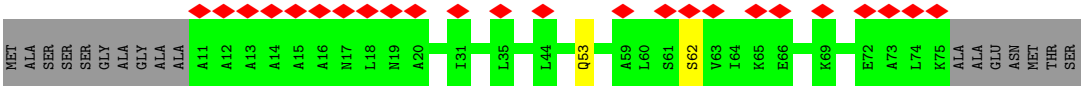
• Molecule 5: Mitotic-spindle organizing protein 1

Chain b:



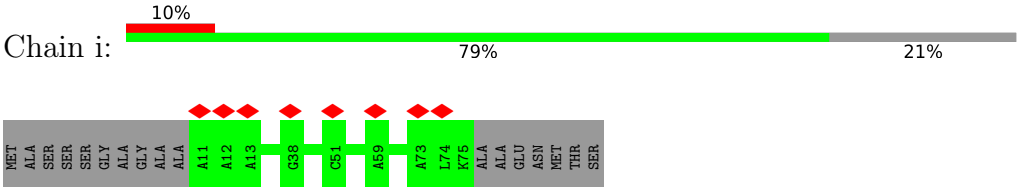
• Molecule 5: Mitotic-spindle organizing protein 1

Chain g:



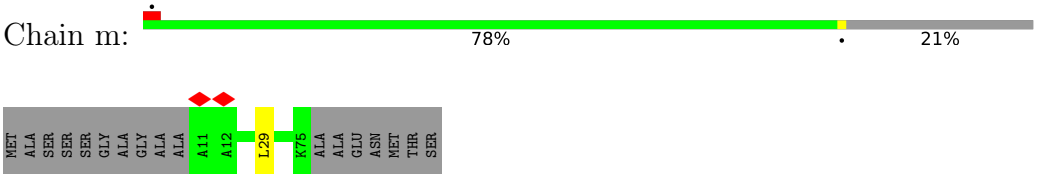
• Molecule 5: Mitotic-spindle organizing protein 1

Chain i:



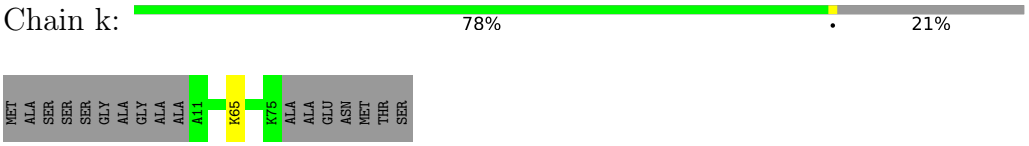
• Molecule 5: Mitotic-spindle organizing protein 1

Chain m:



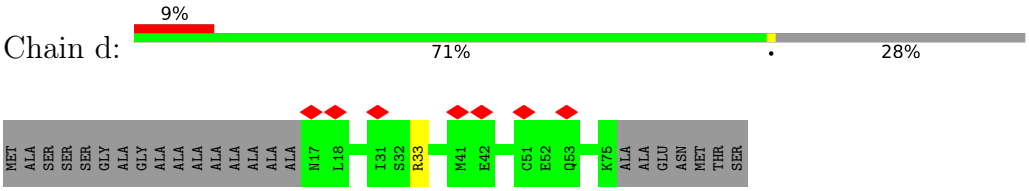
• Molecule 5: Mitotic-spindle organizing protein 1

Chain k:



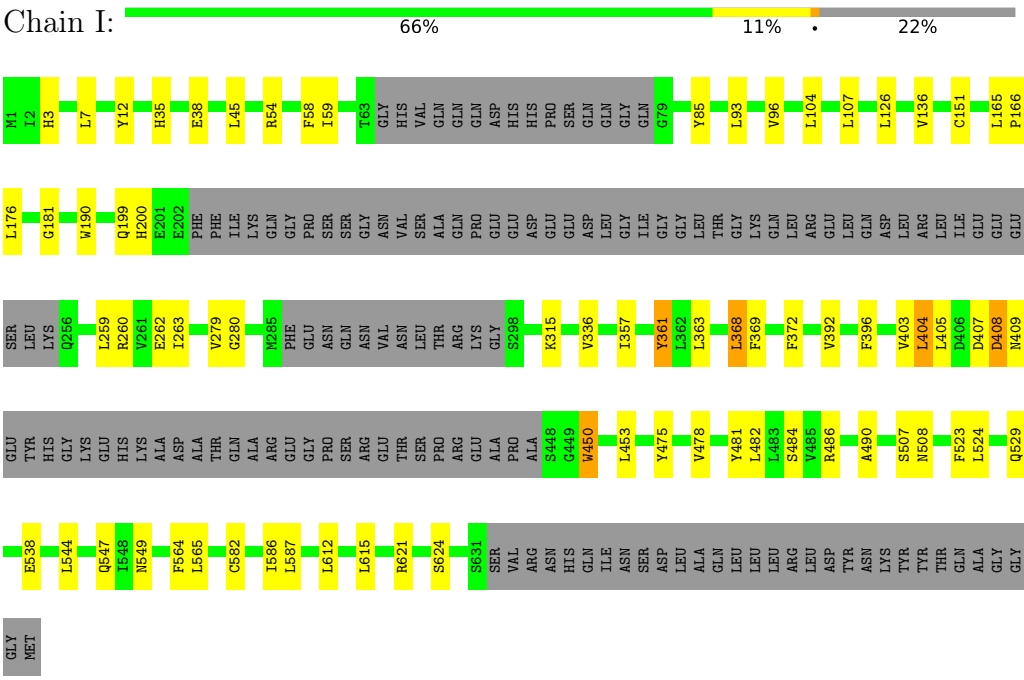
• Molecule 5: Mitotic-spindle organizing protein 1

Chain d:



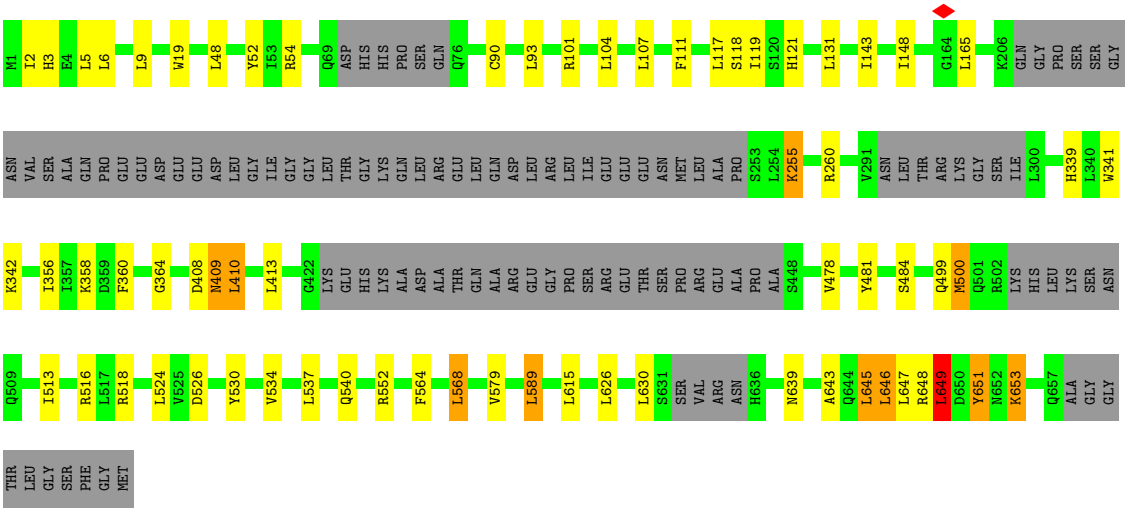
• Molecule 6: Gamma-tubulin complex component 4

Chain I:



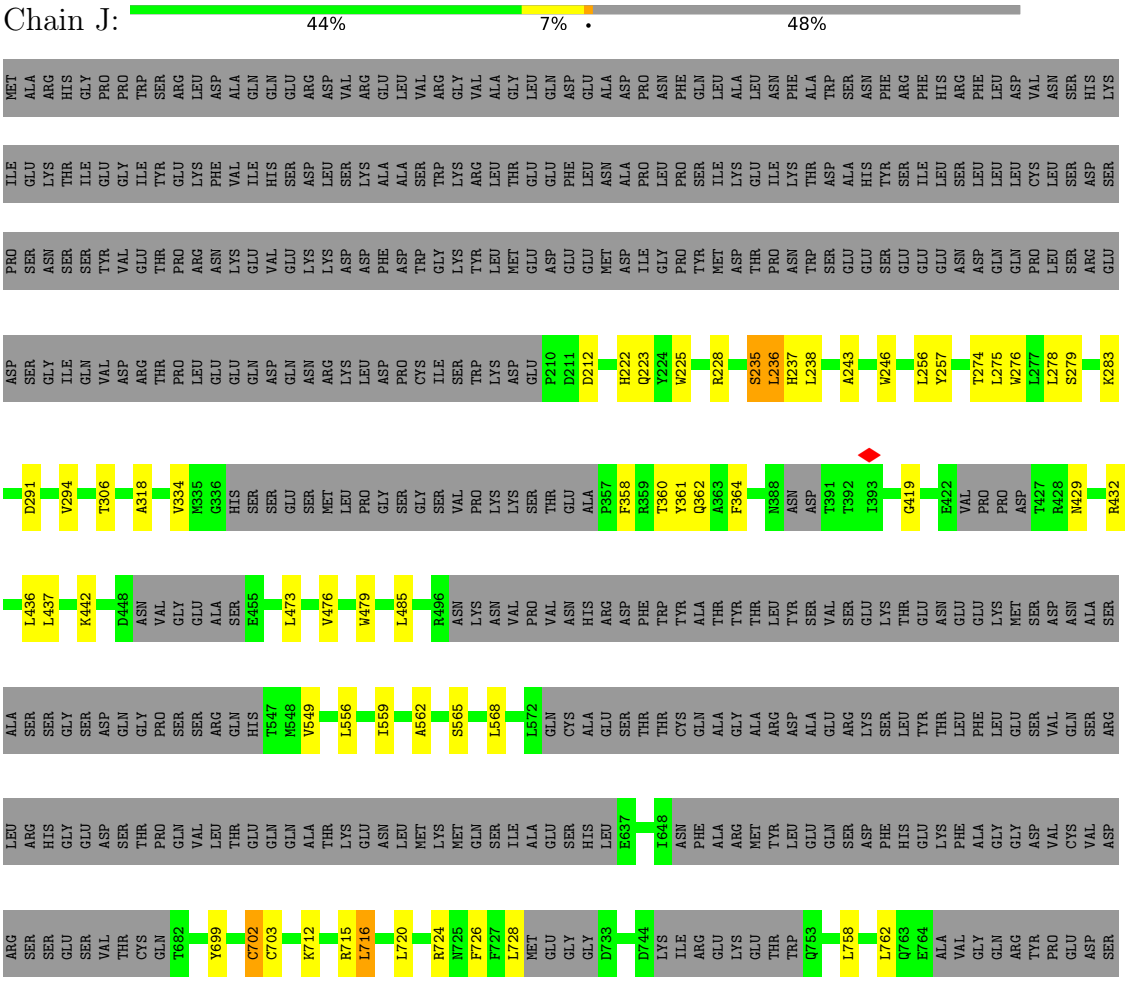
• Molecule 6: Gamma-tubulin complex component 4

Chain K:



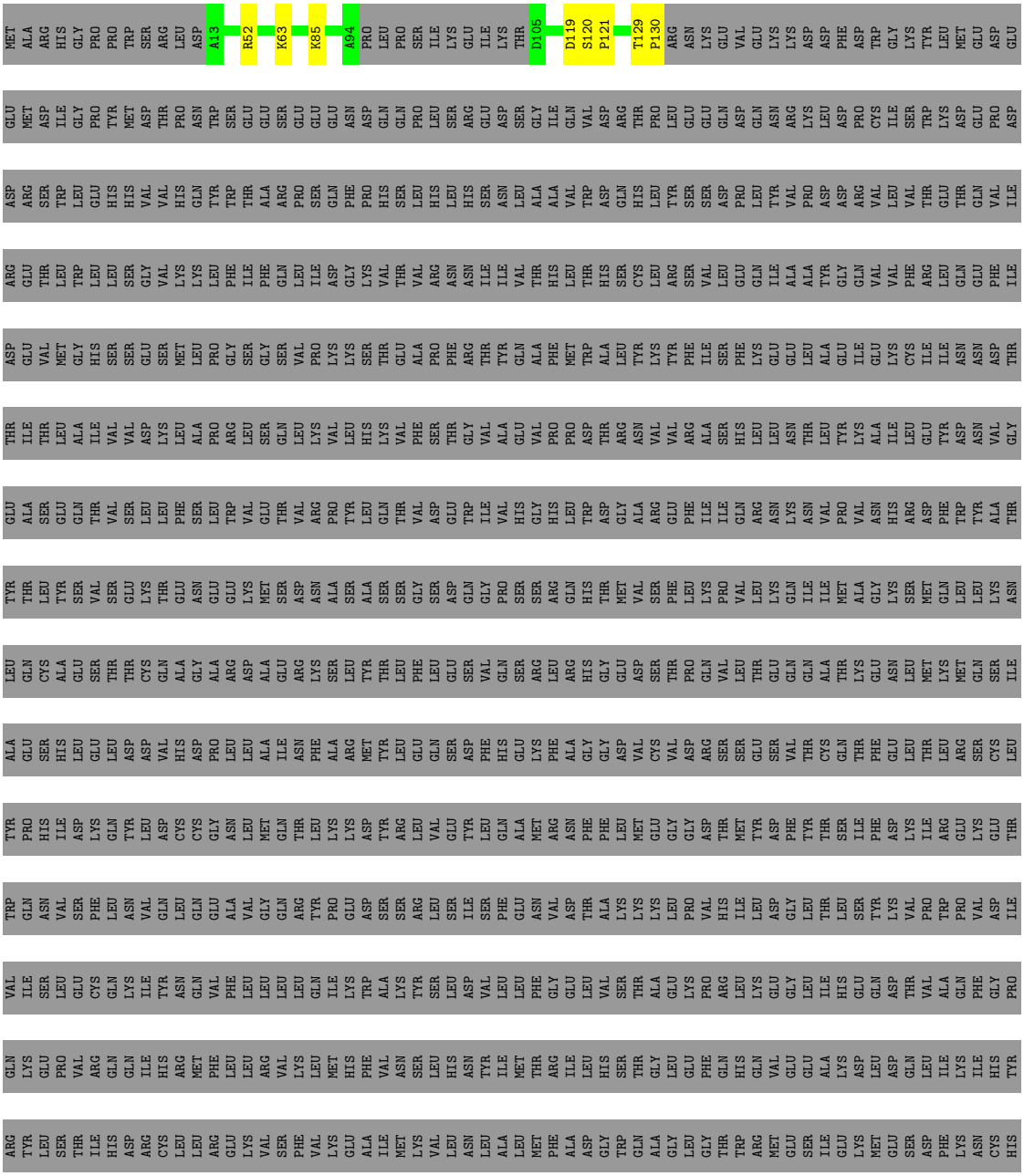
• Molecule 7: Gamma-tubulin complex component 5

Chain J:



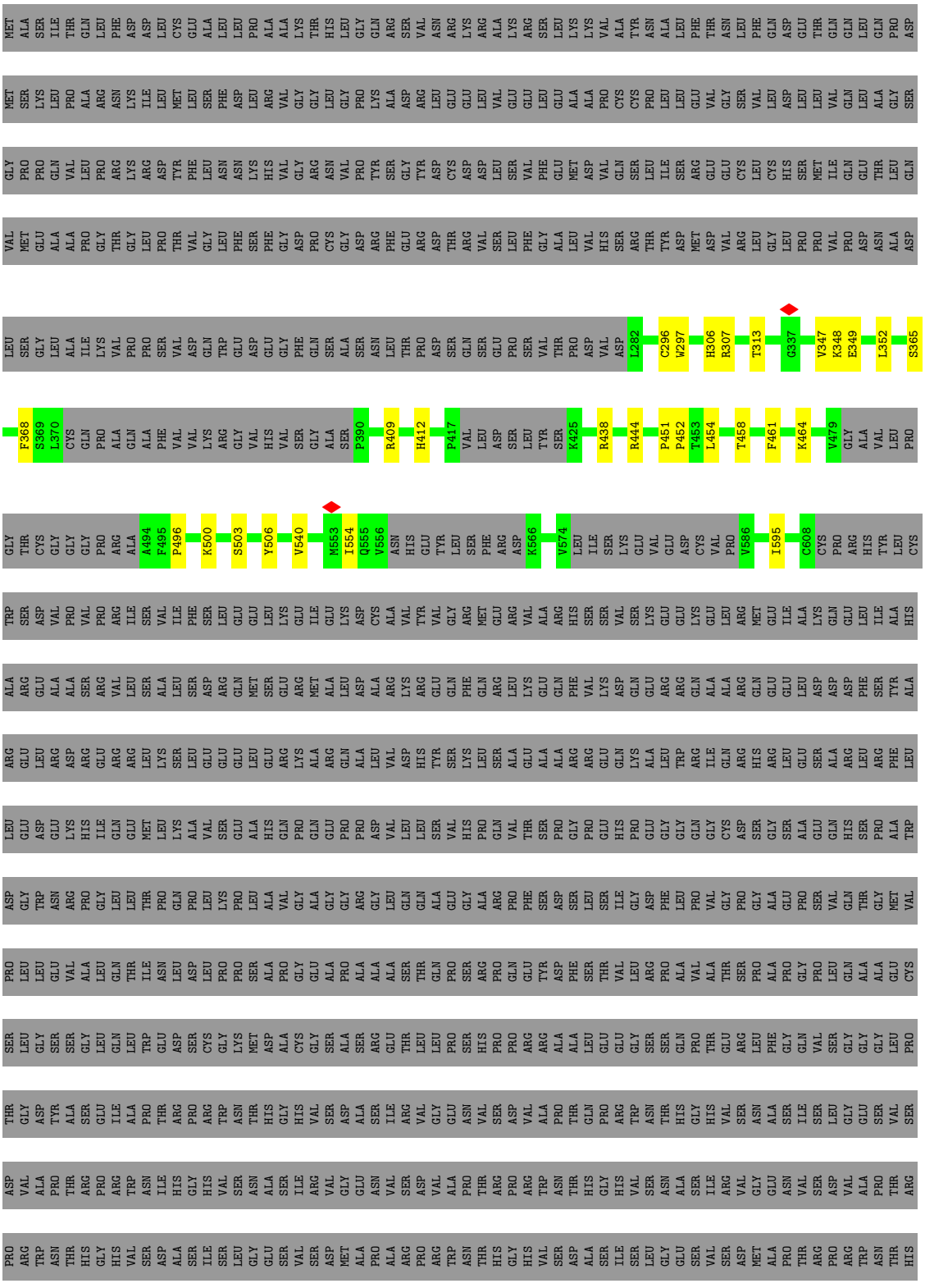
• Molecule 7: Gamma-tubulin complex component 5

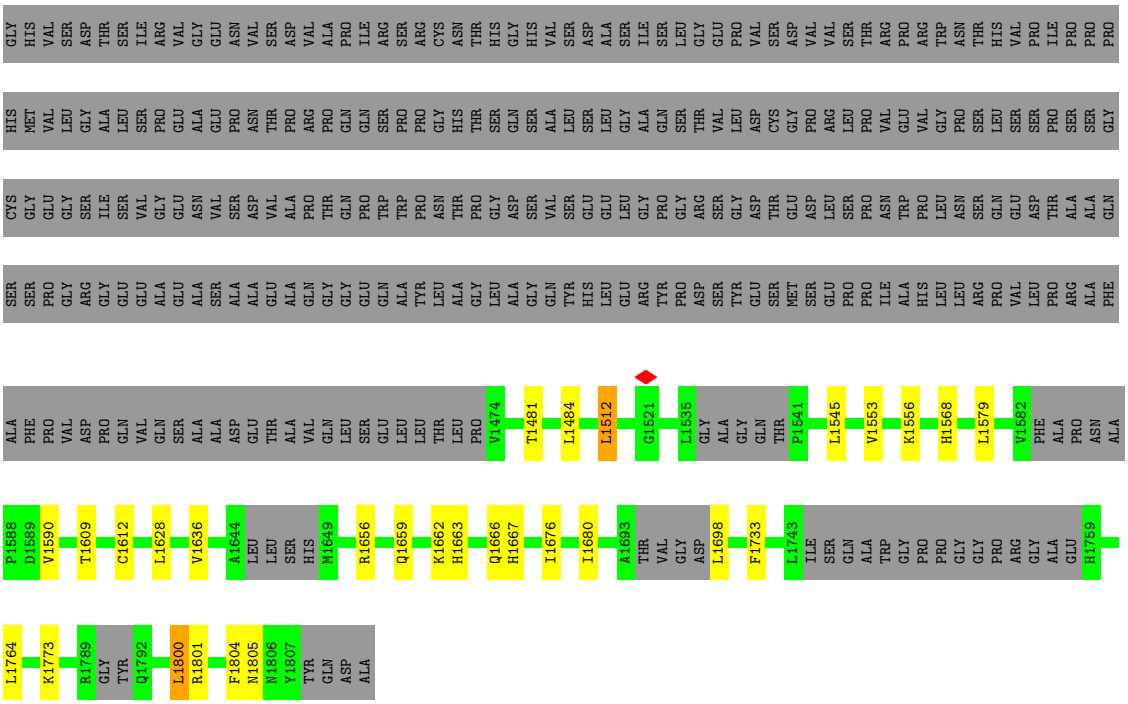
Chain l:



• Molecule 8: Gamma-tubulin complex component 6

Chain L: 28% 69%





• Molecule 8: Gamma-tubulin complex component 6

Chain c: 9% 91%

ASP ASP PHE SER TYR ALA ARG GLU LEU ARG ASP ARG GLU ARG ARG LEU LYS SER LEU GLU GLU GLU LEU GLU ARG LYS ALA ARG GLN ALA LEU VAL ASP HIS TYR SER LYS LEU SER ALA GLU ALA ALA ARG ARG GLU GLN LYS ALA LEU TRP ARG ILE GLN ARG HIS ARG LEU GLU SER

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

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

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

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

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

LEU GLY GLU SER VAL SER ASP VAL ALA PRO THR ARG PRO ARG TRP ASN ILE HIS GLY HIS VAL SER ASN ALA SER ILE ARG VAL GLY GLU ASN VAL SER ASP VAL ALA PRO THR ARG PRO ARG TRP ASN THR HIS GLY HIS VAL SER ASN ALA SER ILE ARG VAL GLY GLU ASN VAL SER

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

PRO ARG TRP ASN THR HIS GLY HIS VAL SER ASP THR SER ILE ARG VAL GLY GLU ASN VAL SER ASP VAL ALA PRO ILE ARG SER ARG CYS ASN THR HIS GLY HIS VAL SER ASP ALA SER ILE SER LEU GLY GLU PRO VAL SER ASP VAL VAL SER THR ARG PRO ARG TRP ASN THR HIS

VAL PRO ILE PRO PRO PRO HIS MET VAL LEU GLY ALA LEU SER PRO GLU ALA GLU PRO ASN THR PRO ARG PRO GLN GLN SER PRO PRO GLY HIS THR SER GLN SER ALA LEU SER LEU GLY ALA GLN SER THR VAL LEU ASP CYS GLY PRO ARG LEU PRO VAL GLU VAL GLY PRO SER LEU

SER SER PRO SER SER GLY CYS GLY GLU GLY SER ILE SER VAL GLY GLU ASN VAL SER ASP VAL ALA PRO THR GLN PRO TRP TRP PRO ASN THR PRO GLY ASP SER VAL SER GLU GLU LEU GLY PRO GLY ARG SER GLY ASP THR GLU ASP LEU SER PRO ASN TRP PRO LEU ASN SER GLN

GLU ASP THR ALA ALA GLN SER SER PRO GLY ARG GLY GLU GLU ALA GLU ALA SER ALA ALA GLU ALA GLN GLY GLY GLU GLN ALA TYR LEU ALA GLY LEU ALA GLY GLN TYR HIS LEU GLU ARG TYR PRO ASP SER TYR GLU SER MET SER GLU PRO PRO ILE ALA HIS LEU LEU ARG PRO

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

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

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

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

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

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

ILE ASN PHE ASN ASN TYR TYR GLN ASP ALA

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	36881	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 ($e^-/Å^2$)	35	Depositor
Minimum defocus (nm)	2000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.292	Depositor
Minimum map value	-0.125	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.010	Depositor
Recommended contour level	0.0224	Depositor
Map size (Å)	532.0, 532.0, 532.0	wwPDB
Map dimensions	200, 200, 200	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.66, 2.66, 2.66	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	1	0.36	0/3441	0.65	8/4661 (0.2%)
1	2	0.36	0/3441	0.65	8/4661 (0.2%)
1	O	0.36	0/3441	0.65	8/4661 (0.2%)
1	P	0.36	0/3441	0.65	8/4661 (0.2%)
1	Q	0.36	0/3441	0.65	8/4661 (0.2%)
1	R	0.36	0/3441	0.65	8/4661 (0.2%)
1	S	0.36	0/3441	0.65	8/4661 (0.2%)
1	T	0.36	0/3441	0.65	9/4661 (0.2%)
1	U	0.36	0/3441	0.65	8/4661 (0.2%)
1	V	0.36	0/3441	0.65	8/4661 (0.2%)
1	W	0.36	0/3441	0.65	9/4661 (0.2%)
1	X	0.36	0/3441	0.65	8/4661 (0.2%)
1	Y	0.36	0/3441	0.65	8/4661 (0.2%)
1	Z	0.36	0/3441	0.65	8/4661 (0.2%)
2	e	0.52	1/2908 (0.0%)	0.76	7/3938 (0.2%)
3	A	0.43	0/5085	0.72	3/6866 (0.0%)
3	C	0.38	0/5151	0.69	6/6955 (0.1%)
3	E	0.39	0/5325	0.69	8/7187 (0.1%)
3	G	0.41	0/5325	0.71	9/7187 (0.1%)
3	M	0.56	6/5295 (0.1%)	0.79	13/7147 (0.2%)
4	B	0.42	0/5133	0.74	4/6930 (0.1%)
4	D	0.39	2/4897 (0.0%)	0.66	5/6610 (0.1%)
4	F	0.43	0/5044	0.70	3/6809 (0.0%)
4	H	0.44	0/5009	0.68	4/6761 (0.1%)
4	N	0.42	0/5009	0.75	5/6761 (0.1%)
4	a	0.35	0/948	0.65	0/1277
4	f	0.35	0/876	0.78	2/1178 (0.2%)
4	h	0.38	0/876	0.75	1/1178 (0.1%)
4	j	0.36	0/876	0.71	3/1178 (0.3%)
5	b	0.43	0/484	0.79	0/653
5	d	0.41	0/454	0.70	1/611 (0.2%)
5	g	0.35	0/484	0.68	0/653
5	i	0.36	0/484	0.62	0/653
5	k	0.34	0/484	0.60	0/653

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
5	m	0.33	0/484	0.60	1/653 (0.2%)
6	I	0.48	5/4322 (0.1%)	0.70	7/5853 (0.1%)
6	K	0.44	1/4683 (0.0%)	0.75	12/6338 (0.2%)
7	J	0.44	0/4525	0.78	5/6119 (0.1%)
7	l	0.43	0/894	0.71	3/1209 (0.2%)
8	L	0.39	0/4697	0.66	3/6348 (0.0%)
8	c	0.36	0/1235	0.67	2/1664 (0.1%)
All	All	0.40	15/129161 (0.0%)	0.69	221/174623 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	1	0	1
1	2	0	1
1	O	0	1
1	P	0	1
1	Q	0	1
1	R	0	1
1	S	0	1
1	T	0	1
1	U	0	1
1	V	0	1
1	W	0	1
1	X	0	1
1	Y	0	1
1	Z	0	1
3	C	0	1
3	E	0	2
3	G	0	2
3	M	0	5
4	B	0	1
4	N	0	4
4	f	0	3
4	h	0	1
6	I	0	2
6	K	0	3
7	J	0	5
8	L	0	1
All	All	0	44

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	M	404	TYR	CD1-CE1	18.70	1.67	1.39
2	e	243	PRO	N-CD	16.91	1.71	1.47
3	M	404	TYR	CD2-CE2	10.76	1.55	1.39
6	I	361	TYR	CG-CD2	-7.79	1.29	1.39
6	I	530	TYR	CB-CG	-7.23	1.40	1.51
3	M	404	TYR	CE1-CZ	-7.02	1.29	1.38
6	I	530	TYR	CD1-CE1	-6.65	1.29	1.39
6	I	450	TRP	CB-CG	-6.24	1.39	1.50
3	M	406	GLU	CG-CD	-6.15	1.42	1.51
4	D	660	TYR	CD1-CE1	-5.73	1.30	1.39
3	M	404	TYR	CB-CG	-5.70	1.43	1.51
6	K	651	TYR	CD1-CE1	-5.69	1.30	1.39
3	M	404	TYR	CE2-CZ	5.41	1.45	1.38
4	D	660	TYR	CE2-CZ	5.19	1.45	1.38
6	I	530	TYR	CG-CD1	-5.10	1.32	1.39

