Full wwPDB EM Validation Report ⓘ

Jul 7, 2024 – 10:57 pm BST

PDB ID	:	7QJ4
EMDB ID	:	EMD-14009
Title	:	Structure of recombinant human gamma-Tubulin Ring Complex 10-spoked assembly intermediate (spokes 5-14)
Authors	:	Zupa, E.; Pfeffer, S.
Deposited on	:	2021-12-16
Resolution	:	9.00 Å(reported)
Based on initial models	:	6L81, 6X0U, 7AS4, 6V6S

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:

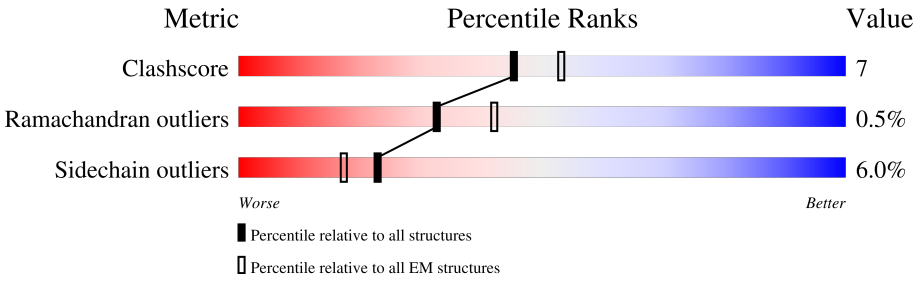
EMDB validation analysis	:	0.0.1.dev92
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

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 9.00 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	64% 65% 23% 5% 7%
1	2	451	80% 65% 23% 5% 7%
1	S	451	85% 64% 24% 5% 7%
1	T	451	53% 65% 24% 5% 7%
1	U	451	19% 66% 23% 5% 7%
1	V	451	5% 64% 24% 5% 7%
1	W	451	7% 65% 23% 5% 7%
1	X	451	66% 22% 5% 7%

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Mol	Chain	Length	Quality of chain
1	Y	451	8% 64% 24% 5% 7%
1	Z	451	15% 65% 23% 5% 7%
2	J	1024	46% 6% 48%
2	l	1024	10% 89%
3	F	907	33% 59% 7% 34%
3	H	907	54% 10% 35%
3	N	907	46% 56% 9% 35%
3	a	907	7% 13% 87%
3	j	907	8% 10% 89%
3	n	907	9% 11% 89%
4	b	82	41% 67% 12% 21%
4	k	82	66% 67% 12% 21%
4	m	82	7% 67% 12% 21%
4	o	82	65% 67% 12% 21%
5	E	902	56% 62% 8% 29%
5	G	902	6% 61% 9% 29%
5	M	902	47% 59% 10% 29%
6	I	667	65% 12% 22%
6	K	667	76% 8% 16%
7	L	1819	28% 69%

2 Entry composition (i)

There are 7 unique types of molecules in this entry. The entry contains 87259 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	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 Gamma-tubulin complex component 5.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	n	99	Total	C	N	O	S	0	0
			803	509	148	144	2		

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Mol	Chain	Residues	Atoms					AltConf	Trace
3	F	599	Total	C	N	O	S	0	0
			4941	3151	871	894	25		
3	H	594	Total	C	N	O	S	0	0
			4907	3130	864	888	25		
3	N	594	Total	C	N	O	S	0	0
			4907	3130	864	888	25		
3	j	99	Total	C	N	O	S	0	0
			803	509	148	144	2		
3	a	116	Total	C	N	O	S	0	0
			933	591	171	169	2		

- Molecule 4 is a protein called Mitotic-spindle organizing protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	o	65	Total	C	N	O	S	0	0
			484	299	85	96	4		
4	m	65	Total	C	N	O	S	0	0
			484	299	85	96	4		
4	k	65	Total	C	N	O	S	0	0
			484	299	85	96	4		
4	b	65	Total	C	N	O	S	0	0
			484	299	85	96	4		

- Molecule 5 is a protein called Gamma-tubulin complex component 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	638	Total	C	N	O	S	0	0
			5202	3354	873	942	33		
5	G	640	Total	C	N	O	S	0	0
			5216	3359	878	946	33		
5	M	636	Total	C	N	O	S	0	0
			5186	3342	871	940	33		

- 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 6.

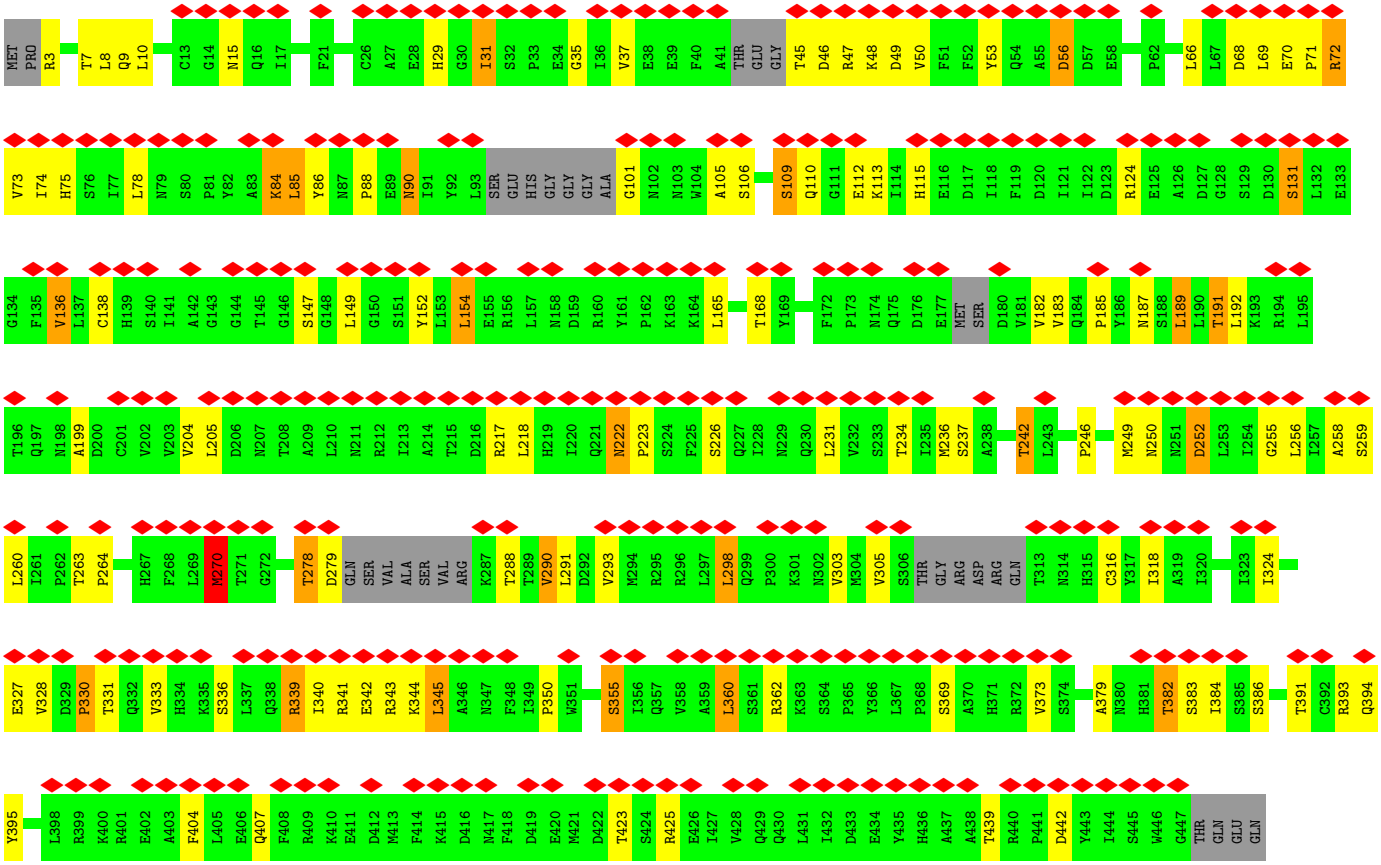
Mol	Chain	Residues	Atoms					AltConf	Trace
7	L	566	Total 4587	C 3000	N 773	O 789	S 25	0	0

3 Residue-property plots (i)

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

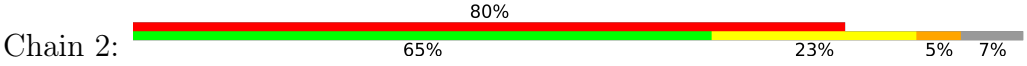
• Molecule 1: Tubulin gamma-1 chain

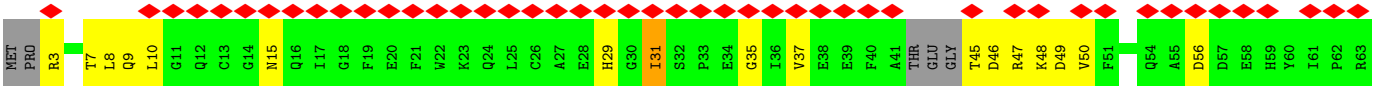
Chain 1:

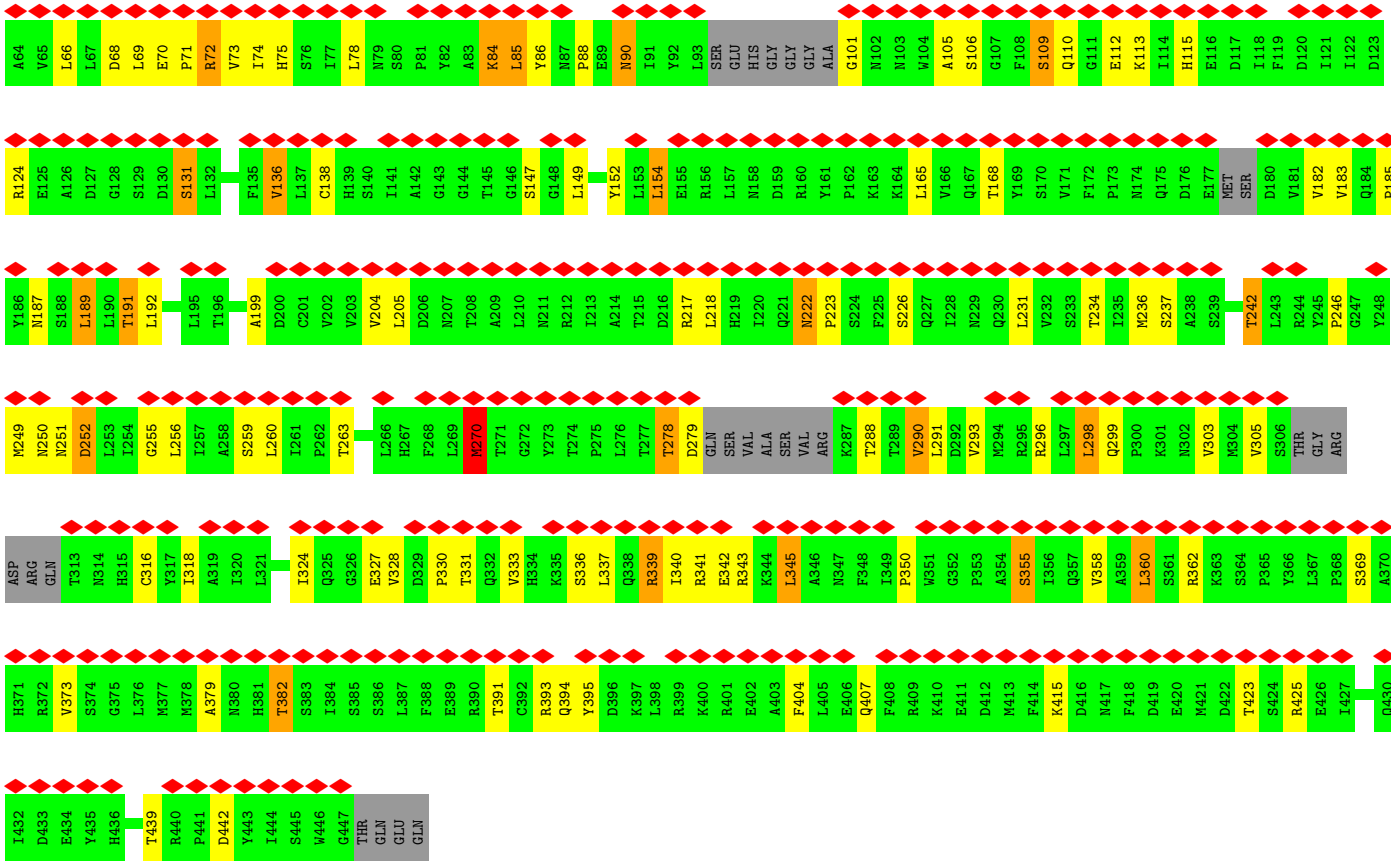


• Molecule 1: Tubulin gamma-1 chain

Chain 2:

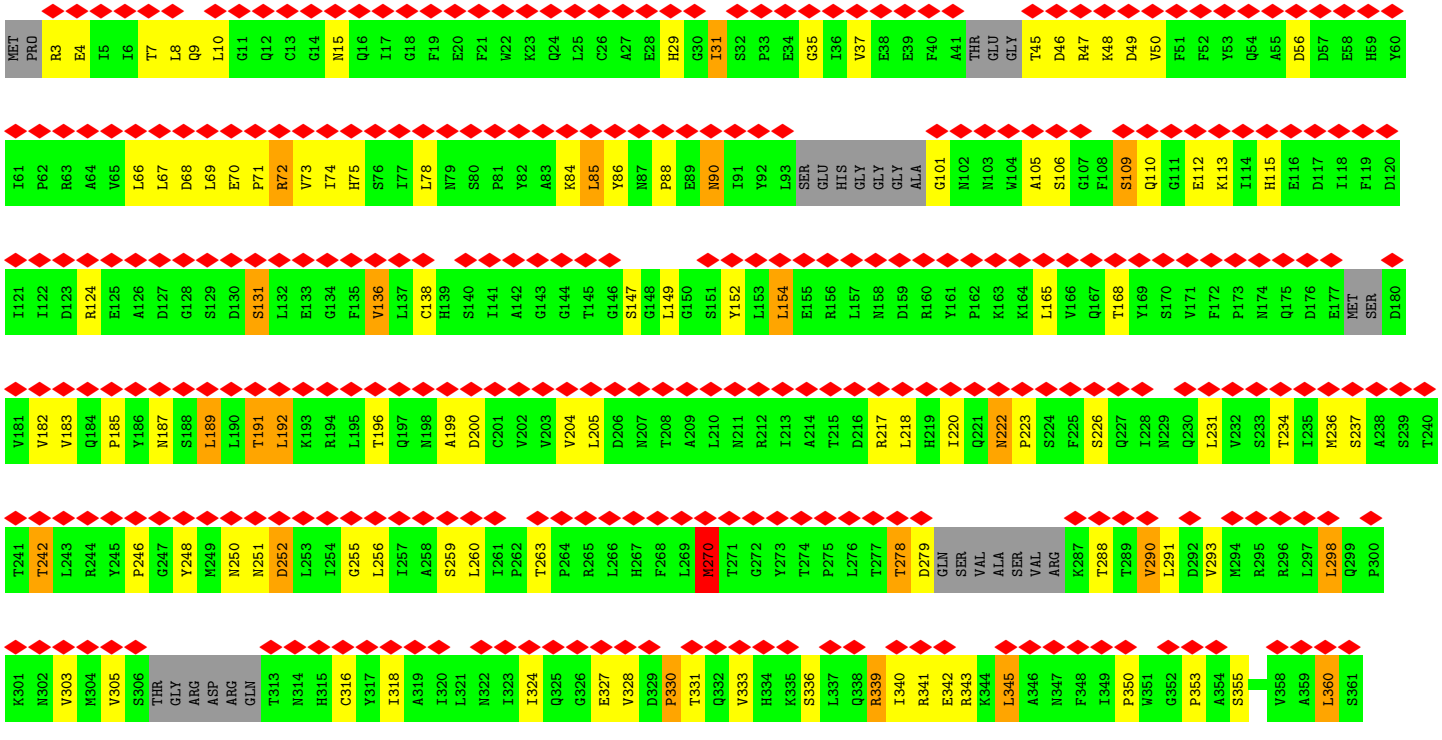


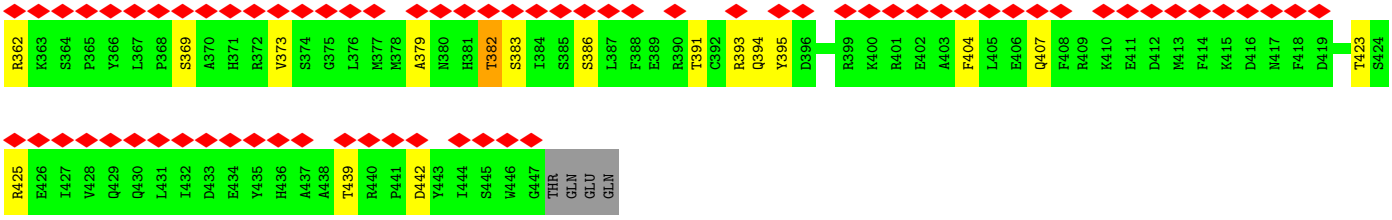




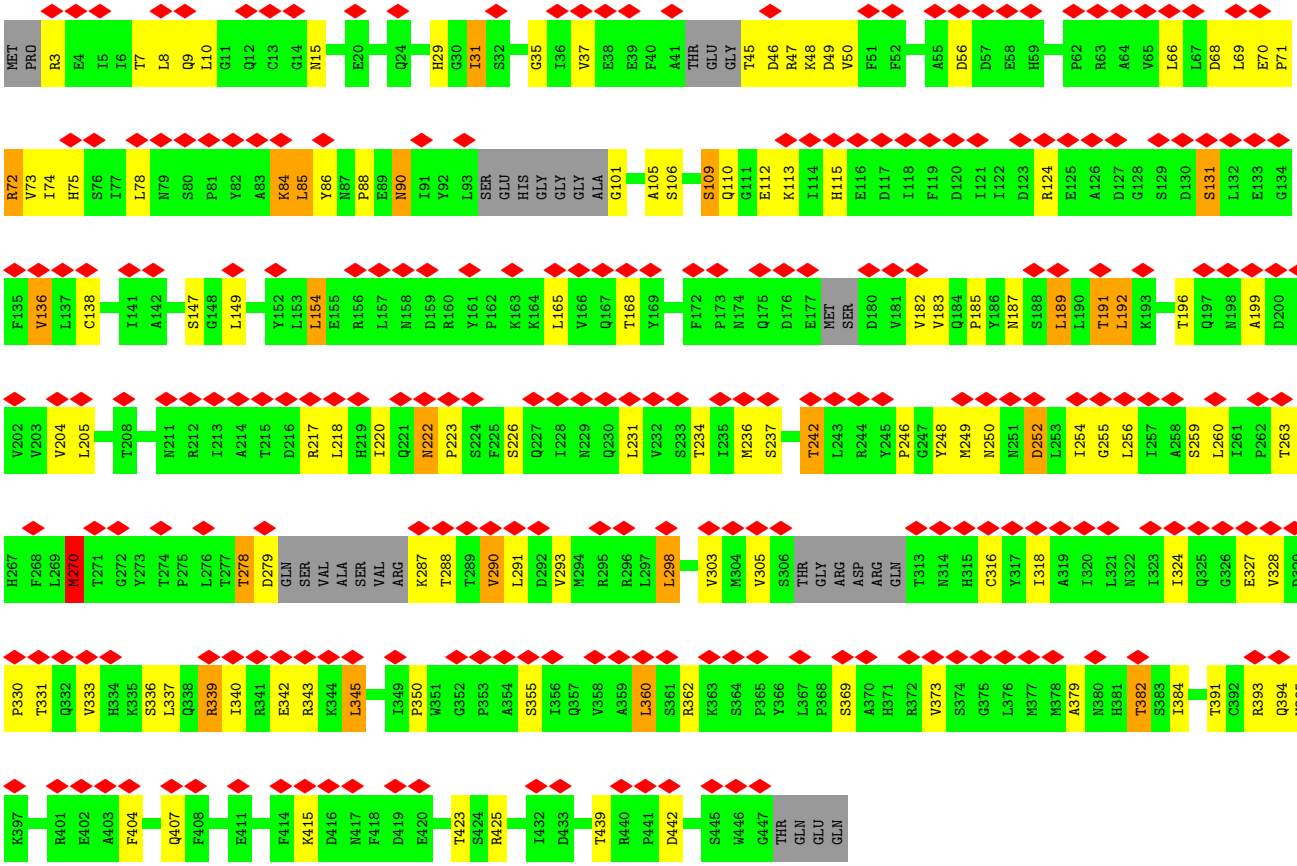
• Molecule 1: Tubulin gamma-1 chain

Chain S:

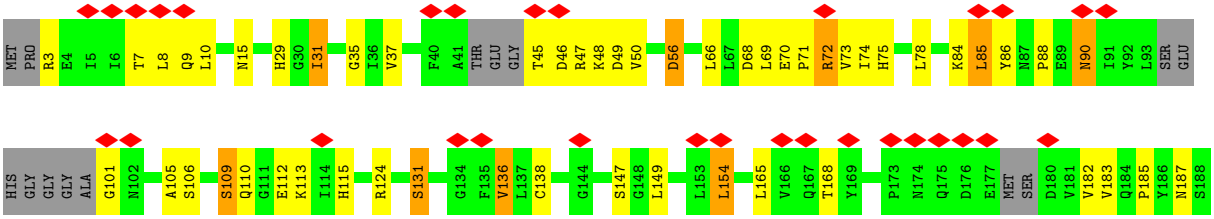


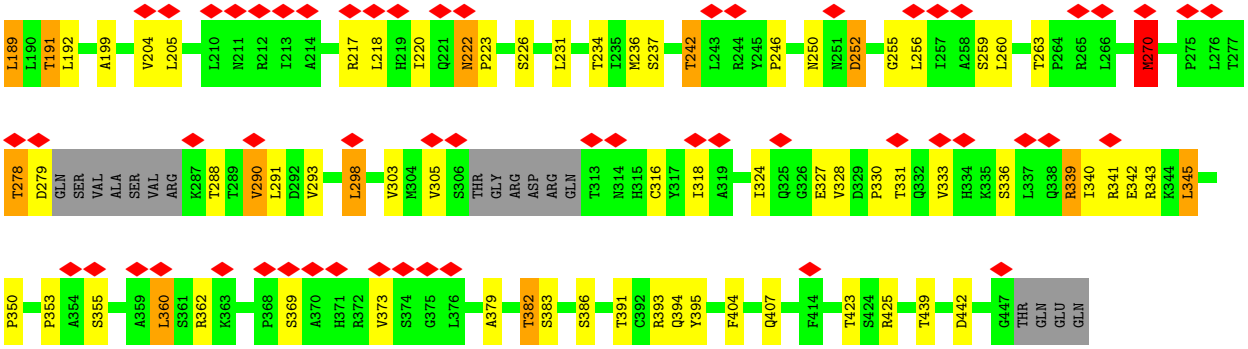


• Molecule 1: Tubulin gamma-1 chain



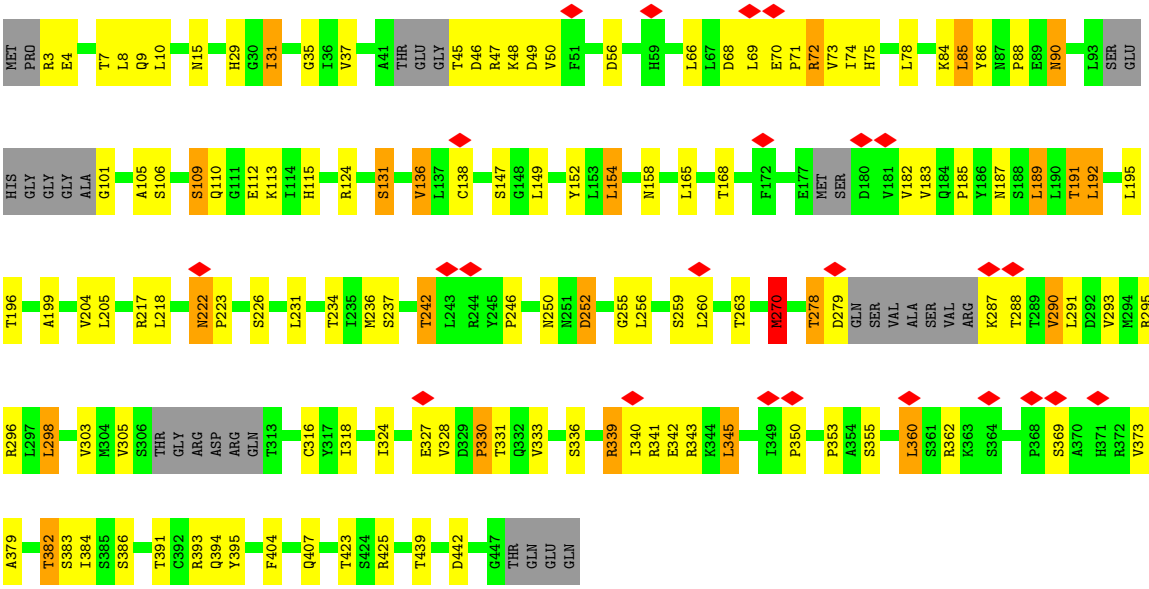
• Molecule 1: Tubulin gamma-1 chain





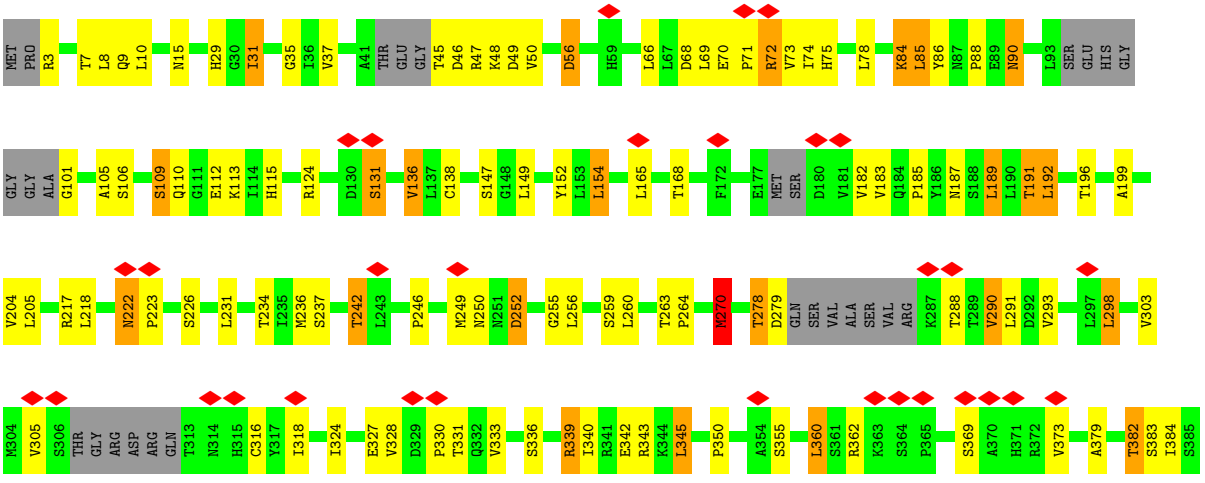
• Molecule 1: Tubulin gamma-1 chain

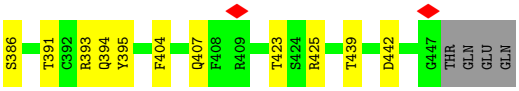
Chain V:



• Molecule 1: Tubulin gamma-1 chain

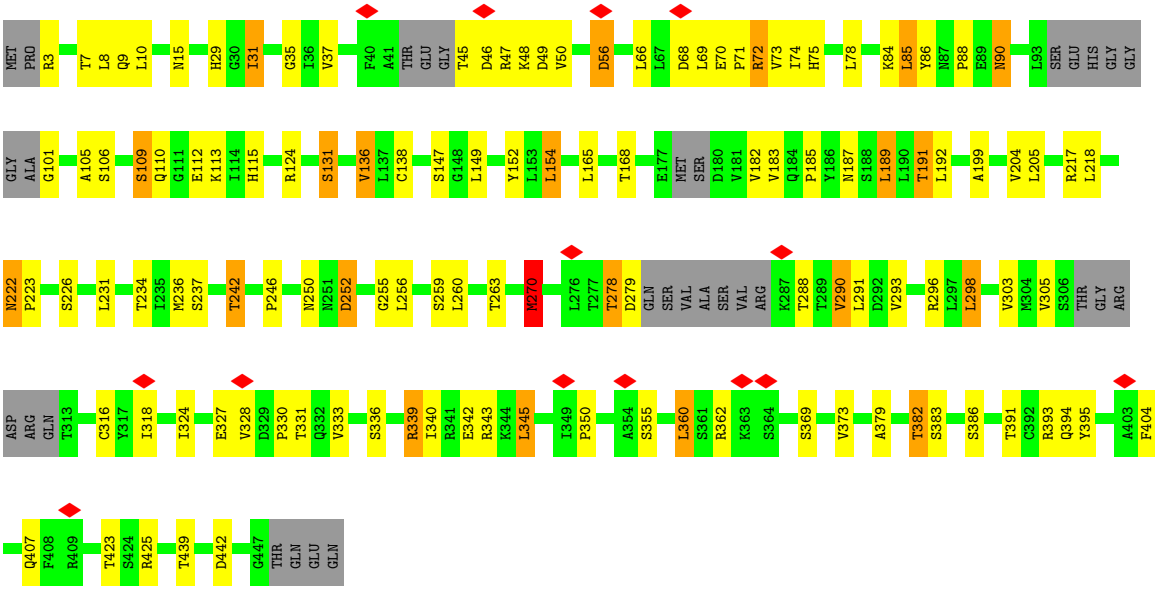
Chain W:





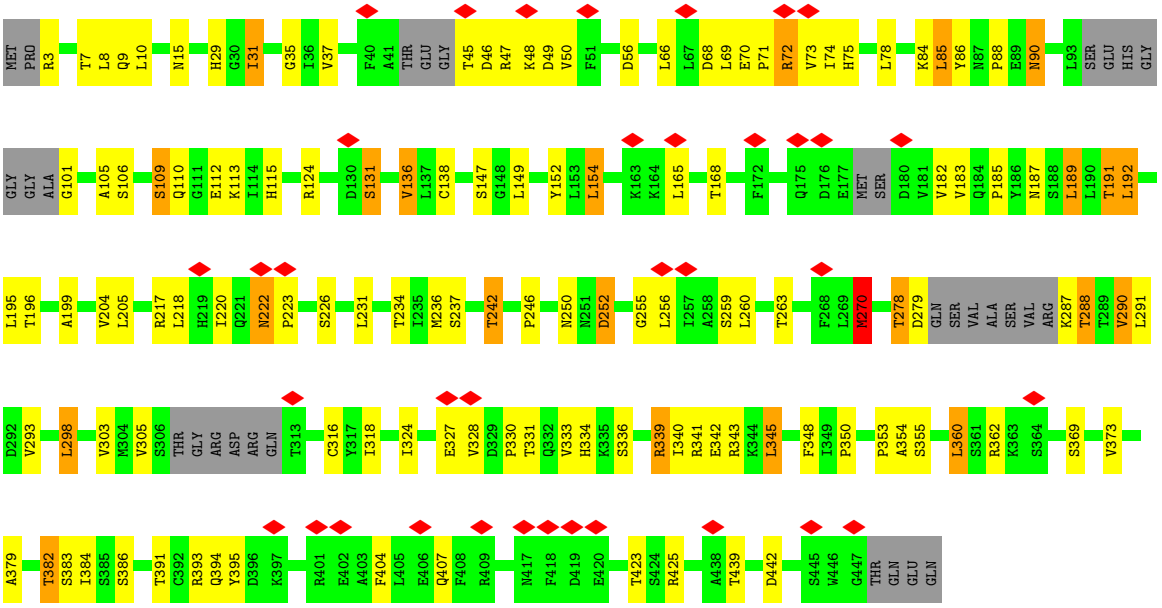
• Molecule 1: Tubulin gamma-1 chain

Chain X:



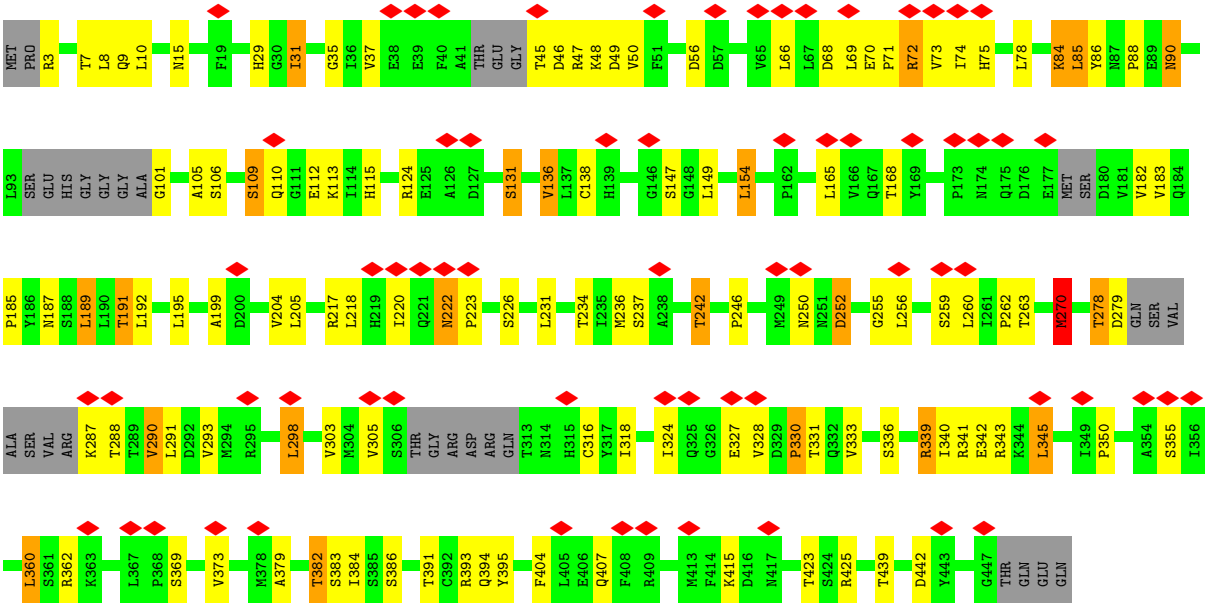
• Molecule 1: Tubulin gamma-1 chain

Chain Y:



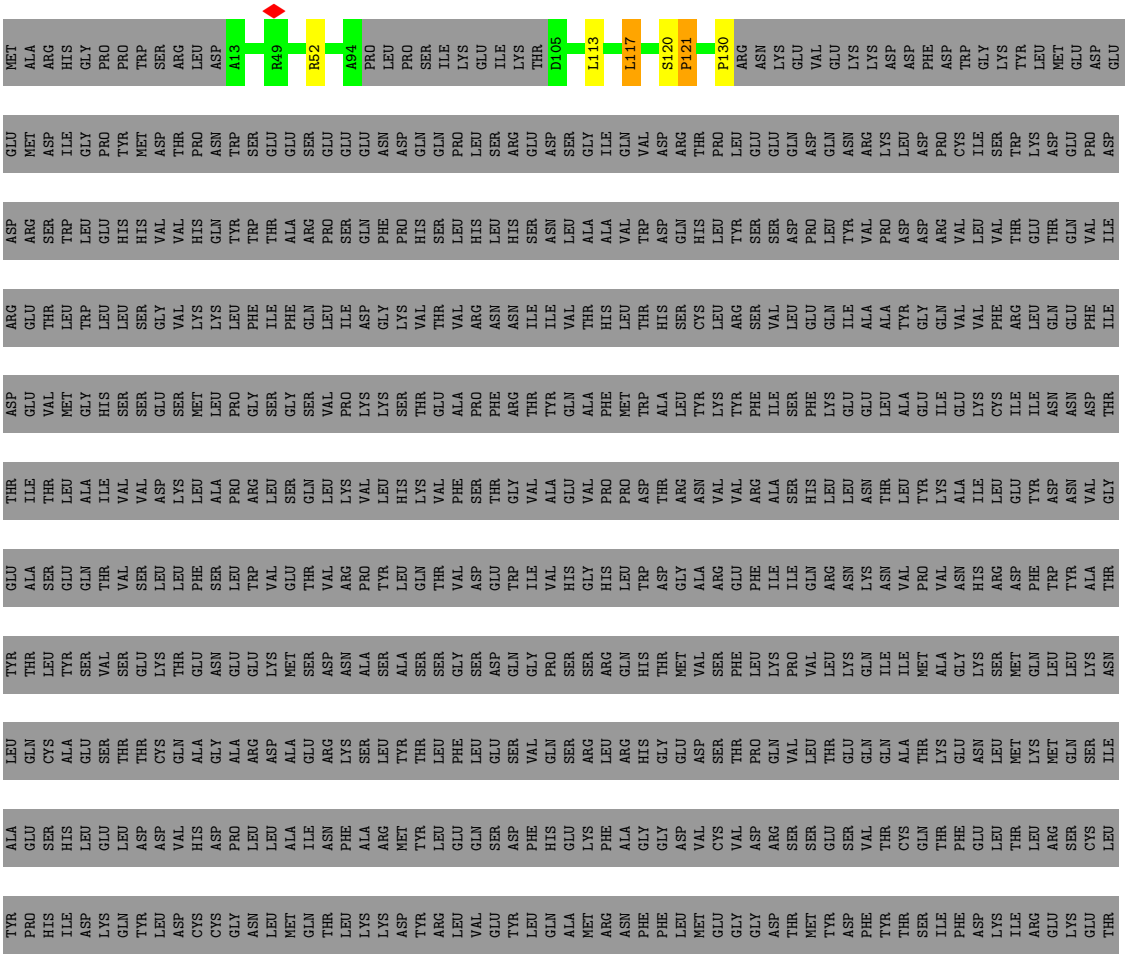
• Molecule 1: Tubulin gamma-1 chain

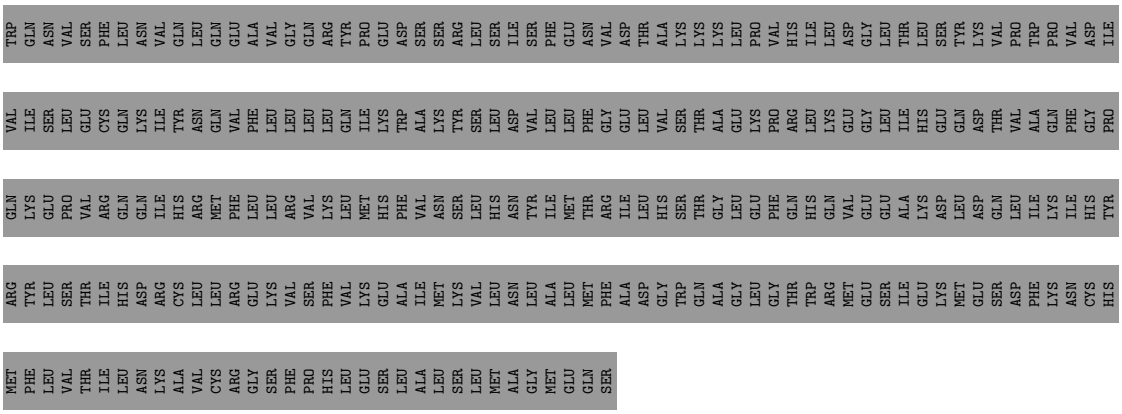
Chain Z:



• Molecule 2: Gamma-tubulin complex component 5

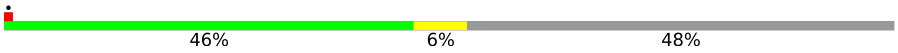
Chain l:

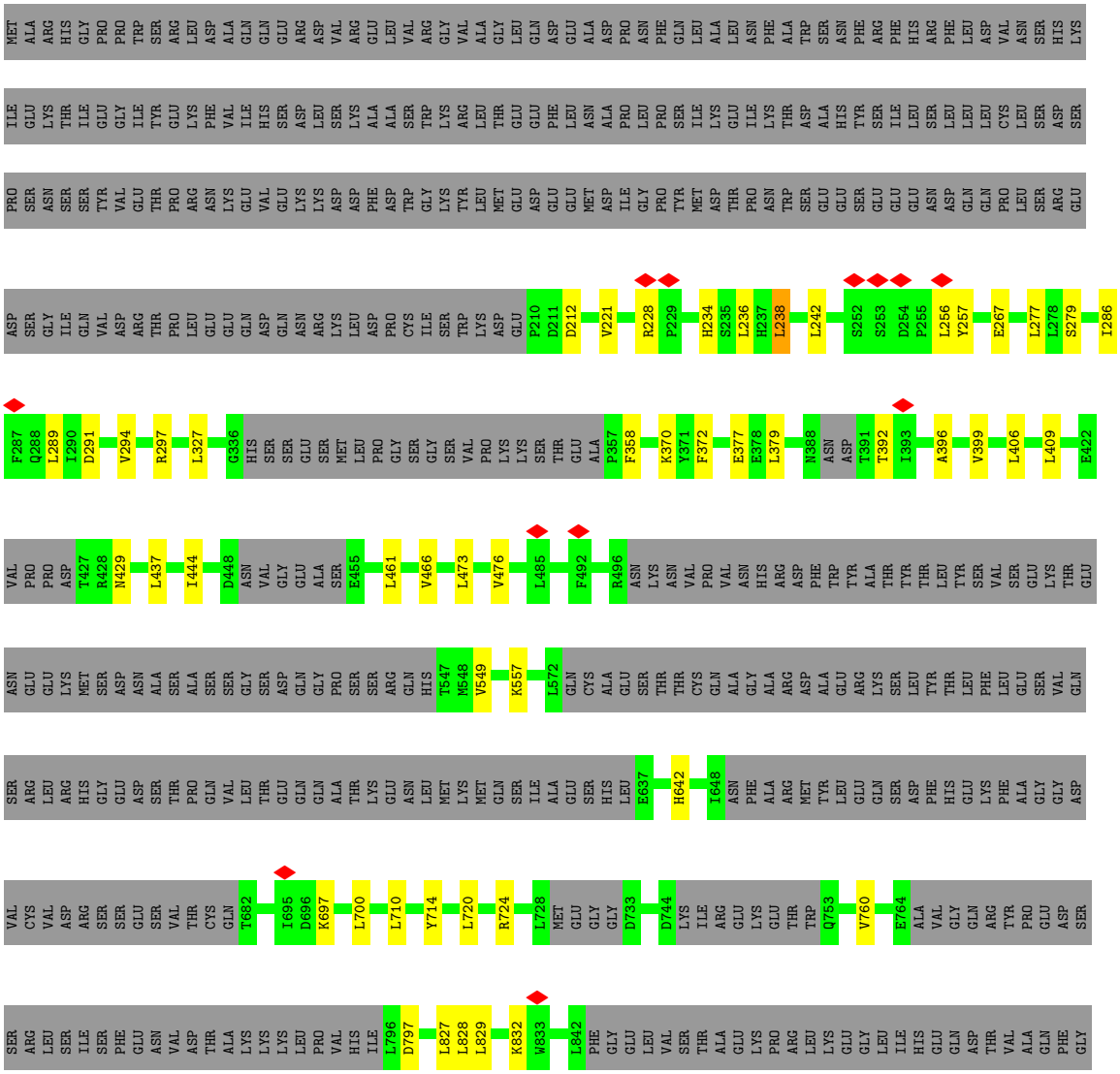


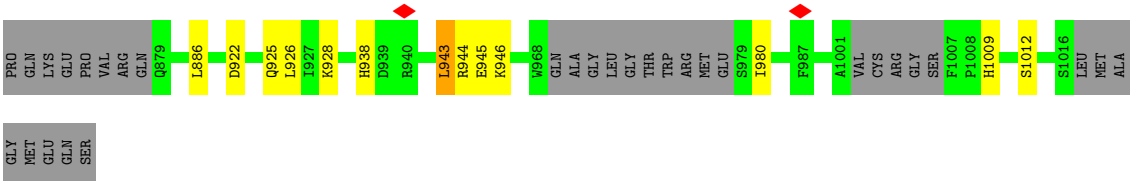


• Molecule 2: Gamma-tubulin complex component 5

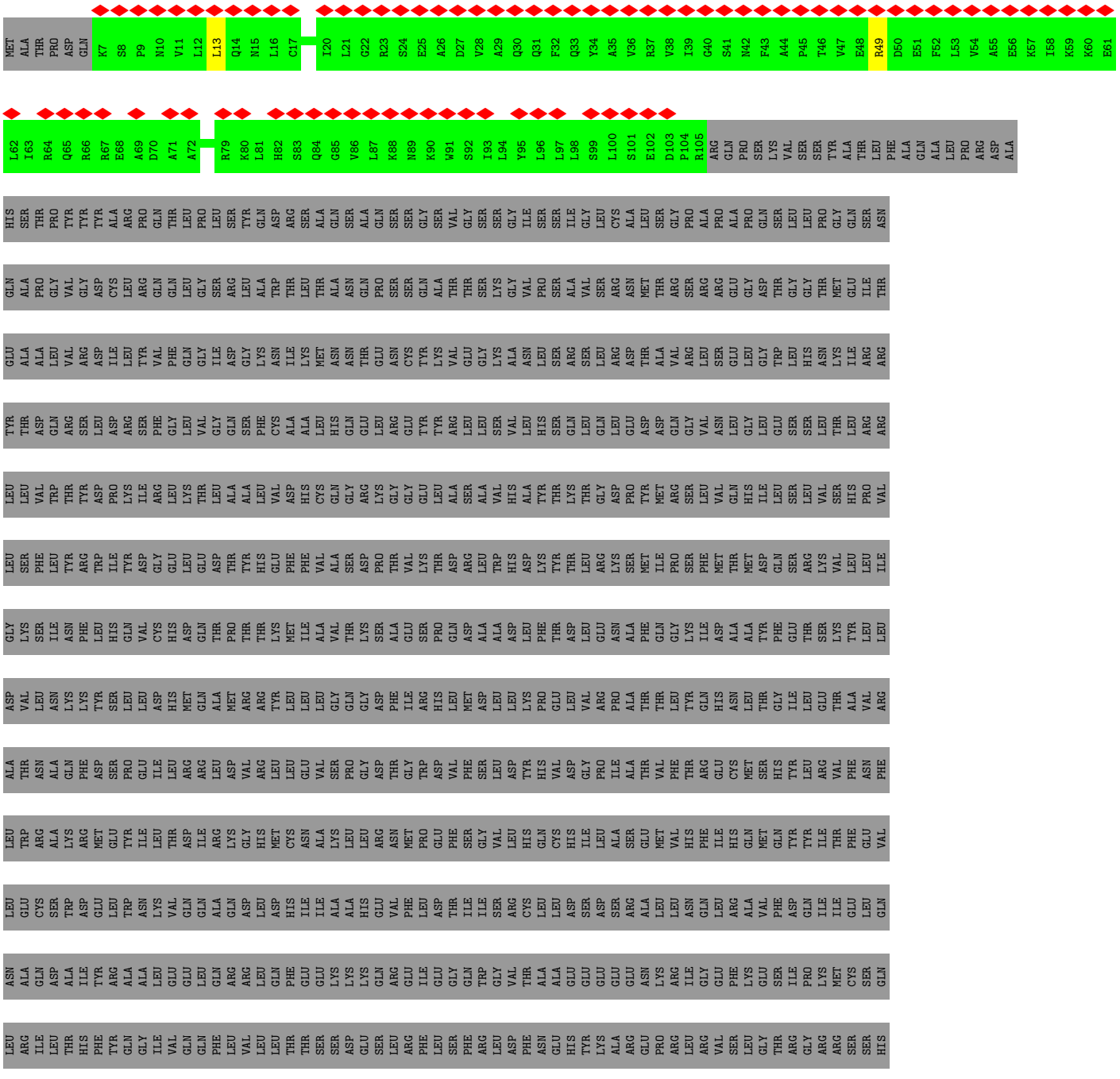
Chain J:



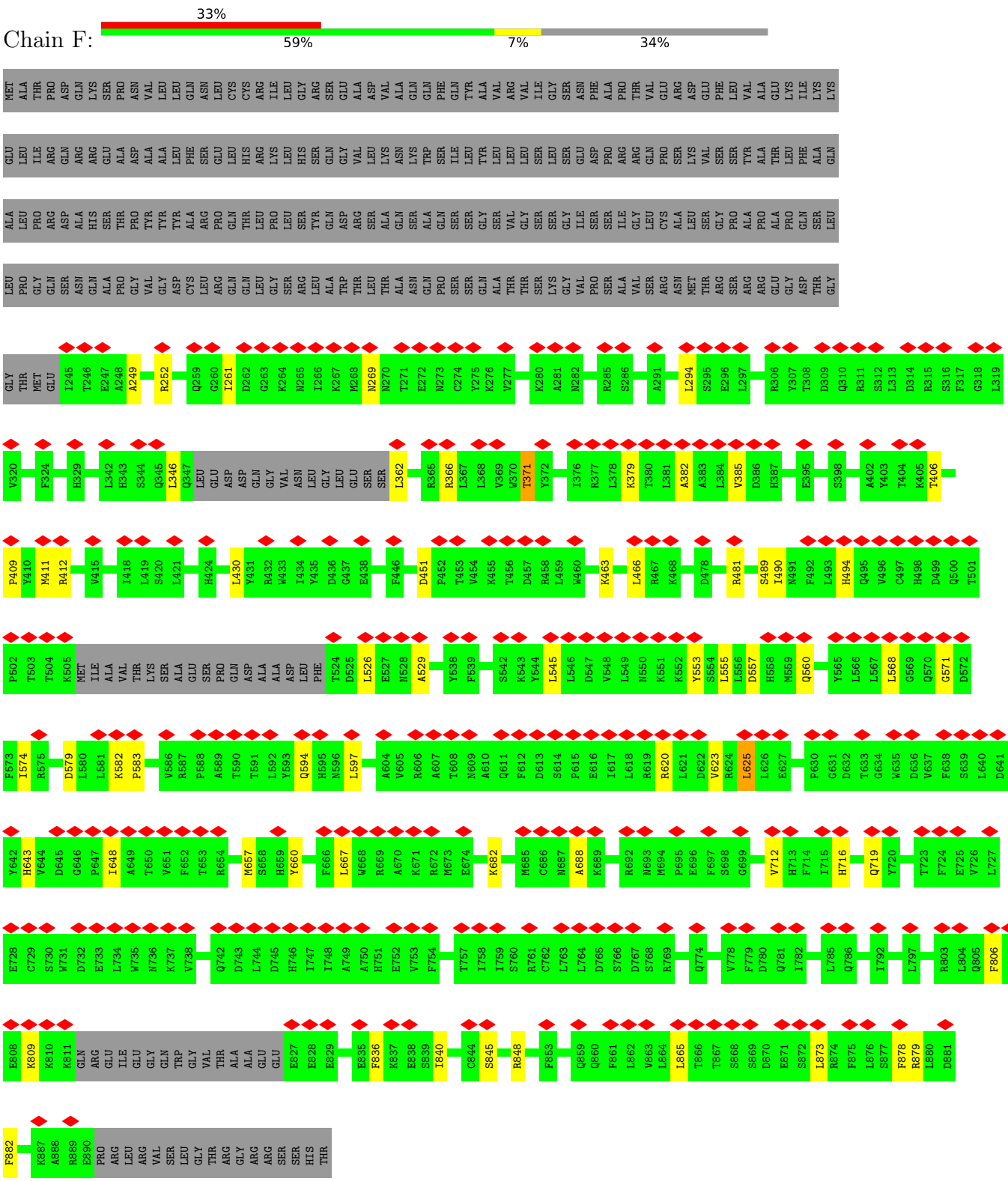




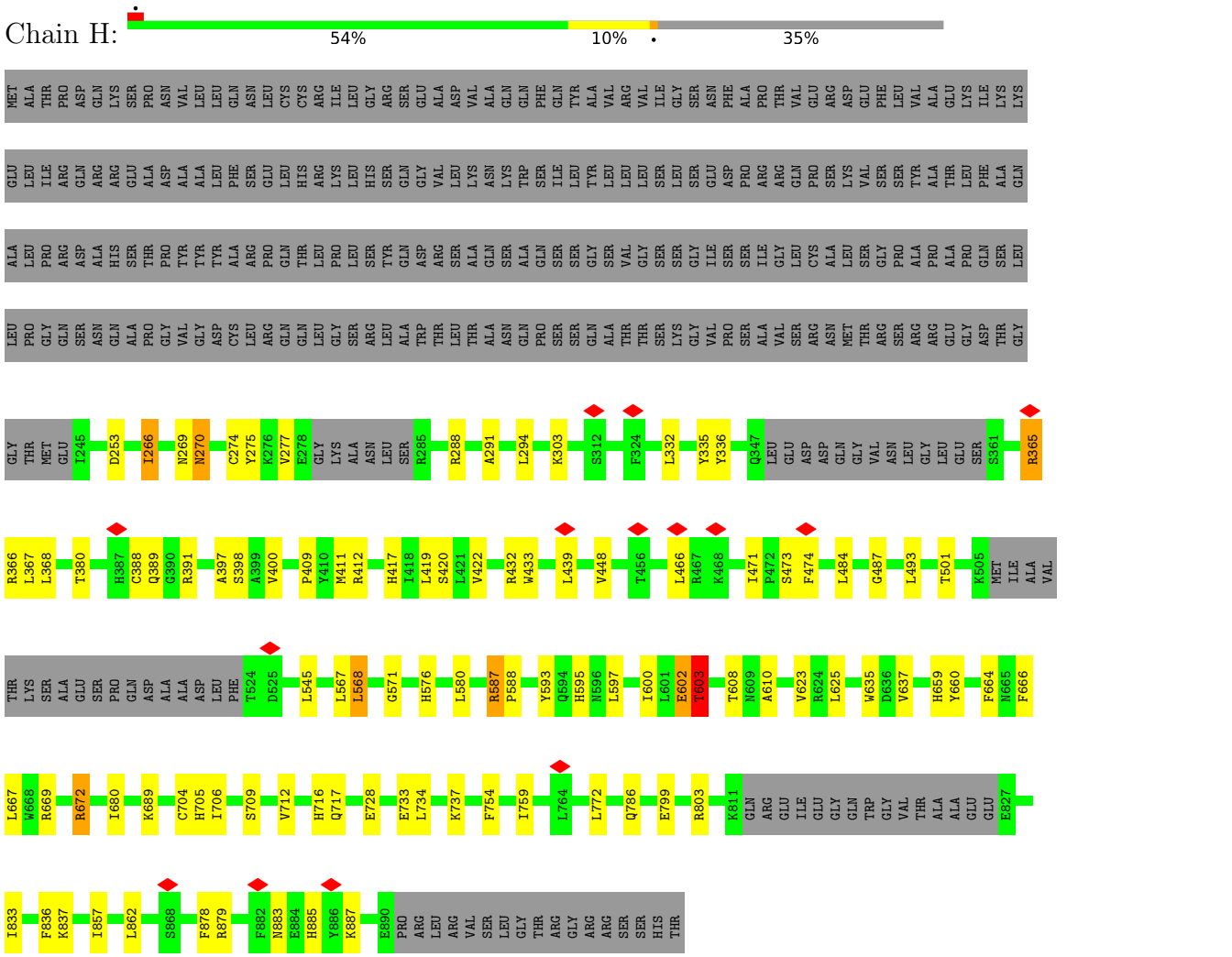
• Molecule 3: Gamma-tubulin complex component 3



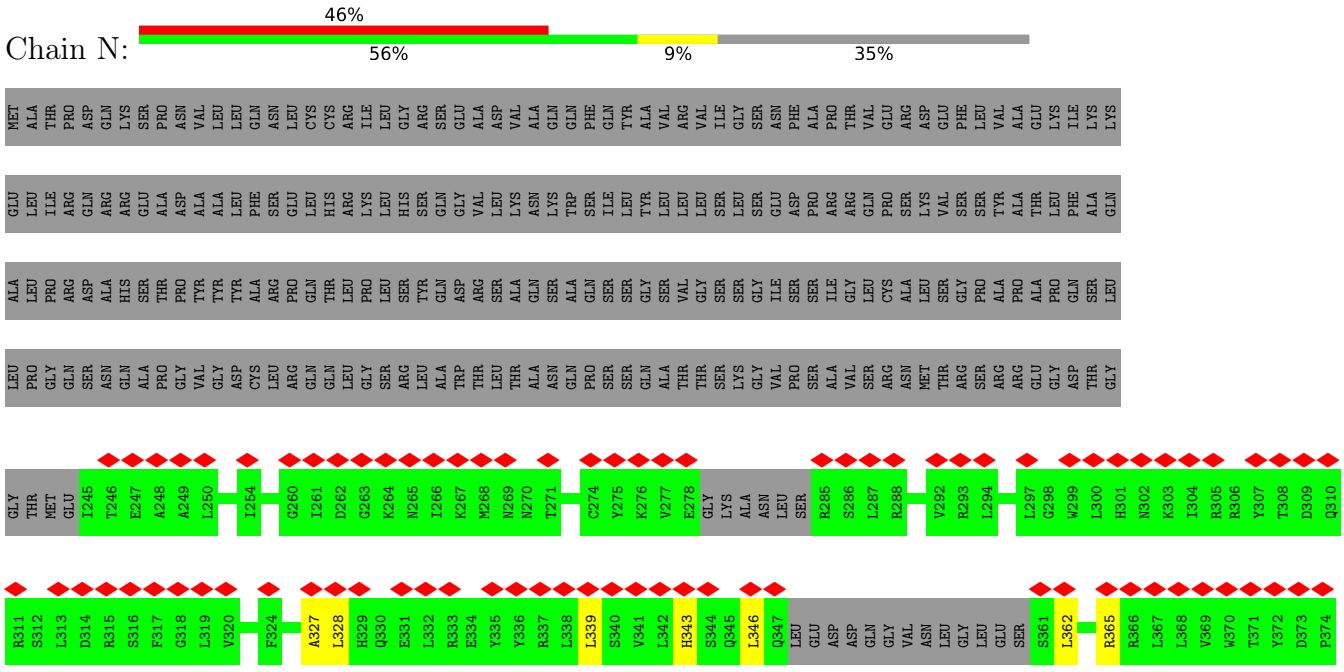
• Molecule 3: Gamma-tubulin complex component 3

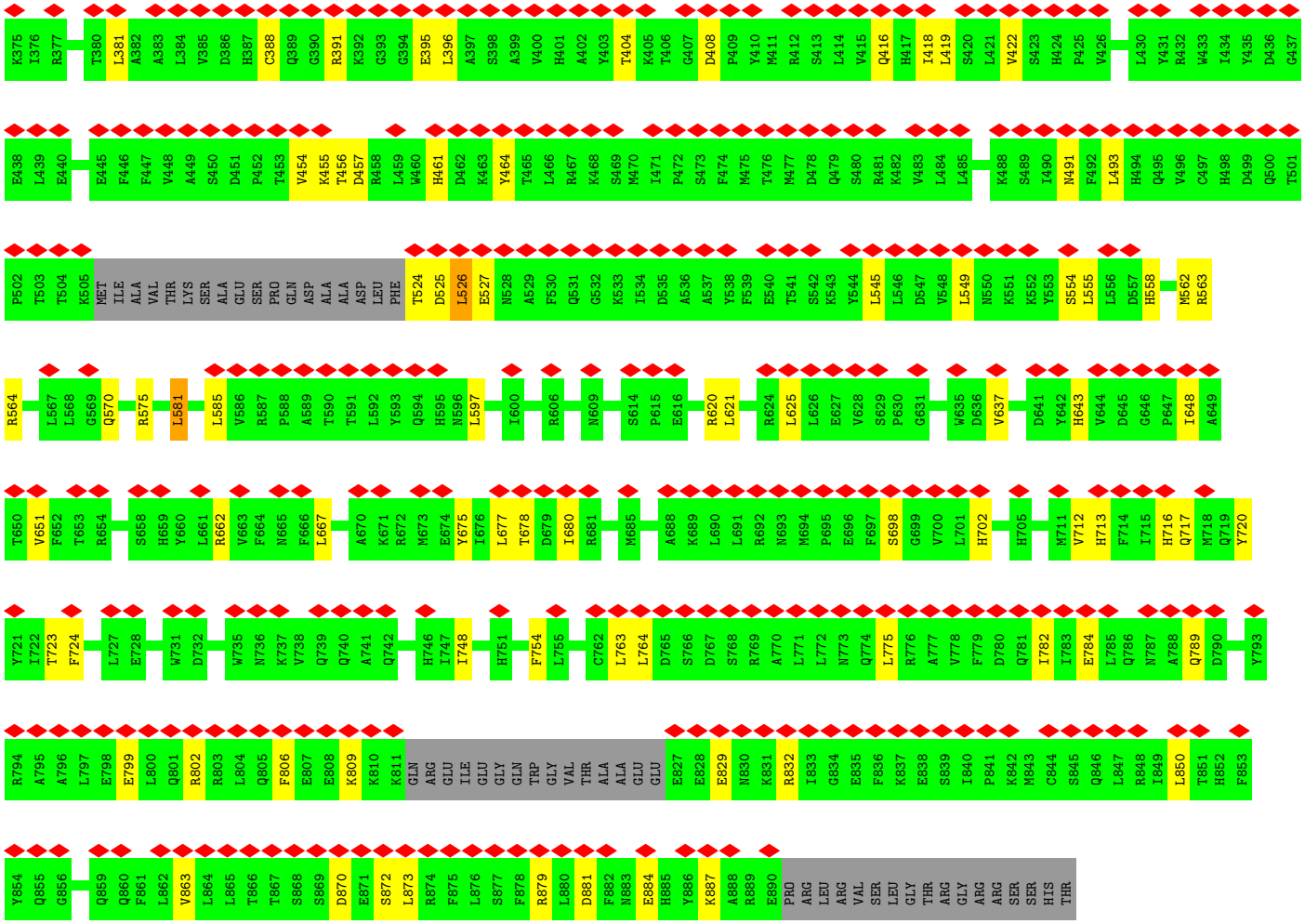


• Molecule 3: Gamma-tubulin complex component 3



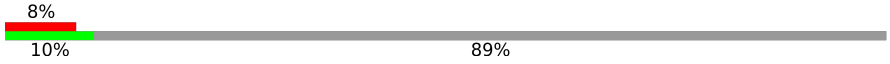
• Molecule 3: Gamma-tubulin complex component 3

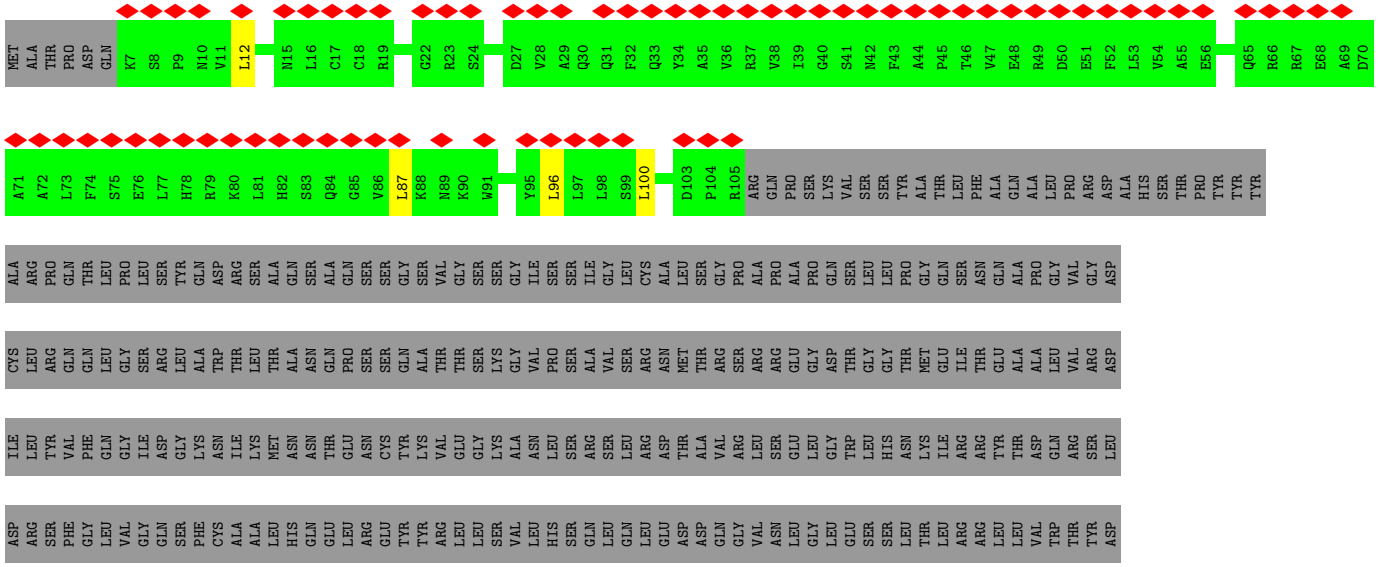


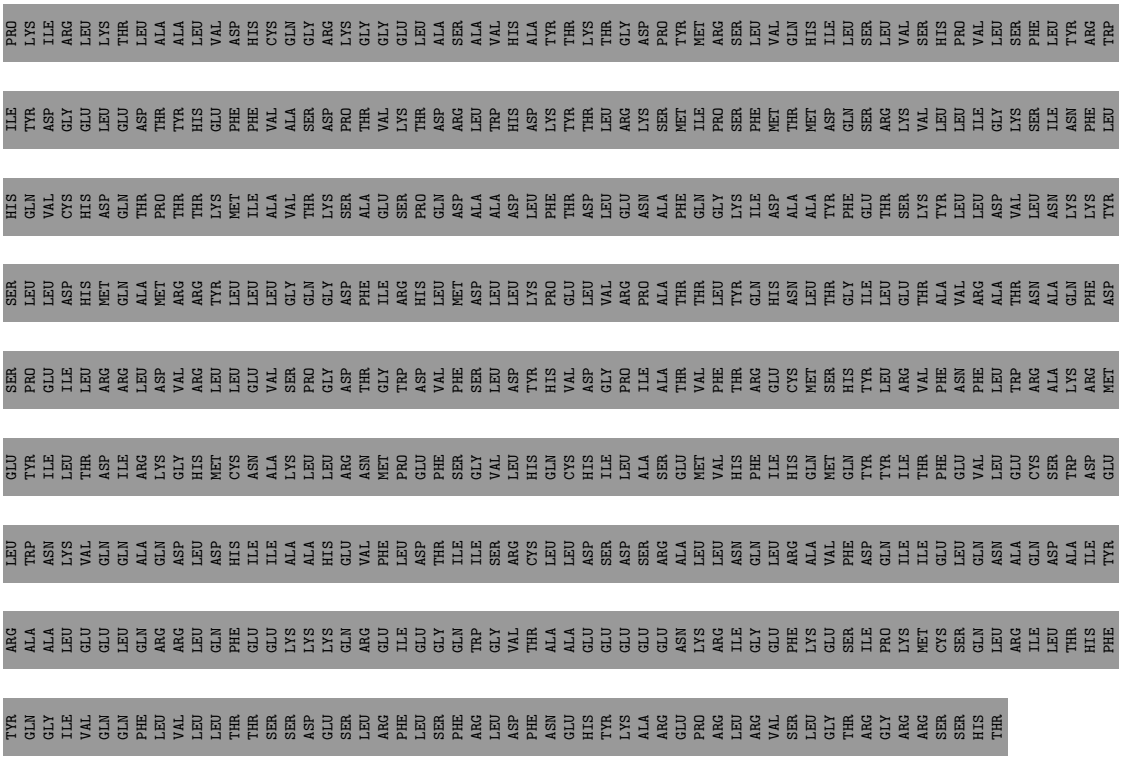


• Molecule 3: Gamma-tubulin complex component 3

Chain j:

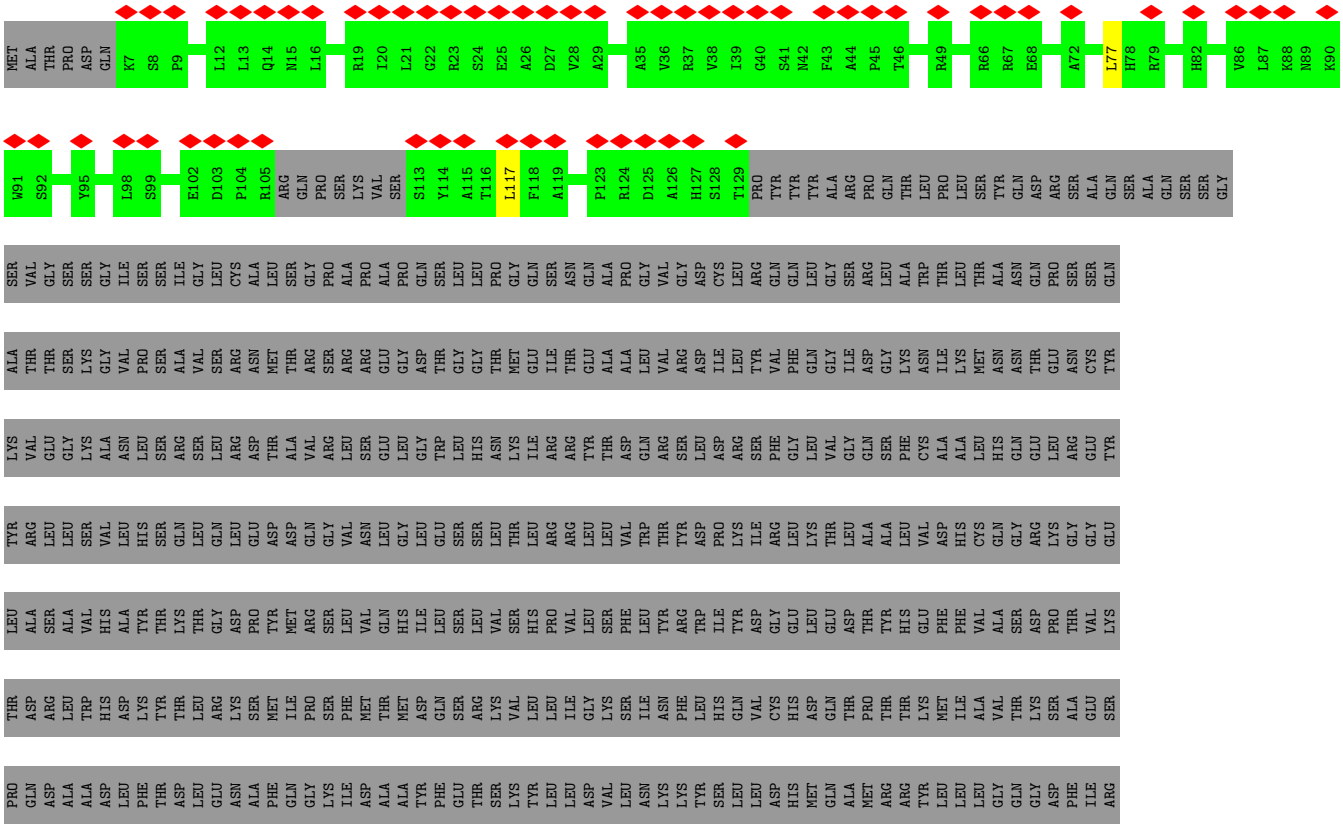


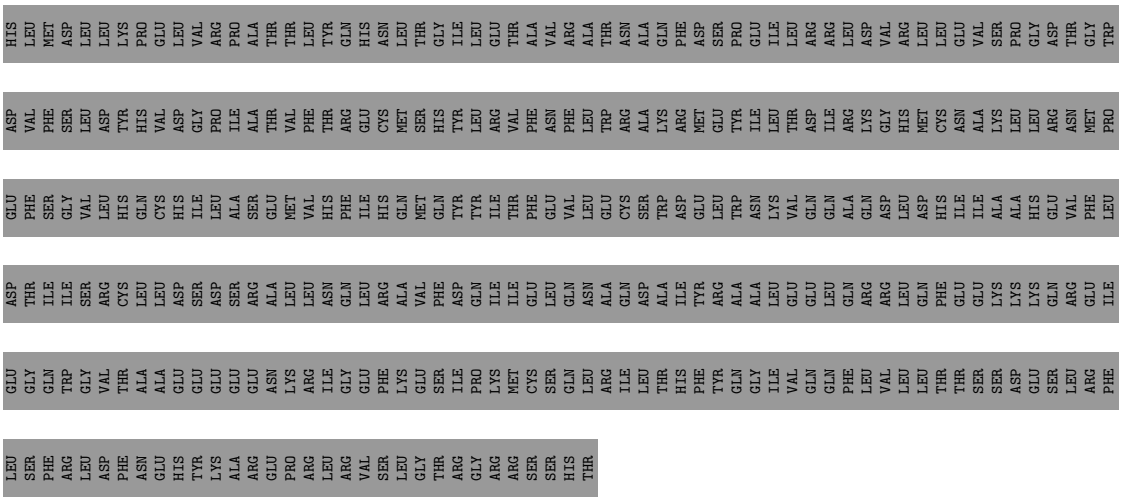




• Molecule 3: Gamma-tubulin complex component 3

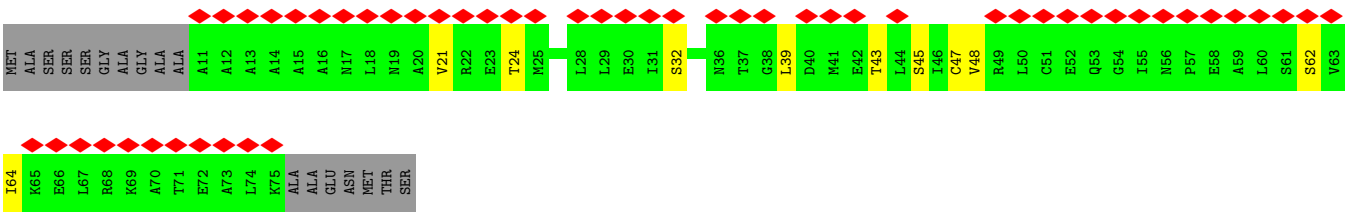
Chain a:





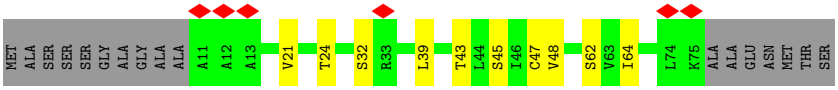
• Molecule 4: Mitotic-spindle organizing protein 1

Chain o:



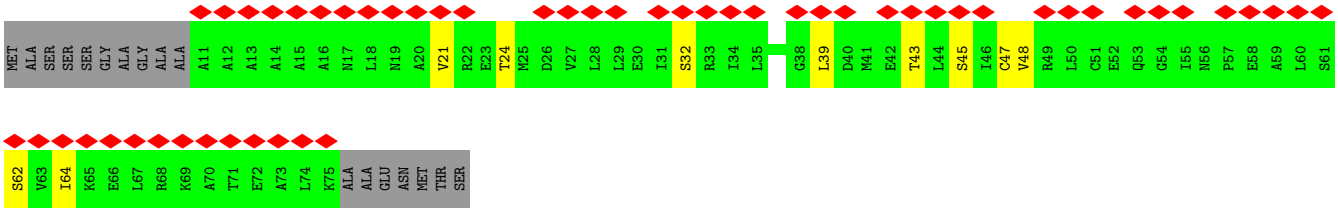
• Molecule 4: Mitotic-spindle organizing protein 1

Chain m:



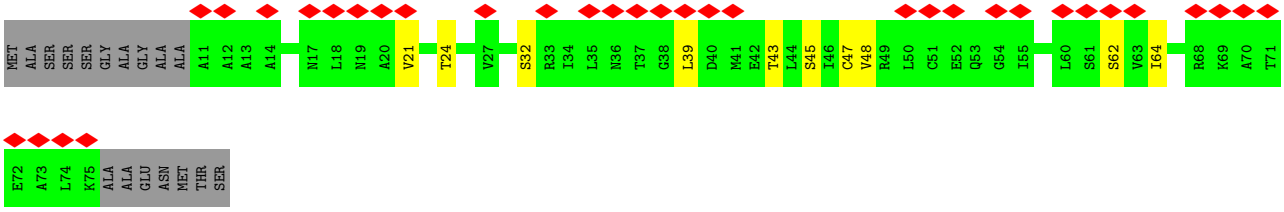
• Molecule 4: Mitotic-spindle organizing protein 1

Chain k:



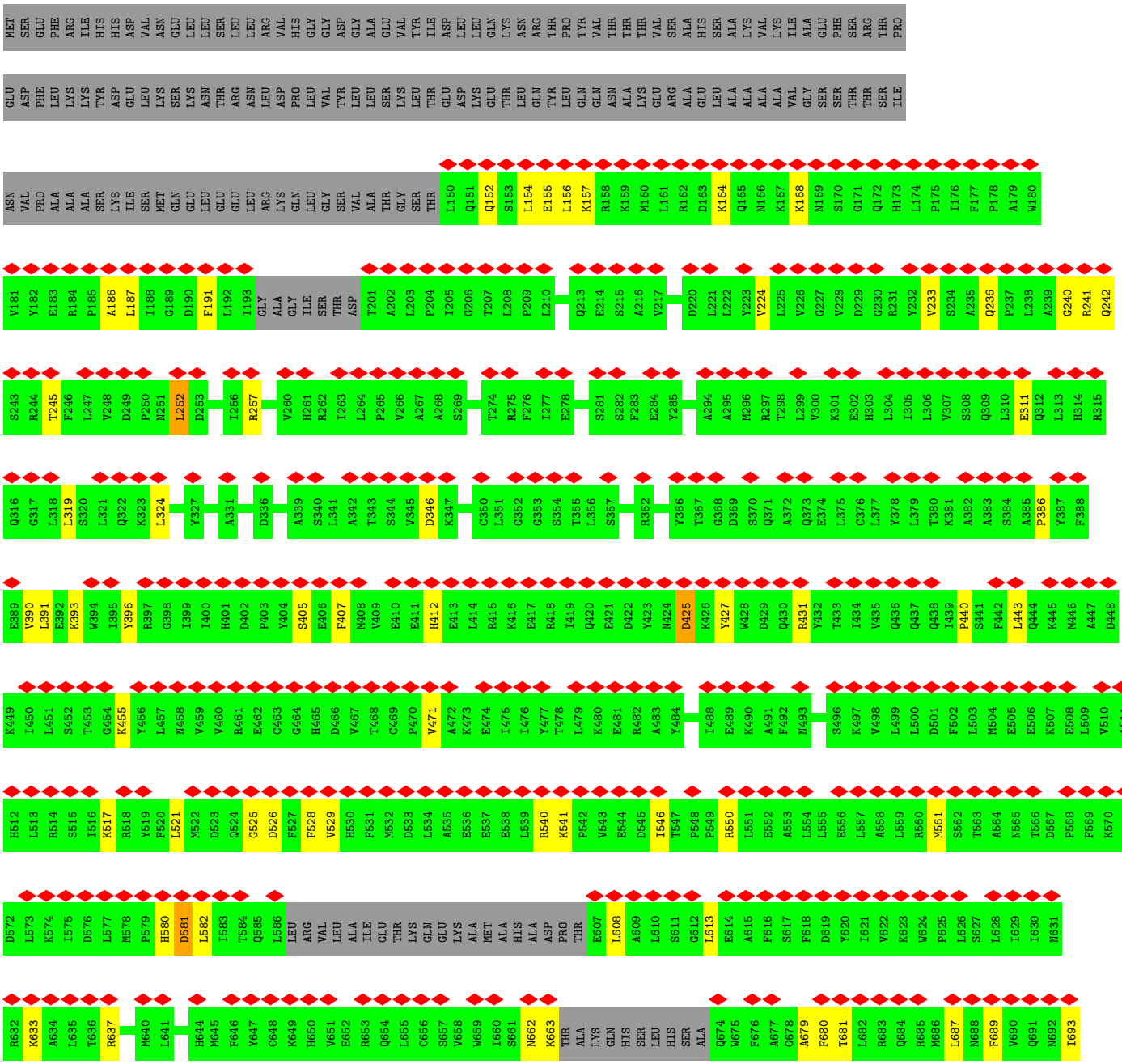
• Molecule 4: Mitotic-spindle organizing protein 1

Chain b:



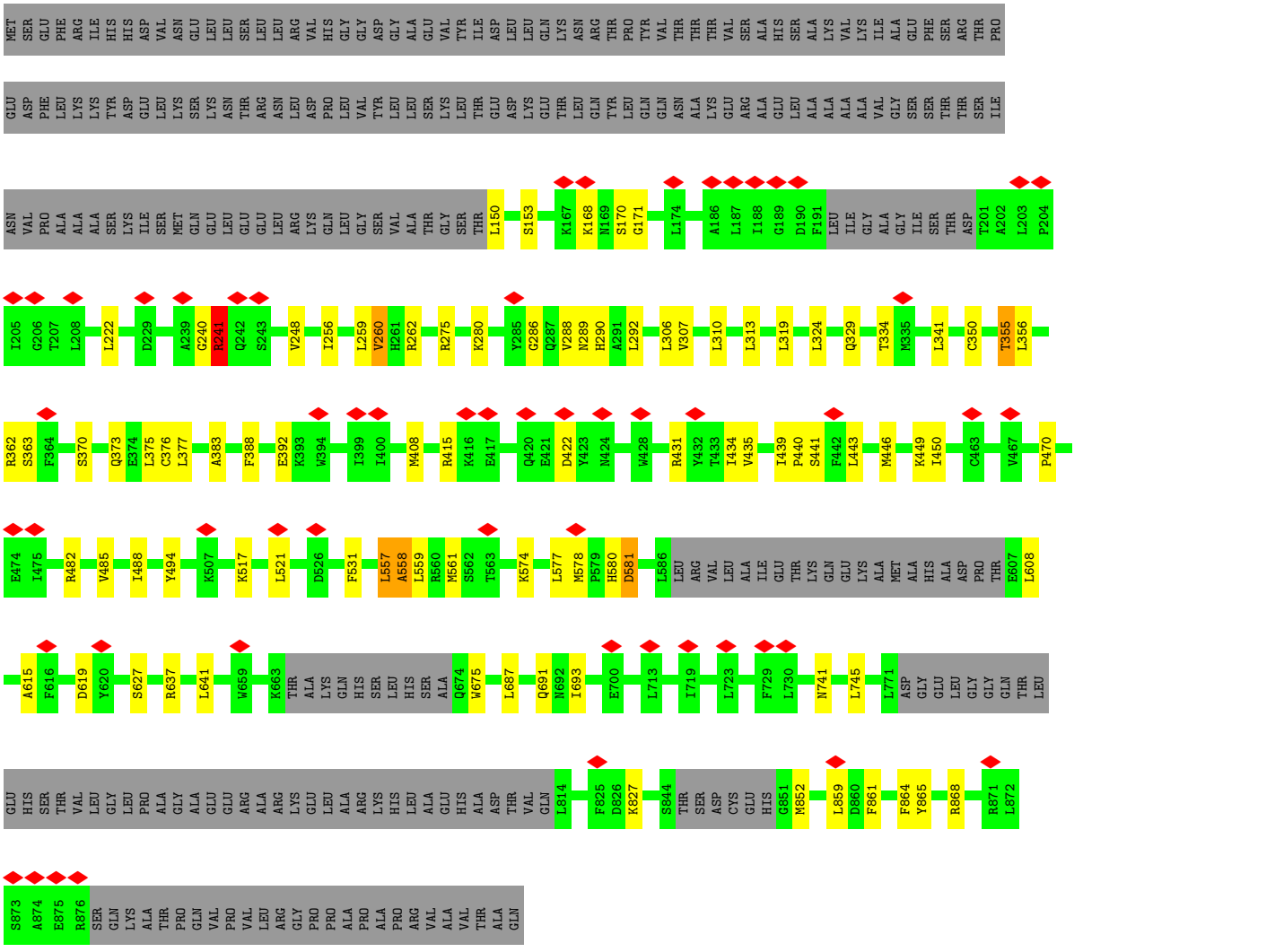
• Molecule 5: Gamma-tubulin complex component 2

Chain E:



• Molecule 5: Gamma-tubulin complex component 2

Chain G:

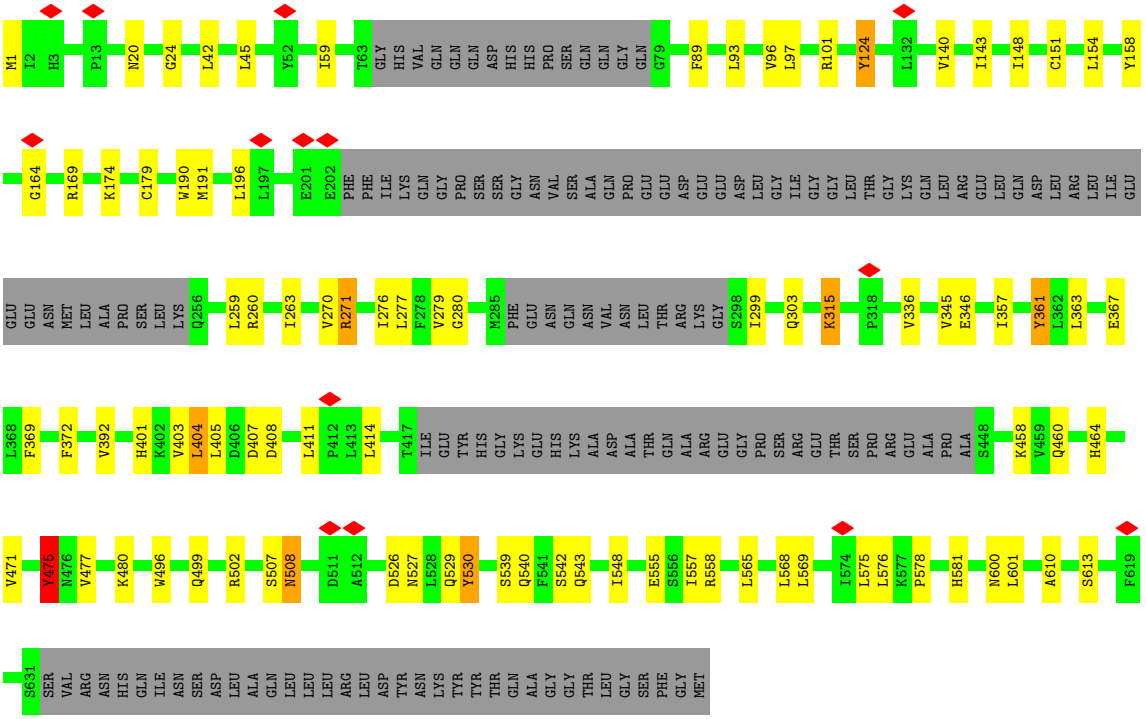


• Molecule 5: Gamma-tubulin complex component 2

Chain M:

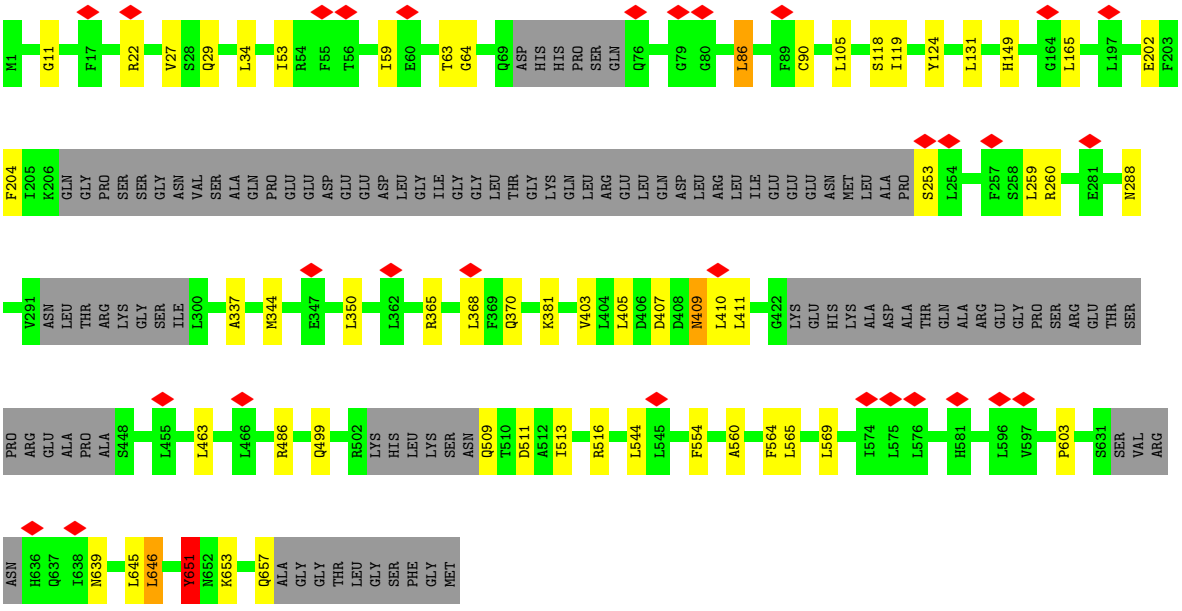
• Molecule 6: Gamma-tubulin complex component 4

Chain I:



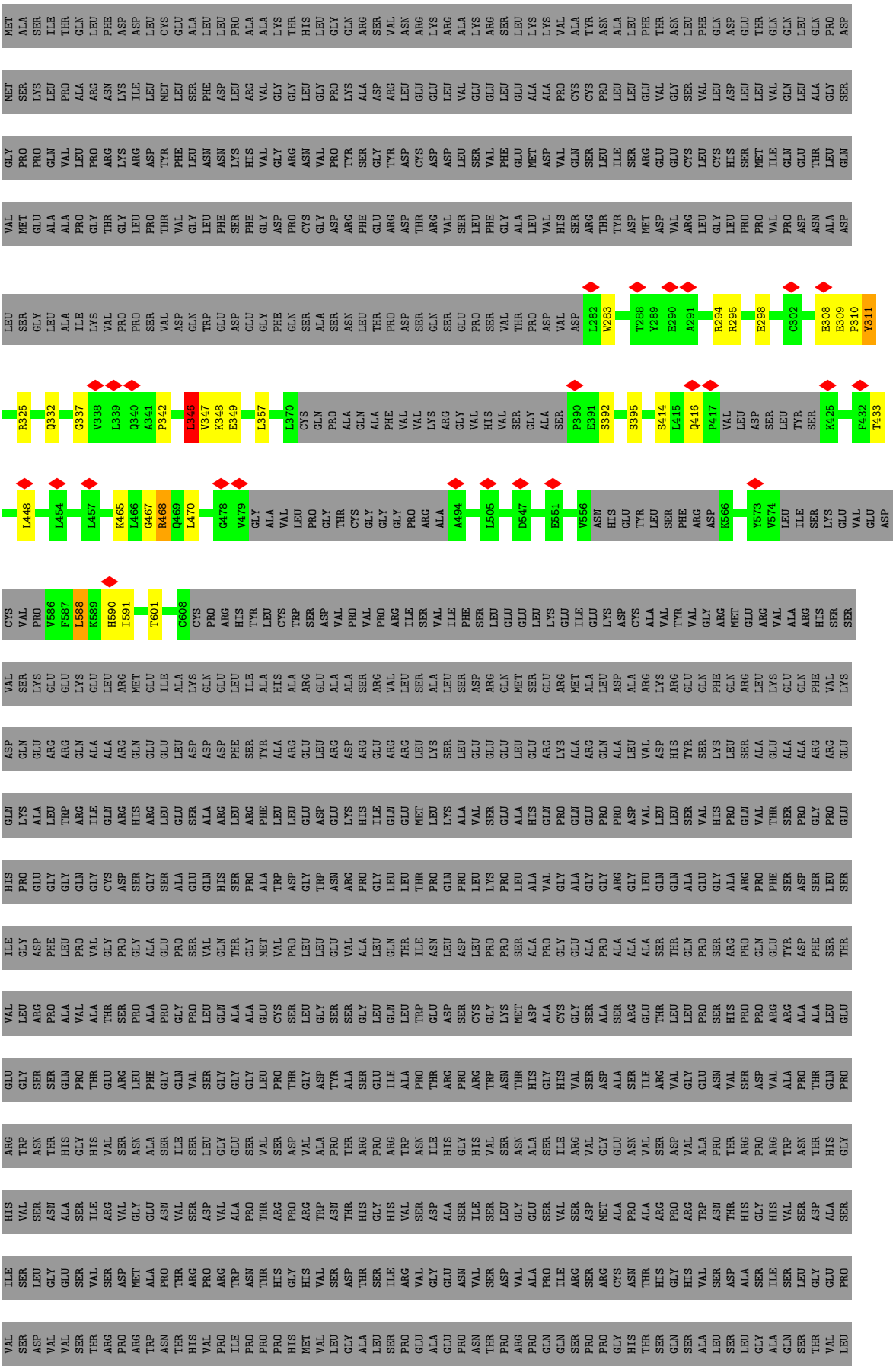
• Molecule 6: Gamma-tubulin complex component 4

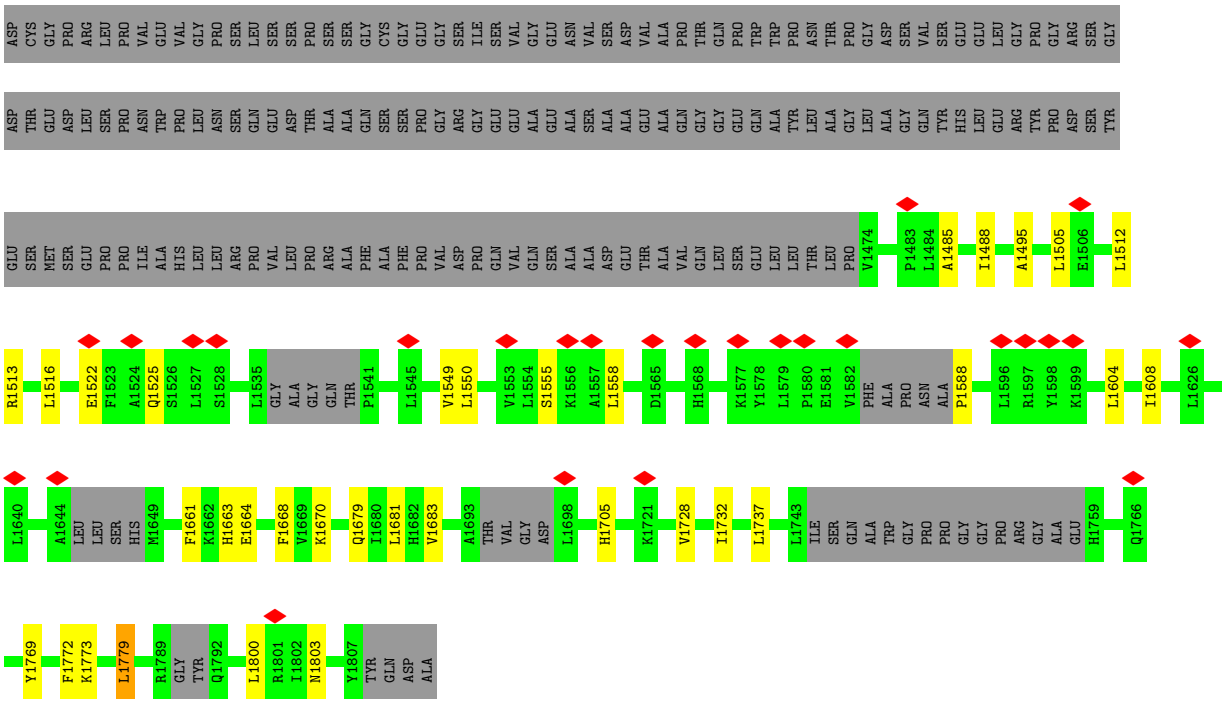
Chain K:



• Molecule 7: Gamma-tubulin complex component 6

Chain L:


L282
W283
T288
Y289
E290
A291
R294
R295
E298
C302
E308
E309
P310
Y311
R325
Q332
G337
V338
L339
Q340
A341
P342
L346
V347
K348
E349
L357
L370
P390
E391
S392
S395
S414
L415
Q416
P417
K425
F432
T433
L448
L454
L457
K465
L466
G467
R468
Q469
L470
G478
V479
A494
L505
D547
E551
V556
K566
V573
V574
V586
F587
L588
K589
H590
I591
T601
C608


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 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 GLU ARG TYR PRO ASP SER TYR
GLU SER MET SER GLU PRO PRO ILE ALA HIS LEU 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 V1474 P1483 L1484 A1485 I1488 A1495 L1505 E1506 L1512
R1513 L1516 E1522 F1523 A1524 Q1525 S1526 L1527 S1528 L1535 GLY ALA GLY GLN THR P1541 L1545 V1549 L1550 V1553 L1554 S1555 K1556 A1557 L1558 D1565 H1568 K1577 Y1578 L1579 P1580 E1581 V1582 PHE ALA PRO ASN ALA P1588 L1596 R1597 Y1598 K1599 L1604 I1608 L1626
L1640 A1644 LEU LEU SER HIS M1649 F1661 K1662 H1663 E1664 F1668 V1669 K1670 Q1679 I1680 L1681 H1682 V1683 A1693 THR VAL GLY ASP L1698 H1705 K1721 V1728 I1732 L1737 L1743 ILE SER GLN ALA TRP GLY PRO PRO GLY GLY PRO ARG GLY ALA GLU H1759 Q1766
Y1769 F1772 K1773 L1779 R1789 GLY TYR Q1792 L1800 R1801 I1802 N1803 Y1807 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	6097	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	0.272	Depositor
Minimum map value	-0.099	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.0514	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 (i)

5.1 Standard geometry (i)

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	1	0.37	0/3441	0.63	1/4661 (0.0%)
1	2	0.37	0/3441	0.63	1/4661 (0.0%)
1	S	0.37	0/3441	0.63	1/4661 (0.0%)
1	T	0.37	0/3441	0.63	1/4661 (0.0%)
1	U	0.37	0/3441	0.63	1/4661 (0.0%)
1	V	0.37	0/3441	0.63	1/4661 (0.0%)
1	W	0.37	0/3441	0.63	1/4661 (0.0%)
1	X	0.37	0/3441	0.63	1/4661 (0.0%)
1	Y	0.37	0/3441	0.63	1/4661 (0.0%)
1	Z	0.37	0/3441	0.63	1/4661 (0.0%)
2	J	0.44	0/4525	0.69	3/6119 (0.0%)
2	l	0.40	0/894	0.69	3/1209 (0.2%)
3	F	0.39	1/5044 (0.0%)	0.66	3/6809 (0.0%)
3	H	0.48	1/5009 (0.0%)	0.72	7/6761 (0.1%)
3	N	0.42	1/5009 (0.0%)	0.68	4/6761 (0.1%)
3	a	0.38	0/948	0.74	1/1277 (0.1%)
3	j	0.37	0/815	0.70	4/1096 (0.4%)
3	n	0.37	0/815	0.67	1/1096 (0.1%)
4	b	0.42	0/484	0.71	0/653
4	k	0.42	0/484	0.71	0/653
4	m	0.42	0/484	0.71	0/653
4	o	0.42	0/484	0.71	0/653
5	E	0.41	0/5311	0.68	2/7169 (0.0%)
5	G	0.41	1/5325 (0.0%)	0.67	4/7187 (0.1%)
5	M	0.43	0/5295	0.75	13/7147 (0.2%)
6	I	0.49	3/4322 (0.1%)	0.68	2/5853 (0.0%)
6	K	0.41	1/4683 (0.0%)	0.70	8/6338 (0.1%)
7	L	0.39	0/4697	0.66	1/6348 (0.0%)
All	All	0.41	8/89038 (0.0%)	0.67	66/120392 (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	2
1	2	0	2
1	S	0	2
1	T	0	2
1	U	0	2
1	V	0	2
1	W	0	2
1	X	0	2
1	Y	0	2
1	Z	0	2
2	J	0	2
3	H	0	5
3	N	0	2
5	E	0	2
5	G	0	2
5	M	0	5
6	I	0	4
7	L	0	3
All	All	0	45

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	I	361	TYR	CD2-CE2	-10.32	1.23	1.39
6	I	530	TYR	CD2-CE2	-7.44	1.28	1.39
3	H	603	THR	CB-CG2	6.75	1.74	1.52
3	N	754	PHE	CD1-CE1	-6.73	1.25	1.39
6	K	651	TYR	CB-CG	-6.12	1.42	1.51
6	I	124	TYR	CD1-CE1	-5.31	1.31	1.39
5	G	260	VAL	CB-CG1	-5.24	1.41	1.52
3	F	882	PHE	CE2-CZ	5.17	1.47	1.37

All (66) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	K	651	TYR	CB-CG-CD1	15.74	130.44	121.00
3	a	77	LEU	CB-CG-CD2	-11.82	90.90	111.00
6	K	651	TYR	CA-CB-CG	9.06	130.61	113.40
3	H	568	LEU	CA-CB-CG	8.97	135.93	115.30
6	K	651	TYR	CB-CG-CD2	-8.74	115.75	121.00
5	E	252	LEU	CA-CB-CG	8.22	134.21	115.30
2	l	121	PRO	CA-N-CD	-8.07	100.20	111.50
2	l	130	PRO	CA-N-CD	-8.06	100.22	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	N	408	ASP	CB-CG-OD1	7.84	125.35	118.30
3	j	12	LEU	CB-CG-CD2	-7.53	98.20	111.00
6	K	410	LEU	CA-CB-CG	7.45	132.43	115.30
5	M	703	GLU	CB-CA-C	7.13	124.67	110.40
2	J	943	LEU	CA-CB-CG	6.87	131.09	115.30
3	F	430	LEU	CA-CB-CG	6.76	130.85	115.30
3	H	587	ARG	NE-CZ-NH1	6.75	123.67	120.30
5	G	687	LEU	CA-CB-CG	6.49	130.22	115.30
3	H	672	ARG	NE-CZ-NH1	6.39	123.49	120.30
5	G	260	VAL	CG1-CB-CG2	-6.30	100.82	110.90
6	K	645	LEU	CA-CB-CG	6.18	129.52	115.30
3	H	365	ARG	NE-CZ-NH2	-6.14	117.23	120.30
7	L	1779	LEU	CA-CB-CG	6.14	129.41	115.30
6	K	409	ASN	C-N-CA	6.09	136.94	121.70
5	M	554	LEU	CB-CG-CD2	6.08	121.34	111.00
3	H	367	LEU	CA-CB-CG	6.05	129.22	115.30
5	M	704	PRO	N-CD-CG	-5.97	94.25	103.20
5	M	241	ARG	O-C-N	-5.93	113.21	122.70
5	M	581	ASP	N-CA-CB	-5.83	100.11	110.60
2	J	926	LEU	CB-CG-CD2	5.83	120.90	111.00
5	M	836	LEU	CA-CB-CG	5.81	128.66	115.30
3	N	667	LEU	CA-CB-CG	5.75	128.53	115.30
5	M	705	THR	N-CA-C	-5.73	95.54	111.00
1	U	270	MET	CA-CB-CG	5.65	122.91	113.30
1	X	270	MET	CA-CB-CG	5.65	122.91	113.30
5	M	555	LEU	CA-CB-CG	5.65	128.29	115.30
1	1	270	MET	CA-CB-CG	5.65	122.90	113.30
1	S	270	MET	CA-CB-CG	5.64	122.89	113.30
1	W	270	MET	CA-CB-CG	5.64	122.89	113.30
1	Z	270	MET	CA-CB-CG	5.64	122.89	113.30
1	2	270	MET	CA-CB-CG	5.64	122.88	113.30
5	M	176	ILE	C-N-CA	5.64	135.79	121.70
1	T	270	MET	CA-CB-CG	5.63	122.87	113.30
1	V	270	MET	CA-CB-CG	5.62	122.86	113.30
1	Y	270	MET	CA-CB-CG	5.62	122.86	113.30
3	j	96	LEU	CB-CG-CD1	-5.50	101.66	111.00
3	N	621	LEU	CA-CB-CG	5.43	127.80	115.30
6	K	646	LEU	CA-CB-CG	5.39	127.71	115.30
3	j	100	LEU	CA-CB-CG	-5.32	103.07	115.30
3	H	603	THR	CA-CB-CG2	5.26	119.77	112.40
5	G	377	LEU	CA-CB-CG	5.26	127.39	115.30
5	E	687	LEU	CB-CG-CD2	-5.24	102.10	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	F	625	LEU	CA-CB-CG	5.16	127.17	115.30
3	n	13	LEU	CB-CG-CD2	-5.14	102.26	111.00
3	F	269	ASN	C-N-CA	5.14	134.55	121.70
5	G	240	GLY	C-N-CA	5.11	134.48	121.70
6	I	530	TYR	CB-CG-CD2	-5.10	117.94	121.00
6	K	86	LEU	CA-CB-CG	5.09	127.01	115.30
5	M	240	GLY	C-N-CA	5.09	134.42	121.70
3	j	87	LEU	CA-CB-CG	5.08	126.99	115.30
2	l	113	LEU	CB-CG-CD1	-5.08	102.37	111.00
3	H	365	ARG	NE-CZ-NH1	5.08	122.84	120.30
2	J	710	LEU	CA-CB-CG	5.06	126.95	115.30
5	M	555	LEU	CB-CG-CD2	5.06	119.61	111.00
5	M	346	ASP	CB-CG-OD2	5.04	122.83	118.30
6	I	475	TYR	CB-CG-CD2	-5.03	117.98	121.00
5	M	254	LEU	CA-CB-CG	5.02	126.84	115.30
3	N	581	LEU	CA-CB-CG	5.01	126.83	115.30

There are no chirality outliers.

All (45) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	1	327	GLU	Peptide
1	1	56	ASP	Peptide
1	2	327	GLU	Peptide
1	2	56	ASP	Peptide
5	E	580	HIS	Peptide
5	E	861	PHE	Mainchain
5	G	355	THR	Peptide
5	G	580	HIS	Peptide
3	H	269	ASN	Peptide
3	H	270	ASN	Peptide
3	H	501	THR	Peptide
3	H	602	GLU	Peptide
3	H	603	THR	Mainchain
6	I	407	ASP	Peptide
6	I	502	ARG	Peptide
6	I	507	SER	Peptide
6	I	508	ASN	Mainchain
2	J	256	LEU	Peptide
2	J	760	VAL	Peptide
7	L	311	TYR	Peptide
7	L	342	PRO	Peptide