All (221) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	f	107	GLN	C-N-CD	-12.75	92.56	120.60
4	f	108	PRO	CA-N-CD	-9.57	98.10	111.50
3	C	220	ASP	CB-CG-OD1	9.48	126.83	118.30
4	j	108	PRO	CA-N-CD	-9.05	98.82	111.50
7	l	121	PRO	CA-N-CD	-8.64	99.41	111.50
6	I	361	TYR	CB-CG-CD2	-8.44	115.93	121.00
6	K	645	LEU	CA-CB-CG	8.33	134.46	115.30
4	h	108	PRO	CA-N-CD	-8.31	99.87	111.50
6	K	410	LEU	CA-CB-CG	7.92	133.51	115.30
6	K	615	LEU	CB-CG-CD2	7.86	124.36	111.00
3	M	503	LEU	CA-CB-CG	7.83	133.31	115.30
3	E	557	LEU	CA-CB-CG	7.79	133.22	115.30
7	l	130	PRO	CA-N-CD	-7.77	100.62	111.50
3	G	723	LEU	CA-CB-CG	7.61	132.81	115.30
6	K	649	LEU	CA-CB-CG	7.59	132.76	115.30
2	e	261	LEU	CB-CG-CD1	-7.48	98.28	111.00
3	E	581	ASP	CB-CG-OD2	7.37	124.93	118.30
4	B	879	ARG	NE-CZ-NH1	-7.24	116.68	120.30
4	B	362	LEU	CA-CB-CG	7.21	131.88	115.30
4	F	581	LEU	CA-CB-CG	7.14	131.72	115.30
6	I	361	TYR	CB-CG-CD1	7.11	125.27	121.00
4	F	790	ASP	CB-CG-OD1	7.03	124.62	118.30
4	D	880	LEU	CB-CG-CD2	-6.99	99.12	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	K	5	LEU	CA-CB-CG	6.89	131.14	115.30
3	A	264	LEU	CA-CB-CG	6.88	131.12	115.30
3	A	161	LEU	CA-CB-CG	6.85	131.04	115.30
2	e	193	LEU	CB-CG-CD2	-6.81	99.42	111.00
4	N	581	LEU	CA-CB-CG	6.79	130.92	115.30
1	2	376	LEU	CA-CB-CG	6.79	130.91	115.30
1	V	376	LEU	CA-CB-CG	6.78	130.90	115.30
1	Z	376	LEU	CA-CB-CG	6.78	130.90	115.30
1	P	376	LEU	CA-CB-CG	6.78	130.89	115.30
1	1	376	LEU	CA-CB-CG	6.77	130.88	115.30
1	Q	376	LEU	CA-CB-CG	6.77	130.88	115.30
1	S	376	LEU	CA-CB-CG	6.77	130.88	115.30
1	Y	376	LEU	CA-CB-CG	6.77	130.88	115.30
1	T	376	LEU	CA-CB-CG	6.77	130.87	115.30
1	U	376	LEU	CA-CB-CG	6.77	130.87	115.30
1	R	376	LEU	CA-CB-CG	6.75	130.84	115.30
1	X	376	LEU	CA-CB-CG	6.75	130.83	115.30
1	O	376	LEU	CA-CB-CG	6.75	130.81	115.30
1	W	376	LEU	CA-CB-CG	6.75	130.82	115.30
1	Q	195	LEU	CA-CB-CG	6.62	130.52	115.30
1	1	195	LEU	CA-CB-CG	6.62	130.52	115.30
1	O	195	LEU	CA-CB-CG	6.61	130.50	115.30
1	Z	195	LEU	CA-CB-CG	6.60	130.49	115.30
1	2	195	LEU	CA-CB-CG	6.60	130.49	115.30
1	R	195	LEU	CA-CB-CG	6.60	130.47	115.30
1	V	195	LEU	CA-CB-CG	6.60	130.47	115.30
1	W	195	LEU	CA-CB-CG	6.60	130.47	115.30
1	X	195	LEU	CA-CB-CG	6.60	130.47	115.30
1	P	195	LEU	CA-CB-CG	6.59	130.47	115.30
1	T	195	LEU	CA-CB-CG	6.59	130.46	115.30
1	Y	195	LEU	CA-CB-CG	6.59	130.46	115.30
1	S	195	LEU	CA-CB-CG	6.58	130.44	115.30
1	U	195	LEU	CA-CB-CG	6.58	130.44	115.30
4	j	107	GLN	C-N-CD	6.55	142.15	128.40
3	G	559	LEU	CA-CB-CG	6.51	130.27	115.30
7	J	716	LEU	CB-CG-CD1	-6.47	100.00	111.00
1	R	297	LEU	CA-CB-CG	6.41	130.04	115.30
1	U	297	LEU	CA-CB-CG	6.41	130.04	115.30
1	1	297	LEU	CA-CB-CG	6.40	130.03	115.30
1	T	297	LEU	CA-CB-CG	6.40	130.02	115.30
1	S	297	LEU	CA-CB-CG	6.39	130.00	115.30
1	Q	297	LEU	CA-CB-CG	6.39	130.00	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	W	297	LEU	CA-CB-CG	6.39	129.99	115.30
1	Y	297	LEU	CA-CB-CG	6.39	130.00	115.30
1	O	297	LEU	CA-CB-CG	6.39	129.99	115.30
1	V	297	LEU	CA-CB-CG	6.39	129.99	115.30
1	X	297	LEU	CA-CB-CG	6.38	129.98	115.30
1	Z	297	LEU	CA-CB-CG	6.38	129.98	115.30
1	2	297	LEU	CA-CB-CG	6.38	129.97	115.30
7	J	801	LEU	CB-CG-CD1	-6.37	100.17	111.00
1	P	297	LEU	CA-CB-CG	6.37	129.96	115.30
3	M	404	TYR	CB-CG-CD1	6.37	124.82	121.00
3	M	557	LEU	CA-CB-CG	-6.33	100.73	115.30
3	G	218	VAL	CG1-CB-CG2	-6.33	100.78	110.90
6	K	513	ILE	CG1-CB-CG2	-6.29	97.56	111.40
4	H	568	LEU	CA-CB-CG	6.26	129.70	115.30
7	J	728	LEU	CA-CB-CG	6.24	129.65	115.30
4	B	585	LEU	CB-CG-CD1	-6.23	100.41	111.00
4	N	592	LEU	CA-CB-CG	6.16	129.47	115.30
6	I	361	TYR	CZ-CE2-CD2	6.16	125.34	119.80
8	c	134	LEU	CB-CG-CD2	-6.16	100.54	111.00
3	M	834	LEU	CA-CB-CG	6.12	129.38	115.30
3	G	859	LEU	CA-CB-CG	6.12	129.37	115.30
7	J	762	LEU	CA-CB-CG	6.11	129.35	115.30
6	K	107	LEU	CA-CB-CG	6.10	129.32	115.30
1	2	192	LEU	CA-CB-CG	6.04	129.20	115.30
1	O	192	LEU	CA-CB-CG	6.04	129.19	115.30
1	S	192	LEU	CA-CB-CG	6.04	129.18	115.30
1	U	192	LEU	CA-CB-CG	6.04	129.18	115.30
1	T	192	LEU	CA-CB-CG	6.03	129.18	115.30
1	Y	192	LEU	CA-CB-CG	6.03	129.18	115.30
1	R	192	LEU	CA-CB-CG	6.03	129.17	115.30
1	Q	192	LEU	CA-CB-CG	6.02	129.16	115.30
1	Z	192	LEU	CA-CB-CG	6.02	129.15	115.30
1	1	192	LEU	CA-CB-CG	6.02	129.15	115.30
1	X	192	LEU	CA-CB-CG	6.02	129.15	115.30
1	P	192	LEU	CA-CB-CG	6.02	129.14	115.30
1	W	192	LEU	CA-CB-CG	6.02	129.14	115.30
1	V	192	LEU	CA-CB-CG	6.01	129.12	115.30
3	M	324	LEU	CB-CG-CD1	-5.99	100.82	111.00
3	E	222	LEU	CA-CB-CG	5.97	129.04	115.30
4	N	701	LEU	CA-CB-CG	5.96	129.02	115.30
2	e	236	LEU	CA-CB-CG	5.87	128.79	115.30
6	K	524	LEU	CA-CB-CG	-5.86	101.82	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	e	261	LEU	CA-CB-CG	5.83	128.70	115.30
4	D	660	TYR	CZ-CE2-CD2	-5.83	114.56	119.80
6	K	526	ASP	CB-CG-OD2	5.79	123.51	118.30
6	K	568	LEU	CA-CB-CG	5.78	128.58	115.30
4	N	339	LEU	CB-CG-CD2	-5.75	101.22	111.00
4	H	578	MET	CB-CG-SD	-5.72	95.24	112.40
8	L	1764	LEU	CA-CB-CG	5.67	128.33	115.30
3	M	509	LEU	CA-CB-CG	5.65	128.28	115.30
8	c	190	LEU	CA-CB-CG	5.60	128.17	115.30
3	M	404	TYR	CG-CD1-CE1	5.58	125.76	121.30
4	D	847	LEU	CB-CG-CD2	5.58	120.49	111.00
3	M	734	LEU	CA-CB-CG	5.56	128.09	115.30
6	I	368	LEU	CA-CB-CG	5.55	128.07	115.30
1	V	339	ARG	CB-CG-CD	-5.53	97.21	111.60
1	Z	339	ARG	CB-CG-CD	-5.53	97.21	111.60
1	T	339	ARG	CB-CG-CD	-5.53	97.22	111.60
1	Q	339	ARG	CB-CG-CD	-5.53	97.22	111.60
1	1	339	ARG	CB-CG-CD	-5.53	97.23	111.60
1	U	339	ARG	CB-CG-CD	-5.53	97.23	111.60
1	Y	339	ARG	CB-CG-CD	-5.52	97.24	111.60
1	S	339	ARG	CB-CG-CD	-5.52	97.24	111.60
1	O	339	ARG	CB-CG-CD	-5.52	97.24	111.60
1	W	339	ARG	CB-CG-CD	-5.52	97.25	111.60
1	P	339	ARG	CB-CG-CD	-5.52	97.25	111.60
1	R	339	ARG	CB-CG-CD	-5.52	97.25	111.60
1	2	339	ARG	CB-CG-CD	-5.51	97.27	111.60
3	C	468	THR	C-N-CA	5.51	135.47	121.70
1	X	339	ARG	CB-CG-CD	-5.50	97.29	111.60
7	J	235	SER	C-N-CA	5.50	135.46	121.70
3	E	872	LEU	CA-CB-CG	5.49	127.93	115.30
4	B	526	LEU	CA-CB-CG	5.45	127.83	115.30
4	H	732	ASP	CB-CG-OD1	5.44	123.20	118.30
6	I	45	LEU	CB-CG-CD1	-5.43	101.77	111.00
8	L	1512	LEU	CA-CB-CG	5.43	127.79	115.30
4	N	405	LYS	CB-CG-CD	5.41	125.68	111.60
4	H	396	LEU	CA-CB-CG	5.41	127.73	115.30
3	C	723	LEU	CA-CB-CG	5.40	127.73	115.30
2	e	211	ASP	CB-CG-OD2	5.38	123.14	118.30
1	X	376	LEU	CB-CG-CD1	5.37	120.13	111.00
1	2	376	LEU	CB-CG-CD1	5.37	120.13	111.00
1	1	376	LEU	CB-CG-CD1	5.36	120.11	111.00
1	W	376	LEU	CB-CG-CD1	5.36	120.11	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	M	240	GLY	C-N-CA	5.36	135.09	121.70
1	S	376	LEU	CB-CG-CD1	5.36	120.11	111.00
1	Q	376	LEU	CB-CG-CD1	5.35	120.10	111.00
1	U	376	LEU	CB-CG-CD1	5.35	120.10	111.00
6	I	587	LEU	CA-CB-CG	5.35	127.60	115.30
3	G	190	ASP	CB-CG-OD1	-5.35	113.49	118.30
1	T	376	LEU	CB-CG-CD1	5.35	120.09	111.00
1	P	376	LEU	CB-CG-CD1	5.34	120.08	111.00
1	R	376	LEU	CB-CG-CD1	5.34	120.08	111.00
1	V	376	LEU	CB-CG-CD1	5.34	120.08	111.00
1	O	376	LEU	CB-CG-CD1	5.34	120.08	111.00
1	Y	376	LEU	CB-CG-CD1	5.34	120.08	111.00
6	K	589	LEU	CA-CB-CG	5.33	127.57	115.30
1	Z	376	LEU	CB-CG-CD1	5.33	120.06	111.00
3	G	872	LEU	CA-CB-CG	5.32	127.54	115.30
4	D	451	ASP	CB-CG-OD2	5.29	123.06	118.30
1	X	402	GLU	CA-CB-CG	5.27	124.99	113.40
1	1	402	GLU	CA-CB-CG	5.25	124.96	113.40
1	Z	402	GLU	CA-CB-CG	5.25	124.95	113.40
1	2	402	GLU	CA-CB-CG	5.25	124.95	113.40
3	G	581	ASP	N-CA-CB	-5.25	101.16	110.60
5	m	29	LEU	CA-CB-CG	5.25	127.36	115.30
1	R	402	GLU	CA-CB-CG	5.24	124.92	113.40
1	P	402	GLU	CA-CB-CG	5.24	124.92	113.40
1	O	402	GLU	CA-CB-CG	5.23	124.92	113.40
1	S	402	GLU	CA-CB-CG	5.23	124.91	113.40
3	G	324	LEU	CA-CB-CG	5.23	127.33	115.30
1	T	402	GLU	CA-CB-CG	5.23	124.91	113.40
1	U	402	GLU	CA-CB-CG	5.23	124.91	113.40
1	Y	402	GLU	CA-CB-CG	5.23	124.91	113.40
1	W	402	GLU	CA-CB-CG	5.22	124.90	113.40
6	I	524	LEU	CA-CB-CG	-5.22	103.29	115.30
1	V	402	GLU	CA-CB-CG	5.22	124.89	113.40
1	Q	402	GLU	CA-CB-CG	5.22	124.88	113.40
2	e	261	LEU	CB-CG-CD2	5.22	119.87	111.00
6	K	615	LEU	CA-CB-CG	5.21	127.29	115.30
7	l	119	ASP	CB-CG-OD2	5.21	122.99	118.30
3	E	221	LEU	CA-CB-CG	5.20	127.25	115.30
5	d	33	ARG	NE-CZ-NH2	5.19	122.89	120.30
3	C	869	LEU	CA-CB-CG	5.18	127.23	115.30
3	M	292	LEU	CA-CB-CG	5.17	127.18	115.30
3	C	739	LEU	CA-CB-CG	5.13	127.11	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	814	LEU	CA-CB-CG	5.12	127.08	115.30
2	e	178	LEU	CA-CB-CG	5.12	127.08	115.30
4	D	850	LEU	CB-CG-CD2	-5.12	102.30	111.00
1	Z	195	LEU	CB-CG-CD2	-5.12	102.30	111.00
1	X	195	LEU	CB-CG-CD2	-5.12	102.30	111.00
1	P	195	LEU	CB-CG-CD2	-5.11	102.31	111.00
3	E	836	LEU	CA-CB-CG	5.11	127.05	115.30
8	L	1698	LEU	CA-CB-CG	5.11	127.05	115.30
1	S	195	LEU	CB-CG-CD2	-5.11	102.32	111.00
1	R	195	LEU	CB-CG-CD2	-5.11	102.32	111.00
1	U	195	LEU	CB-CG-CD2	-5.10	102.32	111.00
3	E	522	MET	CA-CB-CG	5.09	121.96	113.30
1	2	195	LEU	CB-CG-CD2	-5.09	102.35	111.00
1	T	195	LEU	CB-CG-CD2	-5.09	102.35	111.00
1	W	195	LEU	CB-CG-CD2	-5.09	102.35	111.00
1	O	195	LEU	CB-CG-CD2	-5.08	102.36	111.00
1	V	195	LEU	CB-CG-CD2	-5.08	102.37	111.00
1	1	195	LEU	CB-CG-CD2	-5.08	102.37	111.00
3	M	561	MET	CG-SD-CE	-5.08	92.08	100.20
3	M	641	LEU	CA-CB-CG	5.08	126.97	115.30
1	Y	195	LEU	CB-CG-CD2	-5.07	102.38	111.00
1	Q	195	LEU	CB-CG-CD2	-5.07	102.38	111.00
4	F	771	LEU	CA-CB-CG	5.05	126.92	115.30
3	G	723	LEU	CB-CG-CD1	5.05	119.58	111.00
1	W	295	ARG	NE-CZ-NH2	-5.04	117.78	120.30
3	M	561	MET	CB-CG-SD	-5.04	97.28	112.40
3	E	554	LEU	CB-CG-CD2	-5.04	102.43	111.00
4	j	98	LEU	CA-CB-CG	5.03	126.88	115.30
1	T	295	ARG	NE-CZ-NH2	-5.03	117.79	120.30
3	C	836	LEU	CA-CB-CG	5.00	126.81	115.30

There are no chirality outliers.

All (44) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	1	352	GLY	Peptide
1	2	352	GLY	Peptide
4	B	740	GLN	Peptide
3	C	238	LEU	Peptide
3	E	430	GLN	Peptide
3	E	580	HIS	Peptide
3	G	240	GLY	Peptide

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Mol	Chain	Res	Type	Group
3	G	580	HIS	Peptide
6	I	407	ASP	Peptide
6	I	507	SER	Peptide
7	J	235	SER	Peptide
7	J	236	LEU	Mainchain
7	J	237	HIS	Peptide
7	J	256	LEU	Peptide
7	J	726	PHE	Peptide
6	K	408	ASP	Peptide
6	K	409	ASN	Mainchain
6	K	649	LEU	Peptide
8	L	306	HIS	Peptide
3	M	240	GLY	Peptide
3	M	404	TYR	Sidechain
3	M	580	HIS	Peptide
3	M	674	GLN	Peptide,Mainchain
4	N	405	LYS	Peptide
4	N	454	VAL	Peptide
4	N	497	CYS	Peptide
4	N	498	HIS	Mainchain
1	O	352	GLY	Peptide
1	P	352	GLY	Peptide
1	Q	352	GLY	Peptide
1	R	352	GLY	Peptide
1	S	352	GLY	Peptide
1	T	352	GLY	Peptide
1	U	352	GLY	Peptide
1	V	352	GLY	Peptide
1	W	352	GLY	Peptide
1	X	352	GLY	Peptide
1	Y	352	GLY	Peptide
1	Z	352	GLY	Peptide
4	f	104	PRO	Peptide
4	f	107	GLN	Peptide
4	f	108	PRO	Mainchain
4	h	111	VAL	Peptide

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	1	3373	0	3325	74	0
1	2	3373	0	3325	77	0
1	O	3373	0	3325	69	0
1	P	3373	0	3325	65	0
1	Q	3373	0	3325	52	0
1	R	3373	0	3325	61	0
1	S	3373	0	3325	60	0
1	T	3373	0	3325	58	0
1	U	3373	0	3325	58	0
1	V	3373	0	3325	56	0
1	W	3373	0	3325	56	0
1	X	3373	0	3325	62	0
1	Y	3373	0	3325	71	0
1	Z	3373	0	3325	68	0
2	e	2847	0	2810	0	0
3	A	4978	0	4996	54	0
3	C	5044	0	5081	39	0
3	E	5216	0	5248	44	0
3	G	5216	0	5246	50	0
3	M	5186	0	5219	63	0
4	B	5029	0	5018	68	0
4	D	4796	0	4775	48	0
4	F	4941	0	4935	56	0
4	H	4907	0	4896	42	0
4	N	4907	0	4896	70	0
4	a	933	0	953	0	0
4	f	863	0	896	0	0
4	h	863	0	896	0	0
4	j	863	0	896	0	0
5	b	484	0	512	0	0
5	d	454	0	482	0	0
5	g	484	0	512	0	0
5	i	484	0	512	0	0
5	k	484	0	512	0	0
5	m	484	0	512	0	0
6	I	4225	0	4259	41	0
6	K	4579	0	4586	46	0
7	J	4429	0	4482	42	0
7	l	875	0	842	0	0
8	L	4587	0	4636	35	0
8	c	1220	0	1231	0	0
All	All	126600	0	126389	1485	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 7.