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Mol	Chain	Res	Type	Group
7	L	346	LEU	Peptide
5	M	240	GLY	Peptide
5	M	241	ARG	Mainchain
5	M	525	GLY	Peptide
5	M	581	ASP	Mainchain
5	M	674	GLN	Peptide
3	N	454	VAL	Peptide
3	N	526	LEU	Peptide
1	S	327	GLU	Peptide
1	S	56	ASP	Peptide
1	T	327	GLU	Peptide
1	T	56	ASP	Peptide
1	U	327	GLU	Peptide
1	U	56	ASP	Peptide
1	V	327	GLU	Peptide
1	V	56	ASP	Peptide
1	W	327	GLU	Peptide
1	W	56	ASP	Peptide
1	X	327	GLU	Peptide
1	X	56	ASP	Peptide
1	Y	327	GLU	Peptide
1	Y	56	ASP	Peptide
1	Z	327	GLU	Peptide
1	Z	56	ASP	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	77	0
1	2	3373	0	3325	71	0
1	S	3373	0	3325	65	0
1	T	3373	0	3325	67	0
1	U	3373	0	3325	58	0
1	V	3373	0	3325	74	0
1	W	3373	0	3325	61	0
1	X	3373	0	3325	57	0
1	Y	3373	0	3325	70	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	Z	3373	0	3325	65	0
2	J	4429	0	4482	37	0
2	l	875	0	842	0	0
3	F	4941	0	4935	42	0
3	H	4907	0	4896	63	0
3	N	4907	0	4896	61	0
3	a	933	0	953	0	0
3	j	803	0	831	0	0
3	n	803	0	831	0	0
4	b	484	0	512	0	0
4	k	484	0	512	0	0
4	m	484	0	512	0	0
4	o	484	0	512	0	0
5	E	5202	0	5241	44	0
5	G	5216	0	5246	61	0
5	M	5186	0	5219	65	0
6	I	4225	0	4259	52	0
6	K	4579	0	4586	42	0
7	L	4587	0	4636	37	0
All	All	87259	0	87151	1071	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 (1071) 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:H:603:THR:CB	3:H:603:THR:CG2	1.74	1.62
6:I:357:ILE:O	6:I:361:TYR:HB3	1.71	0.90
3:H:603:THR:CG2	3:H:603:THR:HB	2.04	0.86
5:M:703:GLU:HB3	5:M:704:PRO:HD3	1.56	0.85
5:G:280:LYS:HB3	5:G:289:ASN:HD21	1.44	0.81
5:G:557:LEU:HB2	1:V:339:ARG:HH11	1.46	0.81
5:E:581:ASP:H	5:E:608:LEU:HD21	1.47	0.79
1:1:47:ARG:HB2	5:M:563:THR:HB	1.64	0.78
1:U:56:ASP:HB3	1:V:296:ARG:NE	1.99	0.78
1:1:341:ARG:NH1	5:M:857:SER:O	2.17	0.77
6:I:527:ASN:O	6:I:530:TYR:HB3	1.88	0.74
6:K:63:THR:HG22	7:L:468:ARG:HH21	1.52	0.74
1:2:250:ASN:HD21	3:N:716:HIS:HD2	1.35	0.72
1:2:355:SER:OG	3:N:879:ARG:O	2.08	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:294:LEU:HD11	3:F:371:THR:HG21	1.72	0.71
6:I:361:TYR:HE2	6:I:475:TYR:HB3	1.55	0.71
3:F:594:GLN:HB2	3:F:625:LEU:HD23	1.74	0.70
3:F:597:LEU:HB2	3:F:623:VAL:HG21	1.73	0.70
3:H:883:ASN:HB2	1:V:353:PRO:HA	1.75	0.69
6:I:555:GLU:HA	6:I:558:ARG:HE	1.58	0.68
1:T:270:MET:N	1:T:270:MET:SD	2.67	0.68
1:1:270:MET:SD	1:1:270:MET:N	2.67	0.68
1:S:270:MET:SD	1:S:270:MET:N	2.67	0.68
1:V:270:MET:SD	1:V:270:MET:N	2.67	0.68
1:1:47:ARG:HB2	5:M:563:THR:CB	2.24	0.68
1:U:270:MET:SD	1:U:270:MET:N	2.67	0.67
3:H:608:THR:HG23	3:H:610:ALA:H	1.59	0.67
1:U:47:ARG:HE	1:U:49:ASP:HB3	1.60	0.67
1:S:47:ARG:HE	1:S:49:ASP:HB3	1.60	0.67
1:Y:47:ARG:HE	1:Y:49:ASP:HB3	1.60	0.67
1:2:47:ARG:HE	1:2:49:ASP:HB3	1.60	0.67
1:X:47:ARG:HE	1:X:49:ASP:HB3	1.60	0.67
1:Z:270:MET:SD	1:Z:270:MET:N	2.67	0.67
1:T:47:ARG:HE	1:T:49:ASP:HB3	1.60	0.67
1:X:270:MET:SD	1:X:270:MET:N	2.67	0.66
1:S:101:GLY:N	1:S:106:SER:HG	1.94	0.66
3:N:698:SER:O	3:N:702:HIS:HB2	1.96	0.66
1:2:101:GLY:N	1:2:106:SER:HG	1.94	0.65
1:1:47:ARG:HE	1:1:49:ASP:HB3	1.60	0.65
1:1:101:GLY:N	1:1:106:SER:HG	1.94	0.65
1:Z:47:ARG:HE	1:Z:49:ASP:HB3	1.60	0.65
1:1:339:ARG:HH22	1:1:342:GLU:HB2	1.61	0.65
1:T:101:GLY:N	1:T:106:SER:HG	1.94	0.65
1:U:101:GLY:N	1:U:106:SER:HG	1.94	0.65
1:2:270:MET:SD	1:2:270:MET:N	2.67	0.65
1:U:339:ARG:HH22	1:U:342:GLU:HB2	1.61	0.65
1:2:339:ARG:HH22	1:2:342:GLU:HB2	1.61	0.65
1:T:339:ARG:HH22	1:T:342:GLU:HB2	1.61	0.65
1:W:47:ARG:HE	1:W:49:ASP:HB3	1.60	0.65
1:Y:339:ARG:HH22	1:Y:342:GLU:HB2	1.61	0.65
1:Z:101:GLY:N	1:Z:106:SER:HG	1.94	0.65
6:K:653:LYS:HA	6:K:657:GLN:HG3	1.78	0.65
1:Y:101:GLY:N	1:Y:106:SER:HG	1.94	0.65
1:S:339:ARG:HH22	1:S:342:GLU:HB2	1.61	0.65
5:G:557:LEU:CB	1:V:339:ARG:HH11	2.10	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Z:339:ARG:HH22	1:Z:342:GLU:HB2	1.61	0.65
1:2:185:PRO:O	1:2:189:LEU:HB3	1.97	0.64
5:E:241:ARG:NH2	5:E:346:ASP:OD1	2.31	0.64
1:U:185:PRO:O	1:U:189:LEU:HB3	1.98	0.64
1:V:339:ARG:HH22	1:V:342:GLU:HB2	1.62	0.64
1:2:290:VAL:HG21	1:2:333:VAL:HG12	1.80	0.64
1:T:185:PRO:O	1:T:189:LEU:HB3	1.97	0.64
1:V:101:GLY:N	1:V:106:SER:HG	1.96	0.64
1:X:290:VAL:HG21	1:X:333:VAL:HG12	1.80	0.64
3:N:799:GLU:HA	3:N:802:ARG:HE	1.63	0.64
1:W:270:MET:SD	1:W:270:MET:N	2.67	0.64
1:W:339:ARG:HH22	1:W:342:GLU:HB2	1.61	0.64
1:T:290:VAL:HG21	1:T:333:VAL:HG12	1.80	0.64
1:V:47:ARG:HE	1:V:49:ASP:HB3	1.60	0.64
1:X:339:ARG:HH22	1:X:342:GLU:HB2	1.61	0.64
6:I:471:VAL:O	6:I:475:TYR:HB2	1.97	0.64
5:M:510:VAL:HG12	5:M:514:ARG:HE	1.63	0.64
1:V:185:PRO:O	1:V:189:LEU:HB3	1.97	0.64
1:W:101:GLY:N	1:W:106:SER:HG	1.95	0.64
1:W:185:PRO:O	1:W:189:LEU:HB3	1.97	0.64
1:X:101:GLY:N	1:X:106:SER:HG	1.96	0.64
1:W:290:VAL:HG21	1:W:333:VAL:HG12	1.80	0.64
1:Y:185:PRO:O	1:Y:189:LEU:HB3	1.97	0.64
1:Z:290:VAL:HG21	1:Z:333:VAL:HG12	1.80	0.64
1:1:185:PRO:O	1:1:189:LEU:HB3	1.97	0.63
1:S:185:PRO:O	1:S:189:LEU:HB3	1.97	0.63
1:X:185:PRO:O	1:X:189:LEU:HB3	1.98	0.63
1:Z:185:PRO:O	1:Z:189:LEU:HB3	1.97	0.63
6:I:361:TYR:CE2	6:I:475:TYR:HB3	2.34	0.63
1:1:3:ARG:HA	5:M:530:HIS:HE1	1.64	0.63
1:U:290:VAL:HG21	1:U:333:VAL:HG12	1.80	0.63
1:V:290:VAL:HG21	1:V:333:VAL:HG12	1.80	0.63
1:X:222:ASN:OD1	1:X:222:ASN:N	2.32	0.63
1:Y:222:ASN:OD1	1:Y:222:ASN:N	2.32	0.63
3:H:733:GLU:HG3	3:H:737:LYS:HE2	1.80	0.62
1:1:222:ASN:OD1	1:1:222:ASN:N	2.32	0.62
1:W:222:ASN:OD1	1:W:222:ASN:N	2.32	0.62
1:Y:270:MET:SD	1:Y:270:MET:N	2.67	0.62
1:V:222:ASN:OD1	1:V:222:ASN:N	2.32	0.62
2:J:697:LYS:HA	2:J:700:LEU:HD12	1.82	0.62
1:1:290:VAL:HG21	1:1:333:VAL:HG12	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:298:LEU:HD21	1:1:340:ILE:HD12	1.82	0.62
1:S:290:VAL:HG21	1:S:333:VAL:HG12	1.80	0.62
1:U:298:LEU:HD21	1:U:340:ILE:HD12	1.82	0.62
1:Y:290:VAL:HG21	1:Y:333:VAL:HG12	1.80	0.62
1:2:298:LEU:HD21	1:2:340:ILE:HD12	1.82	0.62
6:K:513:ILE:HA	6:K:516:ARG:HD2	1.82	0.62
3:N:464:TYR:OH	3:N:491:ASN:ND2	2.33	0.62
1:V:298:LEU:HD21	1:V:340:ILE:HD12	1.82	0.62
1:Y:298:LEU:HD21	1:Y:340:ILE:HD12	1.82	0.62
5:G:852:MET:SD	5:G:852:MET:N	2.72	0.61
3:F:261:ILE:HG12	5:G:262:ARG:HH22	1.65	0.61
1:2:337:LEU:HD21	3:N:879:ARG:HG3	1.83	0.61
3:F:526:LEU:HB3	3:F:529:ALA:HB3	1.82	0.61
1:T:298:LEU:HD21	1:T:340:ILE:HD12	1.82	0.61
7:L:332:GLN:HG2	7:L:337:GLY:HA2	1.81	0.61
1:S:222:ASN:OD1	1:S:222:ASN:N	2.32	0.61
3:F:555:LEU:HD13	3:F:648:ILE:HG23	1.81	0.61
6:I:392:VAL:HG22	6:I:414:LEU:HD13	1.81	0.61
1:S:298:LEU:HD21	1:S:340:ILE:HD12	1.82	0.61
1:U:222:ASN:OD1	1:U:222:ASN:N	2.32	0.60
2:J:945:GLU:HG3	2:J:946:LYS:HD2	1.82	0.60
1:2:355:SER:HB2	3:N:713:HIS:NE2	2.16	0.60
1:Z:298:LEU:HD21	1:Z:340:ILE:HD12	1.82	0.60
3:F:806:PHE:HA	3:F:809:LYS:HD2	1.82	0.60
3:H:689:LYS:NZ	1:V:158:ASN:OD1	2.33	0.60
1:T:90:ASN:N	1:T:90:ASN:OD1	2.35	0.60
1:X:298:LEU:HD21	1:X:340:ILE:HD12	1.82	0.60
1:W:298:LEU:HD21	1:W:340:ILE:HD12	1.82	0.60
1:X:90:ASN:OD1	1:X:90:ASN:N	2.35	0.60
2:J:221:VAL:O	2:J:228:ARG:NH2	2.35	0.60
1:U:90:ASN:OD1	1:U:90:ASN:N	2.35	0.60
1:S:90:ASN:OD1	1:S:90:ASN:N	2.35	0.59
6:K:509:GLN:HG3	6:K:511:ASP:H	1.67	0.59
1:X:56:ASP:HB3	1:Y:287:LYS:HD2	1.85	0.59
1:1:341:ARG:NH1	5:M:860:ASP:O	2.35	0.59
5:G:485:VAL:HA	5:G:488:ILE:HD12	1.85	0.59
6:K:27:VAL:HG13	6:K:29:GLN:HG2	1.85	0.59
1:2:222:ASN:OD1	1:2:222:ASN:N	2.32	0.59
6:K:407:ASP:HB3	6:K:411:LEU:HD13	1.84	0.59
3:H:274:CYS:SG	3:H:275:TYR:N	2.76	0.58
6:I:96:VAL:HG12	6:I:174:LYS:HD2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:90:ASN:N	1:W:90:ASN:OD1	2.35	0.58
5:G:415:ARG:HB2	5:G:431:ARG:HH22	1.68	0.58
6:K:509:GLN:HG2	6:K:603:PRO:HB3	1.85	0.58
6:K:639:ASN:HB3	1:Y:334:HIS:NE2	2.18	0.58
1:Z:90:ASN:OD1	1:Z:90:ASN:N	2.35	0.58
1:1:90:ASN:OD1	1:1:90:ASN:N	2.35	0.58
3:H:680:ILE:HD11	3:H:786:GLN:HE21	1.68	0.58
1:Y:90:ASN:N	1:Y:90:ASN:OD1	2.35	0.58
1:2:339:ARG:HH12	5:M:554:LEU:HD22	1.68	0.58
3:N:339:LEU:O	3:N:343:HIS:ND1	2.35	0.58
1:1:246:PRO:HA	5:M:563:THR:HG21	1.86	0.58
3:H:253:ASP:HB3	3:H:266:ILE:HG22	1.86	0.58
3:H:388:CYS:HA	3:H:391:ARG:HE	1.67	0.58
1:1:355:SER:OG	5:M:858:ARG:O	2.22	0.58
5:G:313:LEU:HD23	5:G:319:LEU:HD13	1.85	0.58
1:V:90:ASN:OD1	1:V:90:ASN:N	2.35	0.58
2:J:829:LEU:HA	2:J:832:LYS:HE3	1.86	0.58
1:W:56:ASP:OD2	1:X:296:ARG:HG3	2.04	0.58
5:G:578:MET:H	5:G:615:ALA:HB1	1.68	0.57
5:M:221:LEU:HD11	5:M:260:VAL:HG22	1.86	0.57
1:2:90:ASN:N	1:2:90:ASN:OD1	2.35	0.57
5:M:236:GLN:O	5:M:244:ARG:NH1	2.36	0.57
1:X:343:ARG:HB3	1:X:345:LEU:HD12	1.86	0.57
6:I:569:LEU:HD21	6:I:575:LEU:HD13	1.86	0.57
6:K:646:LEU:O	1:Y:341:ARG:NH1	2.32	0.57
1:V:343:ARG:HB3	1:V:345:LEU:HD12	1.86	0.57
5:G:241:ARG:O	5:G:275:ARG:NH1	2.37	0.57
5:M:398:GLY:H	5:M:457:LEU:HD22	1.69	0.57
3:N:651:VAL:HG23	3:N:748:ILE:HG12	1.86	0.57
1:X:56:ASP:OD1	1:Y:288:THR:OG1	2.22	0.57
3:N:555:LEU:HD11	3:N:651:VAL:HG11	1.86	0.57
1:U:343:ARG:HB3	1:U:345:LEU:HD12	1.86	0.57
1:1:47:ARG:CB	5:M:563:THR:HB	2.33	0.57
6:I:477:VAL:HA	6:I:480:LYS:HE2	1.87	0.57
1:Z:343:ARG:HB3	1:Z:345:LEU:HD12	1.86	0.57
1:Y:343:ARG:HB3	1:Y:345:LEU:HD12	1.87	0.57
1:V:383:SER:O	1:V:386:SER:OG	2.22	0.57
1:1:343:ARG:HB3	1:1:345:LEU:HD12	1.86	0.56
1:T:222:ASN:OD1	1:T:222:ASN:N	2.32	0.56
1:1:264:PRO:O	5:M:663:LYS:NZ	2.38	0.56
3:F:553:TYR:HB3	3:F:648:ILE:HD11	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:K:149:HIS:NE2	6:K:202:GLU:OE1	2.35	0.56
1:S:343:ARG:HB3	1:S:345:LEU:HD12	1.86	0.56
5:E:311:GLU:OE2	3:F:366:ARG:NH2	2.37	0.56
1:X:383:SER:O	1:X:386:SER:OG	2.22	0.56
1:2:343:ARG:HB3	1:2:345:LEU:HD12	1.86	0.56
2:J:827:LEU:HG	2:J:943:LEU:HD11	1.86	0.56
1:W:343:ARG:HB3	1:W:345:LEU:HD12	1.86	0.56
5:G:334:THR:HG23	5:G:375:LEU:HD22	1.88	0.56
2:J:828:LEU:HG	2:J:832:LYS:HE2	1.88	0.56
6:K:131:LEU:HD13	6:K:165:LEU:HD21	1.88	0.56
1:T:343:ARG:HB3	1:T:345:LEU:HD12	1.86	0.56
1:2:182:VAL:HB	1:2:404:PHE:HD1	1.71	0.56
5:M:613:LEU:HD12	5:M:614:GLU:HG3	1.88	0.56
5:E:517:LYS:HG3	5:E:521:LEU:HD12	1.87	0.55
5:E:637:ARG:HG2	5:E:734:LEU:HD22	1.88	0.55
3:N:784:GLU:HG2	3:N:850:LEU:HD11	1.88	0.55
6:I:154:LEU:HD11	6:I:179:CYS:HB2	1.88	0.55
6:I:357:ILE:O	6:I:361:TYR:CB	2.50	0.55
3:F:579:ASP:HA	3:F:582:LYS:HE3	1.86	0.55
3:H:466:LEU:HD11	3:H:471:ILE:HD11	1.88	0.55
2:J:286:ILE:HG23	2:J:297:ARG:H	1.70	0.55
1:U:56:ASP:HB3	1:V:296:ARG:HE	1.69	0.55
1:V:182:VAL:HB	1:V:404:PHE:HD1	1.72	0.55
5:E:152:GLN:NE2	5:E:240:GLY:O	2.39	0.55
6:I:411:LEU:HD23	6:I:458:LYS:HE2	1.87	0.55
5:G:434:ILE:HD11	5:G:439:ILE:HD11	1.88	0.55
1:U:395:TYR:OH	1:U:425:ARG:NH2	2.40	0.55
1:Z:182:VAL:HB	1:Z:404:PHE:HD1	1.72	0.55
5:E:662:ASN:HD22	5:E:680:PHE:HE2	1.52	0.55
1:S:182:VAL:HB	1:S:404:PHE:HD1	1.72	0.55
1:2:290:VAL:HA	1:2:293:VAL:HG22	1.89	0.55
1:X:182:VAL:HB	1:X:404:PHE:HD1	1.72	0.55
6:K:337:ALA:HB1	6:K:554:PHE:H	1.72	0.55
3:H:332:LEU:HA	3:H:335:TYR:HD2	1.72	0.55
3:F:406:THR:HG21	3:F:411:MET:HB2	1.89	0.54
5:G:557:LEU:HB2	1:V:339:ARG:NH1	2.18	0.54
5:M:558:ALA:O	5:M:562:SER:HB3	2.07	0.54
1:T:182:VAL:HB	1:T:404:PHE:HD1	1.72	0.54
1:U:182:VAL:HB	1:U:404:PHE:HD1	1.72	0.54
1:1:182:VAL:HB	1:1:404:PHE:HD1	1.72	0.54
3:N:829:GLU:HA	3:N:832:ARG:HD2	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:395:TYR:OH	1:W:425:ARG:NH2	2.40	0.54
1:Z:290:VAL:HA	1:Z:293:VAL:HG22	1.89	0.54
1:2:250:ASN:ND2	3:N:720:TYR:OH	2.39	0.54
3:H:400:VAL:HG11	3:H:422:VAL:HG21	1.89	0.54
7:L:1732:ILE:HG23	7:L:1772:PHE:HE1	1.71	0.54
1:W:182:VAL:HB	1:W:404:PHE:HD1	1.72	0.54
1:X:395:TYR:OH	1:X:425:ARG:NH2	2.40	0.54
1:Y:395:TYR:OH	1:Y:425:ARG:NH2	2.40	0.54
1:S:383:SER:O	1:S:386:SER:OG	2.22	0.54
1:Z:395:TYR:OH	1:Z:425:ARG:NH2	2.40	0.54
1:1:290:VAL:HA	1:1:293:VAL:HG22	1.89	0.54
1:U:88:PRO:O	1:U:124:ARG:NH2	2.39	0.54
1:U:290:VAL:HA	1:U:293:VAL:HG22	1.89	0.54
1:1:395:TYR:OH	1:1:425:ARG:NH2	2.40	0.54
1:2:395:TYR:OH	1:2:425:ARG:NH2	2.40	0.54
1:W:290:VAL:HA	1:W:293:VAL:HG22	1.89	0.54
1:X:88:PRO:O	1:X:124:ARG:NH2	2.39	0.54
1:Y:290:VAL:HA	1:Y:293:VAL:HG22	1.89	0.54
6:I:540:GLN:HA	6:I:543:GLN:HE21	1.73	0.54
1:Y:182:VAL:HB	1:Y:404:PHE:HD1	1.72	0.54
7:L:348:LYS:HG3	7:L:349:GLU:H	1.73	0.54
1:V:395:TYR:OH	1:V:425:ARG:NH2	2.40	0.54
1:1:328:VAL:HG21	1:1:360:LEU:HD11	1.90	0.54
1:T:290:VAL:HA	1:T:293:VAL:HG22	1.89	0.54
1:X:328:VAL:HG21	1:X:360:LEU:HD11	1.90	0.54
1:Y:154:LEU:HD11	1:Y:199:ALA:HB2	1.90	0.54
1:2:341:ARG:NH2	3:N:884:GLU:OE2	2.41	0.53
3:H:277:VAL:HG21	3:H:288:ARG:HA	1.90	0.53
5:M:699:PHE:HE1	5:M:703:GLU:HG3	1.73	0.53
1:Z:154:LEU:HD11	1:Z:199:ALA:HB2	1.90	0.53
3:F:346:LEU:HD13	3:F:362:LEU:HD22	1.91	0.53
3:N:625:LEU:HD22	3:N:637:VAL:HG12	1.90	0.53
3:H:728:GLU:HG3	1:V:330:PRO:HG3	1.89	0.53
1:S:328:VAL:HG21	1:S:360:LEU:HD11	1.90	0.53
1:S:395:TYR:OH	1:S:425:ARG:NH2	2.40	0.53
1:T:395:TYR:OH	1:T:425:ARG:NH2	2.40	0.53
3:H:432:ARG:HH22	3:H:439:LEU:HA	1.73	0.53
6:K:29:GLN:HA	6:K:34:LEU:HD11	1.90	0.53
3:N:416:GLN:O	3:N:416:GLN:NE2	2.41	0.53
3:N:872:SER:OG	3:N:873:LEU:N	2.41	0.53
1:T:88:PRO:O	1:T:124:ARG:NH2	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:U:154:LEU:HD11	1:U:199:ALA:HB2	1.90	0.53
1:U:328:VAL:HG21	1:U:360:LEU:HD11	1.90	0.53
3:H:709:SER:HA	3:H:712:VAL:HG22	1.90	0.53
6:K:499:GLN:HB3	6:K:516:ARG:HE	1.73	0.53
1:T:328:VAL:HG21	1:T:360:LEU:HD11	1.90	0.53
1:V:88:PRO:O	1:V:124:ARG:NH2	2.39	0.53
1:W:291:LEU:HG	1:W:336:SER:HA	1.91	0.53
1:V:290:VAL:HA	1:V:293:VAL:HG22	1.89	0.53
1:Y:291:LEU:HG	1:Y:336:SER:HA	1.91	0.53
1:Z:88:PRO:O	1:Z:124:ARG:NH2	2.39	0.53
1:1:154:LEU:HD11	1:1:199:ALA:HB2	1.90	0.53
3:F:466:LEU:HD22	3:F:481:ARG:HH12	1.74	0.53
1:T:291:LEU:HG	1:T:336:SER:HA	1.91	0.53
1:U:291:LEU:HG	1:U:336:SER:HA	1.91	0.53
1:2:250:ASN:ND2	3:N:716:HIS:HD2	2.05	0.53
3:F:879:ARG:CZ	3:F:879:ARG:HA	2.39	0.53
6:I:89:PHE:HZ	6:I:140:VAL:HG22	1.74	0.53
2:J:886:LEU:HD11	2:J:980:ILE:HG23	1.91	0.53
5:M:356:LEU:HB3	5:M:440:PRO:HB3	1.90	0.53
1:Z:222:ASN:OD1	1:Z:222:ASN:N	2.32	0.53
1:1:340:ILE:HG22	5:M:861:PHE:HZ	1.74	0.53
1:2:328:VAL:HG21	1:2:360:LEU:HD11	1.91	0.53
6:I:279:VAL:HG13	6:I:336:VAL:HG11	1.91	0.53
2:J:557:LYS:O	2:J:557:LYS:NZ	2.41	0.53
5:M:518:ARG:HA	5:M:523:ASP:HB2	1.91	0.53
1:V:328:VAL:HG21	1:V:360:LEU:HD11	1.90	0.53
1:X:154:LEU:HD11	1:X:199:ALA:HB2	1.90	0.53
1:X:290:VAL:HA	1:X:293:VAL:HG22	1.89	0.53
1:X:291:LEU:HG	1:X:336:SER:HA	1.91	0.53
2:J:1009:HIS:O	2:J:1012:SER:OG	2.23	0.53
1:Z:291:LEU:HG	1:Z:336:SER:HA	1.91	0.53
6:K:370:GLN:HB2	6:K:486:ARG:HH21	1.74	0.52
1:V:252:ASP:OD1	1:V:252:ASP:N	2.42	0.52
1:W:154:LEU:HD11	1:W:199:ALA:HB2	1.90	0.52
1:W:252:ASP:OD1	1:W:252:ASP:N	2.42	0.52
1:Y:328:VAL:HG21	1:Y:360:LEU:HD11	1.90	0.52
1:1:252:ASP:OD1	1:1:252:ASP:N	2.42	0.52
3:N:575:ARG:NE	3:N:675:TYR:OH	2.42	0.52
1:S:154:LEU:HD11	1:S:199:ALA:HB2	1.90	0.52
1:S:290:VAL:HA	1:S:293:VAL:HG22	1.89	0.52
1:T:231:LEU:O	1:T:234:THR:OG1	2.26	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Z:231:LEU:O	1:Z:234:THR:OG1	2.26	0.52
1:1:88:PRO:O	1:1:124:ARG:NH2	2.39	0.52
1:2:291:LEU:HG	1:2:336:SER:HA	1.91	0.52
1:U:69:LEU:HB2	1:U:149:LEU:HD13	1.92	0.52
1:2:252:ASP:OD1	1:2:252:ASP:N	2.42	0.52
3:F:878:PHE:O	3:F:879:ARG:NH2	2.42	0.52
6:K:544:LEU:HD13	6:K:564:PHE:HB2	1.92	0.52
1:S:69:LEU:HB2	1:S:149:LEU:HD13	1.92	0.52
1:S:88:PRO:O	1:S:124:ARG:NH2	2.39	0.52
1:S:252:ASP:OD1	1:S:252:ASP:N	2.42	0.52
3:F:568:LEU:HD23	3:F:574:ILE:HG21	1.92	0.52
5:M:530:HIS:CD2	5:M:561:MET:HG3	2.44	0.52
1:T:154:LEU:HD11	1:T:199:ALA:HB2	1.90	0.52
1:1:242:THR:HA	1:1:362:ARG:HH11	1.75	0.52
6:K:365:ARG:HB3	6:K:368:LEU:HD13	1.90	0.52
3:N:456:THR:OG1	3:N:457:ASP:N	2.42	0.52
1:W:328:VAL:HG21	1:W:360:LEU:HD11	1.90	0.52
1:2:154:LEU:HD11	1:2:199:ALA:HB2	1.90	0.52
3:N:806:PHE:HA	3:N:809:LYS:HD3	1.90	0.52
1:U:242:THR:HA	1:U:362:ARG:HH11	1.75	0.52
1:V:69:LEU:HB2	1:V:149:LEU:HD13	1.92	0.52
1:V:154:LEU:HD11	1:V:199:ALA:HB2	1.90	0.52
1:V:291:LEU:HG	1:V:336:SER:HA	1.91	0.52
1:Y:242:THR:HA	1:Y:362:ARG:HH11	1.75	0.52
5:E:732:THR:HA	5:E:735:LYS:HG2	1.91	0.52
1:T:242:THR:HA	1:T:362:ARG:HH11	1.75	0.52
1:X:242:THR:HA	1:X:362:ARG:HH11	1.75	0.52
1:Z:252:ASP:OD1	1:Z:252:ASP:N	2.42	0.52
1:Z:328:VAL:HG21	1:Z:360:LEU:HD11	1.90	0.52
1:2:358:VAL:O	3:N:879:ARG:NH1	2.43	0.51
3:H:879:ARG:HH12	1:V:341:ARG:HB2	1.75	0.51
7:L:1513:ARG:NH1	7:L:1681:LEU:O	2.43	0.51
3:N:763:LEU:HD22	3:N:775:LEU:HD22	1.92	0.51
1:S:70:GLU:HB3	1:S:72:ARG:HH21	1.75	0.51
1:S:242:THR:HA	1:S:362:ARG:HH11	1.75	0.51
1:S:291:LEU:HG	1:S:336:SER:HA	1.91	0.51
1:U:70:GLU:HB3	1:U:72:ARG:HH21	1.75	0.51
1:V:242:THR:HA	1:V:362:ARG:HH11	1.75	0.51
1:W:242:THR:HA	1:W:362:ARG:HH11	1.75	0.51
1:X:69:LEU:HB2	1:X:149:LEU:HD13	1.92	0.51
1:1:258:ALA:HB1	5:M:687:LEU:HD13	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:416:GLN:NE2	3:N:526:LEU:HD21	2.25	0.51
1:Y:70:GLU:HB3	1:Y:72:ARG:HH21	1.75	0.51
1:Z:69:LEU:HB2	1:Z:149:LEU:HD13	1.92	0.51
1:1:69:LEU:HB2	1:1:149:LEU:HD13	1.92	0.51
1:2:242:THR:HA	1:2:362:ARG:HH11	1.75	0.51
3:F:716:HIS:CE1	1:T:250:ASN:HD21	2.27	0.51
5:G:446:MET:SD	5:G:446:MET:N	2.83	0.51
1:U:252:ASP:OD1	1:U:252:ASP:N	2.43	0.51
3:H:716:HIS:CE1	1:V:250:ASN:HD21	2.29	0.51
1:W:69:LEU:HB2	1:W:149:LEU:HD13	1.92	0.51
1:X:70:GLU:HB3	1:X:72:ARG:HH21	1.75	0.51
5:G:341:LEU:HD21	5:G:362:ARG:HG3	1.92	0.51
2:J:289:LEU:HA	2:J:294:VAL:HA	1.93	0.51
1:V:187:ASN:O	1:V:191:THR:OG1	2.28	0.51
5:M:373:GLN:HE22	5:M:377:LEU:HD22	1.76	0.51
5:M:679:ALA:HB2	5:M:822:ILE:HG13	1.92	0.51
1:V:70:GLU:HB3	1:V:72:ARG:HH21	1.75	0.51
1:X:187:ASN:O	1:X:191:THR:OG1	2.28	0.51
1:X:231:LEU:O	1:X:234:THR:OG1	2.26	0.51
5:M:506:GLU:HG3	5:M:507:LYS:HD2	1.91	0.51
1:T:70:GLU:HB3	1:T:72:ARG:HH21	1.75	0.51
1:T:252:ASP:OD1	1:T:252:ASP:N	2.42	0.51
1:Y:88:PRO:O	1:Y:124:ARG:NH2	2.39	0.51
5:E:390:VAL:HA	5:E:393:LYS:HE3	1.92	0.51
5:G:168:LYS:HG2	5:G:171:GLY:H	1.75	0.51
1:S:231:LEU:O	1:S:234:THR:OG1	2.26	0.51
1:Y:252:ASP:OD1	1:Y:252:ASP:N	2.42	0.51
7:L:1485:ALA:HA	7:L:1488:ILE:HD12	1.93	0.51
1:Y:69:LEU:HB2	1:Y:149:LEU:HD13	1.92	0.51
1:1:291:LEU:HG	1:1:336:SER:HA	1.91	0.51
1:1:340:ILE:HG22	5:M:861:PHE:CZ	2.46	0.51
3:H:587:ARG:HD2	3:H:588:PRO:HD2	1.92	0.51
3:N:662:ARG:HB3	3:N:764:LEU:HD13	1.92	0.51
1:Z:242:THR:HA	1:Z:362:ARG:HH11	1.75	0.51
1:U:383:SER:O	1:U:386:SER:OG	2.22	0.50
6:K:565:LEU:O	6:K:569:LEU:HB2	2.11	0.50
1:W:70:GLU:HB3	1:W:72:ARG:HH21	1.75	0.50
1:Z:70:GLU:HB3	1:Z:72:ARG:HH21	1.75	0.50
1:2:69:LEU:HB2	1:2:149:LEU:HD13	1.92	0.50
3:H:659:HIS:HB3	3:H:759:ILE:HD11	1.94	0.50
6:I:164:GLY:H	6:I:169:ARG:HE	1.58	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:46:ASP:N	1:T:46:ASP:OD1	2.45	0.50
1:U:46:ASP:OD1	1:U:46:ASP:N	2.45	0.50
1:V:46:ASP:OD1	1:V:46:ASP:N	2.45	0.50
1:W:88:PRO:O	1:W:124:ARG:NH2	2.39	0.50
1:1:187:ASN:O	1:1:191:THR:OG1	2.28	0.50
1:1:70:GLU:HB3	1:1:72:ARG:HH21	1.75	0.50
1:2:68:ASP:OD1	1:2:68:ASP:N	2.45	0.50
6:I:1:MET:HB2	2:J:242:LEU:HD13	1.94	0.50
7:L:1549:VAL:HG13	7:L:1550:LEU:HD12	1.92	0.50
7:L:1555:SER:HA	7:L:1558:LEU:HD12	1.92	0.50
5:M:555:LEU:HD21	5:M:573:LEU:HD22	1.93	0.50
1:X:252:ASP:N	1:X:252:ASP:OD1	2.42	0.50
1:1:383:SER:O	1:1:386:SER:OG	2.22	0.50
6:K:344:MET:HG3	6:K:463:LEU:HD12	1.93	0.50
1:V:68:ASP:N	1:V:68:ASP:OD1	2.45	0.50
1:T:69:LEU:HB2	1:T:149:LEU:HD13	1.92	0.50
1:2:187:ASN:O	1:2:191:THR:OG1	2.28	0.50
3:H:380:THR:OG1	3:H:411:MET:SD	2.68	0.50
2:J:473:LEU:HA	2:J:476:VAL:HG12	1.93	0.50
5:E:525:GLY:HA2	5:E:528:PHE:HD2	1.77	0.50
1:1:46:ASP:OD1	1:1:46:ASP:N	2.45	0.49
1:2:70:GLU:HB3	1:2:72:ARG:HH21	1.75	0.49
3:F:682:LYS:HE3	1:T:254:ILE:HD12	1.92	0.49
6:I:154:LEU:O	6:I:158:TYR:HB2	2.12	0.49
6:I:496:TRP:CH2	6:I:499:GLN:HB3	2.47	0.49
7:L:1664:GLU:HG2	7:L:1769:TYR:HE1	1.77	0.49
1:U:71:PRO:O	1:U:75:HIS:NE2	2.45	0.49
5:E:540:ARG:HH11	5:E:613:LEU:HD11	1.76	0.49
5:M:233:VAL:HG22	5:M:248:VAL:HG13	1.94	0.49
1:S:187:ASN:O	1:S:191:THR:OG1	2.28	0.49
1:U:68:ASP:OD1	1:U:68:ASP:N	2.45	0.49
1:W:68:ASP:OD1	1:W:68:ASP:N	2.45	0.49
5:G:307:VAL:O	3:H:365:ARG:NH2	2.45	0.49
5:G:482:ARG:HD3	5:G:485:VAL:HG21	1.94	0.49
3:N:328:LEU:HD22	3:N:381:LEU:HD11	1.94	0.49
1:Y:46:ASP:N	1:Y:46:ASP:OD1	2.45	0.49
1:1:330:PRO:HG2	5:M:705:THR:HG23	1.95	0.49
5:G:319:LEU:HD21	5:G:324:LEU:HD21	1.95	0.49
2:J:437:LEU:HD22	2:J:549:VAL:HG21	1.95	0.49
5:M:526:ASP:HA	5:M:529:VAL:HG12	1.95	0.49
1:W:46:ASP:N	1:W:46:ASP:OD1	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Z:46:ASP:OD1	1:Z:46:ASP:N	2.45	0.49
1:Z:383:SER:O	1:Z:386:SER:OG	2.22	0.49
3:H:419:LEU:HA	3:H:422:VAL:HG22	1.95	0.49
2:J:922:ASP:HB3	2:J:925:GLN:HG2	1.94	0.49
1:S:71:PRO:O	1:S:75:HIS:NE2	2.45	0.49
1:2:88:PRO:O	1:2:124:ARG:NH2	2.39	0.49
6:I:151:CYS:HB3	6:I:263:ILE:HB	1.95	0.49
2:J:938:HIS:HB3	2:J:944:ARG:HH21	1.77	0.49
7:L:1800:LEU:HD11	1:Z:341:ARG:HG2	1.95	0.49
1:T:45:THR:HB	1:T:246:PRO:HD2	1.95	0.49
1:V:71:PRO:O	1:V:75:HIS:NE2	2.45	0.49
1:2:71:PRO:O	1:2:75:HIS:NE2	2.45	0.49
3:N:564:ARG:HB3	3:N:570:GLN:HB2	1.95	0.49
3:N:677:LEU:HD21	3:N:782:ILE:HG12	1.95	0.49
1:U:45:THR:HB	1:U:246:PRO:HD2	1.95	0.49
1:X:217:ARG:HB2	1:X:279:ASP:HB2	1.95	0.49
1:2:45:THR:HB	1:2:246:PRO:HD2	1.95	0.49
1:X:45:THR:HB	1:X:246:PRO:HD2	1.95	0.49
1:Y:68:ASP:OD1	1:Y:68:ASP:N	2.45	0.49
3:H:603:THR:HG23	1:W:339:ARG:HH12	1.78	0.48
6:K:646:LEU:HB3	1:Y:341:ARG:NH1	2.28	0.48
3:N:404:THR:HG21	3:N:419:LEU:HD22	1.95	0.48
3:N:554:SER:O	3:N:558:HIS:ND1	2.36	0.48
1:X:46:ASP:OD1	1:X:46:ASP:N	2.45	0.48
1:1:45:THR:HB	1:1:246:PRO:HD2	1.95	0.48
1:2:46:ASP:N	1:2:46:ASP:OD1	2.45	0.48
2:J:396:ALA:HA	2:J:399:VAL:HG22	1.94	0.48
6:K:368:LEU:HD21	6:K:405:LEU:HD23	1.95	0.48
3:N:720:TYR:HD2	3:N:879:ARG:HH12	1.60	0.48
1:S:46:ASP:OD1	1:S:46:ASP:N	2.45	0.48
1:Z:68:ASP:OD1	1:Z:68:ASP:N	2.45	0.48
6:I:20:ASN:H	6:I:24:GLY:HA2	1.78	0.48
2:J:277:LEU:HD11	2:J:294:VAL:HG21	1.94	0.48
1:S:45:THR:HB	1:S:246:PRO:HD2	1.95	0.48
1:V:231:LEU:O	1:V:234:THR:OG1	2.26	0.48
3:H:433:TRP:CE2	3:H:487:GLY:HA3	2.48	0.48
6:K:118:SER:OG	6:K:119:ILE:N	2.44	0.48
1:U:3:ARG:HH11	1:U:131:SER:HA	1.79	0.48
1:X:71:PRO:O	1:X:75:HIS:NE2	2.45	0.48
1:2:341:ARG:NH1	3:N:881:ASP:O	2.46	0.48
3:F:451:ASP:H	3:F:463:LYS:HA	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:K:651:TYR:CE2	1:Y:354:ALA:HB3	2.47	0.48
3:N:717:GLN:HE22	3:N:879:ARG:HG2	1.79	0.48
1:1:3:ARG:HH11	1:1:131:SER:HA	1.79	0.48
2:J:466:VAL:HG13	2:J:642:HIS:HE1	1.78	0.48
5:G:864:PHE:HB3	1:U:353:PRO:HB3	1.95	0.48
7:L:1732:ILE:HG23	7:L:1772:PHE:CE1	2.48	0.48
1:T:217:ARG:HB2	1:T:279:ASP:HB2	1.95	0.48
1:Z:3:ARG:HH11	1:Z:131:SER:HA	1.79	0.48
1:1:68:ASP:N	1:1:68:ASP:OD1	2.45	0.48
1:1:217:ARG:HB2	1:1:279:ASP:HB2	1.95	0.48
3:F:382:ALA:HA	3:F:385:VAL:HB	1.95	0.48
3:H:567:LEU:HD21	3:H:660:TYR:HD1	1.78	0.48
1:T:187:ASN:O	1:T:191:THR:OG1	2.28	0.48
1:V:3:ARG:HH11	1:V:131:SER:HA	1.79	0.48
1:Y:45:THR:HB	1:Y:246:PRO:HD2	1.95	0.48
1:2:217:ARG:HB2	1:2:279:ASP:HB2	1.95	0.48
1:S:3:ARG:HH11	1:S:131:SER:HA	1.79	0.48
1:T:68:ASP:OD1	1:T:68:ASP:N	2.45	0.48
1:W:217:ARG:HB2	1:W:279:ASP:HB2	1.95	0.48
3:N:620:ARG:HA	3:N:643:HIS:CE1	2.49	0.48
1:S:217:ARG:HB2	1:S:279:ASP:HB2	1.95	0.48
1:U:217:ARG:HB2	1:U:279:ASP:HB2	1.95	0.48
1:W:3:ARG:HH11	1:W:131:SER:HA	1.79	0.48
1:Y:217:ARG:HB2	1:Y:279:ASP:HB2	1.95	0.48
6:I:59:ILE:HD11	6:I:93:LEU:HG	1.96	0.47
6:I:526:ASP:HA	6:I:529:GLN:HE21	1.78	0.47
5:M:536:GLU:HA	5:M:539:LEU:HB2	1.96	0.47
3:F:409:PRO:HA	3:F:412:ARG:HG2	1.95	0.47
6:I:575:LEU:HD12	6:I:576:LEU:H	1.78	0.47
5:M:314:HIS:HB2	5:M:319:LEU:HD12	1.96	0.47
3:N:416:GLN:HE22	3:N:526:LEU:HD21	1.79	0.47
3:N:461:HIS:HE1	3:N:748:ILE:HG21	1.79	0.47
3:N:712:VAL:O	3:N:716:HIS:ND1	2.48	0.47
1:W:45:THR:HB	1:W:246:PRO:HD2	1.95	0.47
5:G:531:PHE:HB2	5:G:558:ALA:HB1	1.96	0.47
1:X:3:ARG:HH11	1:X:131:SER:HA	1.79	0.47
1:1:339:ARG:HA	1:1:339:ARG:NH2	2.30	0.47
6:I:299:ILE:HG22	6:I:303:GLN:HE21	1.78	0.47
5:M:519:TYR:HE1	5:M:524:GLN:HE22	1.63	0.47
3:N:346:LEU:HD13	3:N:362:LEU:H	1.79	0.47
3:N:581:LEU:HG	3:N:585:LEU:HG	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:339:ARG:HA	1:S:339:ARG:NH2	2.30	0.47
1:V:45:THR:HB	1:V:246:PRO:HD2	1.95	0.47
1:Z:217:ARG:HB2	1:Z:279:ASP:HB2	1.95	0.47
6:I:369:PHE:HA	6:I:372:PHE:HB3	1.96	0.47
1:V:217:ARG:HB2	1:V:279:ASP:HB2	1.95	0.47
1:W:339:ARG:NH2	1:W:339:ARG:HA	2.30	0.47
1:1:35:GLY:HA2	1:1:85:LEU:HD12	1.97	0.47
1:2:251:ASN:HD21	3:N:575:ARG:HG3	1.79	0.47
7:L:1664:GLU:OE2	7:L:1773:LYS:NZ	2.35	0.47
1:S:35:GLY:HA2	1:S:85:LEU:HD12	1.97	0.47
1:T:35:GLY:HA2	1:T:85:LEU:HD12	1.97	0.47
1:T:339:ARG:HA	1:T:339:ARG:NH2	2.30	0.47
1:U:339:ARG:HA	1:U:339:ARG:NH2	2.30	0.47
1:V:35:GLY:HA2	1:V:85:LEU:HD12	1.97	0.47
1:Z:187:ASN:O	1:Z:191:THR:OG1	2.28	0.47
1:1:231:LEU:O	1:1:234:THR:OG1	2.26	0.47
5:E:525:GLY:H	1:S:248:TYR:HB3	1.79	0.47
3:F:879:ARG:CZ	1:T:337:LEU:HD21	2.45	0.47
5:G:557:LEU:HD11	1:V:295:ARG:HH22	1.78	0.47
5:G:557:LEU:HD22	5:G:561:MET:HB2	1.97	0.47
2:J:444:ILE:HG12	2:J:461:LEU:HG	1.95	0.47
6:K:651:TYR:CE1	1:Y:348:PHE:HE2	2.32	0.47
6:K:651:TYR:CZ	1:Y:354:ALA:HB3	2.50	0.47
7:L:346:LEU:HA	7:L:347:VAL:HA	1.75	0.47
1:U:231:LEU:O	1:U:234:THR:OG1	2.26	0.47
1:W:223:PRO:O	1:W:226:SER:OG	2.33	0.47
1:X:339:ARG:HA	1:X:339:ARG:NH2	2.30	0.47
1:Y:183:VAL:HG13	1:Y:187:ASN:HD21	1.80	0.47
1:Z:45:THR:HB	1:Z:246:PRO:HD2	1.95	0.47
1:2:35:GLY:HA2	1:2:85:LEU:HD12	1.97	0.47
3:N:558:HIS:O	3:N:562:MET:N	2.48	0.47
1:T:3:ARG:HH11	1:T:131:SER:HA	1.79	0.47
1:1:71:PRO:O	1:1:75:HIS:NE2	2.45	0.47
3:F:712:VAL:O	3:F:716:HIS:HB2	2.15	0.47
5:G:168:LYS:HE3	5:G:170:SER:HB2	1.97	0.47
7:L:1505:LEU:HD22	7:L:1604:LEU:HG	1.96	0.47
5:M:719:ILE:HA	5:M:722:VAL:HG22	1.96	0.47
1:X:68:ASP:N	1:X:68:ASP:OD1	2.45	0.47
1:Z:339:ARG:HA	1:Z:339:ARG:NH2	2.30	0.47
5:G:222:LEU:HG	3:H:365:ARG:HH22	1.80	0.47
5:G:517:LYS:HG3	5:G:521:LEU:HD12	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:223:PRO:O	1:V:226:SER:OG	2.33	0.47
1:Y:339:ARG:HA	1:Y:339:ARG:NH2	2.30	0.47
1:Z:105:ALA:O	1:Z:109:SER:OG	2.33	0.47
1:1:105:ALA:O	1:1:109:SER:OG	2.33	0.46
1:2:105:ALA:O	1:2:109:SER:OG	2.33	0.46
5:E:154:LEU:HA	5:E:157:LYS:HE2	1.97	0.46
1:U:35:GLY:HA2	1:U:85:LEU:HD12	1.97	0.46
1:U:223:PRO:O	1:U:226:SER:OG	2.33	0.46
1:W:35:GLY:HA2	1:W:85:LEU:HD12	1.97	0.46
1:W:105:ALA:O	1:W:109:SER:OG	2.33	0.46
1:2:3:ARG:HH11	1:2:131:SER:HA	1.79	0.46
6:I:499:GLN:HA	1:W:264:PRO:HB3	1.97	0.46
3:N:563:ARG:HH11	3:N:564:ARG:HG2	1.79	0.46
1:X:183:VAL:HG13	1:X:187:ASN:HD21	1.80	0.46
1:Y:3:ARG:HH11	1:Y:131:SER:HA	1.79	0.46
1:1:56:ASP:OD1	1:2:296:ARG:HD3	2.16	0.46
1:2:339:ARG:HA	1:2:339:ARG:NH2	2.30	0.46
2:J:221:VAL:HG12	2:J:228:ARG:HH22	1.80	0.46