All (1485) 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)
3:M:696:TYR:O	3:M:700:GLU:HB2	1.75	0.86
1:1:130:ASP:CG	1:2:295:ARG:HH22	1.79	0.86
6:I:361:TYR:HE2	6:I:475:TYR:HB3	1.45	0.81
1:2:358:VAL:HG13	4:N:879:ARG:HH12	1.50	0.75
1:1:56:ASP:OD2	1:2:277:THR:N	2.19	0.75
4:B:323:SER:HB3	4:B:421:LEU:HG	1.69	0.74
3:C:763:GLN:HG3	3:C:766:THR:H	1.53	0.73
3:G:507:LYS:HE2	3:G:623:LYS:HE3	1.70	0.73
6:K:649:LEU:O	1:Y:344:LYS:NZ	2.23	0.72
3:E:242:GLN:HE21	3:E:343:THR:HA	1.54	0.72
3:A:186:ALA:HB1	4:B:293:ARG:HA	1.71	0.72
1:1:353:PRO:HA	3:M:862:ASN:HD22	1.54	0.72
4:N:589:ALA:HA	4:N:592:LEU:HG	1.70	0.71
4:B:884:GLU:OE2	1:P:341:ARG:NH2	2.23	0.71
4:D:624:ARG:O	4:D:639:SER:HB2	1.92	0.70
6:K:9:LEU:HD22	6:K:104:LEU:HD13	1.73	0.70
3:A:259:LEU:HD23	3:A:262:ARG:HH12	1.56	0.70
1:1:343:ARG:NH1	1:Z:130:ASP:OD1	2.20	0.69
4:B:409:PRO:HA	4:B:412:ARG:HG3	1.72	0.69
4:N:586:VAL:HG13	4:N:587:ARG:HE	1.58	0.69
4:B:684:HIS:HE2	4:B:704:CYS:HG	1.38	0.69
3:G:572:ASP:HB3	3:G:621:ILE:H	1.58	0.69
6:I:361:TYR:CE2	6:I:475:TYR:HB3	2.28	0.68
8:L:1590:VAL:HG11	8:L:1733:PHE:HB3	1.76	0.68
3:M:304:LEU:HD11	4:N:364:LEU:HB3	1.75	0.68
4:B:720:TYR:OH	1:P:250:ASN:ND2	2.27	0.68
4:B:479:GLN:HG2	4:B:482:LYS:HE2	1.76	0.67
3:G:607:GLU:HG3	3:G:609:ALA:H	1.61	0.66
8:L:1800:LEU:HB2	1:Z:341:ARG:HG3	1.77	0.65
4:H:703:GLN:HE21	4:H:847:LEU:HD13	1.62	0.65
1:V:323:ILE:HG12	1:V:359:ALA:HB3	1.79	0.65
1:2:323:ILE:HG12	1:2:359:ALA:HB3	1.79	0.65
8:L:409:ARG:HA	8:L:412:HIS:HB3	1.77	0.65
6:K:358:LYS:O	6:K:358:LYS:NZ	2.29	0.65
7:J:889:LYS:HA	1:X:353:PRO:HD2	1.79	0.65
1:S:323:ILE:HG12	1:S:359:ALA:HB3	1.79	0.65
1:1:130:ASP:OD1	1:2:295:ARG:NH2	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Z:323:ILE:HG12	1:Z:359:ALA:HB3	1.79	0.65
1:U:323:ILE:HG12	1:U:359:ALA:HB3	1.79	0.64
1:1:127:ASP:O	1:2:299:GLN:NE2	2.31	0.64
1:1:323:ILE:HG12	1:1:359:ALA:HB3	1.79	0.64
3:C:557:LEU:HB2	1:R:339:ARG:HH11	1.63	0.64
6:K:358:LYS:HE2	6:K:537:LEU:HD21	1.79	0.64
1:W:323:ILE:HG12	1:W:359:ALA:HB3	1.79	0.64
1:O:323:ILE:HG12	1:O:359:ALA:HB3	1.79	0.64
1:T:323:ILE:HG12	1:T:359:ALA:HB3	1.79	0.64
4:F:601:LEU:HD22	4:F:623:VAL:HG23	1.79	0.64
1:P:323:ILE:HG12	1:P:359:ALA:HB3	1.79	0.64
1:R:323:ILE:HG12	1:R:359:ALA:HB3	1.79	0.64
1:X:323:ILE:HG12	1:X:359:ALA:HB3	1.79	0.63
1:Q:323:ILE:HG12	1:Q:359:ALA:HB3	1.79	0.63
6:K:579:VAL:HA	6:K:626:LEU:HD21	1.81	0.63
4:D:862:LEU:HD21	4:D:880:LEU:HD22	1.81	0.63
1:Y:323:ILE:HG12	1:Y:359:ALA:HB3	1.79	0.63
3:C:310:LEU:HB3	3:C:319:LEU:HD11	1.81	0.63
4:F:259:GLN:HE21	4:F:339:LEU:HD13	1.62	0.62
6:K:499:GLN:HB3	6:K:516:ARG:HE	1.62	0.62
3:M:181:VAL:HG13	3:M:186:ALA:HB3	1.81	0.62
3:M:224:VAL:HG21	3:M:233:VAL:HB	1.82	0.62
4:D:703:GLN:HG2	4:D:847:LEU:HD22	1.82	0.62
4:N:563:ARG:NH2	4:N:660:TYR:OH	2.33	0.62
3:E:734:LEU:HB2	3:E:739:LEU:HD11	1.80	0.62
4:F:486:ILE:HD11	4:F:538:TYR:HD1	1.65	0.62
3:M:509:LEU:HD23	3:M:629:ILE:HD13	1.82	0.62
4:N:564:ARG:HB3	4:N:570:GLN:HB2	1.79	0.62
7:J:562:ALA:HB2	7:J:699:TYR:HD1	1.65	0.62
8:L:1656:ARG:NH1	1:Z:434:GLU:OE2	2.30	0.61
1:1:56:ASP:OD2	1:2:276:LEU:N	2.32	0.61
3:A:388:PHE:CE1	3:A:391:LEU:HD22	2.35	0.61
1:U:64:ALA:O	1:U:90:ASN:ND2	2.34	0.61
3:E:223:TYR:HB3	3:E:228:VAL:HG23	1.81	0.61
3:A:168:LYS:HD3	3:A:403:PRO:HB3	1.83	0.61
4:N:391:ARG:HB3	4:N:395:GLU:HG3	1.83	0.61
3:E:559:LEU:HD21	3:E:570:LYS:HB2	1.83	0.61
1:X:64:ALA:O	1:X:90:ASN:ND2	2.34	0.61
4:F:317:PHE:HB3	4:F:322:GLN:HE22	1.66	0.60
3:A:388:PHE:CZ	3:A:391:LEU:HD22	2.36	0.60
3:A:619:ASP:N	3:A:619:ASP:OD2	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:64:ALA:O	1:T:90:ASN:ND2	2.34	0.60
1:W:64:ALA:O	1:W:90:ASN:ND2	2.34	0.60
6:I:544:LEU:HD12	6:I:547:GLN:HE21	1.66	0.60
3:C:277:ILE:HD11	3:C:296:MET:HG2	1.84	0.60
1:V:64:ALA:O	1:V:90:ASN:ND2	2.34	0.60
6:K:90:CYS:HA	6:K:93:LEU:HD12	1.84	0.60
1:Q:64:ALA:O	1:Q:90:ASN:ND2	2.34	0.60
3:G:370:SER:HA	3:G:373:GLN:HB3	1.83	0.60
3:G:557:LEU:HA	1:V:339:ARG:HG2	1.84	0.60
3:M:834:LEU:HD11	3:M:869:LEU:H	1.67	0.60
1:P:64:ALA:O	1:P:90:ASN:ND2	2.34	0.60
3:C:680:PHE:HD2	3:C:683:ARG:HH21	1.50	0.60
1:O:64:ALA:O	1:O:90:ASN:ND2	2.34	0.60
4:N:765:ASP:O	4:N:769:ARG:NH1	2.35	0.59
4:N:763:LEU:O	4:N:769:ARG:NH2	2.35	0.59
1:1:64:ALA:O	1:1:90:ASN:ND2	2.34	0.59
4:D:859:GLN:HE22	4:D:887:LYS:H	1.51	0.59
4:F:561:ALA:HA	4:F:564:ARG:HE	1.67	0.59
6:K:651:TYR:CE1	1:Y:355:SER:HA	2.37	0.59
1:Z:64:ALA:O	1:Z:90:ASN:ND2	2.34	0.59
1:S:64:ALA:O	1:S:90:ASN:ND2	2.34	0.59
4:F:586:VAL:HG12	4:F:635:TRP:HE1	1.66	0.59
6:I:357:ILE:O	6:I:361:TYR:HB3	2.02	0.59
3:M:164:LYS:HA	3:M:167:LYS:HG2	1.85	0.59
1:Y:64:ALA:O	1:Y:90:ASN:ND2	2.34	0.59
4:N:626:LEU:HD21	4:N:661:LEU:HD11	1.84	0.59
1:2:249:MET:SD	4:N:575:ARG:NH2	2.76	0.59
3:E:428:TRP:HE1	3:E:723:LEU:HD22	1.68	0.59
1:2:64:ALA:O	1:2:90:ASN:ND2	2.34	0.59
8:L:496:PRO:HB3	8:L:500:LYS:HG3	1.85	0.59
3:G:509:LEU:HD13	3:G:626:LEU:HD22	1.85	0.58
3:M:164:LYS:HG2	3:M:404:TYR:HE1	1.68	0.58
4:B:524:THR:HG22	4:B:526:LEU:H	1.68	0.58
4:B:879:ARG:HE	1:P:337:LEU:HD22	1.69	0.58
1:R:64:ALA:O	1:R:90:ASN:ND2	2.34	0.58
4:N:269:ASN:HD22	4:N:276:LYS:HD2	1.68	0.58
3:E:418:ARG:HB2	3:E:426:LYS:HD3	1.86	0.58
1:2:16:GLN:HE21	1:2:73:VAL:HG11	1.69	0.58
4:B:289:ASP:HB3	4:B:293:ARG:HH21	1.69	0.58
4:B:546:LEU:HD21	4:B:744:LEU:HG	1.84	0.58
1:Y:16:GLN:HE21	1:Y:73:VAL:HG11	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:704:PRO:HG3	1:O:330:PRO:HG2	1.86	0.58
1:Q:217:ARG:HB2	1:Q:277:THR:HG23	1.86	0.58
1:T:217:ARG:HB2	1:T:277:THR:HG23	1.86	0.58
1:V:16:GLN:HE21	1:V:73:VAL:HG11	1.69	0.58
3:A:547:THR:HG22	3:A:549:PRO:HD2	1.83	0.58
1:2:217:ARG:HB2	1:2:277:THR:HG23	1.86	0.57
4:B:885:HIS:CE1	1:P:352:GLY:HA2	2.39	0.57
4:D:734:LEU:HD11	4:D:751:HIS:HD2	1.68	0.57
1:P:217:ARG:HB2	1:P:277:THR:HG23	1.86	0.57
4:N:252:ARG:HG2	4:N:346:LEU:HD21	1.87	0.57
1:T:16:GLN:HE21	1:T:73:VAL:HG11	1.69	0.57
1:U:117:ASP:OD1	1:U:117:ASP:N	2.36	0.57
1:Z:16:GLN:HE21	1:Z:73:VAL:HG11	1.69	0.57
1:1:16:GLN:HE21	1:1:73:VAL:HG11	1.69	0.57
1:1:89:GLU:HB2	1:2:215:THR:O	2.04	0.57
1:O:16:GLN:HE21	1:O:73:VAL:HG11	1.69	0.57
1:S:217:ARG:HB2	1:S:277:THR:HG23	1.86	0.57
1:2:229:ASN:O	1:2:233:SER:OG	2.21	0.57
1:O:217:ARG:HB2	1:O:277:THR:HG23	1.86	0.57
1:P:16:GLN:HE21	1:P:73:VAL:HG11	1.69	0.57
1:Q:16:GLN:HE21	1:Q:73:VAL:HG11	1.69	0.57
1:R:16:GLN:HE21	1:R:73:VAL:HG11	1.69	0.57
1:W:16:GLN:HE21	1:W:73:VAL:HG11	1.69	0.57
1:W:217:ARG:HB2	1:W:277:THR:HG23	1.86	0.57
1:X:16:GLN:HE21	1:X:73:VAL:HG11	1.69	0.57
1:1:217:ARG:HB2	1:1:277:THR:HG23	1.86	0.57
6:K:118:SER:O	6:K:121:HIS:ND1	2.37	0.57
1:O:217:ARG:HH21	1:O:278:THR:H	1.53	0.57
1:U:16:GLN:HE21	1:U:73:VAL:HG11	1.69	0.57
1:W:117:ASP:OD1	1:W:117:ASP:N	2.36	0.57
1:O:229:ASN:O	1:O:233:SER:OG	2.21	0.57
1:V:217:ARG:HB2	1:V:277:THR:HG23	1.86	0.57
1:Y:217:ARG:HB2	1:Y:277:THR:HG23	1.86	0.57
1:1:217:ARG:HH21	1:1:278:THR:H	1.53	0.57
8:L:1676:ILE:HG23	8:L:1680:ILE:HD12	1.87	0.57
1:2:117:ASP:OD1	1:2:117:ASP:N	2.36	0.57
1:1:229:ASN:O	1:1:233:SER:OG	2.21	0.56
4:B:677:LEU:HA	4:B:680:ILE:HD12	1.86	0.56
6:K:630:LEU:HB3	6:K:645:LEU:HD21	1.87	0.56
4:N:247:GLU:HG2	4:N:366:ARG:HH11	1.69	0.56
1:Z:217:ARG:HH21	1:Z:278:THR:H	1.53	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:297:LEU:HD21	4:B:375:LYS:HA	1.87	0.56
3:G:297:ARG:HG2	3:G:301:LYS:HE3	1.87	0.56
3:E:150:LEU:HD12	3:E:240:GLY:H	1.69	0.56
3:E:183:GLU:HB2	3:E:184:ARG:HH11	1.70	0.56
4:D:659:HIS:HB2	4:D:755:LEU:HD11	1.88	0.56
6:I:403:VAL:HG22	6:I:404:LEU:HG	1.88	0.56
3:M:450:ILE:O	3:M:453:THR:OG1	2.23	0.56
1:Q:217:ARG:HH21	1:Q:278:THR:H	1.53	0.56
1:R:217:ARG:HB2	1:R:277:THR:HG23	1.86	0.56
1:S:16:GLN:HE21	1:S:73:VAL:HG11	1.69	0.56
1:V:217:ARG:HH21	1:V:278:THR:H	1.53	0.56
1:X:290:VAL:HG21	1:X:333:VAL:HG12	1.88	0.56
1:1:290:VAL:HG21	1:1:333:VAL:HG12	1.88	0.56
1:1:337:LEU:HD11	1:1:358:VAL:HG11	1.88	0.56
4:H:416:GLN:O	4:H:420:SER:OG	2.23	0.56
1:U:337:LEU:HD11	1:U:358:VAL:HG11	1.88	0.56
4:H:625:LEU:HD12	4:H:637:VAL:HG12	1.88	0.56
4:H:869:SER:H	4:H:873:LEU:HD12	1.71	0.56
1:O:337:LEU:HD11	1:O:358:VAL:HG11	1.88	0.56
1:R:290:VAL:HG21	1:R:333:VAL:HG12	1.88	0.56
1:R:337:LEU:HD11	1:R:358:VAL:HG11	1.88	0.56
1:S:217:ARG:HH21	1:S:278:THR:H	1.53	0.56
1:T:290:VAL:HG21	1:T:333:VAL:HG12	1.88	0.56
4:F:430:LEU:HD11	4:F:483:VAL:HG21	1.87	0.56
1:S:337:LEU:HD11	1:S:358:VAL:HG11	1.88	0.56
1:W:290:VAL:HG21	1:W:333:VAL:HG12	1.88	0.56
4:F:581:LEU:HG	4:F:585:LEU:HG	1.88	0.56
1:T:229:ASN:O	1:T:233:SER:OG	2.21	0.56
1:Y:217:ARG:HH21	1:Y:278:THR:H	1.53	0.56
1:Y:290:VAL:HG21	1:Y:333:VAL:HG12	1.88	0.56
4:B:723:THR:HG22	1:P:248:TYR:HD2	1.71	0.56
1:O:290:VAL:HG21	1:O:333:VAL:HG12	1.88	0.56
1:Y:337:LEU:HD11	1:Y:358:VAL:HG11	1.88	0.56
1:2:290:VAL:HG21	1:2:333:VAL:HG12	1.88	0.56
6:I:392:VAL:HG22	6:I:414:LEU:HD13	1.87	0.56
1:U:217:ARG:HB2	1:U:277:THR:HG23	1.86	0.56
3:G:439:ILE:HG22	3:G:441:SER:H	1.69	0.56
1:S:290:VAL:HG21	1:S:333:VAL:HG12	1.88	0.56
1:T:337:LEU:HD11	1:T:358:VAL:HG11	1.88	0.56
4:B:284:SER:OG	4:B:285:ARG:NH2	2.39	0.55
1:P:229:ASN:O	1:P:233:SER:OG	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:217:ARG:HH21	1:R:278:THR:H	1.53	0.55
1:X:217:ARG:HB2	1:X:277:THR:HG23	1.86	0.55
4:B:291:ALA:O	4:B:295:SER:HB2	2.05	0.55
8:L:1663:HIS:O	8:L:1666:GLN:NE2	2.39	0.55
1:U:290:VAL:HG21	1:U:333:VAL:HG12	1.88	0.55
1:Z:290:VAL:HG21	1:Z:333:VAL:HG12	1.88	0.55
4:D:681:ARG:HG2	1:R:258:ALA:HB1	1.89	0.55
1:P:290:VAL:HG21	1:P:333:VAL:HG12	1.88	0.55
1:T:217:ARG:HH21	1:T:278:THR:H	1.53	0.55
1:Z:217:ARG:HB2	1:Z:277:THR:HG23	1.86	0.55
1:P:337:LEU:HD11	1:P:358:VAL:HG11	1.88	0.55
1:Z:229:ASN:O	1:Z:233:SER:OG	2.21	0.55
1:2:337:LEU:HD11	1:2:358:VAL:HG11	1.88	0.55
1:Q:50:VAL:HG21	1:Q:244:ARG:HG2	1.89	0.55
1:Q:337:LEU:HD11	1:Q:358:VAL:HG11	1.88	0.55
1:V:337:LEU:HD11	1:V:358:VAL:HG11	1.88	0.55
1:X:337:LEU:HD11	1:X:358:VAL:HG11	1.88	0.55
1:2:217:ARG:HH21	1:2:278:THR:H	1.53	0.55
4:B:376:ILE:HD13	4:B:379:LYS:HZ1	1.72	0.55
1:T:50:VAL:HG21	1:T:244:ARG:HG2	1.89	0.55
1:U:217:ARG:HH21	1:U:278:THR:H	1.53	0.55
1:V:50:VAL:HG21	1:V:244:ARG:HG2	1.89	0.55
1:W:50:VAL:HG21	1:W:244:ARG:HG2	1.89	0.55
3:G:638:TYR:HA	3:G:641:LEU:HD12	1.87	0.55
3:M:233:VAL:HG22	3:M:248:VAL:HG23	1.89	0.55
3:M:578:MET:SD	3:M:639:GLN:NE2	2.79	0.55
1:O:50:VAL:HG21	1:O:244:ARG:HG2	1.89	0.55
1:U:50:VAL:HG21	1:U:244:ARG:HG2	1.89	0.55
1:Q:290:VAL:HG21	1:Q:333:VAL:HG12	1.88	0.55
1:V:290:VAL:HG21	1:V:333:VAL:HG12	1.88	0.55
1:V:343:ARG:HG3	1:V:345:LEU:HB2	1.89	0.55
1:W:229:ASN:O	1:W:233:SER:OG	2.21	0.55
1:Y:50:VAL:HG21	1:Y:244:ARG:HG2	1.89	0.55
1:1:50:VAL:HG21	1:1:244:ARG:HG2	1.89	0.55
4:F:567:LEU:HD23	4:F:727:LEU:HD22	1.88	0.55
8:L:461:PHE:HA	8:L:464:LYS:HD3	1.88	0.55
1:W:337:LEU:HD11	1:W:358:VAL:HG11	1.88	0.55
1:X:343:ARG:HG3	1:X:345:LEU:HB2	1.89	0.55
1:Z:337:LEU:HD11	1:Z:358:VAL:HG11	1.88	0.55
1:2:50:VAL:HG21	1:2:244:ARG:HG2	1.89	0.54
7:J:275:LEU:HD23	7:J:278:LEU:HD12	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:L:1553:VAL:HA	8:L:1556:LYS:HG2	1.89	0.54
1:P:217:ARG:HH21	1:P:278:THR:H	1.53	0.54
4:N:482:LYS:HG3	4:N:534:ILE:HG21	1.89	0.54
1:Y:343:ARG:HG3	1:Y:345:LEU:HB2	1.89	0.54
4:D:714:PHE:HD1	4:D:880:LEU:HD21	1.72	0.54
1:Q:343:ARG:HG3	1:Q:345:LEU:HB2	1.89	0.54
1:R:343:ARG:HG3	1:R:345:LEU:HB2	1.89	0.54
1:S:229:ASN:O	1:S:233:SER:OG	2.21	0.54
1:U:229:ASN:O	1:U:233:SER:OG	2.21	0.54
1:X:50:VAL:HG21	1:X:244:ARG:HG2	1.89	0.54
1:P:343:ARG:HG3	1:P:345:LEU:HB2	1.89	0.54
4:F:707:LEU:HD22	4:F:851:THR:HG22	1.90	0.54
3:G:359:LEU:HB3	3:G:380:THR:HG22	1.89	0.54
6:K:500:MET:HA	1:Y:264:PRO:HB3	1.90	0.54
4:F:734:LEU:HD11	4:F:751:HIS:HD2	1.72	0.54
3:G:175:PRO:HB3	4:H:403:TYR:HE1	1.72	0.54
8:L:1659:GLN:HA	8:L:1662:LYS:HG3	1.88	0.54
1:1:89:GLU:HG2	1:2:215:THR:HB	1.89	0.54
6:I:612:LEU:HA	6:I:615:LEU:HD12	1.90	0.54
1:P:50:VAL:HG21	1:P:244:ARG:HG2	1.89	0.54
1:S:343:ARG:HG3	1:S:345:LEU:HB2	1.89	0.54
1:T:343:ARG:HG3	1:T:345:LEU:HB2	1.89	0.54
1:X:217:ARG:HH21	1:X:278:THR:H	1.53	0.54
3:C:187:LEU:HD23	4:D:379:LYS:HG3	1.89	0.54
4:D:594:GLN:HG2	4:D:623:VAL:HG13	1.90	0.54
6:K:131:LEU:HD12	6:K:165:LEU:HD23	1.89	0.54
1:W:217:ARG:HH21	1:W:278:THR:H	1.53	0.54
1:X:229:ASN:O	1:X:233:SER:OG	2.21	0.54
1:Z:343:ARG:HG3	1:Z:345:LEU:HB2	1.89	0.54
7:J:437:LEU:HD22	7:J:549:VAL:HG11	1.90	0.54
3:M:691:GLN:O	3:M:694:GLN:NE2	2.41	0.54
1:2:343:ARG:HG3	1:2:345:LEU:HB2	1.89	0.54
4:F:490:ILE:HG13	4:F:494:HIS:HE1	1.73	0.54
4:H:388:CYS:HB2	4:H:396:LEU:HD13	1.90	0.54
1:R:50:VAL:HG21	1:R:244:ARG:HG2	1.89	0.54
1:S:50:VAL:HG21	1:S:244:ARG:HG2	1.89	0.54
1:U:343:ARG:HG3	1:U:345:LEU:HB2	1.89	0.54
4:F:807:GLU:HG3	4:F:811:LYS:HE2	1.90	0.53
4:F:847:LEU:HA	4:F:850:LEU:HD12	1.90	0.53
4:N:626:LEU:HG	4:N:639:SER:HB2	1.90	0.53
1:W:231:LEU:O	1:W:234:THR:OG1	2.26	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Z:50:VAL:HG21	1:Z:244:ARG:HG2	1.89	0.53
3:M:494:TYR:HA	3:M:497:LYS:HG2	1.90	0.53
4:F:364:LEU:HD12	4:F:370:TRP:HE1	1.74	0.53
3:G:509:LEU:HD21	3:G:726:HIS:HE1	1.72	0.53
1:Q:229:ASN:O	1:Q:233:SER:OG	2.21	0.53
4:N:245:ILE:HD13	4:N:265:ASN:HD21	1.74	0.53
4:N:680:ILE:HD11	4:N:786:GLN:HA	1.91	0.53
7:J:716:LEU:HD11	7:J:812:VAL:HG21	1.91	0.53
6:K:518:ARG:HH12	6:K:589:LEU:HD13	1.72	0.53
3:M:377:LEU:HD11	3:M:479:LEU:HD22	1.91	0.53
1:R:321:LEU:HA	1:R:357:GLN:HB2	1.90	0.53
1:Z:321:LEU:HA	1:Z:357:GLN:HB2	1.91	0.53
3:E:356:LEU:HG	3:E:440:PRO:HB3	1.90	0.53
4:F:490:ILE:O	4:F:494:HIS:ND1	2.29	0.53
6:K:143:ILE:HD13	6:K:148:ILE:HD12	1.91	0.53
1:V:321:LEU:HA	1:V:357:GLN:HB2	1.91	0.53
3:M:821:THR:HG23	3:M:822:ILE:HD13	1.89	0.53
1:S:294:MET:SD	1:S:336:SER:OG	2.64	0.53
1:Y:321:LEU:HA	1:Y:357:GLN:HB2	1.91	0.53
1:X:321:LEU:HA	1:X:357:GLN:HB2	1.90	0.53
4:B:714:PHE:HA	4:B:717:GLN:HE21	1.74	0.53
4:D:326:ALA:HB2	3:E:333:ARG:HH22	1.74	0.53
3:M:201:THR:OG1	3:M:202:ALA:N	2.41	0.53
4:N:717:GLN:HB2	4:N:880:LEU:HD23	1.91	0.53
1:P:321:LEU:HA	1:P:357:GLN:HB2	1.90	0.53
1:R:231:LEU:O	1:R:234:THR:OG1	2.26	0.53
1:U:321:LEU:HA	1:U:357:GLN:HB2	1.91	0.53
1:W:343:ARG:HG3	1:W:345:LEU:HB2	1.89	0.53
1:1:48:LYS:O	1:1:54:GLN:NE2	2.42	0.53
1:2:321:LEU:HA	1:2:357:GLN:HB2	1.90	0.53
8:L:1590:VAL:HG13	8:L:1628:LEU:HD22	1.89	0.53
1:O:343:ARG:HG3	1:O:345:LEU:HB2	1.89	0.53
1:2:48:LYS:O	1:2:54:GLN:NE2	2.42	0.52
6:K:119:ILE:HB	8:L:313:THR:HG21	1.91	0.52
1:T:48:LYS:O	1:T:54:GLN:NE2	2.42	0.52
1:U:48:LYS:O	1:U:54:GLN:NE2	2.43	0.52
1:V:229:ASN:O	1:V:233:SER:OG	2.21	0.52
1:W:48:LYS:O	1:W:54:GLN:NE2	2.42	0.52
4:B:832:ARG:NH1	4:B:835:GLU:OE2	2.40	0.52
1:R:318:ILE:HB	1:R:380:ASN:HB3	1.92	0.52
1:W:250:ASN:HB3	1:W:256:LEU:HB2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F:677:LEU:HD21	4:F:712:VAL:HG22	1.90	0.52
6:I:7:LEU:HG	6:I:12:TYR:HB2	1.91	0.52
3:M:244:ARG:HB2	3:M:275:ARG:HH22	1.74	0.52
1:P:250:ASN:HB3	1:P:256:LEU:HB2	1.92	0.52
1:Z:48:LYS:O	1:Z:54:GLN:NE2	2.42	0.52
1:Z:318:ILE:HB	1:Z:380:ASN:HB3	1.92	0.52
1:2:318:ILE:HB	1:2:380:ASN:HB3	1.92	0.52
6:K:117:LEU:HB3	6:K:121:HIS:CE1	2.45	0.52
1:P:318:ILE:HB	1:P:380:ASN:HB3	1.92	0.52
1:U:318:ILE:HB	1:U:380:ASN:HB3	1.92	0.52
1:V:48:LYS:O	1:V:54:GLN:NE2	2.42	0.52
1:W:321:LEU:HA	1:W:357:GLN:HB2	1.90	0.52
1:Z:250:ASN:HB3	1:Z:256:LEU:HB2	1.92	0.52
1:1:117:ASP:OD1	1:1:117:ASP:N	2.36	0.52
1:Q:321:LEU:HA	1:Q:357:GLN:HB2	1.90	0.52
1:S:321:LEU:HA	1:S:357:GLN:HB2	1.91	0.52
1:U:294:MET:SD	1:U:336:SER:OG	2.64	0.52
4:F:734:LEU:HD11	4:F:751:HIS:CD2	2.44	0.52
3:G:302:GLU:HA	3:G:305:ILE:HD12	1.90	0.52
3:M:326:PHE:HA	3:M:329:GLN:HE21	1.74	0.52
1:O:48:LYS:O	1:O:54:GLN:NE2	2.42	0.52
1:O:321:LEU:HA	1:O:357:GLN:HB2	1.91	0.52
1:R:250:ASN:HB3	1:R:256:LEU:HB2	1.92	0.52
1:T:250:ASN:HB3	1:T:256:LEU:HB2	1.92	0.52
1:Y:48:LYS:O	1:Y:54:GLN:NE2	2.42	0.52
1:1:250:ASN:HB3	1:1:256:LEU:HB2	1.92	0.52
3:A:307:VAL:HG12	4:B:365:ARG:HD2	1.92	0.52
3:C:181:VAL:HG13	3:C:187:LEU:HD22	1.92	0.52
1:O:132:LEU:HD23	1:O:164:LYS:HG3	1.92	0.52
1:R:48:LYS:O	1:R:54:GLN:NE2	2.42	0.52
1:S:132:LEU:HD23	1:S:164:LYS:HG3	1.92	0.52
1:V:250:ASN:HB3	1:V:256:LEU:HB2	1.92	0.52
1:Y:318:ILE:HB	1:Y:380:ASN:HB3	1.92	0.52
1:1:321:LEU:HA	1:1:357:GLN:HB2	1.90	0.52
3:G:175:PRO:HB3	4:H:403:TYR:CE1	2.44	0.52
1:T:321:LEU:HA	1:T:357:GLN:HB2	1.91	0.52
1:U:132:LEU:HD23	1:U:164:LYS:HG3	1.92	0.52
1:W:318:ILE:HB	1:W:380:ASN:HB3	1.92	0.52
4:H:565:TYR:OH	4:H:613:ASP:OD2	2.24	0.52
7:J:243:ALA:HA	7:J:306:THR:HG22	1.91	0.52
7:J:358:PHE:HD2	7:J:361:TYR:H	1.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:L:454:LEU:HD22	8:L:458:THR:HG21	1.92	0.52
3:M:559:LEU:HD21	3:M:570:LYS:HE2	1.92	0.52
1:P:48:LYS:O	1:P:54:GLN:NE2	2.43	0.52
1:R:117:ASP:OD1	1:R:117:ASP:N	2.36	0.52
1:S:48:LYS:O	1:S:54:GLN:NE2	2.42	0.52
1:V:231:LEU:O	1:V:234:THR:OG1	2.26	0.52
1:Y:132:LEU:HD23	1:Y:164:LYS:HG3	1.92	0.52
1:1:318:ILE:HB	1:1:380:ASN:HB3	1.92	0.52
1:2:132:LEU:HD23	1:2:164:LYS:HG3	1.92	0.52
1:O:231:LEU:O	1:O:234:THR:OG1	2.26	0.52
1:Q:48:LYS:O	1:Q:54:GLN:NE2	2.42	0.52
1:Q:250:ASN:HB3	1:Q:256:LEU:HB2	1.92	0.52
1:T:231:LEU:O	1:T:234:THR:OG1	2.26	0.52
1:U:250:ASN:HB3	1:U:256:LEU:HB2	1.92	0.52
1:X:48:LYS:O	1:X:54:GLN:NE2	2.42	0.51
1:X:250:ASN:HB3	1:X:256:LEU:HB2	1.92	0.51
1:Y:117:ASP:OD1	1:Y:117:ASP:N	2.36	0.51
1:Z:132:LEU:HD23	1:Z:164:LYS:HG3	1.92	0.51
3:E:150:LEU:HD21	3:E:275:ARG:HD2	1.91	0.51
1:1:343:ARG:HH11	1:Z:130:ASP:CG	2.12	0.51
1:S:318:ILE:HB	1:S:380:ASN:HB3	1.92	0.51
1:W:132:LEU:HD23	1:W:164:LYS:HG3	1.92	0.51
1:1:132:LEU:HD23	1:1:164:LYS:HG3	1.92	0.51
3:C:641:LEU:HG	3:C:734:LEU:HD13	1.93	0.51
4:D:400:VAL:HG21	4:D:422:VAL:HG21	1.92	0.51
6:I:529:GLN:HE22	6:I:533:GLN:HE21	1.59	0.51
3:M:164:LYS:HG2	3:M:404:TYR:CE1	2.45	0.51
1:O:318:ILE:HB	1:O:380:ASN:HB3	1.92	0.51
1:Q:237:SER:O	1:Q:244:ARG:NH2	2.44	0.51
1:S:250:ASN:HB3	1:S:256:LEU:HB2	1.92	0.51
3:A:191:PHE:HE2	4:B:293:ARG:HH12	1.58	0.51
1:R:237:SER:O	1:R:244:ARG:NH2	2.44	0.51
1:T:132:LEU:HD23	1:T:164:LYS:HG3	1.92	0.51
1:V:237:SER:O	1:V:244:ARG:NH2	2.44	0.51
1:Z:237:SER:O	1:Z:244:ARG:NH2	2.44	0.51
1:1:237:SER:O	1:1:244:ARG:NH2	2.44	0.51
3:A:156:LEU:HA	3:A:159:LYS:HG2	1.92	0.51
4:B:590:THR:HA	4:B:628:VAL:HG21	1.92	0.51
4:B:680:ILE:HD13	4:B:785:LEU:HD23	1.92	0.51
3:C:713:LEU:HD22	3:C:722:VAL:HG23	1.93	0.51
4:H:317:PHE:HD1	4:H:392:LYS:HZ3	1.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:237:SER:O	1:W:244:ARG:NH2	2.44	0.51
1:X:56:ASP:O	1:Y:287:LYS:HD3	2.10	0.51
7:J:222:HIS:HA	7:J:225:TRP:NE1	2.26	0.51
7:J:1015:LEU:HD11	1:X:341:ARG:HG3	1.92	0.51
3:M:674:GLN:HG2	3:M:769:MET:HG2	1.92	0.51
1:T:237:SER:O	1:T:244:ARG:NH2	2.44	0.51
1:Z:231:LEU:O	1:Z:234:THR:OG1	2.26	0.51
1:1:57:ASP:HA	1:2:371:HIS:CD2	2.45	0.51
7:J:902:MET:HG3	1:X:248:TYR:HD2	1.76	0.51
1:O:237:SER:O	1:O:244:ARG:NH2	2.44	0.51
1:Q:313:THR:OG1	1:Q:314:ASN:N	2.44	0.51
1:R:294:MET:SD	1:R:336:SER:OG	2.64	0.51
1:S:237:SER:O	1:S:244:ARG:NH2	2.44	0.51
1:1:294:MET:SD	1:1:336:SER:OG	2.64	0.51
3:A:408:MET:HA	3:A:435:VAL:HG22	1.92	0.51
4:D:563:ARG:HD2	4:D:731:TRP:CD1	2.46	0.51
4:D:782:ILE:O	4:D:785:LEU:HB2	2.11	0.51
3:G:684:GLN:HE22	3:G:687:LEU:HD22	1.75	0.51
4:H:677:LEU:HD21	4:H:712:VAL:HG22	1.93	0.51
4:N:769:ARG:HH21	4:N:772:LEU:HB2	1.76	0.51
1:U:237:SER:O	1:U:244:ARG:NH2	2.44	0.51
1:X:313:THR:OG1	1:X:314:ASN:N	2.44	0.51
1:2:237:SER:O	1:2:244:ARG:NH2	2.44	0.51
3:A:765:PHE:HZ	1:O:163:LYS:HE3	1.74	0.51
4:B:479:GLN:HA	4:B:482:LYS:HG2	1.93	0.51
6:I:564:PHE:HD2	6:I:565:LEU:HD12	1.75	0.51
4:N:576:HIS:HD2	4:N:604:ALA:HA	1.75	0.51
1:Q:125:GLU:O	1:Q:129:SER:N	2.42	0.51
1:Q:318:ILE:HB	1:Q:380:ASN:HB3	1.92	0.51
1:R:313:THR:OG1	1:R:314:ASN:N	2.44	0.51
1:V:132:LEU:HD23	1:V:164:LYS:HG3	1.92	0.51
3:A:221:LEU:HD11	3:A:260:VAL:HG23	1.93	0.51
4:B:713:HIS:NE2	1:P:354:ALA:HA	2.26	0.51
4:F:276:LYS:NZ	4:F:277:VAL:O	2.41	0.51
3:G:869:LEU:HG	3:G:871:ARG:H	1.75	0.51
6:K:530:TYR:O	6:K:534:VAL:HG23	2.10	0.51
4:N:485:LEU:HA	4:N:488:LYS:HE2	1.93	0.51
1:O:250:ASN:HB3	1:O:256:LEU:HB2	1.92	0.51
1:P:231:LEU:O	1:P:234:THR:OG1	2.26	0.51
1:P:237:SER:O	1:P:244:ARG:NH2	2.44	0.51
1:1:313:THR:OG1	1:1:314:ASN:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:552:GLU:HG2	3:A:575:ILE:HB	1.94	0.50
4:H:697:PHE:HB3	4:H:701:LEU:HD23	1.93	0.50
6:I:59:ILE:HD11	6:I:93:LEU:HG	1.94	0.50
8:L:1481:THR:HA	8:L:1484:LEU:HD12	1.93	0.50
1:Q:132:LEU:HD23	1:Q:164:LYS:HG3	1.92	0.50
1:X:237:SER:O	1:X:244:ARG:NH2	2.44	0.50
1:Y:237:SER:O	1:Y:244:ARG:NH2	2.44	0.50
1:Y:250:ASN:HB3	1:Y:256:LEU:HB2	1.92	0.50
1:2:197:GLN:HB2	4:N:689:LYS:HE3	1.93	0.50
4:N:608:THR:HG23	4:N:610:ALA:H	1.76	0.50
1:O:313:THR:OG1	1:O:314:ASN:N	2.44	0.50
1:R:132:LEU:HD23	1:R:164:LYS:HG3	1.92	0.50
1:V:318:ILE:HB	1:V:380:ASN:HB3	1.92	0.50
1:X:132:LEU:HD23	1:X:164:LYS:HG3	1.92	0.50
1:X:318:ILE:HB	1:X:380:ASN:HB3	1.92	0.50
3:C:539:LEU:HB3	3:C:613:LEU:HD23	1.93	0.50
8:L:1667:HIS:CE1	1:Z:354:ALA:HA	2.46	0.50
4:N:297:LEU:HB3	4:N:378:LEU:HD13	1.92	0.50
1:S:117:ASP:OD1	1:S:117:ASP:N	2.36	0.50
3:C:241:ARG:HH12	3:C:245:THR:H	1.58	0.50
1:O:125:GLU:O	1:O:129:SER:N	2.42	0.50
1:P:132:LEU:HD23	1:P:164:LYS:HG3	1.92	0.50
1:S:125:GLU:O	1:S:129:SER:N	2.42	0.50
1:1:259:SER:O	3:M:684:GLN:NE2	2.44	0.50
6:I:35:HIS:HB3	6:I:38:GLU:HG2	1.93	0.50
8:L:296:CYS:SG	8:L:297:TRP:N	2.84	0.50
4:N:493:LEU:HD21	4:N:545:LEU:HA	1.94	0.50
1:P:394:GLN:HA	1:P:397:LYS:HE2	1.94	0.50
1:V:313:THR:OG1	1:V:314:ASN:N	2.44	0.50
1:W:394:GLN:HA	1:W:397:LYS:HE2	1.94	0.50
3:E:617:SER:HB2	3:E:639:GLN:HE21	1.76	0.50
3:G:446:MET:HG3	3:G:450:ILE:HG13	1.93	0.50
1:T:318:ILE:HB	1:T:380:ASN:HB3	1.92	0.50
1:Y:313:THR:OG1	1:Y:314:ASN:N	2.44	0.50
1:2:250:ASN:HB3	1:2:256:LEU:HB2	1.92	0.50
3:A:559:LEU:HD11	3:A:570:LYS:HB2	1.93	0.50
1:W:294:MET:SD	1:W:336:SER:OG	2.64	0.50
1:Z:294:MET:SD	1:Z:336:SER:OG	2.64	0.50
3:A:469:CYS:HB2	3:A:471:VAL:HG22	1.93	0.50
6:K:639:ASN:O	6:K:643:ALA:HB2	2.12	0.50
1:Y:394:GLN:HA	1:Y:397:LYS:HE2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:158:ARG:HE	3:M:159:LYS:HE3	1.77	0.50
1:V:125:GLU:O	1:V:129:SER:N	2.42	0.50
3:A:738:MET:HG3	3:A:745:LEU:HD12	1.94	0.49
4:F:430:LEU:HD13	4:F:446:PHE:HZ	1.77	0.49
6:I:481:TYR:O	6:I:484:SER:OG	2.27	0.49
7:J:276:TRP:O	7:J:279:SER:OG	2.24	0.49
1:W:125:GLU:O	1:W:129:SER:N	2.42	0.49
1:X:394:GLN:HA	1:X:397:LYS:HE2	1.94	0.49
4:B:304:ILE:HD11	4:B:382:ALA:HA	1.94	0.49
4:B:861:PHE:HD2	4:B:862:LEU:HD22	1.77	0.49
4:H:689:LYS:HA	4:H:692:ARG:HH21	1.76	0.49
4:N:649:ALA:HB1	4:N:654:ARG:HH22	1.78	0.49
1:T:313:THR:OG1	1:T:314:ASN:N	2.44	0.49
1:U:313:THR:OG1	1:U:314:ASN:N	2.44	0.49
3:A:519:TYR:CD2	3:A:573:LEU:HD11	2.47	0.49
1:U:125:GLU:O	1:U:129:SER:N	2.42	0.49
3:C:659:TRP:CZ2	1:Q:258:ALA:HA	2.48	0.49
7:J:935:SER:O	7:J:944:ARG:NH1	2.45	0.49
6:K:653:LYS:HE3	1:Y:351:TRP:HA	1.94	0.49
1:S:394:GLN:HA	1:S:397:LYS:HE2	1.94	0.49
3:A:551:LEU:HD22	3:A:575:ILE:HG13	1.94	0.49
4:F:568:LEU:HD23	4:F:574:ILE:HG21	1.93	0.49
4:N:573:PHE:HA	4:N:608:THR:HG21	1.95	0.49
4:N:589:ALA:HB2	4:N:634:GLY:HA2	1.93	0.49
1:S:66:LEU:HB3	1:S:91:ILE:HA	1.95	0.49
1:Y:66:LEU:HB3	1:Y:91:ILE:HA	1.95	0.49
3:C:308:SER:HB2	4:D:369:VAL:HG21	1.95	0.49
4:N:500:GLN:HG2	4:N:502:PRO:HD3	1.94	0.49
1:Q:5:ILE:HG12	1:Q:133:GLU:HB3	1.95	0.49
1:Q:394:GLN:HA	1:Q:397:LYS:HE2	1.94	0.49
1:T:394:GLN:HA	1:T:397:LYS:HE2	1.94	0.49
1:V:5:ILE:HG12	1:V:133:GLU:HB3	1.95	0.49
1:V:394:GLN:HA	1:V:397:LYS:HE2	1.94	0.49
1:Z:66:LEU:HB3	1:Z:91:ILE:HA	1.95	0.49
3:E:871:ARG:HH21	3:E:872:LEU:HD23	1.78	0.49
4:H:778:VAL:HA	4:H:781:GLN:HE22	1.78	0.49
1:S:4:GLU:HG3	1:S:131:SER:H	1.78	0.49
1:U:5:ILE:HG12	1:U:133:GLU:HB3	1.95	0.49
7:J:909:THR:HA	7:J:912:GLU:HG3	1.93	0.49
6:K:648:ARG:HG3	6:K:649:LEU:HD12	1.95	0.49
1:R:229:ASN:O	1:R:233:SER:OG	2.21	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:5:ILE:HG12	1:W:133:GLU:HB3	1.95	0.49
4:F:799:GLU:HG3	4:F:836:PHE:HZ	1.78	0.49
3:M:734:LEU:HB2	3:M:739:LEU:HD22	1.95	0.49
1:O:66:LEU:HB3	1:O:91:ILE:HA	1.95	0.49
1:O:394:GLN:HA	1:O:397:LYS:HE2	1.94	0.49
1:P:313:THR:OG1	1:P:314:ASN:N	2.44	0.49
1:T:66:LEU:HB3	1:T:91:ILE:HA	1.95	0.49
1:U:4:GLU:HG3	1:U:131:SER:H	1.78	0.49
1:U:66:LEU:HB3	1:U:91:ILE:HA	1.95	0.49
1:X:4:GLU:HG3	1:X:131:SER:H	1.78	0.49
3:E:205:ILE:HD12	3:E:208:LEU:HD12	1.95	0.49
3:A:412:HIS:HE1	3:A:433:THR:HG22	1.78	0.48
4:F:365:ARG:HG2	3:E:308:SER:HB3	1.95	0.48
6:K:649:LEU:HB2	1:Y:341:ARG:NH2	2.28	0.48
1:V:4:GLU:HG3	1:V:131:SER:H	1.78	0.48
1:X:231:LEU:O	1:X:234:THR:OG1	2.26	0.48
1:Z:5:ILE:HG12	1:Z:133:GLU:HB3	1.95	0.48
1:2:5:ILE:HG12	1:2:133:GLU:HB3	1.95	0.48
1:2:394:GLN:HA	1:2:397:LYS:HE2	1.94	0.48
3:G:183:GLU:OE2	3:G:184:ARG:NH1	2.46	0.48
3:M:693:ILE:HD13	3:M:858:ARG:HH12	1.78	0.48
1:P:66:LEU:HB3	1:P:91:ILE:HA	1.95	0.48
1:P:294:MET:SD	1:P:336:SER:OG	2.64	0.48
1:S:231:LEU:O	1:S:234:THR:OG1	2.26	0.48
1:W:313:THR:OG1	1:W:314:ASN:N	2.44	0.48
1:1:394:GLN:HA	1:1:397:LYS:HE2	1.94	0.48
4:N:862:LEU:HD11	4:N:886:TYR:HD2	1.78	0.48
1:O:5:ILE:HG12	1:O:133:GLU:HB3	1.95	0.48
1:P:5:ILE:HG12	1:P:133:GLU:HB3	1.95	0.48
1:R:5:ILE:HG12	1:R:133:GLU:HB3	1.95	0.48
1:R:125:GLU:O	1:R:129:SER:N	2.42	0.48
1:W:66:LEU:HB3	1:W:91:ILE:HA	1.95	0.48
1:Y:229:ASN:O	1:Y:233:SER:OG	2.21	0.48
1:Q:4:GLU:HG3	1:Q:131:SER:H	1.78	0.48
1:U:394:GLN:HA	1:U:397:LYS:HE2	1.94	0.48
1:W:4:GLU:HG3	1:W:131:SER:H	1.78	0.48
1:Z:125:GLU:O	1:Z:129:SER:N	2.42	0.48
8:L:347:VAL:HG21	8:L:352:LEU:HD13	1.96	0.48
1:R:293:VAL:HA	1:R:296:ARG:HD2	1.96	0.48
1:T:4:GLU:HG3	1:T:131:SER:H	1.78	0.48
3:E:319:LEU:HD13	3:E:324:LEU:HD21	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:319:LEU:N	4:D:445:GLU:OE2	2.47	0.48
3:M:304:LEU:HD21	4:N:364:LEU:HD13	1.96	0.48
1:P:4:GLU:HG3	1:P:131:SER:H	1.78	0.48
1:R:4:GLU:HG3	1:R:131:SER:H	1.78	0.48
1:Y:4:GLU:HG3	1:Y:131:SER:H	1.78	0.48
1:Z:293:VAL:HA	1:Z:296:ARG:HD2	1.96	0.48
1:1:66:LEU:HB3	1:1:91:ILE:HA	1.95	0.48
1:2:4:GLU:HG3	1:2:131:SER:H	1.78	0.48
1:2:231:LEU:O	1:2:234:THR:OG1	2.26	0.48
1:2:294:MET:SD	1:2:336:SER:OG	2.64	0.48
3:A:656:CYS:HB3	1:O:254:ILE:HG12	1.96	0.48
1:O:332:GLN:H	1:O:332:GLN:HG3	1.53	0.48
1:Q:66:LEU:HB3	1:Q:91:ILE:HA	1.95	0.48
1:T:125:GLU:O	1:T:129:SER:N	2.42	0.48
1:X:5:ILE:HG12	1:X:133:GLU:HB3	1.95	0.48
1:X:294:MET:SD	1:X:336:SER:OG	2.64	0.48
3:A:163:ASP:O	3:A:167:LYS:NZ	2.46	0.48
3:G:637:ARG:NH2	3:G:640:MET:SD	2.86	0.48
7:J:223:GLN:HB3	7:J:228:ARG:HH21	1.77	0.48
1:P:125:GLU:O	1:P:129:SER:N	2.42	0.48
1:R:241:THR:OG1	1:R:244:ARG:NH2	2.47	0.48
1:V:326:GLY:HA3	1:V:373:VAL:HA	1.96	0.48
1:Z:394:GLN:HA	1:Z:397:LYS:HE2	1.94	0.48
1:1:4:GLU:HG3	1:1:131:SER:H	1.78	0.48
4:F:277:VAL:HG21	4:F:291:ALA:HB3	1.95	0.48
8:L:1800:LEU:HD22	1:Z:338:GLN:OE1	2.14	0.48
1:S:332:GLN:H	1:S:332:GLN:HG3	1.53	0.48
1:T:293:VAL:HA	1:T:296:ARG:HD2	1.96	0.48
1:T:326:GLY:HA3	1:T:373:VAL:HA	1.96	0.48
1:W:241:THR:OG1	1:W:244:ARG:NH2	2.47	0.48
1:1:5:ILE:HG12	1:1:133:GLU:HB3	1.95	0.48
3:C:719:ILE:HA	3:C:722:VAL:HG12	1.95	0.48
3:C:764:LYS:HD3	3:C:767:GLN:HA	1.96	0.48
4:F:554:SER:O	4:F:554:SER:OG	2.31	0.48
7:J:712:LYS:HG3	7:J:715:ARG:HH11	1.79	0.48
6:K:339:HIS:HA	6:K:342:LYS:HE2	1.95	0.48
1:V:66:LEU:HB3	1:V:91:ILE:HA	1.95	0.48
1:V:241:THR:OG1	1:V:244:ARG:NH2	2.47	0.48
1:1:241:THR:OG1	1:1:244:ARG:NH2	2.47	0.47
4:D:847:LEU:O	4:D:850:LEU:HB3	2.13	0.47
3:G:428:TRP:HZ2	3:G:723:LEU:HD23	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:L:1804:PHE:HZ	1:Z:340:ILE:HG22	1.79	0.47
1:R:66:LEU:HB3	1:R:91:ILE:HA	1.95	0.47
1:R:394:GLN:HA	1:R:397:LYS:HE2	1.94	0.47
1:S:313:THR:OG1	1:S:314:ASN:N	2.44	0.47
1:T:294:MET:SD	1:T:336:SER:OG	2.64	0.47
1:V:294:MET:SD	1:V:336:SER:OG	2.64	0.47
1:2:66:LEU:HB3	1:2:91:ILE:HA	1.95	0.47
4:D:714:PHE:CD1	4:D:880:LEU:HD21	2.49	0.47
8:L:1636:VAL:O	8:L:1662:LYS:NZ	2.44	0.47
1:O:294:MET:SD	1:O:336:SER:OG	2.64	0.47
1:Q:293:VAL:HA	1:Q:296:ARG:HD2	1.96	0.47
1:S:293:VAL:O	1:S:297:LEU:HB3	2.14	0.47
1:S:326:GLY:HA3	1:S:373:VAL:HA	1.96	0.47
1:V:293:VAL:HA	1:V:296:ARG:HD2	1.96	0.47
3:A:814:LEU:HG	3:A:815:VAL:H	1.80	0.47
4:B:588:PRO:HA	4:B:633:THR:HA	1.96	0.47
7:J:294:VAL:HG23	7:J:318:ALA:HB1	1.96	0.47
7:J:419:GLY:HA2	7:J:436:LEU:HD11	1.95	0.47
6:K:653:LYS:HD2	6:K:653:LYS:HA	1.65	0.47
1:P:293:VAL:HA	1:P:296:ARG:HD2	1.96	0.47
1:X:241:THR:OG1	1:X:244:ARG:NH2	2.47	0.47
3:E:242:GLN:HE22	3:E:346:ASP:HB3	1.78	0.47
1:1:3:ARG:NH1	1:1:131:SER:OG	2.48	0.47
1:2:241:THR:OG1	1:2:244:ARG:NH2	2.47	0.47
4:B:581:LEU:HD11	4:B:597:LEU:HD13	1.95	0.47
6:I:199:GLN:HE21	6:I:200:HIS:CD2	2.32	0.47
3:M:315:ARG:HH12	4:N:363:THR:HG22	1.79	0.47
3:M:321:LEU:HD12	3:M:324:LEU:HD22	1.95	0.47
3:M:701:VAL:O	3:M:705:THR:OG1	2.31	0.47
1:O:241:THR:OG1	1:O:244:ARG:NH2	2.47	0.47
1:R:110:GLN:HA	1:R:113:LYS:HE3	1.97	0.47
1:X:3:ARG:NH1	1:X:131:SER:OG	2.48	0.47
1:Y:231:LEU:O	1:Y:234:THR:OG1	2.26	0.47
1:Z:326:GLY:HA3	1:Z:373:VAL:HA	1.96	0.47
1:1:110:GLN:HA	1:1:113:LYS:HE3	1.97	0.47
4:H:377:ARG:CZ	4:H:414:LEU:HB2	2.44	0.47
6:I:621:ARG:O	6:I:624:SER:OG	2.31	0.47
1:O:293:VAL:O	1:O:297:LEU:HB3	2.15	0.47
1:P:326:GLY:HA3	1:P:373:VAL:HA	1.96	0.47
1:U:241:THR:OG1	1:U:244:ARG:NH2	2.47	0.47
1:U:293:VAL:HA	1:U:296:ARG:HD2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:U:332:GLN:H	1:U:332:GLN:HG3	1.53	0.47
1:W:110:GLN:HA	1:W:113:LYS:HE3	1.97	0.47
1:X:326:GLY:HA3	1:X:373:VAL:HA	1.96	0.47
1:Z:241:THR:OG1	1:Z:244:ARG:NH2	2.47	0.47
1:Z:293:VAL:O	1:Z:297:LEU:HB3	2.15	0.47
3:E:617:SER:HB2	3:E:639:GLN:NE2	2.29	0.47
1:1:231:LEU:O	1:1:234:THR:OG1	2.26	0.47
1:1:326:GLY:HA3	1:1:373:VAL:HA	1.96	0.47
1:2:326:GLY:HA3	1:2:373:VAL:HA	1.96	0.47
3:C:644:HIS:HB2	3:C:739:LEU:HD21	1.96	0.47
6:K:651:TYR:CE2	1:Y:354:ALA:HB3	2.50	0.47
4:N:568:LEU:HD22	4:N:574:ILE:HD12	1.96	0.47
1:O:293:VAL:HA	1:O:296:ARG:HD2	1.96	0.47
1:R:293:VAL:O	1:R:297:LEU:HB3	2.15	0.47
1:S:5:ILE:HG12	1:S:133:GLU:HB3	1.95	0.47
1:T:5:ILE:HG12	1:T:133:GLU:HB3	1.95	0.47
1:Y:3:ARG:NH1	1:Y:131:SER:OG	2.48	0.47
1:Y:5:ILE:HG12	1:Y:133:GLU:HB3	1.95	0.47
1:2:110:GLN:HA	1:2:113:LYS:HE3	1.97	0.47
3:A:233:VAL:HA	3:A:247:LEU:O	2.15	0.47
4:D:685:MET:O	4:D:689:LYS:NZ	2.40	0.47
4:H:375:LYS:HG3	4:H:376:ILE:HG12	1.96	0.47
8:L:1800:LEU:HG	8:L:1801:ARG:N	2.30	0.47
1:O:4:GLU:HG3	1:O:131:SER:H	1.78	0.47
1:O:326:GLY:HA3	1:O:373:VAL:HA	1.96	0.47
1:Q:293:VAL:O	1:Q:297:LEU:HB3	2.15	0.47
1:R:3:ARG:NH1	1:R:131:SER:OG	2.48	0.47
1:S:293:VAL:HA	1:S:296:ARG:HD2	1.96	0.47
1:T:3:ARG:NH1	1:T:131:SER:OG	2.48	0.47
1:T:241:THR:OG1	1:T:244:ARG:NH2	2.47	0.47
1:V:293:VAL:O	1:V:297:LEU:HB3	2.15	0.47
1:W:293:VAL:O	1:W:297:LEU:HB3	2.15	0.47
1:W:323:ILE:HD12	1:W:376:LEU:HD11	1.97	0.47
1:X:66:LEU:HB3	1:X:91:ILE:HA	1.95	0.47
1:X:293:VAL:HA	1:X:296:ARG:HD2	1.96	0.47
1:Y:293:VAL:HA	1:Y:296:ARG:HD2	1.96	0.47
1:1:71:PRO:O	1:1:75:HIS:NE2	2.48	0.47
1:1:293:VAL:HA	1:1:296:ARG:HD2	1.96	0.47
1:2:293:VAL:HA	1:2:296:ARG:HD2	1.96	0.47
3:C:154:LEU:O	3:C:158:ARG:HG2	2.14	0.47
4:D:848:ARG:HB3	4:D:852:HIS:CE1	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:241:THR:OG1	1:P:244:ARG:NH2	2.47	0.47
1:P:293:VAL:O	1:P:297:LEU:HB3	2.15	0.47
1:Q:3:ARG:NH1	1:Q:131:SER:OG	2.48	0.47
1:Q:71:PRO:O	1:Q:75:HIS:NE2	2.48	0.47
1:Q:241:THR:OG1	1:Q:244:ARG:NH2	2.47	0.47
1:R:297:LEU:HD13	1:R:377:MET:HB2	1.97	0.47
1:T:293:VAL:O	1:T:297:LEU:HB3	2.15	0.47
1:T:323:ILE:HD12	1:T:376:LEU:HD11	1.97	0.47
1:V:71:PRO:O	1:V:75:HIS:NE2	2.48	0.47
1:X:110:GLN:HA	1:X:113:LYS:HE3	1.97	0.47
1:Z:53:TYR:HD1	1:Z:61:ILE:HB	1.80	0.47
1:Z:71:PRO:O	1:Z:75:HIS:NE2	2.48	0.47
1:1:297:LEU:HD13	1:1:377:MET:HB2	1.97	0.47
1:2:297:LEU:HD13	1:2:377:MET:HB2	1.97	0.47
3:A:485:VAL:O	3:A:489:GLU:HG2	2.15	0.47
6:I:369:PHE:HA	6:I:372:PHE:HB3	1.97	0.47
3:M:413:GLU:OE2	3:M:416:LYS:NZ	2.48	0.47
3:M:689:PHE:O	3:M:693:ILE:HG12	2.15	0.47
1:S:3:ARG:NH1	1:S:131:SER:OG	2.48	0.47
1:X:293:VAL:O	1:X:297:LEU:HB3	2.15	0.47
1:2:71:PRO:O	1:2:75:HIS:NE2	2.48	0.47
3:A:865:TYR:CZ	1:O:353:PRO:HG3	2.50	0.47
1:O:71:PRO:O	1:O:75:HIS:NE2	2.48	0.47
1:O:297:LEU:HD13	1:O:377:MET:HB2	1.97	0.47
1:Q:53:TYR:HD1	1:Q:61:ILE:HB	1.80	0.47
1:Q:323:ILE:HD12	1:Q:376:LEU:HD11	1.97	0.47
1:Q:326:GLY:HA3	1:Q:373:VAL:HA	1.96	0.47
1:T:297:LEU:HD13	1:T:377:MET:HB2	1.97	0.47
1:V:297:LEU:HD13	1:V:377:MET:HB2	1.97	0.47
1:X:297:LEU:HD13	1:X:377:MET:HB2	1.97	0.47
1:Z:3:ARG:NH1	1:Z:131:SER:OG	2.48	0.47
1:Z:4:GLU:HG3	1:Z:131:SER:H	1.78	0.47
1:1:130:ASP:OD2	1:2:295:ARG:NH2	2.35	0.46
1:1:293:VAL:O	1:1:297:LEU:HB3	2.15	0.46
4:B:706:ILE:HD11	1:P:351:TRP:CZ3	2.49	0.46
4:F:365:ARG:HA	4:F:365:ARG:HD2	1.71	0.46
6:I:363:LEU:HD12	6:I:482:LEU:HB2	1.97	0.46
7:J:283:LYS:HD2	7:J:283:LYS:HA	1.68	0.46
7:J:432:ARG:O	7:J:436:LEU:HD13	2.15	0.46
1:P:3:ARG:NH1	1:P:131:SER:OG	2.48	0.46
1:P:110:GLN:HA	1:P:113:LYS:HE3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:53:TYR:HD1	1:S:61:ILE:HB	1.80	0.46
1:X:71:PRO:O	1:X:75:HIS:NE2	2.48	0.46
1:Y:110:GLN:HA	1:Y:113:LYS:HE3	1.97	0.46
1:Y:241:THR:OG1	1:Y:244:ARG:NH2	2.47	0.46
1:Z:323:ILE:HD12	1:Z:376:LEU:HD11	1.97	0.46
3:E:658:VAL:O	3:E:661:SER:OG	2.30	0.46
1:2:53:TYR:HD1	1:2:61:ILE:HB	1.80	0.46
1:2:293:VAL:O	1:2:297:LEU:HB3	2.15	0.46
4:B:846:GLN:O	4:B:850:LEU:HG	2.16	0.46
4:D:247:GLU:HB2	4:D:366:ARG:CZ	2.46	0.46
6:I:262:GLU:HG3	6:I:263:ILE:HG23	1.97	0.46
4:N:706:ILE:O	4:N:709:SER:OG	2.30	0.46
4:N:771:LEU:HD11	4:N:873:LEU:HD13	1.97	0.46
1:T:164:LYS:HD3	1:T:164:LYS:HA	1.71	0.46
1:U:71:PRO:O	1:U:75:HIS:NE2	2.48	0.46
1:U:164:LYS:HA	1:U:164:LYS:HD3	1.71	0.46
1:V:3:ARG:NH1	1:V:131:SER:OG	2.48	0.46
1:W:3:ARG:NH1	1:W:131:SER:OG	2.48	0.46
1:W:293:VAL:HA	1:W:296:ARG:HD2	1.96	0.46
6:I:279:VAL:HG13	6:I:336:VAL:HG11	1.98	0.46
3:M:403:PRO:HD2	4:N:412:ARG:HH22	1.80	0.46
1:O:53:TYR:HD1	1:O:61:ILE:HB	1.80	0.46
1:Y:293:VAL:O	1:Y:297:LEU:HB3	2.15	0.46
1:Y:387:LEU:HD13	1:Y:390:ARG:HD3	1.98	0.46
3:E:695:TYR:HA	3:E:698:MET:HG2	1.98	0.46
1:2:3:ARG:NH1	1:2:131:SER:OG	2.48	0.46
1:2:323:ILE:HD12	1:2:376:LEU:HD11	1.97	0.46
4:B:689:LYS:HA	4:B:689:LYS:HD2	1.46	0.46
6:I:151:CYS:SG	6:I:260:ARG:NH2	2.88	0.46
6:K:626:LEU:HD23	6:K:626:LEU:HA	1.74	0.46
1:O:3:ARG:NH1	1:O:131:SER:OG	2.48	0.46
1:O:110:GLN:HA	1:O:113:LYS:HE3	1.97	0.46
1:P:71:PRO:O	1:P:75:HIS:NE2	2.48	0.46
1:Q:297:LEU:HD13	1:Q:377:MET:HB2	1.97	0.46
1:Q:387:LEU:HD13	1:Q:390:ARG:HD3	1.98	0.46
1:R:71:PRO:O	1:R:75:HIS:NE2	2.48	0.46
1:W:297:LEU:HD13	1:W:377:MET:HB2	1.97	0.46
1:W:326:GLY:HA3	1:W:373:VAL:HA	1.96	0.46
1:Y:294:MET:SD	1:Y:336:SER:OG	2.64	0.46
1:Y:326:GLY:HA3	1:Y:373:VAL:HA	1.96	0.46
1:1:387:LEU:HD13	1:1:390:ARG:HD3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:517:LYS:HE2	3:A:521:LEU:HD22	1.96	0.46
3:M:161:LEU:HG	3:M:174:LEU:HD12	1.97	0.46
1:O:323:ILE:HD12	1:O:376:LEU:HD11	1.97	0.46
1:Q:110:GLN:HA	1:Q:113:LYS:HE3	1.97	0.46
1:R:53:TYR:HD1	1:R:61:ILE:HB	1.80	0.46
1:R:387:LEU:HD13	1:R:390:ARG:HD3	1.98	0.46
1:S:241:THR:OG1	1:S:244:ARG:NH2	2.47	0.46
1:U:323:ILE:HD12	1:U:376:LEU:HD11	1.97	0.46
1:Z:297:LEU:HD13	1:Z:377:MET:HB2	1.97	0.46
4:B:683:GLY:O	4:B:687:ASN:ND2	2.49	0.46
3:C:412:HIS:HB2	3:C:431:ARG:HA	1.97	0.46
4:H:589:ALA:HB3	4:H:632:ASP:HB3	1.97	0.46
4:N:453:THR:HG23	4:N:455:LYS:HE2	1.97	0.46
4:N:763:LEU:C	4:N:769:ARG:HH22	2.19	0.46
1:P:297:LEU:HD13	1:P:377:MET:HB2	1.97	0.46
1:R:326:GLY:HA3	1:R:373:VAL:HA	1.96	0.46
1:S:71:PRO:O	1:S:75:HIS:NE2	2.48	0.46
1:S:110:GLN:HA	1:S:113:LYS:HE3	1.97	0.46
1:T:71:PRO:O	1:T:75:HIS:NE2	2.48	0.46
1:T:387:LEU:HD13	1:T:390:ARG:HD3	1.98	0.46
1:U:326:GLY:HA3	1:U:373:VAL:HA	1.96	0.46
1:U:387:LEU:HD13	1:U:390:ARG:HD3	1.98	0.46
1:Y:71:PRO:O	1:Y:75:HIS:NE2	2.48	0.46
1:1:125:GLU:O	1:1:129:SER:N	2.42	0.46
6:I:85:TYR:HH	6:I:151:CYS:HG	1.58	0.46
6:I:136:VAL:HG22	6:I:172:LEU:HD21	1.97	0.46
4:N:692:ARG:HH11	4:N:701:LEU:HD21	1.81	0.46
1:T:110:GLN:HA	1:T:113:LYS:HE3	1.97	0.46
1:1:53:TYR:HD1	1:1:61:ILE:HB	1.80	0.46
1:1:89:GLU:HB2	1:2:216:ASP:HA	1.97	0.46
3:A:660:ILE:HG13	1:O:165:LEU:HD12	1.98	0.46
3:C:582:LEU:HD13	3:C:739:LEU:HD11	1.98	0.46
6:I:54:ARG:HG3	6:I:58:PHE:CZ	2.50	0.46
1:U:293:VAL:O	1:U:297:LEU:HB3	2.15	0.46
1:U:297:LEU:HD13	1:U:377:MET:HB2	1.97	0.46
1:X:125:GLU:O	1:X:129:SER:N	2.42	0.46
3:E:331:ALA:O	3:E:335:MET:HG3	2.16	0.46
3:A:285:TYR:O	3:A:289:ASN:ND2	2.40	0.46
3:A:304:LEU:HD22	4:B:365:ARG:HH22	1.81	0.46
3:G:222:LEU:HD11	4:H:365:ARG:HH22	1.81	0.46
6:K:639:ASN:O	6:K:643:ALA:CB	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:315:ARG:NH1	4:N:363:THR:HG22	2.31	0.46
3:M:405:SER:O	3:M:405:SER:OG	2.22	0.46
3:M:834:LEU:HD13	3:M:867:GLU:HA	1.98	0.46
4:N:468:LYS:HG2	4:N:471:ILE:HD12	1.98	0.46
1:S:387:LEU:HD13	1:S:390:ARG:HD3	1.98	0.46
1:U:3:ARG:NH1	1:U:131:SER:OG	2.48	0.46
1:U:53:TYR:HD1	1:U:61:ILE:HB	1.80	0.46
1:U:323:ILE:HB	1:U:376:LEU:HG	1.98	0.46
1:V:110:GLN:HA	1:V:113:LYS:HE3	1.97	0.46
1:X:53:TYR:HD1	1:X:61:ILE:HB	1.80	0.46
1:X:323:ILE:HD12	1:X:376:LEU:HD11	1.97	0.46
1:2:291:LEU:HD11	3:M:557:LEU:HA	1.98	0.46
3:A:231:ARG:NH2	4:B:285:ARG:HB2	2.31	0.46
4:B:361:SER:OG	4:B:362:LEU:N	2.47	0.46
4:H:589:ALA:HA	4:H:592:LEU:HG	1.98	0.46
4:H:723:THR:HA	4:H:727:LEU:HG	1.98	0.46
1:T:415:LYS:HZ2	1:T:419:ASP:H	1.64	0.46
1:U:110:GLN:HA	1:U:113:LYS:HE3	1.97	0.46
1:Z:323:ILE:HB	1:Z:376:LEU:HG	1.98	0.46
4:B:283:LEU:HD12	4:B:287:LEU:HD23	1.98	0.45
3:G:222:LEU:HG	4:H:365:ARG:HH12	1.80	0.45
4:H:568:LEU:HD23	4:H:667:LEU:HD13	1.98	0.45
4:H:783:ILE:O	4:H:786:GLN:HG2	2.16	0.45
6:I:450:TRP:HD1	6:I:453:LEU:HD22	1.81	0.45
8:L:348:LYS:HG2	8:L:349:GLU:H	1.80	0.45
8:L:1659:GLN:HE21	1:Z:264:PRO:HD3	1.81	0.45
1:P:323:ILE:HB	1:P:376:LEU:HG	1.98	0.45
1:Q:323:ILE:HB	1:Q:376:LEU:HG	1.98	0.45
1:T:53:TYR:HD1	1:T:61:ILE:HB	1.80	0.45
1:V:323:ILE:HD12	1:V:376:LEU:HD11	1.97	0.45
1:W:156:ARG:HD3	1:W:156:ARG:HA	1.75	0.45
1:Y:323:ILE:HD12	1:Y:376:LEU:HD11	1.97	0.45
1:Z:110:GLN:HA	1:Z:113:LYS:HE3	1.97	0.45
4:D:341:VAL:O	4:D:344:SER:OG	2.34	0.45
6:I:7:LEU:HD12	6:I:7:LEU:HA	1.83	0.45
6:I:85:TYR:OH	6:I:151:CYS:SG	2.69	0.45
1:R:323:ILE:HD12	1:R:376:LEU:HD11	1.97	0.45
1:R:323:ILE:HB	1:R:376:LEU:HG	1.98	0.45
1:T:117:ASP:OD1	1:T:117:ASP:N	2.36	0.45
1:W:71:PRO:O	1:W:75:HIS:NE2	2.48	0.45
1:Z:313:THR:OG1	1:Z:314:ASN:N	2.44	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:125:GLU:O	1:2:129:SER:N	2.42	0.45
1:2:164:LYS:HA	1:2:164:LYS:HD3	1.71	0.45
4:B:718:MET:HG3	4:B:880:LEU:HD11	1.98	0.45
3:C:550:ARG:HG3	1:R:342:GLU:HB3	1.98	0.45
1:O:387:LEU:HD13	1:O:390:ARG:HD3	1.98	0.45
1:V:117:ASP:OD1	1:V:117:ASP:N	2.36	0.45
1:W:323:ILE:HB	1:W:376:LEU:HG	1.98	0.45
1:W:332:GLN:H	1:W:332:GLN:HG3	1.53	0.45
1:Y:53:TYR:HD1	1:Y:61:ILE:HB	1.80	0.45
1:1:323:ILE:HB	1:1:376:LEU:HG	1.98	0.45
3:A:478:THR:OG1	3:A:479:LEU:N	2.50	0.45
4:H:364:LEU:HD13	4:H:364:LEU:HA	1.77	0.45
6:I:190:TRP:CE2	6:I:280:GLY:HA3	2.51	0.45
4:N:576:HIS:CD2	4:N:604:ALA:HA	2.51	0.45
1:Q:231:LEU:O	1:Q:234:THR:OG1	2.26	0.45
1:S:297:LEU:HD13	1:S:377:MET:HB2	1.97	0.45
1:V:53:TYR:HD1	1:V:61:ILE:HB	1.80	0.45
1:X:117:ASP:OD1	1:X:117:ASP:N	2.36	0.45
3:E:370:SER:HA	3:E:373:GLN:HB3	1.98	0.45
1:2:323:ILE:HB	1:2:376:LEU:HG	1.98	0.45
3:A:184:ARG:HG3	3:A:186:ALA:H	1.79	0.45
6:I:181:GLY:HA3	6:I:315:LYS:HD3	1.98	0.45
1:O:164:LYS:HD3	1:O:164:LYS:HA	1.71	0.45
1:P:53:TYR:HD1	1:P:61:ILE:HB	1.80	0.45
1:S:323:ILE:HB	1:S:376:LEU:HG	1.98	0.45
3:E:655:LEU:HD22	3:E:687:LEU:HD13	1.98	0.45
1:1:323:ILE:HD12	1:1:376:LEU:HD11	1.97	0.45
1:1:332:GLN:H	1:1:332:GLN:HG3	1.53	0.45
1:2:348:PHE:HZ	1:2:356:ILE:CD1	2.29	0.45
4:F:490:ILE:HG13	4:F:494:HIS:CE1	2.52	0.45
1:O:323:ILE:HB	1:O:376:LEU:HG	1.98	0.45
1:V:332:GLN:H	1:V:332:GLN:HG3	1.53	0.45
1:X:323:ILE:HB	1:X:376:LEU:HG	1.98	0.45
1:Y:323:ILE:HB	1:Y:376:LEU:HG	1.98	0.45
1:Z:164:LYS:HD3	1:Z:164:LYS:HA	1.71	0.45
3:A:542:PRO:HA	3:A:611:SER:HA	1.98	0.45
3:A:623:LYS:H	3:A:626:LEU:HB2	1.81	0.45
4:D:433:TRP:HE1	4:D:484:LEU:HA	1.81	0.45
4:D:684:HIS:HE1	4:D:708:ALA:HB2	1.81	0.45
4:F:391:ARG:HB2	4:F:396:LEU:HD13	1.98	0.45
7:J:902:MET:HG3	1:X:248:TYR:CD2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:454:GLY:O	3:M:458:ASN:ND2	2.50	0.45
3:M:693:ILE:HA	3:M:858:ARG:HH12	1.81	0.45
1:2:415:LYS:HZ2	1:2:419:ASP:H	1.65	0.45
4:B:297:LEU:HD22	4:B:378:LEU:HD23	1.98	0.45
4:B:425:PRO:O	4:B:428:SER:OG	2.33	0.45
4:F:642:TYR:HD2	4:F:657:MET:HE1	1.81	0.45
3:G:551:LEU:HD13	3:G:575:ILE:HB	1.99	0.45
4:H:621:LEU:HD11	4:H:640:LEU:HD13	1.99	0.45
4:N:375:LYS:O	4:N:379:LYS:HG3	2.17	0.45
1:Q:294:MET:SD	1:Q:336:SER:OG	2.64	0.45
1:U:231:LEU:O	1:U:234:THR:OG1	2.26	0.45
1:W:387:LEU:HD13	1:W:390:ARG:HD3	1.98	0.45
1:Y:297:LEU:HD13	1:Y:377:MET:HB2	1.97	0.45
3:G:356:LEU:HB2	3:G:440:PRO:HB3	1.99	0.45
4:N:297:LEU:HD23	4:N:300:LEU:HD12	1.99	0.45
1:P:323:ILE:HD12	1:P:376:LEU:HD11	1.97	0.45
1:P:387:LEU:HD13	1:P:390:ARG:HD3	1.98	0.45
1:S:156:ARG:HA	1:S:156:ARG:HD3	1.75	0.45
1:V:387:LEU:HD13	1:V:390:ARG:HD3	1.98	0.45
1:W:53:TYR:HD1	1:W:61:ILE:HB	1.80	0.45
1:X:387:LEU:HD13	1:X:390:ARG:HD3	1.98	0.45
1:X:415:LYS:HZ2	1:X:419:ASP:H	1.65	0.45
3:E:547:THR:HG23	3:E:550:ARG:HB2	1.99	0.45
3:E:696:TYR:CZ	3:E:855:VAL:HB	2.52	0.45
3:C:306:LEU:O	3:C:310:LEU:HG	2.17	0.45
4:H:644:VAL:H	4:H:654:ARG:HH22	1.65	0.45
6:I:368:LEU:HD21	6:I:396:PHE:CE1	2.52	0.45
7:J:565:SER:HA	7:J:568:LEU:HD12	1.99	0.45
1:S:252:ASP:HB3	3:E:529:VAL:HG21	1.98	0.45
1:U:156:ARG:HA	1:U:156:ARG:HD3	1.75	0.45
1:Z:387:LEU:HD13	1:Z:390:ARG:HD3	1.98	0.45
1:2:387:LEU:HD13	1:2:390:ARG:HD3	1.98	0.44
3:C:334:THR:HG23	3:C:375:LEU:HD22	1.99	0.44
1:S:323:ILE:HD12	1:S:376:LEU:HD11	1.97	0.44
1:V:323:ILE:HB	1:V:376:LEU:HG	1.98	0.44
3:E:219:GLU:O	3:E:222:LEU:HG	2.17	0.44
3:E:840:LEU:HG	3:E:856:ILE:HG12	1.99	0.44
3:A:381:LYS:HE2	3:A:478:THR:HG22	1.98	0.44
4:B:690:LEU:HD21	4:B:800:LEU:HD22	1.99	0.44
3:C:654:GLN:HB3	3:C:759:THR:HG21	1.98	0.44
4:F:493:LEU:HG	4:F:545:LEU:HD13	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:G:561:MET:HB2	1:V:339:ARG:HH11	1.82	0.44
6:I:478:VAL:O	6:I:482:LEU:HG	2.16	0.44
6:K:255:LYS:HD2	6:K:255:LYS:HA	1.86	0.44
6:K:649:LEU:HD22	1:Y:341:ARG:HH22	1.82	0.44
1:2:313:THR:OG1	1:2:314:ASN:N	2.44	0.44
4:F:651:VAL:HG23	4:F:748:ILE:HG12	1.99	0.44
3:G:356:LEU:HD12	3:G:440:PRO:HG3	1.98	0.44
1:S:415:LYS:HZ2	1:S:419:ASP:H	1.65	0.44
1:Z:415:LYS:HZ2	1:Z:419:ASP:H	1.64	0.44
3:A:737:CYS:SG	3:A:738:MET:N	2.87	0.44
4:D:251:VAL:HB	4:D:366:ARG:HH22	1.83	0.44
4:D:433:TRP:CD2	4:D:487:GLY:HA3	2.52	0.44
3:G:397:ARG:HA	3:G:457:LEU:HD13	1.99	0.44
3:G:484:TYR:O	3:G:488:ILE:HG12	2.17	0.44
1:R:246:PRO:HD2	1:R:362:ARG:HH21	1.83	0.44
1:V:156:ARG:HD3	1:V:156:ARG:HA	1.75	0.44
4:H:320:VAL:HG12	4:H:396:LEU:HD23	1.99	0.44
7:J:212:ASP:OD1	7:J:212:ASP:N	2.50	0.44
6:K:2:ILE:HG13	6:K:3:HIS:H	1.83	0.44
6:K:3:HIS:HA	6:K:6:LEU:HD12	1.98	0.44
3:M:320:SER:H	3:M:323:LYS:HD2	1.83	0.44
4:N:866:THR:HG23	4:N:867:THR:HG22	2.00	0.44
1:T:246:PRO:HD2	1:T:362:ARG:HH21	1.83	0.44
1:X:156:ARG:HD3	1:X:156:ARG:HA	1.75	0.44
1:Y:156:ARG:HA	1:Y:156:ARG:HD3	1.75	0.44
4:B:578:MET:HE1	4:B:585:LEU:HD11	1.99	0.44
4:D:887:LYS:HD3	4:D:889:ARG:HH22	1.82	0.44
7:J:246:TRP:CD1	7:J:306:THR:HG21	2.53	0.44
7:J:358:PHE:CE1	7:J:429:ASN:HB2	2.53	0.44
8:L:1609:THR:HG23	8:L:1612:CYS:H	1.83	0.44
4:N:542:SER:O	4:N:546:LEU:HG	2.18	0.44
1:P:246:PRO:HD2	1:P:362:ARG:HH21	1.83	0.44
1:W:164:LYS:HD3	1:W:164:LYS:HA	1.71	0.44
1:X:246:PRO:HD2	1:X:362:ARG:HH21	1.83	0.44
3:E:444:GLN:HA	3:E:447:ALA:HB2	1.98	0.44
4:D:613:ASP:HB3	4:D:617:ILE:HD11	1.99	0.44
4:D:657:MET:O	4:D:661:LEU:HG	2.17	0.44
4:F:681:ARG:O	4:F:685:MET:HG2	2.18	0.44
4:H:321:GLY:HA2	4:H:324:PHE:HB3	2.00	0.44
7:J:720:LEU:HB3	7:J:724:ARG:HH12	1.83	0.44
7:J:802:SER:OG	7:J:803:TYR:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:246:PRO:HD2	1:Q:362:ARG:HH21	1.83	0.44
1:R:221:GLN:O	1:R:224:SER:OG	2.36	0.44
1:W:246:PRO:HD2	1:W:362:ARG:HH21	1.83	0.44
1:1:246:PRO:HD2	1:1:362:ARG:HH21	1.83	0.44
1:1:342:GLU:OE1	8:L:1556:LYS:HB3	2.17	0.44
1:2:156:ARG:HD3	1:2:156:ARG:HA	1.75	0.44
3:A:238:LEU:HD13	3:A:244:ARG:HD2	2.00	0.44
3:A:663:LYS:HG2	1:O:264:PRO:HB3	2.00	0.44
3:G:205:ILE:HG13	3:G:213:GLN:HG2	1.99	0.44
3:M:512:HIS:CE1	3:M:630:ILE:HD13	2.53	0.44
1:T:323:ILE:HB	1:T:376:LEU:HG	1.98	0.44
1:Y:172:PHE:N	1:Y:205:LEU:O	2.50	0.44
3:E:503:LEU:HD12	3:E:719:ILE:HG12	2.00	0.44
3:E:874:ALA:O	3:E:875:GLU:HG3	2.17	0.44
1:2:221:GLN:O	1:2:224:SER:OG	2.36	0.44
4:D:726:VAL:HA	4:D:761:ARG:HD3	1.99	0.44
3:G:565:ASN:OD1	3:G:565:ASN:N	2.51	0.44
6:K:358:LYS:HZ1	6:K:364:GLY:CA	2.30	0.44
6:K:481:TYR:O	6:K:484:SER:OG	2.35	0.44
1:S:221:GLN:O	1:S:224:SER:OG	2.36	0.44
1:U:246:PRO:HD2	1:U:362:ARG:HH21	1.83	0.44
4:B:879:ARG:NE	1:P:337:LEU:HD22	2.32	0.43
4:D:433:TRP:CE2	4:D:487:GLY:HA3	2.53	0.43
3:G:651:VAL:O	3:G:655:LEU:HG	2.17	0.43
3:G:746:LYS:O	3:G:749:SER:OG	2.30	0.43
3:M:311:GLU:O	3:M:315:ARG:HD3	2.18	0.43
4:N:862:LEU:HD23	4:N:865:LEU:HD23	1.99	0.43
1:Q:4:GLU:O	1:Q:133:GLU:N	2.51	0.43
1:Y:221:GLN:O	1:Y:224:SER:OG	2.36	0.43
1:2:246:PRO:HD2	1:2:362:ARG:HH21	1.83	0.43
4:B:393:GLY:HA2	4:B:445:GLU:HB3	2.00	0.43
3:C:860:ASP:HB3	3:C:866:THR:HG23	2.00	0.43
4:D:391:ARG:HG2	4:D:395:GLU:HG3	2.00	0.43
6:K:630:LEU:HD22	6:K:645:LEU:HG	2.00	0.43
8:L:365:SER:H	8:L:368:PHE:HB2	1.82	0.43
4:N:666:PHE:HB2	4:N:764:LEU:HD11	1.99	0.43
1:O:246:PRO:HD2	1:O:362:ARG:HH21	1.83	0.43
1:S:246:PRO:HD2	1:S:362:ARG:HH21	1.83	0.43
1:U:415:LYS:HZ2	1:U:419:ASP:H	1.66	0.43
1:Y:4:GLU:O	1:Y:133:GLU:N	2.51	0.43
1:Z:172:PHE:N	1:Z:205:LEU:O	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Z:246:PRO:HD2	1:Z:362:ARG:HH21	1.83	0.43
3:A:696:TYR:CD2	3:A:858:ARG:HG3	2.52	0.43
4:B:409:PRO:O	4:B:413:SER:OG	2.31	0.43
4:N:320:VAL:HG21	4:N:393:GLY:HA2	1.98	0.43
1:O:221:GLN:O	1:O:224:SER:OG	2.36	0.43
1:P:221:GLN:O	1:P:224:SER:OG	2.36	0.43
1:R:401:ARG:HD3	1:R:404:PHE:HE2	1.84	0.43
1:V:33:PRO:HA	1:V:85:LEU:HD13	2.01	0.43
1:V:401:ARG:HD3	1:V:404:PHE:HE2	1.84	0.43
1:X:321:LEU:HD23	1:X:378:MET:HB2	2.01	0.43
1:Y:246:PRO:HD2	1:Y:362:ARG:HH21	1.83	0.43
3:E:448:ASP:OD1	3:E:448:ASP:N	2.50	0.43
1:1:164:LYS:HA	1:1:164:LYS:HD3	1.71	0.43
1:1:224:SER:O	1:1:228:ILE:HG12	2.19	0.43
1:1:321:LEU:HD23	1:1:378:MET:HB2	2.01	0.43
1:2:401:ARG:HD3	1:2:404:PHE:HE2	1.84	0.43
3:A:388:PHE:C	3:A:390:VAL:N	2.69	0.43
3:A:517:LYS:HD2	3:A:706:TRP:CE2	2.53	0.43
3:A:861:PHE:CE1	1:O:356:ILE:HD13	2.53	0.43
4:F:663:VAL:O	4:F:667:LEU:HG	2.18	0.43
3:G:283:PHE:HA	3:G:290:HIS:CE1	2.54	0.43
7:J:479:TRP:CD1	7:J:485:LEU:HG	2.54	0.43
1:R:321:LEU:HD23	1:R:378:MET:HB2	2.01	0.43
1:T:221:GLN:O	1:T:224:SER:OG	2.36	0.43
1:V:246:PRO:HD2	1:V:362:ARG:HH21	1.83	0.43
1:Y:321:LEU:HD23	1:Y:378:MET:HB2	2.01	0.43
1:Z:224:SER:O	1:Z:228:ILE:HG12	2.19	0.43
3:E:449:LYS:O	3:E:453:THR:OG1	2.31	0.43
4:B:827:GLU:O	4:B:831:LYS:NZ	2.50	0.43
7:J:930:HIS:O	7:J:934:LEU:HG	2.19	0.43
1:O:33:PRO:HA	1:O:85:LEU:HD13	2.01	0.43
1:P:33:PRO:HA	1:P:85:LEU:HD13	2.01	0.43
1:U:106:SER:HB3	1:U:410:LYS:HG3	2.01	0.43
1:U:221:GLN:O	1:U:224:SER:OG	2.36	0.43
1:1:401:ARG:HD3	1:1:404:PHE:HE2	1.84	0.43
4:F:430:LEU:HA	4:F:430:LEU:HD12	1.77	0.43
4:F:563:ARG:HA	4:F:567:LEU:HD13	1.99	0.43
4:H:335:TYR:O	4:H:338:LEU:HG	2.18	0.43
3:M:655:LEU:HA	3:M:658:VAL:HG12	2.01	0.43
1:O:401:ARG:HD3	1:O:404:PHE:HE2	1.84	0.43
1:S:224:SER:O	1:S:228:ILE:HG12	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:4:GLU:O	1:T:133:GLU:N	2.51	0.43
1:T:106:SER:HB3	1:T:410:LYS:HG3	2.01	0.43
1:T:156:ARG:HD3	1:T:156:ARG:HA	1.75	0.43
1:U:33:PRO:HA	1:U:85:LEU:HD13	2.01	0.43
1:W:401:ARG:HD3	1:W:404:PHE:HE2	1.84	0.43
1:X:224:SER:O	1:X:228:ILE:HG12	2.19	0.43
3:E:427:TYR:HA	3:E:431:ARG:HD3	2.01	0.43
1:1:33:PRO:HA	1:1:85:LEU:HD13	2.01	0.43
1:1:221:GLN:O	1:1:224:SER:OG	2.36	0.43
1:2:141:ILE:HB	1:2:173:PRO:HD3	2.01	0.43
4:B:697:PHE:HE2	4:B:799:GLU:HG2	1.83	0.43
4:D:300:LEU:O	4:D:304:ILE:HG12	2.19	0.43
4:F:608:THR:HG23	4:F:610:ALA:H	1.84	0.43
6:K:647:LEU:HD21	1:Y:337:LEU:HD22	2.00	0.43
1:P:332:GLN:H	1:P:332:GLN:HG3	1.53	0.43
1:P:401:ARG:HD3	1:P:404:PHE:HE2	1.84	0.43
1:Q:141:ILE:HB	1:Q:173:PRO:HD3	2.01	0.43
1:Q:321:LEU:HD23	1:Q:378:MET:HB2	2.01	0.43
1:V:106:SER:HB3	1:V:410:LYS:HG3	2.01	0.43
1:V:321:LEU:HD23	1:V:378:MET:HB2	2.01	0.43
1:Y:106:SER:HB3	1:Y:410:LYS:HG3	2.01	0.43
1:1:26:CYS:HA	1:1:31:ILE:HD11	2.01	0.43
3:A:662:ASN:HD21	3:A:675:TRP:N	2.16	0.43
7:J:758:LEU:HD22	7:J:801:LEU:HD11	2.00	0.43
6:K:649:LEU:HD22	1:Y:341:ARG:NH2	2.34	0.43
8:L:438:ARG:HG2	3:M:333:ARG:HH22	1.83	0.43
4:N:384:LEU:HD22	4:N:400:VAL:HG12	2.00	0.43
4:N:577:LEU:HD11	4:N:601:LEU:HD12	1.99	0.43
1:R:26:CYS:HA	1:R:31:ILE:HD11	2.01	0.43
1:T:332:GLN:H	1:T:332:GLN:HG3	1.53	0.43
1:X:26:CYS:HA	1:X:31:ILE:HD11	2.01	0.43
1:Y:141:ILE:HB	1:Y:173:PRO:HD3	2.01	0.43
1:Z:221:GLN:O	1:Z:224:SER:OG	2.36	0.43
1:Z:321:LEU:HD23	1:Z:378:MET:HB2	2.01	0.43
3:E:479:LEU:HG	3:E:480:LYS:HG2	2.00	0.43
1:1:4:GLU:O	1:1:133:GLU:N	2.51	0.43
1:2:321:LEU:HD23	1:2:378:MET:HB2	2.01	0.43
4:B:582:LYS:HG2	4:B:583:PRO:HD3	2.01	0.43
4:B:633:THR:HG22	4:B:636:ASP:HB2	2.00	0.43
4:F:713:HIS:CD2	1:T:353:PRO:HB2	2.53	0.43
7:J:334:VAL:HG13	7:J:362:GLN:HE22	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:453:THR:HG22	3:M:492:PHE:HA	2.00	0.43
4:N:400:VAL:HG21	4:N:422:VAL:HG11	2.01	0.43
1:O:321:LEU:HD23	1:O:378:MET:HB2	2.01	0.43
1:P:141:ILE:HB	1:P:173:PRO:HD3	2.01	0.43
1:R:156:ARG:HD3	1:R:156:ARG:HA	1.75	0.43
1:U:224:SER:O	1:U:228:ILE:HG12	2.19	0.43
1:W:224:SER:O	1:W:228:ILE:HG12	2.19	0.43
1:X:106:SER:HB3	1:X:410:LYS:HG3	2.01	0.43
1:2:33:PRO:HA	1:2:85:LEU:HD13	2.01	0.43
1:2:106:SER:HB3	1:2:410:LYS:HG3	2.01	0.43
4:B:601:LEU:HD21	4:B:621:LEU:HD23	2.01	0.43
4:B:664:PHE:O	4:B:668:TRP:HB2	2.18	0.43
4:B:782:ILE:HG22	4:B:786:GLN:HE21	1.84	0.43
6:I:165:LEU:HA	6:I:166:PRO:HD3	1.89	0.43
7:J:805:VAL:HG12	7:J:809:VAL:HG13	2.00	0.43
3:M:285:TYR:N	3:M:290:HIS:HE1	2.16	0.43
1:R:4:GLU:O	1:R:133:GLU:N	2.51	0.43
1:R:369:SER:HB3	1:R:372:ARG:HD3	2.01	0.43
1:S:401:ARG:HD3	1:S:404:PHE:HE2	1.84	0.43
1:U:141:ILE:HB	1:U:173:PRO:HD3	2.01	0.43
1:X:141:ILE:HB	1:X:173:PRO:HD3	2.01	0.43
1:1:342:GLU:OE1	8:L:1556:LYS:HE3	2.18	0.42
4:D:688:ALA:HB3	4:D:689:LYS:NZ	2.34	0.42
7:J:291:ASP:N	7:J:291:ASP:OD1	2.52	0.42
3:M:509:LEU:O	3:M:513:LEU:HG	2.19	0.42
1:O:141:ILE:HB	1:O:173:PRO:HD3	2.01	0.42
1:P:106:SER:HB3	1:P:410:LYS:HG3	2.01	0.42
1:P:321:LEU:HD23	1:P:378:MET:HB2	2.01	0.42
1:R:224:SER:O	1:R:228:ILE:HG12	2.19	0.42
1:V:224:SER:O	1:V:228:ILE:HG12	2.19	0.42
1:X:401:ARG:HD3	1:X:404:PHE:HE2	1.84	0.42
1:Y:125:GLU:O	1:Y:129:SER:N	2.42	0.42
1:Y:401:ARG:HD3	1:Y:404:PHE:HE2	1.84	0.42
1:Z:106:SER:HB3	1:Z:410:LYS:HG3	2.01	0.42
3:E:623:LYS:O	3:E:627:SER:OG	2.35	0.42
1:1:369:SER:HB3	1:1:372:ARG:HD3	2.01	0.42
4:B:879:ARG:CZ	1:P:337:LEU:HB3	2.49	0.42
4:D:680:ILE:HG23	4:D:789:GLN:HG2	2.01	0.42
1:O:224:SER:O	1:O:228:ILE:HG12	2.19	0.42
1:P:4:GLU:O	1:P:133:GLU:N	2.51	0.42
1:Q:221:GLN:O	1:Q:224:SER:OG	2.36	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:4:GLU:O	1:S:133:GLU:N	2.51	0.42
1:T:369:SER:HB3	1:T:372:ARG:HD3	2.01	0.42
1:V:141:ILE:HB	1:V:173:PRO:HD3	2.01	0.42
1:W:106:SER:HB3	1:W:410:LYS:HG3	2.01	0.42
1:X:4:GLU:O	1:X:133:GLU:N	2.51	0.42
3:E:707:HIS:O	3:E:711:LYS:NZ	2.50	0.42
3:E:712:ASN:HB3	3:E:725:HIS:CG	2.54	0.42
3:A:823:ASN:O	3:A:827:LYS:HE3	2.18	0.42
4:D:702:HIS:CD2	1:R:265:ARG:HH12	2.37	0.42
4:F:493:LEU:HD11	4:F:545:LEU:HB2	2.00	0.42
6:I:408:ASP:HB2	6:I:409:ASN:H	1.67	0.42
6:K:410:LEU:HA	6:K:413:LEU:HD22	2.00	0.42
1:Q:106:SER:HB3	1:Q:410:LYS:HG3	2.01	0.42
1:S:321:LEU:HD23	1:S:378:MET:HB2	2.01	0.42
1:U:401:ARG:HD3	1:U:404:PHE:HE2	1.84	0.42
1:W:141:ILE:HB	1:W:173:PRO:HD3	2.01	0.42
1:Y:369:SER:HB3	1:Y:372:ARG:HD3	2.01	0.42
4:H:327:ALA:HA	4:H:330:GLN:HE21	1.85	0.42
4:H:620:ARG:HA	4:H:643:HIS:NE2	2.34	0.42
4:H:671:LYS:HA	4:H:674:GLU:HG3	2.01	0.42
7:J:274:THR:O	7:J:278:LEU:HG	2.20	0.42
8:L:1800:LEU:HD11	1:Z:337:LEU:HB3	2.00	0.42
1:O:156:ARG:HD3	1:O:156:ARG:HA	1.75	0.42
1:O:415:LYS:HZ2	1:O:419:ASP:H	1.67	0.42
1:T:224:SER:O	1:T:228:ILE:HG12	2.19	0.42
1:T:321:LEU:HD23	1:T:378:MET:HB2	2.01	0.42
1:U:369:SER:HB3	1:U:372:ARG:HD3	2.01	0.42
1:V:369:SER:HB3	1:V:372:ARG:HD3	2.01	0.42
1:W:321:LEU:HD23	1:W:378:MET:HB2	2.01	0.42
1:Z:401:ARG:HD3	1:Z:404:PHE:HE2	1.84	0.42
1:1:156:ARG:HA	1:1:156:ARG:HD3	1.75	0.42
1:2:224:SER:O	1:2:228:ILE:HG12	2.19	0.42
1:2:339:ARG:CZ	3:M:557:LEU:HB2	2.49	0.42
3:A:533:ASP:OD2	1:O:3:ARG:NH1	2.52	0.42
3:C:518:ARG:HG2	3:C:524:GLN:HG2	2.02	0.42
4:D:457:ASP:N	4:D:457:ASP:OD1	2.50	0.42
4:D:848:ARG:HD2	4:D:848:ARG:HA	1.92	0.42
4:F:283:LEU:HB2	4:F:287:LEU:H	1.85	0.42
4:F:419:LEU:HA	4:F:422:VAL:HG22	2.00	0.42
8:L:1512:LEU:HA	8:L:1568:HIS:NE2	2.33	0.42
3:M:240:GLY:O	3:M:275:ARG:NH1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:4:GLU:O	1:O:133:GLU:N	2.51	0.42
1:Q:156:ARG:HA	1:Q:156:ARG:HD3	1.75	0.42
1:Q:224:SER:O	1:Q:228:ILE:HG12	2.19	0.42
1:W:415:LYS:HZ2	1:W:419:ASP:H	1.66	0.42
1:X:221:GLN:O	1:X:224:SER:OG	2.36	0.42
1:2:4:GLU:O	1:2:133:GLU:N	2.51	0.42
3:A:517:LYS:HD2	3:A:706:TRP:CD2	2.54	0.42
3:A:686:MET:H	3:A:686:MET:HG2	1.69	0.42
3:C:154:LEU:O	3:C:158:ARG:NH1	2.53	0.42
4:F:458:ARG:HH12	4:F:654:ARG:HE	1.68	0.42
4:F:752:GLU:O	4:F:755:LEU:HG	2.18	0.42
3:G:548:PRO:HA	3:G:551:LEU:HG	2.01	0.42
6:I:315:LYS:HA	6:I:315:LYS:HD2	1.87	0.42
7:J:360:THR:O	7:J:364:PHE:N	2.52	0.42
1:O:369:SER:HB3	1:O:372:ARG:HD3	2.01	0.42
1:R:383:SER:O	1:R:386:SER:OG	2.32	0.42
1:S:106:SER:HB3	1:S:410:LYS:HG3	2.01	0.42
1:V:221:GLN:O	1:V:224:SER:OG	2.36	0.42
1:Z:26:CYS:HA	1:Z:31:ILE:HD11	2.01	0.42
4:F:589:ALA:HA	4:F:592:LEU:HD13	2.01	0.42
3:M:855:VAL:HG23	3:M:858:ARG:NH1	2.35	0.42
1:O:26:CYS:HA	1:O:31:ILE:HD11	2.01	0.42
1:Q:369:SER:HB3	1:Q:372:ARG:HD3	2.01	0.42
1:Y:348:PHE:HZ	1:Y:356:ILE:HD11	1.85	0.42
1:1:106:SER:HB3	1:1:410:LYS:HG3	2.01	0.42
1:2:26:CYS:HA	1:2:31:ILE:HD11	2.01	0.42
4:B:271:THR:OG1	4:B:272:GLU:OE2	2.35	0.42
4:B:697:PHE:CE2	4:B:799:GLU:HG2	2.54	0.42
4:N:768:SER:O	4:N:768:SER:OG	2.37	0.42
4:N:803:ARG:HH21	4:N:829:GLU:HG2	1.84	0.42
1:P:193:LYS:HD3	1:P:194:ARG:HD2	2.02	0.42
1:P:224:SER:O	1:P:228:ILE:HG12	2.19	0.42
1:R:141:ILE:HB	1:R:173:PRO:HD3	2.01	0.42
1:T:141:ILE:HB	1:T:173:PRO:HD3	2.01	0.42
1:U:4:GLU:O	1:U:133:GLU:N	2.51	0.42
1:W:172:PHE:N	1:W:205:LEU:O	2.50	0.42
1:W:327:GLU:HG2	1:W:372:ARG:HB2	2.02	0.42
1:X:33:PRO:HA	1:X:85:LEU:HD13	2.01	0.42
1:X:369:SER:HB3	1:X:372:ARG:HD3	2.01	0.42
1:Z:332:GLN:H	1:Z:332:GLN:HG3	1.53	0.42
1:2:327:GLU:HG2	1:2:372:ARG:HB2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:499:ASP:HB3	4:B:501:THR:HG22	2.00	0.42
3:C:214:GLU:O	3:C:218:VAL:HG23	2.20	0.42
4:D:887:LYS:HD3	4:D:887:LYS:HA	1.84	0.42
4:F:554:SER:O	4:F:558:HIS:ND1	2.53	0.42
4:F:583:PRO:HA	4:F:586:VAL:HG22	2.01	0.42
3:G:508:GLU:O	3:G:512:HIS:ND1	2.46	0.42
6:I:104:LEU:HD12	6:I:107:LEU:HD12	2.02	0.42
6:I:259:LEU:HD12	6:I:259:LEU:HA	1.89	0.42
7:J:912:GLU:O	7:J:916:GLN:HG2	2.19	0.42
6:K:478:VAL:HG21	6:K:568:LEU:HD13	2.01	0.42
3:M:550:ARG:O	3:M:554:LEU:HG	2.20	0.42
1:P:26:CYS:HA	1:P:31:ILE:HD11	2.01	0.42
1:R:86:TYR:HB2	1:R:87:ASN:H	1.68	0.42
1:T:427:ILE:HD13	1:T:427:ILE:HA	1.95	0.42
1:U:26:CYS:HA	1:U:31:ILE:HD11	2.01	0.42
1:U:193:LYS:HD3	1:U:194:ARG:HD2	2.02	0.42
1:V:26:CYS:HA	1:V:31:ILE:HD11	2.01	0.42
1:W:26:CYS:HA	1:W:31:ILE:HD11	2.01	0.42
1:Y:33:PRO:HA	1:Y:85:LEU:HD13	2.01	0.42
1:Z:33:PRO:HA	1:Z:85:LEU:HD13	2.01	0.42
1:Z:86:TYR:HB2	1:Z:87:ASN:H	1.68	0.42
1:Z:141:ILE:HB	1:Z:173:PRO:HD3	2.01	0.42
3:E:363:SER:HA	3:E:376:CYS:SG	2.60	0.42
4:B:251:VAL:HG21	4:B:363:THR:HG22	2.02	0.42
4:B:830:ASN:HB2	4:B:831:LYS:HZ2	1.85	0.42
3:C:517:LYS:HG2	3:C:521:LEU:HB2	2.02	0.42
4:F:325:CYS:HA	4:F:328:LEU:HG	2.02	0.42
3:G:408:MET:HG3	3:G:439:ILE:HG12	2.02	0.42
4:N:304:ILE:O	4:N:308:THR:HG23	2.19	0.42
1:Q:26:CYS:HA	1:Q:31:ILE:HD11	2.01	0.42
1:R:106:SER:HB3	1:R:410:LYS:HG3	2.01	0.42
1:S:33:PRO:HA	1:S:85:LEU:HD13	2.01	0.42
1:S:193:LYS:HD3	1:S:194:ARG:HD2	2.02	0.42
1:V:4:GLU:O	1:V:133:GLU:N	2.51	0.42
1:V:327:GLU:HG2	1:V:372:ARG:HB2	2.02	0.42
1:W:33:PRO:HA	1:W:85:LEU:HD13	2.01	0.42
1:W:221:GLN:O	1:W:224:SER:OG	2.36	0.42
1:W:369:SER:HB3	1:W:372:ARG:HD3	2.01	0.42
1:Y:26:CYS:HA	1:Y:31:ILE:HD11	2.01	0.42
1:Y:77:ILE:O	1:Y:80:SER:OG	2.37	0.42
1:Y:224:SER:O	1:Y:228:ILE:HG12	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Z:369:SER:HB3	1:Z:372:ARG:HD3	2.01	0.42
1:1:141:ILE:HB	1:1:173:PRO:HD3	2.01	0.41
1:1:237:SER:O	1:1:241:THR:OG1	2.31	0.41
1:2:369:SER:HB3	1:2:372:ARG:HD3	2.01	0.41
3:C:641:LEU:HD21	3:C:734:LEU:HA	2.01	0.41
3:C:818:PHE:O	3:C:821:THR:OG1	2.33	0.41
3:M:295:ALA:O	3:M:298:THR:OG1	2.37	0.41
3:M:522:MET:HG2	3:M:528:PHE:CE2	2.54	0.41
3:M:547:THR:HA	3:M:548:PRO:HD3	1.92	0.41
1:U:321:LEU:HD23	1:U:378:MET:HB2	2.01	0.41
1:V:193:LYS:HD3	1:V:194:ARG:HD2	2.02	0.41
1:Y:206:ASP:HB2	1:Y:305:VAL:HG13	2.02	0.41
1:1:86:TYR:HB2	1:1:87:ASN:H	1.68	0.41
3:A:320:SER:OG	3:A:321:LEU:N	2.53	0.41
4:B:466:LEU:HG	4:B:468:LYS:HG3	2.01	0.41
4:F:494:HIS:CD2	4:F:500:GLN:HG3	2.55	0.41
4:F:559:MET:HE2	4:F:559:MET:HB3	1.92	0.41
4:F:671:LYS:HE3	4:F:671:LYS:HB3	1.83	0.41
4:F:689:LYS:NZ	1:T:196:THR:O	2.53	0.41
3:G:313:LEU:HD11	3:G:318:LEU:HD23	2.02	0.41
6:K:19:TRP:HH2	6:K:54:ARG:HE	1.66	0.41
8:L:503:SER:O	8:L:506:TYR:HB3	2.21	0.41
8:L:1773:LYS:HD2	8:L:1773:LYS:HA	1.76	0.41
3:M:461:ARG:HD3	3:M:467:VAL:HG22	2.02	0.41
4:N:341:VAL:O	4:N:345:GLN:HG2	2.20	0.41
1:Q:33:PRO:HA	1:Q:85:LEU:HD13	2.01	0.41
1:T:193:LYS:HD3	1:T:194:ARG:HD2	2.02	0.41
1:2:206:ASP:HB2	1:2:305:VAL:HG13	2.03	0.41
3:A:376:CYS:SG	3:A:377:LEU:N	2.93	0.41
4:B:474:PHE:HB2	4:B:524:THR:HG21	2.01	0.41
3:C:364:PHE:HA	3:C:367:THR:HB	2.02	0.41
3:G:398:GLY:N	3:G:457:LEU:HD22	2.35	0.41
6:I:3:HIS:HB2	8:L:297:TRP:CZ2	2.55	0.41
6:I:582:CYS:O	6:I:586:ILE:HG12	2.20	0.41
6:K:646:LEU:HD12	1:Y:338:GLN:OE1	2.20	0.41
4:N:737:LYS:HA	4:N:740:GLN:HE21	1.85	0.41
1:O:106:SER:HB3	1:O:410:LYS:HG3	2.01	0.41
1:P:156:ARG:HA	1:P:156:ARG:HD3	1.75	0.41
1:P:369:SER:HB3	1:P:372:ARG:HD3	2.01	0.41
1:Q:401:ARG:HD3	1:Q:404:PHE:HE2	1.84	0.41
1:S:427:ILE:HD13	1:S:427:ILE:HA	1.95	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:164:LYS:HD3	1:X:164:LYS:HA	1.71	0.41
1:X:193:LYS:HD3	1:X:194:ARG:HD2	2.02	0.41
1:Z:4:GLU:O	1:Z:133:GLU:N	2.51	0.41
3:A:476:ILE:H	3:A:483:ALA:HB2	1.86	0.41
3:C:613:LEU:HD22	3:C:650:HIS:CE1	2.55	0.41
3:C:661:SER:O	3:C:770:LYS:HD3	2.19	0.41
3:C:674:GLN:O	1:Q:265:ARG:NH2	2.53	0.41
4:D:879:ARG:HA	4:D:879:ARG:NH2	2.35	0.41
3:G:689:PHE:O	3:G:693:ILE:HG12	2.21	0.41
7:J:473:LEU:HA	7:J:476:VAL:HG22	2.01	0.41
7:J:485:LEU:HD23	7:J:485:LEU:HA	1.88	0.41
4:N:377:ARG:HE	4:N:377:ARG:HB3	1.77	0.41
4:N:444:HIS:HD2	4:N:467:ARG:NH2	2.18	0.41
1:O:206:ASP:HB2	1:O:305:VAL:HG13	2.03	0.41
1:P:327:GLU:HG2	1:P:372:ARG:HB2	2.02	0.41
1:R:164:LYS:HD3	1:R:164:LYS:HA	1.71	0.41
1:R:327:GLU:HG2	1:R:372:ARG:HB2	2.02	0.41
1:S:26:CYS:HA	1:S:31:ILE:HD11	2.01	0.41
1:S:206:ASP:HB2	1:S:305:VAL:HG13	2.03	0.41
1:T:401:ARG:HD3	1:T:404:PHE:HE2	1.84	0.41
1:X:172:PHE:N	1:X:205:LEU:O	2.50	0.41
4:B:889:ARG:HB2	4:B:893:LEU:HG	2.03	0.41
6:K:48:LEU:H	6:K:48:LEU:HG	1.72	0.41
3:M:565:ASN:HA	3:M:570:LYS:HE3	2.02	0.41
3:M:651:VAL:O	3:M:654:GLN:HG2	2.20	0.41
3:M:691:GLN:HA	3:M:694:GLN:HE21	1.86	0.41
1:O:172:PHE:N	1:O:205:LEU:O	2.50	0.41
1:S:327:GLU:HG2	1:S:372:ARG:HB2	2.02	0.41
1:T:33:PRO:HA	1:T:85:LEU:HD13	2.01	0.41
1:U:327:GLU:HG2	1:U:372:ARG:HB2	2.02	0.41
1:1:77:ILE:O	1:1:80:SER:OG	2.37	0.41
1:1:327:GLU:HG2	1:1:372:ARG:HB2	2.02	0.41
1:1:415:LYS:HZ2	1:1:419:ASP:H	1.68	0.41
3:C:178:PRO:HG2	4:D:383:ALA:HB1	2.02	0.41
3:C:574:LYS:HD3	3:C:574:LYS:HA	1.89	0.41
3:G:298:THR:HA	3:G:301:LYS:HD2	2.03	0.41
3:G:624:TRP:O	3:G:627:SER:OG	2.32	0.41
3:G:766:THR:O	3:G:770:LYS:HG2	2.21	0.41
4:H:846:GLN:O	4:H:850:LEU:HG	2.21	0.41
6:K:341:TRP:CE2	6:K:552:ARG:HA	2.56	0.41
1:Q:327:GLU:HG2	1:Q:372:ARG:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:645:MET:H	3:E:645:MET:HG2	1.67	0.41
1:1:353:PRO:HD3	3:M:864:PHE:CD2	2.56	0.41
1:2:193:LYS:HD3	1:2:194:ARG:HD2	2.02	0.41
4:B:800:LEU:O	4:B:804:LEU:HG	2.20	0.41
7:J:942:LEU:HD12	7:J:942:LEU:HA	1.84	0.41
6:K:540:GLN:HG3	6:K:564:PHE:CD1	2.56	0.41
4:N:451:ASP:O	4:N:463:LYS:NZ	2.49	0.41
4:N:697:PHE:HB2	4:N:701:LEU:HD23	2.01	0.41
1:O:77:ILE:O	1:O:80:SER:OG	2.37	0.41
1:O:237:SER:O	1:O:241:THR:OG1	2.31	0.41
1:R:33:PRO:HA	1:R:85:LEU:HD13	2.01	0.41
1:T:26:CYS:HA	1:T:31:ILE:HD11	2.01	0.41
1:U:206:ASP:HB2	1:U:305:VAL:HG13	2.03	0.41
1:X:327:GLU:HG2	1:X:372:ARG:HB2	2.02	0.41
1:1:427:ILE:HD13	1:1:427:ILE:HA	1.95	0.41
3:A:571:ASP:N	3:A:571:ASP:OD2	2.48	0.41
3:G:319:LEU:HD21	3:G:327:TYR:HE2	1.84	0.41
4:H:669:ARG:O	4:H:673:MET:HG2	2.21	0.41
6:I:93:LEU:HA	6:I:96:VAL:HG22	2.03	0.41
7:J:826:LEU:O	7:J:829:LEU:HG	2.21	0.41
6:K:356:ILE:HG13	6:K:360:PHE:CD1	2.56	0.41
1:Q:193:LYS:HD3	1:Q:194:ARG:HD2	2.02	0.41
1:Z:327:GLU:HG2	1:Z:372:ARG:HB2	2.02	0.41
1:2:77:ILE:O	1:2:80:SER:OG	2.37	0.41
1:2:233:SER:HA	1:2:236:MET:HG3	2.03	0.41
1:2:339:ARG:HG2	3:M:554:LEU:HD23	2.03	0.41
1:2:408:PHE:HD1	1:2:408:PHE:HA	1.80	0.41
3:A:861:PHE:CD1	1:O:356:ILE:HD13	2.55	0.41
3:C:492:PHE:O	3:C:496:SER:OG	2.32	0.41
4:D:535:ASP:OD1	4:D:535:ASP:N	2.54	0.41
3:G:319:LEU:HD23	3:G:319:LEU:HA	1.86	0.41
3:G:333:ARG:O	3:G:337:ILE:HG12	2.21	0.41
4:H:703:GLN:HG2	4:H:847:LEU:HD22	2.02	0.41
4:H:715:ILE:HD12	4:H:715:ILE:HG23	1.90	0.41
4:H:887:LYS:HD3	4:H:887:LYS:HA	1.99	0.41
7:J:702:CYS:SG	7:J:703:CYS:N	2.94	0.41
8:L:1545:LEU:HA	8:L:1579:LEU:HD12	2.03	0.41
3:M:509:LEU:HD12	3:M:509:LEU:H	1.86	0.41
1:P:233:SER:HA	1:P:236:MET:HG3	2.03	0.41
1:R:408:PHE:HD1	1:R:408:PHE:HA	1.80	0.41
1:T:292:ASP:HB3	1:T:296:ARG:CZ	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:206:ASP:HB2	1:V:305:VAL:HG13	2.03	0.41
1:W:206:ASP:HB2	1:W:305:VAL:HG13	2.03	0.41
1:X:292:ASP:HB3	1:X:296:ARG:CZ	2.51	0.41
1:Y:292:ASP:HB3	1:Y:296:ARG:CZ	2.51	0.41
1:Z:193:LYS:HD3	1:Z:194:ARG:HD2	2.02	0.41
1:Z:206:ASP:HB2	1:Z:305:VAL:HG13	2.03	0.41
3:E:635:LEU:O	3:E:639:GLN:HG2	2.20	0.41
4:F:305:ARG:NE	4:F:306:ARG:HH12	2.19	0.41
4:F:416:GLN:HA	4:F:419:LEU:HD22	2.01	0.41
4:H:681:ARG:CZ	4:H:712:VAL:HG21	2.51	0.41
4:H:681:ARG:O	4:H:685:MET:HG2	2.21	0.41
4:N:494:HIS:NE2	4:N:500:GLN:HG3	2.36	0.41
4:N:680:ILE:HG21	4:N:785:LEU:HD21	2.03	0.41
4:N:880:LEU:HD23	4:N:880:LEU:HA	1.95	0.41
1:O:292:ASP:HB3	1:O:296:ARG:CZ	2.51	0.41
1:O:327:GLU:HG2	1:O:372:ARG:HB2	2.02	0.41
1:P:117:ASP:OD1	1:P:117:ASP:N	2.36	0.41
1:R:415:LYS:HZ2	1:R:419:ASP:H	1.68	0.41
3:E:306:LEU:O	3:E:310:LEU:HG	2.21	0.41
1:2:249:MET:HA	4:N:575:ARG:HH12	1.86	0.40
4:D:862:LEU:HD23	4:D:862:LEU:HA	1.91	0.40
4:F:543:LYS:HD2	4:F:543:LYS:HA	1.80	0.40
4:H:377:ARG:HH12	4:H:410:TYR:C	2.25	0.40
6:I:535:ASP:HA	6:I:538:GLU:HG2	2.02	0.40
6:K:6:LEU:HD21	6:K:111:PHE:HE1	1.86	0.40
4:N:455:LYS:H	4:N:455:LYS:HG2	1.51	0.40
1:O:233:SER:HA	1:O:236:MET:HG3	2.03	0.40
1:P:164:LYS:HD3	1:P:164:LYS:HA	1.71	0.40
1:S:141:ILE:HB	1:S:173:PRO:HD3	2.01	0.40
1:S:292:ASP:HB3	1:S:296:ARG:CZ	2.51	0.40
1:W:4:GLU:O	1:W:133:GLU:N	2.51	0.40
1:Y:415:LYS:HZ2	1:Y:419:ASP:H	1.68	0.40
1:2:86:TYR:HB2	1:2:87:ASN:H	1.68	0.40
4:D:251:VAL:HB	4:D:366:ARG:NH2	2.36	0.40
4:D:304:ILE:HG22	4:D:328:LEU:HD21	2.03	0.40
4:F:667:LEU:O	4:F:671:LYS:HG3	2.21	0.40
3:G:521:LEU:HD12	3:G:521:LEU:HA	1.88	0.40
4:H:736:ASN:HA	4:H:739:GLN:HE21	1.85	0.40
7:J:556:LEU:HA	7:J:559:ILE:HD12	2.03	0.40
6:K:653:LYS:HG2	1:Y:351:TRP:O	2.21	0.40
1:O:193:LYS:HD3	1:O:194:ARG:HD2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:206:ASP:HB2	1:R:305:VAL:HG13	2.02	0.40
1:S:369:SER:HB3	1:S:372:ARG:HD3	2.01	0.40
1:U:172:PHE:N	1:U:205:LEU:O	2.50	0.40
1:Y:193:LYS:HD3	1:Y:194:ARG:HD2	2.02	0.40
1:Y:332:GLN:H	1:Y:332:GLN:HG3	1.53	0.40
3:E:645:MET:O	3:E:649:LYS:HE3	2.21	0.40
4:B:874:ARG:O	4:B:877:SER:OG	2.38	0.40
3:C:552:GLU:O	3:C:556:GLU:HG2	2.22	0.40
4:H:603:THR:HG21	1:W:342:GLU:HB2	2.03	0.40
6:I:549:ASN:OD1	6:I:549:ASN:N	2.53	0.40
7:J:938:HIS:NE2	7:J:943:LEU:HB2	2.36	0.40
3:M:504:MET:SD	3:M:510:VAL:HG23	2.61	0.40
1:S:136:VAL:HG22	1:S:167:GLN:HB3	2.04	0.40
1:U:348:PHE:HZ	1:U:356:ILE:HD12	1.85	0.40
1:V:160:ARG:HD2	1:V:160:ARG:HA	1.98	0.40
1:X:206:ASP:HB2	1:X:305:VAL:HG13	2.03	0.40
1:Z:136:VAL:HG22	1:Z:167:GLN:HB3	2.04	0.40
1:1:193:LYS:HD3	1:1:194:ARG:HD2	2.02	0.40
4:B:578:MET:HE2	4:B:581:LEU:HB3	2.04	0.40
4:B:735:TRP:HA	4:B:738:VAL:HG22	2.02	0.40
3:C:169:ASN:HD22	3:C:413:GLU:HB3	1.87	0.40
4:D:679:ASP:HA	4:D:682:LYS:HG3	2.04	0.40
4:F:490:ILE:HD12	4:F:490:ILE:HA	1.90	0.40
3:G:190:ASP:OD1	3:G:271:SER:HA	2.21	0.40
3:G:266:VAL:HA	3:G:269:SER:HB3	2.03	0.40
3:G:449:LYS:O	3:G:453:THR:OG1	2.33	0.40
6:I:486:ARG:HH21	6:I:490:ALA:HA	1.86	0.40
6:K:52:TYR:OH	6:K:101:ARG:NH1	2.55	0.40
8:L:554:ILE:HD11	8:L:595:ILE:HG23	2.02	0.40
4:N:484:LEU:O	4:N:488:LYS:HG3	2.22	0.40
4:N:498:HIS:HB2	4:N:499:ASP:H	1.69	0.40
4:N:656:CYS:SG	4:N:751:HIS:HE1	2.45	0.40
1:P:172:PHE:N	1:P:205:LEU:O	2.50	0.40
1:R:136:VAL:HG22	1:R:167:GLN:HB3	2.04	0.40
1:S:233:SER:HA	1:S:236:MET:HG3	2.03	0.40
1:T:327:GLU:HG2	1:T:372:ARG:HB2	2.02	0.40
1:U:195:LEU:HD21	1:U:202:VAL:HG11	2.04	0.40
1:X:77:ILE:O	1:X:80:SER:OG	2.37	0.40
1:Z:117:ASP:OD1	1:Z:117:ASP:N	2.36	0.40
1:2:292:ASP:HB3	1:2:296:ARG:CZ	2.51	0.40
4:B:622:ASP:OD2	4:B:622:ASP:N	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:885:HIS:NE2	1:P:352:GLY:HA2	2.36	0.40
4:D:548:VAL:HG23	4:D:549:LEU:HD22	2.03	0.40
4:D:588:PRO:HA	4:D:633:THR:HA	2.03	0.40
4:F:721:TYR:CG	4:F:876:LEU:HD13	2.56	0.40
3:G:753:SER:O	3:G:757:MET:HG2	2.22	0.40
4:H:287:LEU:H	4:H:287:LEU:HG	1.67	0.40
1:O:117:ASP:OD1	1:O:117:ASP:N	2.36	0.40
1:S:172:PHE:N	1:S:205:LEU:O	2.50	0.40
1:Y:136:VAL:HG22	1:Y:167:GLN:HB3	2.04	0.40
1:Y:327:GLU:HG2	1:Y:372:ARG:HB2	2.02	0.40
1:Z:156:ARG:HD3	1:Z:156:ARG:HA	1.75	0.40
1:Z:348:PHE:HZ	1:Z:356:ILE:HD12	1.87	0.40
3:E:415:ARG:HA	3:E:415:ARG:HD3	1.72	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	1	408/451 (90%)	382 (94%)	26 (6%)	0	100	100
1	2	408/451 (90%)	383 (94%)	24 (6%)	1 (0%)	47	81
1	O	408/451 (90%)	383 (94%)	24 (6%)	1 (0%)	47	81
1	P	408/451 (90%)	383 (94%)	24 (6%)	1 (0%)	47	81
1	Q	408/451 (90%)	383 (94%)	24 (6%)	1 (0%)	47	81
1	R	408/451 (90%)	383 (94%)	24 (6%)	1 (0%)	47	81
1	S	408/451 (90%)	383 (94%)	24 (6%)	1 (0%)	47	81
1	T	408/451 (90%)	383 (94%)	24 (6%)	1 (0%)	47	81
1	U	408/451 (90%)	383 (94%)	24 (6%)	1 (0%)	47	81
1	V	408/451 (90%)	383 (94%)	25 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	W	408/451 (90%)	383 (94%)	24 (6%)	1 (0%)	47	81
1	X	408/451 (90%)	383 (94%)	24 (6%)	1 (0%)	47	81
1	Y	408/451 (90%)	383 (94%)	24 (6%)	1 (0%)	47	81
1	Z	408/451 (90%)	383 (94%)	24 (6%)	1 (0%)	47	81
2	e	360/375 (96%)	340 (94%)	20 (6%)	0	100	100
3	A	599/902 (66%)	567 (95%)	32 (5%)	0	100	100
3	C	606/902 (67%)	563 (93%)	42 (7%)	1 (0%)	47	81
3	E	628/902 (70%)	594 (95%)	32 (5%)	2 (0%)	41	77
3	G	628/902 (70%)	591 (94%)	33 (5%)	4 (1%)	25	66
3	M	624/902 (69%)	590 (95%)	32 (5%)	2 (0%)	41	77
4	B	602/907 (66%)	581 (96%)	19 (3%)	2 (0%)	41	77
4	D	571/907 (63%)	554 (97%)	17 (3%)	0	100	100
4	F	591/907 (65%)	566 (96%)	25 (4%)	0	100	100
4	H	584/907 (64%)	563 (96%)	20 (3%)	1 (0%)	47	81
4	N	584/907 (64%)	553 (95%)	28 (5%)	3 (0%)	29	69
4	a	112/907 (12%)	107 (96%)	5 (4%)	0	100	100
4	f	105/907 (12%)	97 (92%)	5 (5%)	3 (3%)	4	29
4	h	105/907 (12%)	97 (92%)	6 (6%)	2 (2%)	8	38
4	j	105/907 (12%)	98 (93%)	6 (6%)	1 (1%)	15	55
5	b	63/82 (77%)	60 (95%)	3 (5%)	0	100	100
5	d	57/82 (70%)	56 (98%)	1 (2%)	0	100	100
5	g	63/82 (77%)	61 (97%)	2 (3%)	0	100	100
5	i	63/82 (77%)	62 (98%)	1 (2%)	0	100	100
5	k	63/82 (77%)	62 (98%)	1 (2%)	0	100	100
5	m	63/82 (77%)	63 (100%)	0	0	100	100
6	I	511/667 (77%)	487 (95%)	20 (4%)	4 (1%)	19	60
6	K	548/667 (82%)	534 (97%)	12 (2%)	2 (0%)	34	72
7	J	506/1024 (49%)	473 (94%)	30 (6%)	3 (1%)	25	66
7	l	104/1024 (10%)	100 (96%)	2 (2%)	2 (2%)	8	38
8	L	540/1819 (30%)	504 (93%)	33 (6%)	3 (1%)	25	66
8	c	148/1819 (8%)	140 (95%)	8 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	15245/26874 (57%)	14424 (95%)	774 (5%)	47 (0%)	44 77

All (47) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	B	871	GLU
3	G	241	ARG
6	I	408	ASP
6	I	508	ASN
7	J	236	LEU
7	J	238	LEU
7	J	257	TYR
6	K	255	LYS
6	K	409	ASN
3	M	241	ARG
3	M	675	TRP
4	N	455	LYS
4	N	498	HIS
3	E	241	ARG
4	h	112	SER
4	f	105	ARG
4	f	108	PRO
3	G	581	ASP
6	I	405	LEU
8	L	307	ARG
8	L	451	PRO
1	2	348	PHE
1	P	348	PHE
1	Q	348	PHE
1	W	348	PHE
1	Y	348	PHE
3	C	466	ASP
3	G	676	PHE
4	N	499	ASP
1	R	348	PHE
1	T	348	PHE
1	X	348	PHE
1	Z	348	PHE
4	j	108	PRO
3	E	581	ASP
4	B	870	ASP
3	G	675	TRP

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Mol	Chain	Res	Type
4	H	455	LYS
1	O	348	PHE
1	S	348	PHE
1	U	348	PHE
7	l	129	THR
4	h	108	PRO
4	f	107	GLN
6	I	404	LEU
7	l	120	SER
8	L	452	PRO

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	1	376/400 (94%)	325 (86%)	51 (14%)	3 17
1	2	376/400 (94%)	327 (87%)	49 (13%)	4 18
1	O	376/400 (94%)	327 (87%)	49 (13%)	4 18
1	P	376/400 (94%)	327 (87%)	49 (13%)	4 18
1	Q	376/400 (94%)	327 (87%)	49 (13%)	4 18
1	R	376/400 (94%)	327 (87%)	49 (13%)	4 18
1	S	376/400 (94%)	327 (87%)	49 (13%)	4 18
1	T	376/400 (94%)	327 (87%)	49 (13%)	4 18
1	U	376/400 (94%)	327 (87%)	49 (13%)	4 18
1	V	376/400 (94%)	327 (87%)	49 (13%)	4 18
1	W	376/400 (94%)	327 (87%)	49 (13%)	4 18
1	X	376/400 (94%)	327 (87%)	49 (13%)	4 18
1	Y	376/400 (94%)	327 (87%)	49 (13%)	4 18
1	Z	376/400 (94%)	327 (87%)	49 (13%)	4 18
2	e	310/318 (98%)	300 (97%)	10 (3%)	39 61
3	A	549/791 (69%)	541 (98%)	8 (2%)	65 80

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
3	C	556/791 (70%)	553 (100%)	3 (0%)	88 93
3	E	575/791 (73%)	571 (99%)	4 (1%)	84 90
3	G	575/791 (73%)	573 (100%)	2 (0%)	92 95
3	M	572/791 (72%)	567 (99%)	5 (1%)	78 87
4	B	551/798 (69%)	546 (99%)	5 (1%)	78 87
4	D	525/798 (66%)	524 (100%)	1 (0%)	93 96
4	F	542/798 (68%)	538 (99%)	4 (1%)	84 90
4	H	539/798 (68%)	533 (99%)	6 (1%)	73 84
4	N	539/798 (68%)	530 (98%)	9 (2%)	60 78
4	a	101/798 (13%)	100 (99%)	1 (1%)	76 86
4	f	96/798 (12%)	96 (100%)	0	100 100
4	h	96/798 (12%)	96 (100%)	0	100 100
4	j	96/798 (12%)	96 (100%)	0	100 100
5	b	53/62 (86%)	52 (98%)	1 (2%)	57 75
5	d	53/62 (86%)	53 (100%)	0	100 100
5	g	53/62 (86%)	51 (96%)	2 (4%)	33 57
5	i	53/62 (86%)	53 (100%)	0	100 100
5	k	53/62 (86%)	52 (98%)	1 (2%)	57 75
5	m	53/62 (86%)	53 (100%)	0	100 100
6	I	472/594 (80%)	467 (99%)	5 (1%)	73 84
6	K	509/594 (86%)	505 (99%)	4 (1%)	81 89
7	J	498/933 (53%)	493 (99%)	5 (1%)	76 86
7	l	96/933 (10%)	93 (97%)	3 (3%)	40 62
8	L	501/1546 (32%)	497 (99%)	4 (1%)	81 89
8	c	135/1546 (9%)	134 (99%)	1 (1%)	84 90
All	All	14015/23573 (60%)	13243 (94%)	772 (6%)	25 47

All (772) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1	20	GLU
1	1	24	GLN
1	1	34	GLU

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Mol	Chain	Res	Type
1	1	38	GLU
1	1	49	ASP
1	1	50	VAL
1	1	66	LEU
1	1	78	LEU
1	1	106	SER
1	1	117	ASP
1	1	118	ILE
1	1	120	ASP
1	1	137	LEU
1	1	140	SER
1	1	153	LEU
1	1	157	LEU
1	1	165	LEU
1	1	166	VAL
1	1	168	THR
1	1	189	LEU
1	1	192	LEU
1	1	204	VAL
1	1	206	ASP
1	1	224	SER
1	1	229	ASN
1	1	233	SER
1	1	236	MET
1	1	254	ILE
1	1	256	LEU
1	1	265	ARG
1	1	269	LEU
1	1	274	THR
1	1	277	THR
1	1	288	THR
1	1	295	ARG
1	1	297	LEU
1	1	298	LEU
1	1	316	CYS
1	1	321	LEU
1	1	332	GLN
1	1	337	LEU
1	1	343	ARG
1	1	345	LEU
1	1	348	PHE
1	1	361	SER

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Mol	Chain	Res	Type
1	1	367	LEU
1	1	373	VAL
1	1	376	LEU
1	1	402	GLU
1	1	423	THR
1	1	431	LEU
1	2	20	GLU
1	2	24	GLN
1	2	34	GLU
1	2	38	GLU
1	2	49	ASP
1	2	50	VAL
1	2	66	LEU
1	2	78	LEU
1	2	106	SER
1	2	117	ASP
1	2	118	ILE
1	2	120	ASP
1	2	137	LEU
1	2	140	SER
1	2	153	LEU
1	2	157	LEU
1	2	165	LEU
1	2	166	VAL
1	2	168	THR
1	2	189	LEU
1	2	192	LEU
1	2	204	VAL
1	2	206	ASP
1	2	224	SER
1	2	229	ASN
1	2	233	SER
1	2	236	MET
1	2	254	ILE
1	2	256	LEU
1	2	265	ARG
1	2	269	LEU
1	2	274	THR
1	2	277	THR
1	2	288	THR
1	2	295	ARG
1	2	297	LEU

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Mol	Chain	Res	Type
1	2	298	LEU
1	2	316	CYS
1	2	321	LEU
1	2	332	GLN
1	2	337	LEU
1	2	343	ARG
1	2	361	SER
1	2	367	LEU
1	2	373	VAL
1	2	376	LEU
1	2	402	GLU
1	2	423	THR
1	2	431	LEU
2	e	33	SER
2	e	95	ARG
2	e	261	LEU
2	e	291	LYS
2	e	304	THR
2	e	315	LYS
2	e	325	MET
2	e	326	LYS
2	e	334	GLU
2	e	374	CYS
3	A	387	TYR
3	A	388	PHE
3	A	389	GLU
3	A	570	LYS
3	A	660	ILE
3	A	698	MET
3	A	761	CYS
3	A	764	LYS
4	B	629	SER
4	B	678	THR
4	B	689	LYS
4	B	842	LYS
4	B	892	ARG
3	C	532	MET
3	C	762	MET
3	C	866	THR
4	D	483	VAL
5	b	65	LYS
4	F	285	ARG

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Mol	Chain	Res	Type
4	F	406	THR
4	F	419	LEU
4	F	677	LEU
3	G	190	ASP
3	G	241	ARG
4	H	454	VAL
4	H	574	ILE
4	H	603	THR
4	H	694	MET
4	H	778	VAL
4	H	879	ARG
6	I	126	LEU
6	I	168	VAL
6	I	176	LEU
6	I	523	PHE
6	I	530	TYR
7	J	442	LYS
7	J	702	CYS
7	J	824	VAL
7	J	835	LYS
7	J	944	ARG
6	K	260	ARG
6	K	500	MET
6	K	646	LEU
6	K	653	LYS
8	L	444	ARG
8	L	540	VAL
8	L	1800	LEU
8	L	1805	ASN
3	M	304	LEU
3	M	313	LEU
3	M	507	LYS
3	M	549	PRO
3	M	822	ILE
4	N	361	SER
4	N	404	THR
4	N	453	THR
4	N	592	LEU
4	N	606	ARG
4	N	621	LEU
4	N	656	CYS
4	N	685	MET

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Mol	Chain	Res	Type
4	N	712	VAL
1	O	20	GLU
1	O	24	GLN
1	O	34	GLU
1	O	38	GLU
1	O	49	ASP
1	O	50	VAL
1	O	66	LEU
1	O	78	LEU
1	O	106	SER
1	O	117	ASP
1	O	118	ILE
1	O	120	ASP
1	O	137	LEU
1	O	140	SER
1	O	153	LEU
1	O	157	LEU
1	O	165	LEU
1	O	166	VAL
1	O	168	THR
1	O	189	LEU
1	O	192	LEU
1	O	204	VAL
1	O	206	ASP
1	O	224	SER
1	O	229	ASN
1	O	233	SER
1	O	236	MET
1	O	254	ILE
1	O	256	LEU
1	O	265	ARG
1	O	269	LEU
1	O	274	THR
1	O	277	THR
1	O	288	THR
1	O	295	ARG
1	O	297	LEU
1	O	298	LEU
1	O	316	CYS
1	O	321	LEU
1	O	332	GLN
1	O	337	LEU

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Mol	Chain	Res	Type
1	O	343	ARG
1	O	361	SER
1	O	367	LEU
1	O	373	VAL
1	O	376	LEU
1	O	402	GLU
1	O	423	THR
1	O	431	LEU
1	P	20	GLU
1	P	24	GLN
1	P	34	GLU
1	P	38	GLU
1	P	49	ASP
1	P	50	VAL
1	P	66	LEU
1	P	78	LEU
1	P	106	SER
1	P	117	ASP
1	P	118	ILE
1	P	120	ASP
1	P	137	LEU
1	P	140	SER
1	P	153	LEU
1	P	157	LEU
1	P	165	LEU
1	P	166	VAL
1	P	168	THR
1	P	189	LEU
1	P	192	LEU
1	P	204	VAL
1	P	206	ASP
1	P	224	SER
1	P	229	ASN
1	P	233	SER
1	P	236	MET
1	P	254	ILE
1	P	256	LEU
1	P	265	ARG
1	P	269	LEU
1	P	274	THR
1	P	277	THR
1	P	288	THR

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Mol	Chain	Res	Type
1	P	295	ARG
1	P	297	LEU
1	P	298	LEU
1	P	316	CYS
1	P	321	LEU
1	P	332	GLN
1	P	337	LEU
1	P	343	ARG
1	P	361	SER
1	P	367	LEU
1	P	373	VAL
1	P	376	LEU
1	P	402	GLU
1	P	423	THR
1	P	431	LEU
1	Q	20	GLU
1	Q	24	GLN
1	Q	34	GLU
1	Q	38	GLU
1	Q	49	ASP
1	Q	50	VAL
1	Q	66	LEU
1	Q	78	LEU
1	Q	106	SER
1	Q	117	ASP
1	Q	118	ILE
1	Q	120	ASP
1	Q	137	LEU
1	Q	140	SER
1	Q	153	LEU
1	Q	157	LEU
1	Q	165	LEU
1	Q	166	VAL
1	Q	168	THR
1	Q	189	LEU
1	Q	192	LEU
1	Q	204	VAL
1	Q	206	ASP
1	Q	224	SER
1	Q	229	ASN
1	Q	233	SER
1	Q	236	MET

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Mol	Chain	Res	Type
1	Q	254	ILE
1	Q	256	LEU
1	Q	265	ARG
1	Q	269	LEU
1	Q	274	THR
1	Q	277	THR
1	Q	288	THR
1	Q	295	ARG
1	Q	297	LEU
1	Q	298	LEU
1	Q	316	CYS
1	Q	321	LEU
1	Q	332	GLN
1	Q	337	LEU
1	Q	343	ARG
1	Q	361	SER
1	Q	367	LEU
1	Q	373	VAL
1	Q	376	LEU
1	Q	402	GLU
1	Q	423	THR
1	Q	431	LEU
1	R	20	GLU
1	R	24	GLN
1	R	34	GLU
1	R	38	GLU
1	R	49	ASP
1	R	50	VAL
1	R	66	LEU
1	R	78	LEU
1	R	106	SER
1	R	117	ASP
1	R	118	ILE
1	R	120	ASP
1	R	137	LEU
1	R	140	SER
1	R	153	LEU
1	R	157	LEU
1	R	165	LEU
1	R	166	VAL
1	R	168	THR
1	R	189	LEU

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Mol	Chain	Res	Type
1	R	192	LEU
1	R	204	VAL
1	R	206	ASP
1	R	224	SER
1	R	229	ASN
1	R	233	SER
1	R	236	MET
1	R	254	ILE
1	R	256	LEU
1	R	265	ARG
1	R	269	LEU
1	R	274	THR
1	R	277	THR
1	R	288	THR
1	R	295	ARG
1	R	297	LEU
1	R	298	LEU
1	R	316	CYS
1	R	321	LEU
1	R	332	GLN
1	R	337	LEU
1	R	343	ARG
1	R	361	SER
1	R	367	LEU
1	R	373	VAL
1	R	376	LEU
1	R	402	GLU
1	R	423	THR
1	R	431	LEU
1	S	20	GLU
1	S	24	GLN
1	S	34	GLU
1	S	38	GLU
1	S	49	ASP
1	S	50	VAL
1	S	66	LEU
1	S	78	LEU
1	S	106	SER
1	S	117	ASP
1	S	118	ILE
1	S	120	ASP
1	S	137	LEU

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Mol	Chain	Res	Type
1	S	140	SER
1	S	153	LEU
1	S	157	LEU
1	S	165	LEU
1	S	166	VAL
1	S	168	THR
1	S	189	LEU
1	S	192	LEU
1	S	204	VAL
1	S	206	ASP
1	S	224	SER
1	S	229	ASN
1	S	233	SER
1	S	236	MET
1	S	254	ILE
1	S	256	LEU
1	S	265	ARG
1	S	269	LEU
1	S	274	THR
1	S	277	THR
1	S	288	THR
1	S	295	ARG
1	S	297	LEU
1	S	298	LEU
1	S	316	CYS
1	S	321	LEU
1	S	332	GLN
1	S	337	LEU
1	S	343	ARG
1	S	361	SER
1	S	367	LEU
1	S	373	VAL
1	S	376	LEU
1	S	402	GLU
1	S	423	THR
1	S	431	LEU
1	T	20	GLU
1	T	24	GLN
1	T	34	GLU
1	T	38	GLU
1	T	49	ASP
1	T	50	VAL

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Mol	Chain	Res	Type
1	T	66	LEU
1	T	78	LEU
1	T	106	SER
1	T	117	ASP
1	T	118	ILE
1	T	120	ASP
1	T	137	LEU
1	T	140	SER
1	T	153	LEU
1	T	157	LEU
1	T	165	LEU
1	T	166	VAL
1	T	168	THR
1	T	189	LEU
1	T	192	LEU
1	T	204	VAL
1	T	206	ASP
1	T	224	SER
1	T	229	ASN
1	T	233	SER
1	T	236	MET
1	T	254	ILE
1	T	256	LEU
1	T	265	ARG
1	T	269	LEU
1	T	274	THR
1	T	277	THR
1	T	288	THR
1	T	295	ARG
1	T	297	LEU
1	T	298	LEU
1	T	316	CYS
1	T	321	LEU
1	T	332	GLN
1	T	337	LEU
1	T	343	ARG
1	T	361	SER
1	T	367	LEU
1	T	373	VAL
1	T	376	LEU
1	T	402	GLU
1	T	423	THR

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Mol	Chain	Res	Type
1	T	431	LEU
1	U	20	GLU
1	U	24	GLN
1	U	34	GLU
1	U	38	GLU
1	U	49	ASP
1	U	50	VAL
1	U	66	LEU
1	U	78	LEU
1	U	106	SER
1	U	117	ASP
1	U	118	ILE
1	U	120	ASP
1	U	137	LEU
1	U	140	SER
1	U	153	LEU
1	U	157	LEU
1	U	165	LEU
1	U	166	VAL
1	U	168	THR
1	U	189	LEU
1	U	192	LEU
1	U	204	VAL
1	U	206	ASP
1	U	224	SER
1	U	229	ASN
1	U	233	SER
1	U	236	MET
1	U	254	ILE
1	U	256	LEU
1	U	265	ARG
1	U	269	LEU
1	U	274	THR
1	U	277	THR
1	U	288	THR
1	U	295	ARG
1	U	297	LEU
1	U	298	LEU
1	U	316	CYS
1	U	321	LEU
1	U	332	GLN
1	U	337	LEU

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Mol	Chain	Res	Type
1	U	343	ARG
1	U	361	SER
1	U	367	LEU
1	U	373	VAL
1	U	376	LEU
1	U	402	GLU
1	U	423	THR
1	U	431	LEU
1	V	20	GLU
1	V	24	GLN
1	V	34	GLU
1	V	38	GLU
1	V	49	ASP
1	V	50	VAL
1	V	66	LEU
1	V	78	LEU
1	V	106	SER
1	V	117	ASP
1	V	118	ILE
1	V	120	ASP
1	V	137	LEU
1	V	140	SER
1	V	153	LEU
1	V	157	LEU
1	V	165	LEU
1	V	166	VAL
1	V	168	THR
1	V	189	LEU
1	V	192	LEU
1	V	204	VAL
1	V	206	ASP
1	V	224	SER
1	V	229	ASN
1	V	233	SER
1	V	236	MET
1	V	254	ILE
1	V	256	LEU
1	V	265	ARG
1	V	269	LEU
1	V	274	THR
1	V	277	THR
1	V	288	THR

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Mol	Chain	Res	Type
1	V	295	ARG
1	V	297	LEU
1	V	298	LEU
1	V	316	CYS
1	V	321	LEU
1	V	332	GLN
1	V	337	LEU
1	V	343	ARG
1	V	361	SER
1	V	367	LEU
1	V	373	VAL
1	V	376	LEU
1	V	402	GLU
1	V	423	THR
1	V	431	LEU
1	W	20	GLU
1	W	24	GLN
1	W	34	GLU
1	W	38	GLU
1	W	49	ASP
1	W	50	VAL
1	W	66	LEU
1	W	78	LEU
1	W	106	SER
1	W	117	ASP
1	W	118	ILE
1	W	120	ASP
1	W	137	LEU
1	W	140	SER
1	W	153	LEU
1	W	157	LEU
1	W	165	LEU
1	W	166	VAL
1	W	168	THR
1	W	189	LEU
1	W	192	LEU
1	W	204	VAL
1	W	206	ASP
1	W	224	SER
1	W	229	ASN
1	W	233	SER
1	W	236	MET

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Mol	Chain	Res	Type
1	W	254	ILE
1	W	256	LEU
1	W	265	ARG
1	W	269	LEU
1	W	274	THR
1	W	277	THR
1	W	288	THR
1	W	295	ARG
1	W	297	LEU
1	W	298	LEU
1	W	316	CYS
1	W	321	LEU
1	W	332	GLN
1	W	337	LEU
1	W	343	ARG
1	W	361	SER
1	W	367	LEU
1	W	373	VAL
1	W	376	LEU
1	W	402	GLU
1	W	423	THR
1	W	431	LEU
1	X	20	GLU
1	X	24	GLN
1	X	34	GLU
1	X	38	GLU
1	X	49	ASP
1	X	50	VAL
1	X	66	LEU
1	X	78	LEU
1	X	106	SER
1	X	117	ASP
1	X	118	ILE
1	X	120	ASP
1	X	137	LEU
1	X	140	SER
1	X	153	LEU
1	X	157	LEU
1	X	165	LEU
1	X	166	VAL
1	X	168	THR
1	X	189	LEU

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Mol	Chain	Res	Type
1	X	192	LEU
1	X	204	VAL
1	X	206	ASP
1	X	224	SER
1	X	229	ASN
1	X	233	SER
1	X	236	MET
1	X	254	ILE
1	X	256	LEU
1	X	265	ARG
1	X	269	LEU
1	X	274	THR
1	X	277	THR
1	X	288	THR
1	X	295	ARG
1	X	297	LEU
1	X	298	LEU
1	X	316	CYS
1	X	321	LEU
1	X	332	GLN
1	X	337	LEU
1	X	343	ARG
1	X	361	SER
1	X	367	LEU
1	X	373	VAL
1	X	376	LEU
1	X	402	GLU
1	X	423	THR
1	X	431	LEU
1	Y	20	GLU
1	Y	24	GLN
1	Y	34	GLU
1	Y	38	GLU
1	Y	49	ASP
1	Y	50	VAL
1	Y	66	LEU
1	Y	78	LEU
1	Y	106	SER
1	Y	117	ASP
1	Y	118	ILE
1	Y	120	ASP
1	Y	137	LEU

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Mol	Chain	Res	Type
1	Y	140	SER
1	Y	153	LEU
1	Y	157	LEU
1	Y	165	LEU
1	Y	166	VAL
1	Y	168	THR
1	Y	189	LEU
1	Y	192	LEU
1	Y	204	VAL
1	Y	206	ASP
1	Y	224	SER
1	Y	229	ASN
1	Y	233	SER
1	Y	236	MET
1	Y	254	ILE
1	Y	256	LEU
1	Y	265	ARG
1	Y	269	LEU
1	Y	274	THR
1	Y	277	THR
1	Y	288	THR
1	Y	295	ARG
1	Y	297	LEU
1	Y	298	LEU
1	Y	316	CYS
1	Y	321	LEU
1	Y	332	GLN
1	Y	337	LEU
1	Y	343	ARG
1	Y	361	SER
1	Y	367	LEU
1	Y	373	VAL
1	Y	376	LEU
1	Y	402	GLU
1	Y	423	THR
1	Y	431	LEU
1	Z	20	GLU
1	Z	24	GLN
1	Z	34	GLU
1	Z	38	GLU
1	Z	49	ASP
1	Z	50	VAL

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Mol	Chain	Res	Type
1	Z	66	LEU
1	Z	78	LEU
1	Z	106	SER
1	Z	117	ASP
1	Z	118	ILE
1	Z	120	ASP
1	Z	137	LEU
1	Z	140	SER
1	Z	153	LEU
1	Z	157	LEU
1	Z	165	LEU
1	Z	166	VAL
1	Z	168	THR
1	Z	189	LEU
1	Z	192	LEU
1	Z	204	VAL
1	Z	206	ASP
1	Z	224	SER
1	Z	229	ASN
1	Z	233	SER
1	Z	236	MET
1	Z	254	ILE
1	Z	256	LEU
1	Z	265	ARG
1	Z	269	LEU
1	Z	274	THR
1	Z	277	THR
1	Z	288	THR
1	Z	295	ARG
1	Z	297	LEU
1	Z	298	LEU
1	Z	316	CYS
1	Z	321	LEU
1	Z	332	GLN
1	Z	337	LEU
1	Z	343	ARG
1	Z	361	SER
1	Z	367	LEU
1	Z	373	VAL
1	Z	376	LEU
1	Z	402	GLU
1	Z	423	THR

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Mol	Chain	Res	Type
1	Z	431	LEU
5	g	53	GLN
5	g	62	SER
7	l	52	ARG
7	l	63	LYS
7	l	85	LYS
5	k	65	LYS
4	a	60	LYS
8	c	3	SER
3	E	233	VAL
3	E	547	THR
3	E	557	LEU
3	E	698	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (252) such sidechains are listed below:

Mol	Chain	Res	Type
1	1	16	GLN
1	1	54	GLN
1	1	167	GLN
1	1	174	ASN
1	1	227	GLN
1	1	251	ASN
1	1	334	HIS
1	2	16	GLN
1	2	54	GLN
1	2	59	HIS
1	2	167	GLN
1	2	174	ASN
1	2	227	GLN
1	2	251	ASN
1	2	314	ASN
1	2	347	ASN
1	2	394	GLN
2	e	225	GLN
2	e	246	GLN
2	e	360	GLN
3	A	165	GLN
3	A	412	HIS
3	A	688	ASN
4	B	301	HIS
4	B	329	HIS

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Mol	Chain	Res	Type
4	B	416	GLN
4	B	528	ASN
4	B	786	GLN
4	B	830	ASN
3	C	166	ASN
3	C	242	GLN
3	C	322	GLN
3	C	371	GLN
3	C	639	GLN
3	C	707	HIS
4	D	322	GLN
4	D	491	ASN
4	D	684	HIS
4	D	687	ASN
4	D	693	ASN
4	D	751	HIS
4	D	773	ASN
4	D	774	GLN
4	D	859	GLN
4	F	259	GLN
4	F	322	GLN
4	F	329	HIS
4	F	570	GLN
4	F	713	HIS
4	F	717	GLN
4	F	751	HIS
4	F	773	ASN
3	G	166	ASN
3	G	412	HIS
3	G	430	GLN
3	G	585	GLN
3	G	684	GLN
3	G	694	GLN
3	G	726	HIS
4	H	330	GLN
4	H	343	HIS
4	H	387	HIS
4	H	389	GLN
4	H	401	HIS
4	H	494	HIS
4	H	703	GLN
4	H	717	GLN

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Mol	Chain	Res	Type
4	H	739	GLN
4	H	773	ASN
6	I	102	GLN
6	I	116	HIS
6	I	186	GLN
6	I	199	GLN
6	I	460	GLN
6	I	489	GLN
6	I	529	GLN
6	I	547	GLN
7	J	482	HIS
7	J	698	GLN
7	J	761	GLN
7	J	830	GLN
7	J	879	GLN
7	J	892	HIS
6	K	43	ASN
6	K	65	HIS
6	K	142	GLN
6	K	186	GLN
6	K	339	HIS
6	K	393	ASN
6	K	398	GLN
6	K	519	ASN
6	K	591	HIS
6	K	639	ASN
6	K	652	ASN
8	L	1492	ASN
8	L	1767	GLN
8	L	1770	ASN
8	L	1806	ASN
3	M	172	GLN
3	M	329	GLN
3	M	424	ASN
3	M	458	ASN
3	M	585	GLN
3	M	639	GLN
3	M	684	GLN
3	M	692	ASN
3	M	694	GLN
3	M	760	ASN
3	M	862	ASN

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Mol	Chain	Res	Type
4	N	269	ASN
4	N	273	ASN
4	N	302	ASN
4	N	416	GLN
4	N	444	HIS
4	N	495	GLN
4	N	570	GLN
4	N	576	HIS
4	N	609	ASN
4	N	665	ASN
4	N	740	GLN
4	N	751	HIS
4	N	787	ASN
1	O	16	GLN
1	O	54	GLN
1	O	59	HIS
1	O	167	GLN
1	O	174	ASN
1	O	251	ASN
1	O	314	ASN
1	O	334	HIS
1	O	347	ASN
1	P	16	GLN
1	P	54	GLN
1	P	59	HIS
1	P	167	GLN
1	P	174	ASN
1	P	198	ASN
1	P	227	GLN
1	P	250	ASN
1	P	251	ASN
1	P	314	ASN
1	P	334	HIS
1	P	347	ASN
1	Q	16	GLN
1	Q	54	GLN
1	Q	59	HIS
1	Q	167	GLN
1	Q	174	ASN
1	Q	251	ASN
1	Q	314	ASN
1	Q	334	HIS

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Mol	Chain	Res	Type
1	Q	347	ASN
1	R	16	GLN
1	R	54	GLN
1	R	59	HIS
1	R	167	GLN
1	R	174	ASN
1	R	227	GLN
1	R	251	ASN
1	R	334	HIS
1	S	16	GLN
1	S	54	GLN
1	S	59	HIS
1	S	167	GLN
1	S	174	ASN
1	S	227	GLN
1	S	251	ASN
1	S	334	HIS
1	S	338	GLN
1	S	394	GLN
1	T	16	GLN
1	T	54	GLN
1	T	59	HIS
1	T	167	GLN
1	T	174	ASN
1	T	251	ASN
1	T	314	ASN
1	T	347	ASN
1	U	16	GLN
1	U	54	GLN
1	U	59	HIS
1	U	167	GLN
1	U	174	ASN
1	U	227	GLN
1	U	251	ASN
1	U	314	ASN
1	U	334	HIS
1	U	347	ASN
1	U	394	GLN
1	V	16	GLN
1	V	54	GLN
1	V	59	HIS
1	V	167	GLN

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Mol	Chain	Res	Type
1	V	174	ASN
1	V	227	GLN
1	V	251	ASN
1	V	314	ASN
1	V	334	HIS
1	V	347	ASN
1	V	394	GLN
1	W	16	GLN
1	W	54	GLN
1	W	59	HIS
1	W	167	GLN
1	W	174	ASN
1	W	251	ASN
1	W	314	ASN
1	W	334	HIS
1	W	347	ASN
1	X	16	GLN
1	X	54	GLN
1	X	59	HIS
1	X	167	GLN
1	X	174	ASN
1	X	227	GLN
1	X	251	ASN
1	X	314	ASN
1	X	334	HIS
1	X	347	ASN
1	Y	16	GLN
1	Y	54	GLN
1	Y	59	HIS
1	Y	167	GLN
1	Y	174	ASN
1	Y	227	GLN
1	Y	251	ASN
1	Y	314	ASN
1	Y	347	ASN
1	Y	394	GLN
1	Z	16	GLN
1	Z	54	GLN
1	Z	59	HIS
1	Z	167	GLN
1	Z	174	ASN
1	Z	227	GLN

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Mol	Chain	Res	Type
1	Z	251	ASN
1	Z	334	HIS
5	m	53	GLN
4	a	15	ASN
4	a	31	GLN
5	d	19	ASN
5	d	53	GLN
4	j	84	GLN
4	j	89	ASN
3	E	261	HIS
3	E	314	HIS
3	E	420	GLN
3	E	639	GLN
4	h	31	GLN
4	h	107	GLN
4	f	10	ASN
4	f	42	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 monosaccharides 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 (i)

There are no chain breaks in this entry.

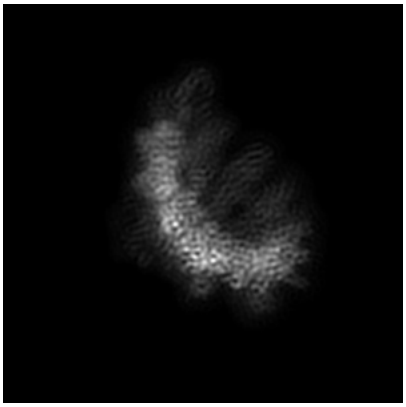
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-14010. These allow visual inspection of the internal detail of the map and identification of artifacts.

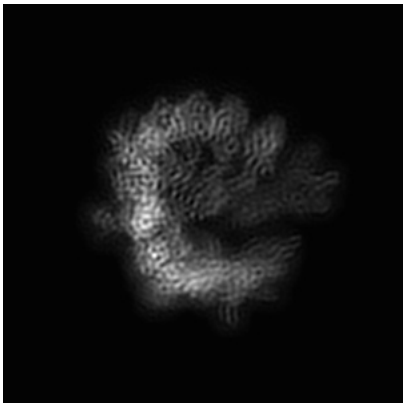
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

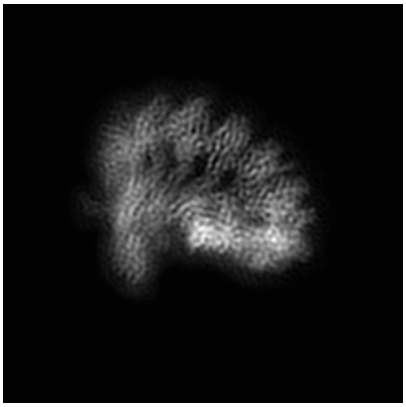
6.1.1 Primary map



X



Y



Z

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

6.2 Central slices

6.2.1 Primary map

X Index: 100

Y Index: 100

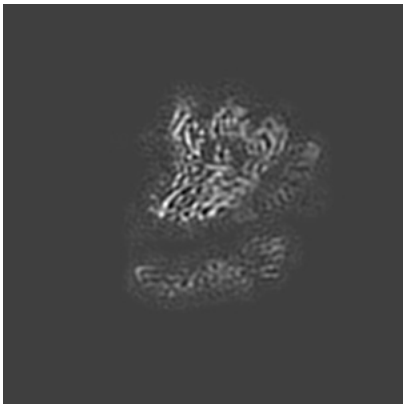
Z Index: 100

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: 134



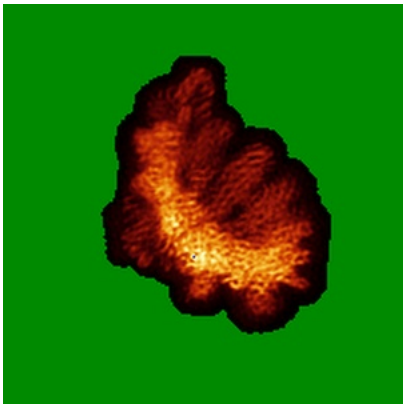
Y Index: 82

Z Index: 72

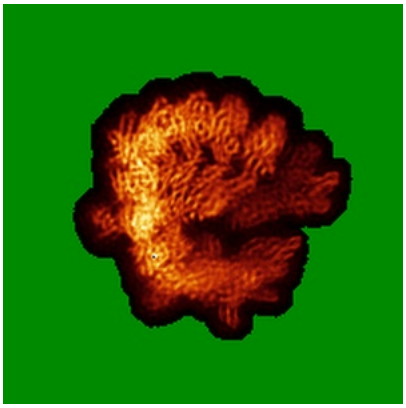
The images above show the largest variance slices of the map in three orthogonal directions.

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

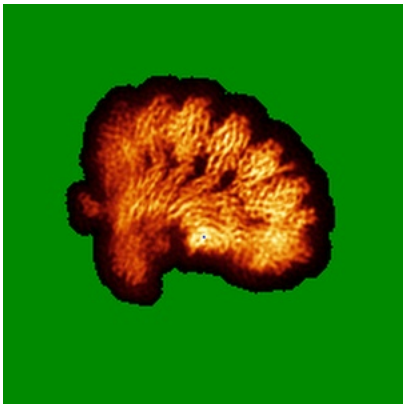
6.4.1 Primary map



X



Y



Z

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 0.0224. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

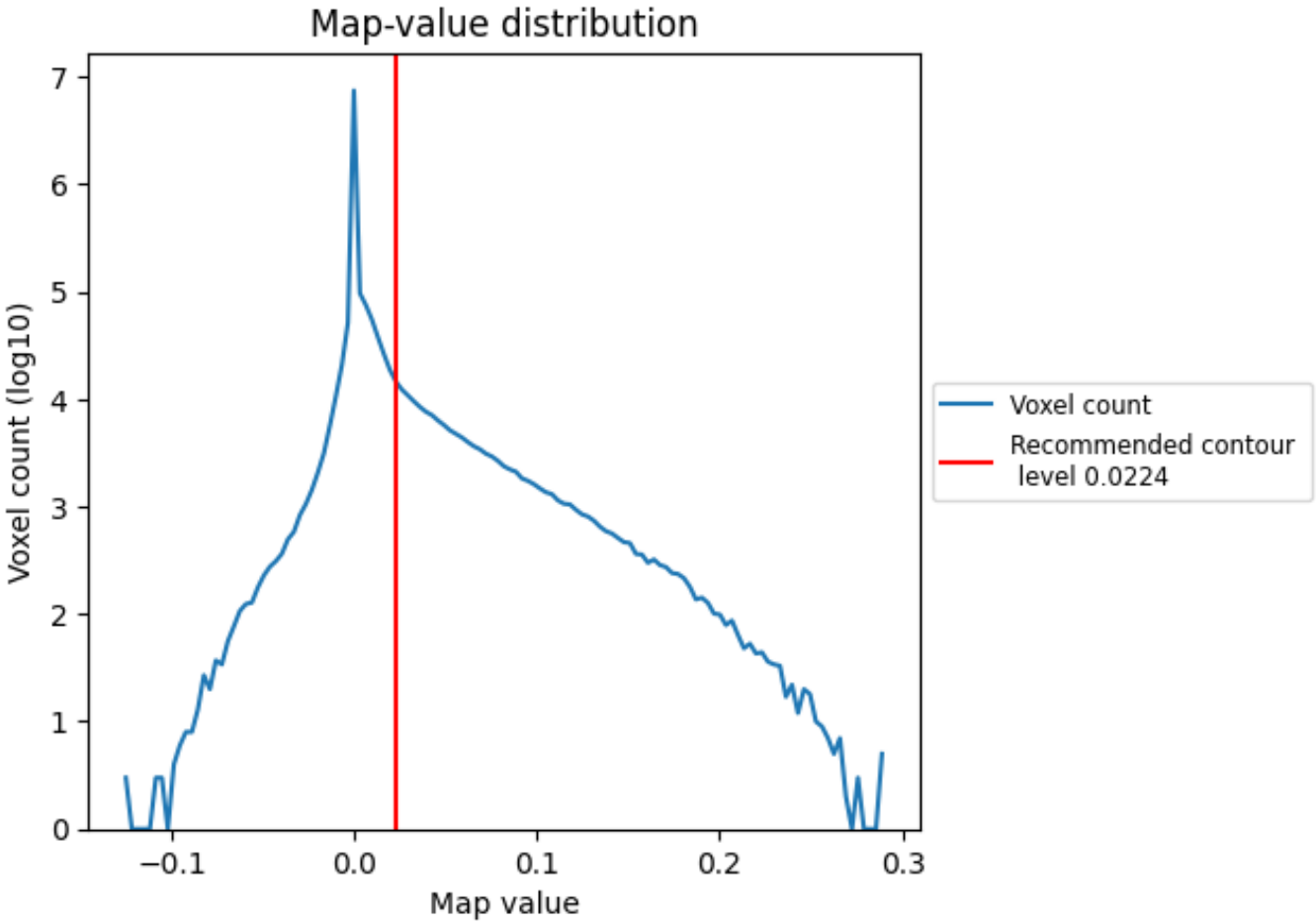
6.6 Mask visualisation (i)

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

7 Map analysis

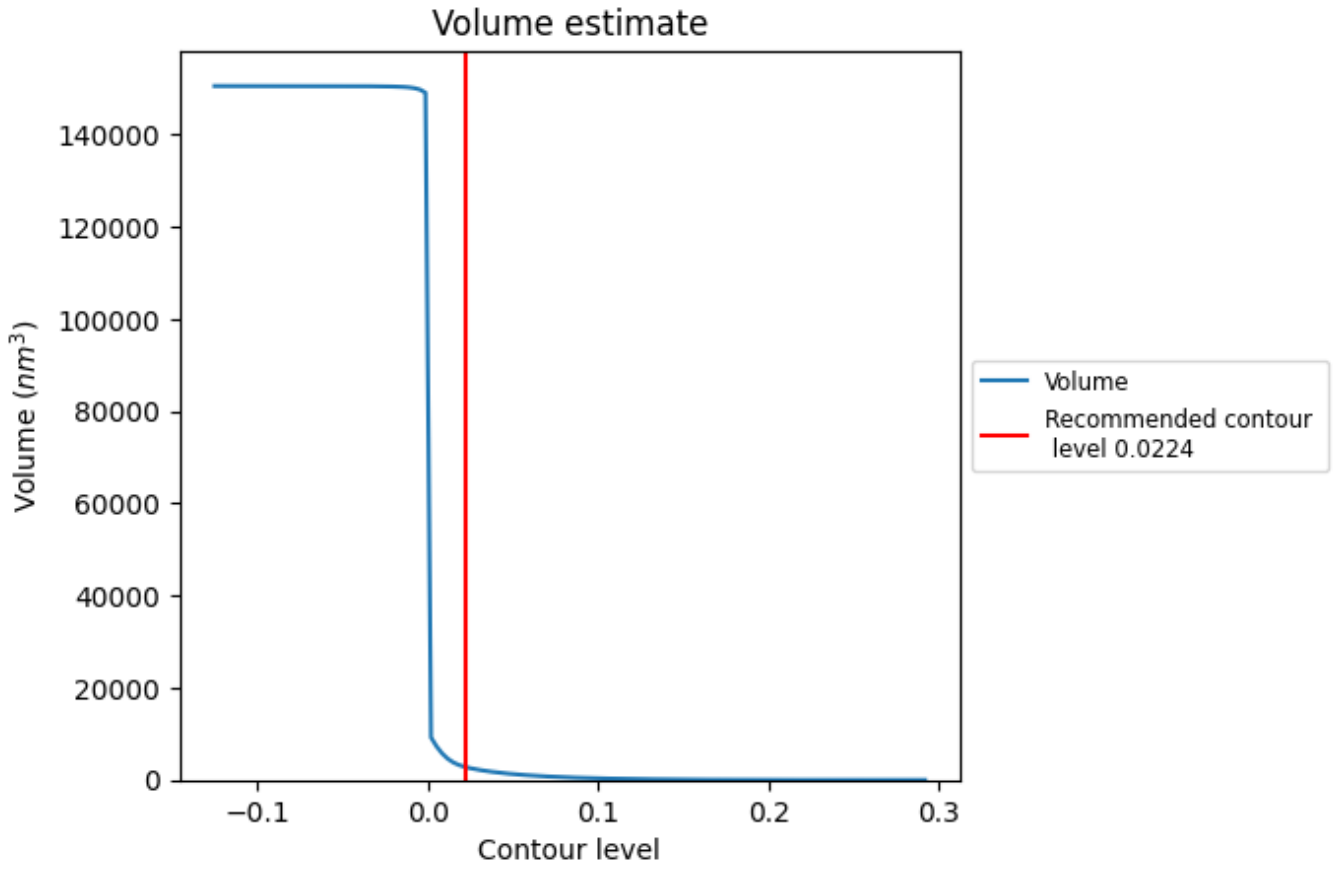
This section contains the results of statistical analysis of the map.

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.

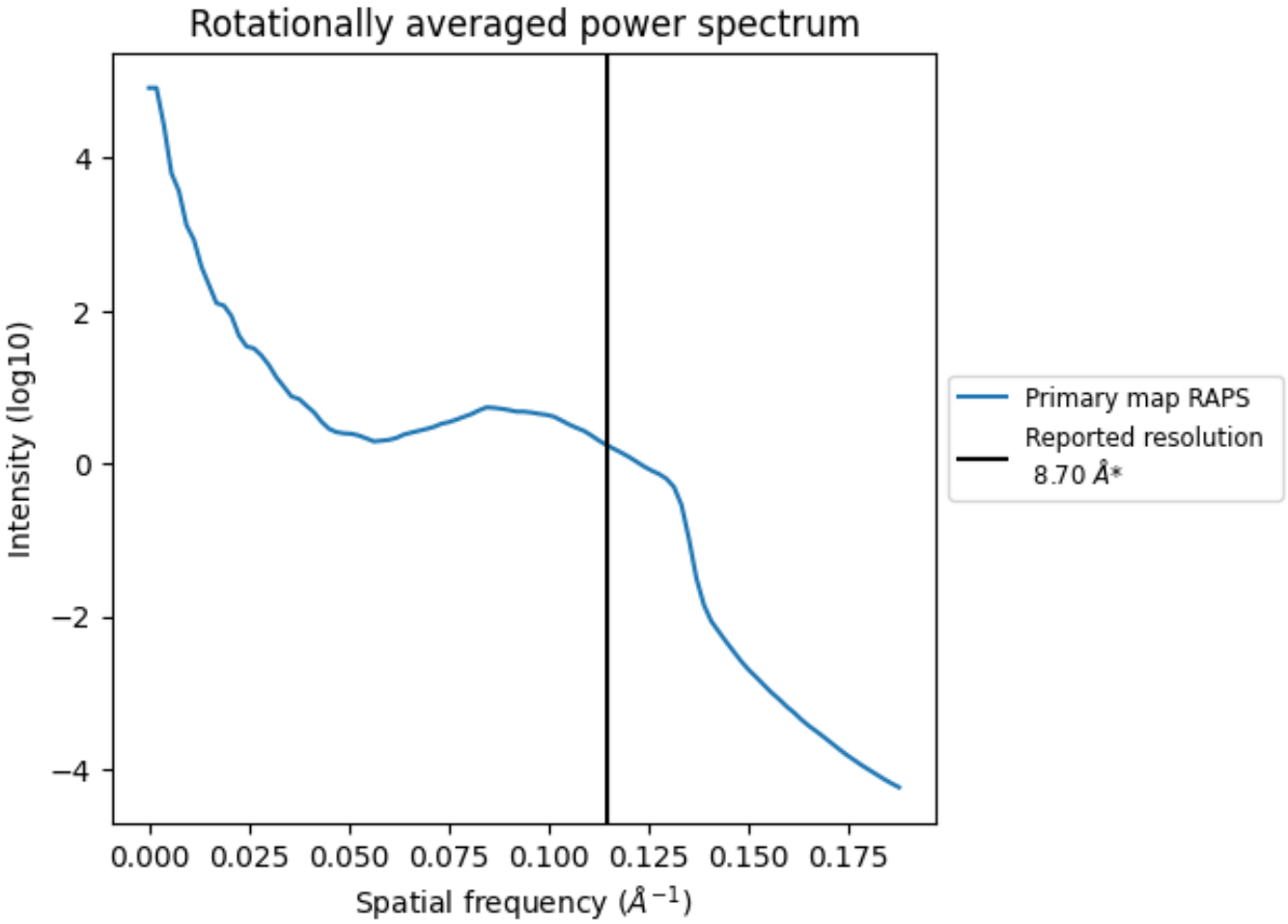
7.2 Volume estimate



The volume at the recommended contour level is 2805 nm^3; this corresponds to an approximate mass of 2533 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 0.115 Å^{-1}

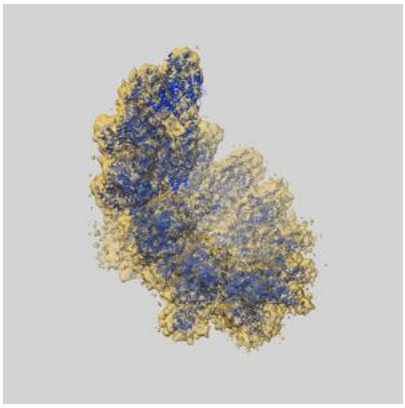
8 Fourier-Shell correlation

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

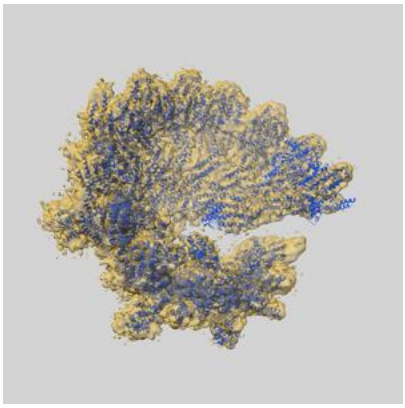
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-14010 and PDB model 7QJ5. Per-residue inclusion information can be found in section 3 on page 8.

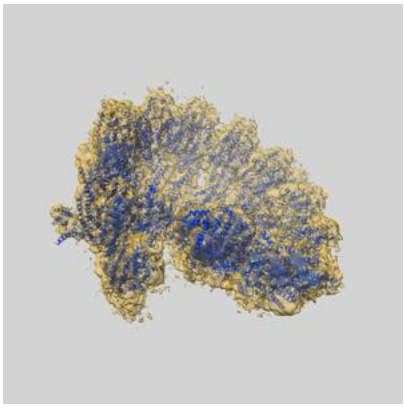
9.1 Map-model overlay



X



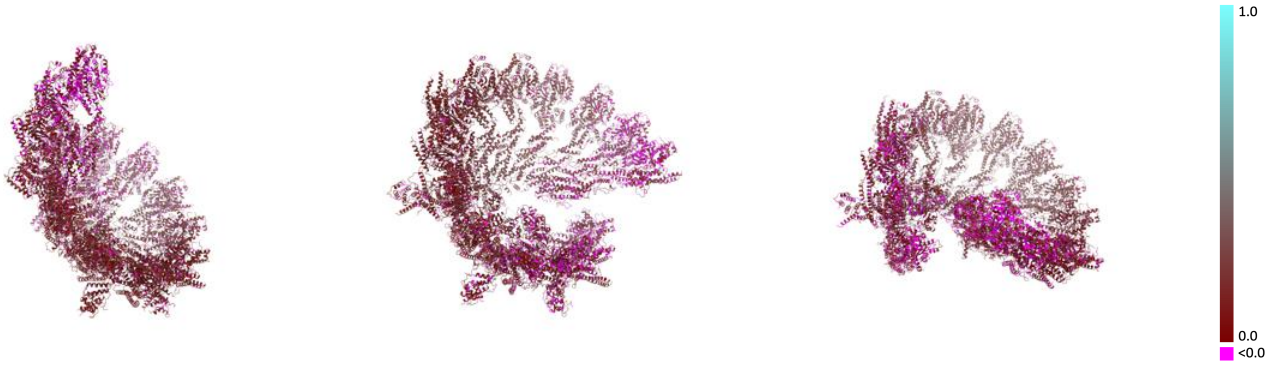
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0224 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.

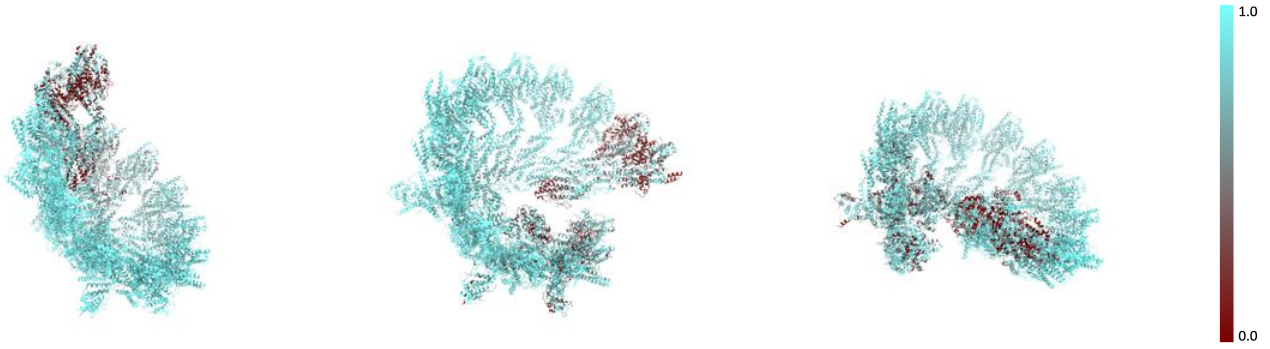
9.2 Q-score mapped to coordinate model



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.

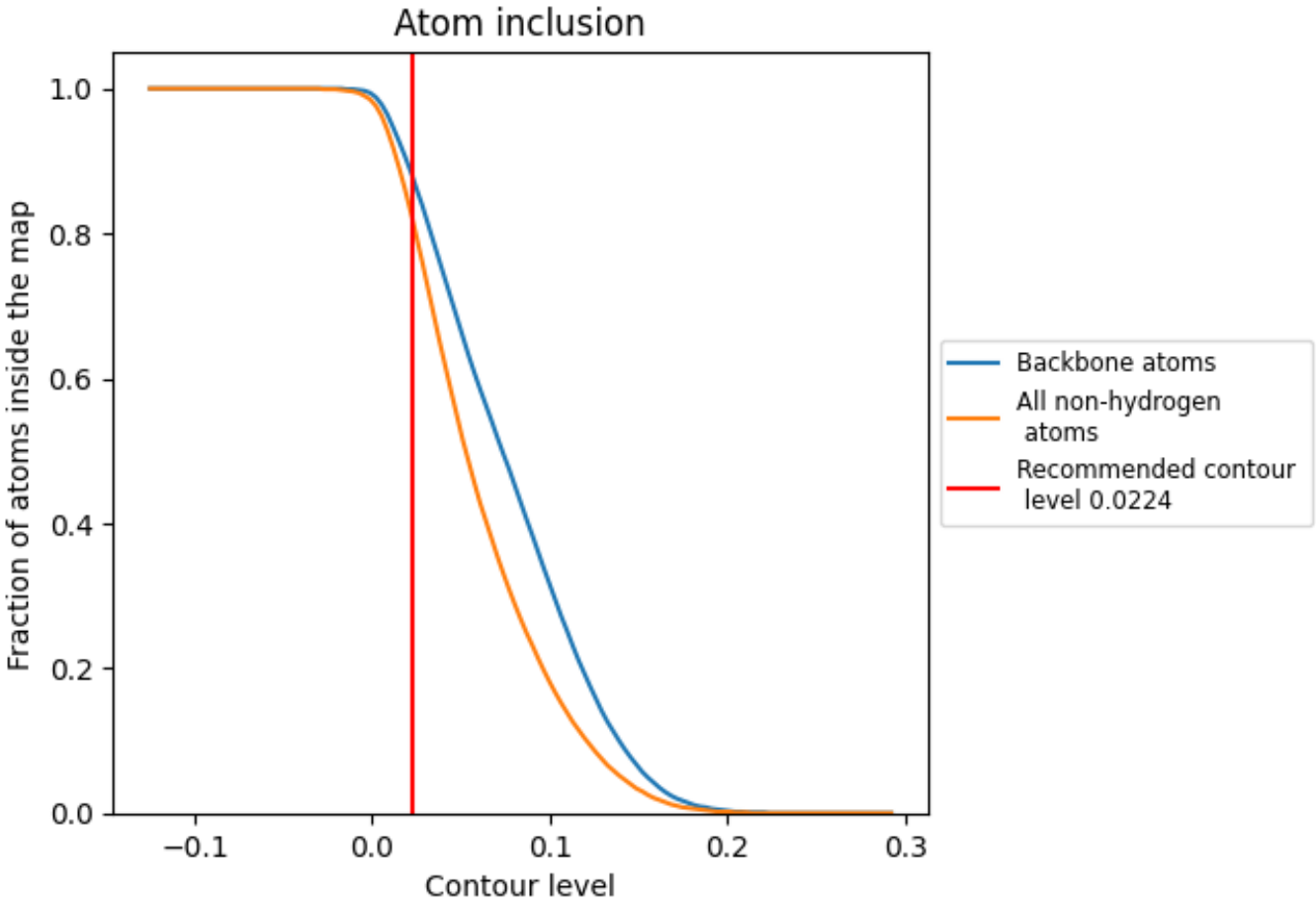
9.3 Atom inclusion mapped to coordinate model



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 (0.0224).

9.4 Atom inclusion (i)



At the recommended contour level, 88% of all backbone atoms, 82% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.0224) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8230	0.1190
1	0.3540	0.0160
2	0.4000	-0.0000
A	0.7820	0.0960
B	0.7620	0.1100
C	0.9150	0.1170
D	0.9000	0.1300
E	0.9260	0.1530
F	0.9330	0.1510
G	0.9410	0.1620
H	0.9340	0.1600
I	0.9380	0.1660
J	0.9370	0.1670
K	0.9470	0.1550
L	0.9560	0.1360
M	0.5690	0.0680
N	0.5640	0.0650
O	0.5910	0.0360
P	0.6120	0.0570
Q	0.7610	0.0590
R	0.8860	0.1090
S	0.9230	0.1450
T	0.9310	0.1460
U	0.9270	0.1470
V	0.9360	0.1650
W	0.9420	0.1550
X	0.9420	0.1510
Y	0.9580	0.1350
Z	0.9220	0.1080
a	0.8720	0.1550
b	0.9080	0.1770
c	0.8290	0.1480
d	0.8050	0.1460
e	0.5710	0.0840
f	0.6160	0.0880

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Chain	Atom inclusion	Q-score
g	0.5860	0.0680
h	0.8390	0.1160
i	0.7980	0.0960
j	0.9310	0.1400
k	0.9540	0.1570
l	0.9240	0.1630
m	0.9410	0.1620