6:K:64:GLY:HA3	7:L:468:ARG:HH22	1.81	0.46
1:S:105:ALA:O	1:S:109:SER:OG	2.33	0.46
1:T:183:VAL:HG13	1:T:187:ASN:HD21	1.80	0.46
1:U:105:ALA:O	1:U:109:SER:OG	2.33	0.46
1:V:183:VAL:HG13	1:V:187:ASN:HD21	1.80	0.46
1:V:339:ARG:HA	1:V:339:ARG:NH2	2.30	0.46
1:Y:231:LEU:O	1:Y:234:THR:OG1	2.26	0.46
1:1:183:VAL:HG13	1:1:187:ASN:HD21	1.80	0.46
1:1:223:PRO:O	1:1:226:SER:OG	2.33	0.46
3:F:571:GLY:HA3	1:T:248:TYR:HB3	1.98	0.46
3:F:865:LEU:HB3	3:F:873:LEU:HD21	1.98	0.46
1:S:183:VAL:HG13	1:S:187:ASN:HD21	1.80	0.46
1:2:360:LEU:HB2	3:N:724:PHE:CE2	2.50	0.46
5:G:443:LEU:HD12	5:G:450:ILE:HD11	1.98	0.46
3:H:635:TRP:CD2	3:H:672:ARG:HD3	2.50	0.46
2:J:279:SER:HB3	2:J:379:LEU:HD22	1.97	0.46
7:L:588:LEU:HD21	7:L:590:HIS:HB2	1.98	0.46
5:M:157:LYS:HB3	5:M:284:GLU:HG3	1.97	0.46
1:T:223:PRO:O	1:T:226:SER:OG	2.33	0.46
1:X:223:PRO:O	1:X:226:SER:OG	2.33	0.46
3:F:845:SER:HA	3:F:848:ARG:HE	1.79	0.46
5:G:370:SER:HA	5:G:373:GLN:HB3	1.97	0.46
1:S:223:PRO:O	1:S:226:SER:OG	2.33	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:7:THR:HA	1:X:136:VAL:HG13	1.98	0.46
1:Z:35:GLY:HA2	1:Z:85:LEU:HD12	1.97	0.46
1:2:223:PRO:O	1:2:226:SER:OG	2.33	0.46
1:2:231:LEU:O	1:2:234:THR:OG1	2.26	0.46
5:E:526:ASP:HA	5:E:529:VAL:HG12	1.98	0.46
2:J:925:GLN:HA	2:J:928:LYS:HD3	1.98	0.46
6:K:368:LEU:HG	6:K:403:VAL:HG21	1.97	0.46
1:T:7:THR:HA	1:T:136:VAL:HG13	1.98	0.46
1:Y:71:PRO:O	1:Y:75:HIS:NE2	2.45	0.46
1:Y:105:ALA:O	1:Y:109:SER:OG	2.33	0.46
5:G:577:LEU:HD11	5:G:608:LEU:HD12	1.97	0.46
3:H:493:LEU:HD13	3:H:545:LEU:HD13	1.97	0.46
1:S:68:ASP:N	1:S:68:ASP:OD1	2.45	0.46
1:S:278:THR:O	1:S:278:THR:OG1	2.34	0.46
1:W:71:PRO:O	1:W:75:HIS:NE2	2.45	0.46
1:W:183:VAL:HG13	1:W:187:ASN:HD21	1.80	0.46
1:X:105:ALA:O	1:X:109:SER:OG	2.33	0.46
1:Z:183:VAL:HG13	1:Z:187:ASN:HD21	1.80	0.46
1:1:3:ARG:HA	5:M:530:HIS:CE1	2.46	0.46
1:1:7:THR:HA	1:1:136:VAL:HG13	1.98	0.46
3:F:490:ILE:HG12	3:F:494:HIS:CE1	2.51	0.46
3:N:555:LEU:HD13	3:N:648:ILE:HB	1.97	0.46
1:T:105:ALA:O	1:T:109:SER:OG	2.33	0.46
1:Y:7:THR:HA	1:Y:136:VAL:HG13	1.98	0.46
5:E:663:LYS:NZ	1:S:200:ASP:OD2	2.49	0.46
3:H:666:PHE:HE1	3:H:772:LEU:HD13	1.81	0.46
6:K:11:GLY:HA2	6:K:53:ILE:HG12	1.97	0.46
6:K:59:ILE:HG23	6:K:90:CYS:HB3	1.98	0.46
5:M:732:THR:HA	5:M:735:LYS:HG2	1.97	0.46
1:U:7:THR:HA	1:U:136:VAL:HG13	1.98	0.46
1:U:183:VAL:HG13	1:U:187:ASN:HD21	1.80	0.46
1:W:278:THR:O	1:W:278:THR:OG1	2.34	0.46
1:Y:223:PRO:O	1:Y:226:SER:OG	2.33	0.46
1:Y:250:ASN:ND2	1:Y:255:GLY:O	2.50	0.46
5:G:288:VAL:HG23	5:G:383:ALA:HB1	1.96	0.45
5:G:363:SER:HA	5:G:376:CYS:SG	2.56	0.45
5:G:439:ILE:HG22	5:G:441:SER:H	1.81	0.45
6:I:401:HIS:O	1:X:339:ARG:NH1	2.46	0.45
6:I:565:LEU:HA	6:I:568:LEU:HD12	1.98	0.45
1:U:250:ASN:ND2	1:U:255:GLY:O	2.50	0.45
1:V:47:ARG:HG2	1:V:49:ASP:H	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Y:383:SER:O	1:Y:386:SER:OG	2.22	0.45
3:N:549:LEU:HD23	3:N:549:LEU:HA	1.80	0.45
1:T:250:ASN:ND2	1:T:255:GLY:O	2.50	0.45
1:U:47:ARG:HG2	1:U:49:ASP:H	1.81	0.45
1:W:29:HIS:HB3	1:W:48:LYS:HD3	1.98	0.45
1:W:383:SER:O	1:W:386:SER:OG	2.22	0.45
1:Y:35:GLY:HA2	1:Y:85:LEU:HD12	1.97	0.45
1:2:7:THR:HA	1:2:136:VAL:HG13	1.98	0.45
1:2:47:ARG:HG2	1:2:49:ASP:H	1.81	0.45
6:K:204:PHE:HB2	6:K:259:LEU:HD12	1.98	0.45
1:T:278:THR:O	1:T:278:THR:OG1	2.34	0.45
1:U:29:HIS:HB3	1:U:48:LYS:HD3	1.98	0.45
1:V:29:HIS:HB3	1:V:48:LYS:HD3	1.98	0.45
1:X:35:GLY:HA2	1:X:85:LEU:HD12	1.97	0.45
1:Z:7:THR:HA	1:Z:136:VAL:HG13	1.98	0.45
5:E:861:PHE:HA	1:S:341:ARG:NH1	2.30	0.45
6:I:345:VAL:HG23	6:I:346:GLU:HG3	1.98	0.45
6:K:653:LYS:HG3	6:K:657:GLN:HG3	1.98	0.45
5:M:704:PRO:C	5:M:707:HIS:H	2.20	0.45
1:S:303:VAL:HG12	1:S:305:VAL:H	1.82	0.45
1:T:47:ARG:HG2	1:T:49:ASP:H	1.81	0.45
1:T:303:VAL:HG12	1:T:305:VAL:H	1.82	0.45
1:U:278:THR:O	1:U:278:THR:OG1	2.34	0.45
1:W:47:ARG:HG2	1:W:49:ASP:H	1.81	0.45
1:Z:71:PRO:O	1:Z:75:HIS:NE2	2.45	0.45
1:Z:223:PRO:O	1:Z:226:SER:OG	2.33	0.45
1:Z:278:THR:O	1:Z:278:THR:OG1	2.34	0.45
3:F:526:LEU:HD12	3:F:526:LEU:HA	1.80	0.45
2:J:406:LEU:HA	2:J:409:LEU:HD12	1.99	0.45
6:K:651:TYR:CE1	1:Y:348:PHE:CE2	3.04	0.45
1:S:7:THR:HA	1:S:136:VAL:HG13	1.98	0.45
1:T:71:PRO:O	1:T:75:HIS:NE2	2.45	0.45
1:1:29:HIS:HB3	1:1:48:LYS:HD3	1.98	0.45
1:2:183:VAL:HG13	1:2:187:ASN:HD21	1.80	0.45
3:H:803:ARG:HH22	3:H:833:ILE:HD11	1.81	0.45
3:N:680:ILE:HD12	3:N:789:GLN:HG2	1.98	0.45
1:V:303:VAL:HG12	1:V:305:VAL:H	1.82	0.45
1:W:250:ASN:ND2	1:W:255:GLY:O	2.50	0.45
2:J:720:LEU:HG	2:J:724:ARG:HH21	1.82	0.45
1:U:303:VAL:HG12	1:U:305:VAL:H	1.82	0.45
1:W:7:THR:HA	1:W:136:VAL:HG13	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:250:ASN:ND2	1:2:255:GLY:O	2.50	0.45
1:S:29:HIS:HB3	1:S:48:LYS:HD3	1.98	0.45
1:Y:278:THR:O	1:Y:278:THR:OG1	2.34	0.45
1:Y:303:VAL:HG12	1:Y:305:VAL:H	1.82	0.45
3:H:294:LEU:HD21	3:H:368:LEU:HD22	1.97	0.45
6:I:190:TRP:CE2	6:I:280:GLY:HA3	2.52	0.45
7:L:1803:ASN:O	1:Z:341:ARG:NH1	2.45	0.45
1:V:105:ALA:O	1:V:109:SER:OG	2.33	0.45
1:V:250:ASN:ND2	1:V:255:GLY:O	2.50	0.45
1:X:303:VAL:HG12	1:X:305:VAL:H	1.82	0.45
1:Y:47:ARG:HG2	1:Y:49:ASP:H	1.81	0.45
1:Z:69:LEU:HG	1:Z:70:GLU:HG3	1.99	0.45
1:Z:250:ASN:ND2	1:Z:255:GLY:O	2.50	0.45
1:1:250:ASN:ND2	1:1:255:GLY:O	2.50	0.44
1:X:250:ASN:ND2	1:X:255:GLY:O	2.50	0.44
3:H:397:ALA:HB1	3:H:474:PHE:HE2	1.83	0.44
1:V:69:LEU:HG	1:V:70:GLU:HG3	1.99	0.44
1:X:29:HIS:HB3	1:X:48:LYS:HD3	1.98	0.44
1:Y:69:LEU:HG	1:Y:70:GLU:HG3	1.99	0.44
1:2:303:VAL:HG12	1:2:305:VAL:H	1.82	0.44
3:H:603:THR:HG21	1:W:342:GLU:HG3	1.98	0.44
5:M:559:LEU:HD21	5:M:570:LYS:HG2	2.00	0.44
3:N:391:ARG:HD3	3:N:395:GLU:HG2	2.00	0.44
1:S:47:ARG:HG2	1:S:49:ASP:H	1.81	0.44
1:X:47:ARG:HG2	1:X:49:ASP:H	1.81	0.44
1:1:47:ARG:HG2	1:1:49:ASP:H	1.81	0.44
1:2:29:HIS:HB3	1:2:48:LYS:HD3	1.98	0.44
1:2:69:LEU:HG	1:2:70:GLU:HG3	1.99	0.44
1:2:260:LEU:HD22	1:2:379:ALA:HA	2.00	0.44
3:H:625:LEU:HD12	3:H:637:VAL:HG12	1.99	0.44
6:I:569:LEU:HG	6:I:575:LEU:HB2	1.99	0.44
6:I:610:ALA:O	6:I:613:SER:OG	2.30	0.44
6:K:544:LEU:HD12	6:K:560:ALA:HB1	2.00	0.44
7:L:1670:LYS:NZ	1:Z:250:ASN:HD21	2.16	0.44
3:N:419:LEU:HA	3:N:422:VAL:HG22	1.99	0.44
3:N:717:GLN:NE2	3:N:879:ARG:HH21	2.16	0.44
1:Y:29:HIS:HB3	1:Y:48:LYS:HD3	1.98	0.44
1:Z:29:HIS:HB3	1:Z:48:LYS:HD3	1.98	0.44
6:I:97:LEU:HB2	6:I:101:ARG:HH21	1.82	0.44
7:L:601:THR:HG21	7:L:1495:ALA:HB2	2.00	0.44
7:L:1663:HIS:CG	1:Z:262:PRO:HA	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:M:527:PHE:HZ	5:M:555:LEU:HG	1.82	0.44
1:W:231:LEU:O	1:W:234:THR:OG1	2.26	0.44
1:Z:47:ARG:HG2	1:Z:49:ASP:H	1.81	0.44
1:Z:303:VAL:HG12	1:Z:305:VAL:H	1.82	0.44
1:1:278:THR:O	1:1:278:THR:OG1	2.34	0.44
5:G:861:PHE:HA	1:U:341:ARG:HH12	1.81	0.44
2:J:212:ASP:HB3	7:L:325:ARG:HH12	1.82	0.44
5:M:695:TYR:HD2	5:M:858:ARG:HH12	1.64	0.44
1:S:250:ASN:ND2	1:S:255:GLY:O	2.50	0.44
1:1:264:PRO:HB3	5:M:663:LYS:HG3	1.99	0.44
5:E:427:TYR:HE2	5:E:455:LYS:HD3	1.83	0.44
3:F:836:PHE:O	3:F:840:ILE:HG12	2.18	0.44
5:M:354:SER:OG	5:M:437:GLN:NE2	2.50	0.44
1:S:69:LEU:HG	1:S:70:GLU:HG3	1.99	0.44
1:V:7:THR:HA	1:V:136:VAL:HG13	1.98	0.44
1:Z:260:LEU:HD22	1:Z:379:ALA:HA	2.00	0.44
1:1:339:ARG:NH2	1:1:342:GLU:HB2	2.32	0.44
5:E:224:VAL:HB	5:E:233:VAL:HG21	2.00	0.44
3:F:249:ALA:HB1	3:F:252:ARG:HH21	1.83	0.44
6:K:653:LYS:H	1:Y:353:PRO:HB3	1.82	0.44
1:T:29:HIS:HB3	1:T:48:LYS:HD3	1.98	0.44
1:U:69:LEU:HG	1:U:70:GLU:HG3	1.99	0.44
1:X:69:LEU:HG	1:X:70:GLU:HG3	1.99	0.44
1:1:303:VAL:HG12	1:1:305:VAL:H	1.82	0.44
6:I:460:GLN:O	6:I:464:HIS:N	2.51	0.44
5:M:518:ARG:O	5:M:523:ASP:N	2.50	0.44
1:Z:339:ARG:NH2	1:Z:342:GLU:HB2	2.31	0.44
1:2:415:LYS:HD2	1:2:415:LYS:HA	1.88	0.43
5:G:286:GLY:O	5:G:290:HIS:ND1	2.50	0.43
1:S:260:LEU:HD22	1:S:379:ALA:HA	2.00	0.43
1:T:69:LEU:HG	1:T:70:GLU:HG3	1.99	0.43
1:W:303:VAL:HG12	1:W:305:VAL:H	1.82	0.43
1:Z:84:LYS:H	1:Z:84:LYS:HG2	1.50	0.43
1:1:260:LEU:HD22	1:1:379:ALA:HA	2.00	0.43
5:E:152:GLN:HA	5:E:155:GLU:HG2	1.99	0.43
5:E:689:PHE:CZ	5:E:693:ILE:HD11	2.53	0.43
5:G:350:CYS:HB3	5:G:355:THR:HB	1.99	0.43
1:U:324:ILE:HD11	1:U:373:VAL:HG12	2.01	0.43
1:W:260:LEU:HD22	1:W:379:ALA:HA	2.00	0.43
1:1:318:ILE:HD11	1:1:382:THR:HG23	2.01	0.43
3:F:582:LYS:HG3	3:F:583:PRO:HD3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:I:363:LEU:HD23	6:I:363:LEU:HA	1.82	0.43
3:N:850:LEU:HD13	3:N:850:LEU:HA	1.80	0.43
1:T:260:LEU:HD22	1:T:379:ALA:HA	2.00	0.43
1:T:318:ILE:HD11	1:T:382:THR:HG23	2.01	0.43
1:V:260:LEU:HD22	1:V:379:ALA:HA	2.00	0.43
1:X:260:LEU:HD22	1:X:379:ALA:HA	2.00	0.43
1:1:344:LYS:HE2	1:1:344:LYS:HB3	1.92	0.43
7:L:1679:GLN:HA	7:L:1683:VAL:HG22	2.00	0.43
5:M:468:THR:OG1	5:M:469:CYS:N	2.48	0.43
1:2:9:GLN:HA	1:2:138:CYS:HB2	2.01	0.43
1:2:249:MET:HG2	3:N:723:THR:HG21	2.00	0.43
3:F:688:ALA:HB3	1:T:264:PRO:HG2	2.00	0.43
5:G:559:LEU:HD12	5:G:559:LEU:HA	1.82	0.43
5:G:865:TYR:HA	5:G:868:ARG:HE	1.83	0.43
3:H:593:TYR:HB2	3:H:595:HIS:CD2	2.52	0.43
3:H:799:GLU:HG2	3:H:836:PHE:CZ	2.53	0.43
2:J:291:ASP:N	2:J:291:ASP:OD1	2.49	0.43
3:N:806:PHE:HE2	3:N:832:ARG:HH12	1.66	0.43
1:T:9:GLN:HA	1:T:138:CYS:HB2	2.01	0.43
1:W:9:GLN:HA	1:W:138:CYS:HB2	2.01	0.43
1:1:69:LEU:HG	1:1:70:GLU:HG3	1.99	0.43
5:E:168:LYS:HZ3	5:E:405:SER:HB2	1.82	0.43
5:E:386:PRO:HB3	3:F:412:ARG:HH22	1.84	0.43
5:G:306:LEU:O	5:G:310:LEU:HG	2.18	0.43
2:J:377:GLU:HB2	6:K:124:TYR:CE1	2.53	0.43
3:N:863:VAL:HG12	3:N:887:LYS:HD3	1.99	0.43
1:T:324:ILE:HD11	1:T:373:VAL:HG12	2.01	0.43
1:V:324:ILE:HD11	1:V:373:VAL:HG12	2.01	0.43
1:Z:318:ILE:HD11	1:Z:382:THR:HG23	2.01	0.43
5:M:702:MET:O	5:M:703:GLU:C	2.56	0.43
1:U:339:ARG:NH2	1:U:342:GLU:HB2	2.31	0.43
1:W:69:LEU:HG	1:W:70:GLU:HG3	1.99	0.43
1:X:278:THR:O	1:X:278:THR:OG1	2.34	0.43
1:1:53:TYR:OH	1:2:299:GLN:OE1	2.16	0.43
1:1:249:MET:HB3	5:M:695:TYR:HE1	1.83	0.43
1:U:260:LEU:HD22	1:U:379:ALA:HA	2.00	0.43
1:X:324:ILE:HD11	1:X:373:VAL:HG12	2.00	0.43
1:Y:318:ILE:HD11	1:Y:382:THR:HG23	2.01	0.43
1:1:9:GLN:HA	1:1:138:CYS:HB2	2.01	0.43
1:1:110:GLN:HA	1:1:113:LYS:HE3	2.01	0.43
5:E:236:GLN:HG3	5:E:245:THR:HG23	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:241:ARG:HE	5:E:242:GLN:H	1.67	0.43
3:F:620:ARG:HA	3:F:643:HIS:CE1	2.53	0.43
5:G:341:LEU:HD23	5:G:341:LEU:HA	1.89	0.43
5:G:446:MET:HG3	5:G:449:LYS:HD2	2.00	0.43
5:G:827:LYS:HD2	5:G:827:LYS:HA	1.83	0.43
3:H:704:CYS:SG	3:H:705:HIS:N	2.92	0.43
5:M:206:GLY:H	5:M:251:ASN:ND2	2.17	0.43
1:S:9:GLN:HA	1:S:138:CYS:HB2	2.01	0.43
1:S:31:ILE:HG23	1:S:37:VAL:HA	2.01	0.43
1:T:84:LYS:H	1:T:84:LYS:HG2	1.50	0.43
1:Y:260:LEU:HD22	1:Y:379:ALA:HA	2.00	0.43
1:Z:31:ILE:HG23	1:Z:37:VAL:HA	2.01	0.43
5:E:252:LEU:HG	5:E:257:ARG:HB2	2.00	0.43
5:E:704:PRO:HG3	1:S:330:PRO:HG2	2.00	0.43
5:G:691:GLN:HE21	5:G:691:GLN:HB2	1.62	0.43
6:I:578:PRO:HA	6:I:581:HIS:HD2	1.84	0.43
6:K:653:LYS:HD3	1:Y:353:PRO:HD3	2.00	0.43
1:S:339:ARG:NH2	1:S:342:GLU:HB2	2.32	0.43
1:T:31:ILE:HG23	1:T:37:VAL:HA	2.01	0.43
1:T:110:GLN:HA	1:T:113:LYS:HE3	2.01	0.43
1:T:339:ARG:NH2	1:T:342:GLU:HB2	2.32	0.43
1:V:9:GLN:HA	1:V:138:CYS:HB2	2.01	0.43
1:Y:110:GLN:HA	1:Y:113:LYS:HE3	2.01	0.43
5:E:164:LYS:HD2	5:E:405:SER:H	1.84	0.42
5:G:256:ILE:O	5:G:260:VAL:HG12	2.19	0.42
3:H:669:ARG:HG2	3:H:672:ARG:HH22	1.84	0.42
1:U:318:ILE:HD11	1:U:382:THR:HG23	2.01	0.42
1:2:31:ILE:HG23	1:2:37:VAL:HA	2.01	0.42
5:E:187:LEU:HD21	3:F:379:LYS:HE2	2.01	0.42
5:E:814:LEU:HB3	5:E:815:VAL:H	1.69	0.42
3:H:878:PHE:O	1:V:341:ARG:NH1	2.44	0.42
6:I:539:SER:O	6:I:542:SER:OG	2.31	0.42
2:J:938:HIS:CD2	2:J:944:ARG:HB3	2.54	0.42
5:M:164:LYS:HG2	5:M:404:TYR:HA	2.01	0.42
1:V:318:ILE:HD11	1:V:382:THR:HG23	2.01	0.42
1:W:318:ILE:HD11	1:W:382:THR:HG23	2.01	0.42
1:W:324:ILE:HD11	1:W:373:VAL:HG12	2.01	0.42
1:X:318:ILE:HD11	1:X:382:THR:HG23	2.01	0.42
1:Z:9:GLN:HA	1:Z:138:CYS:HB2	2.01	0.42
1:1:15:ASN:HD22	1:1:74:ILE:HG12	1.85	0.42
1:1:31:ILE:HG23	1:1:37:VAL:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:324:ILE:HD11	1:2:373:VAL:HG12	2.01	0.42
5:G:388:PHE:O	5:G:392:GLU:HB2	2.19	0.42
3:H:734:LEU:HB2	3:H:754:PHE:CD1	2.54	0.42
6:I:191:MET:HE1	6:I:276:ILE:HA	2.01	0.42
2:J:358:PHE:CD1	2:J:429:ASN:HB2	2.54	0.42
3:N:327:ALA:HB1	3:N:418:ILE:HG13	2.00	0.42
1:S:318:ILE:HD11	1:S:382:THR:HG23	2.01	0.42
1:V:31:ILE:HG23	1:V:37:VAL:HA	2.01	0.42
1:W:110:GLN:HA	1:W:113:LYS:HE3	2.01	0.42
1:X:9:GLN:HA	1:X:138:CYS:HB2	2.01	0.42
1:X:110:GLN:HA	1:X:113:LYS:HE3	2.01	0.42
1:Y:393:ARG:HE	1:Y:394:GLN:HG3	1.85	0.42
1:2:15:ASN:HD22	1:2:74:ILE:HG12	1.85	0.42
3:F:568:LEU:HD13	3:F:667:LEU:HB2	2.02	0.42
3:H:716:HIS:HE1	1:V:250:ASN:HD21	1.67	0.42
5:M:241:ARG:O	5:M:275:ARG:NH1	2.53	0.42
1:T:393:ARG:HE	1:T:394:GLN:HG3	1.85	0.42
1:U:15:ASN:HD22	1:U:74:ILE:HG12	1.85	0.42
1:1:324:ILE:HD11	1:1:373:VAL:HG12	2.00	0.42
5:G:415:ARG:N	5:G:431:ARG:HH12	2.17	0.42
3:H:336:TYR:HB2	6:I:124:TYR:CD1	2.55	0.42
2:J:392:THR:HG21	7:L:295:ARG:HB2	2.02	0.42
5:M:702:MET:HB3	5:M:703:GLU:H	1.62	0.42
1:S:393:ARG:HE	1:S:394:GLN:HG3	1.85	0.42
1:U:393:ARG:HE	1:U:394:GLN:HG3	1.85	0.42
1:Y:9:GLN:HA	1:Y:138:CYS:HB2	2.01	0.42
1:Y:15:ASN:HD22	1:Y:74:ILE:HG12	1.85	0.42
1:Z:110:GLN:HA	1:Z:113:LYS:HE3	2.01	0.42
1:2:318:ILE:HD11	1:2:382:THR:HG23	2.01	0.42
5:G:329:GLN:H	5:G:329:GLN:HG2	1.73	0.42
7:L:1661:PHE:O	7:L:1664:GLU:HB3	2.20	0.42
5:M:343:THR:O	5:M:347:LYS:HB2	2.20	0.42
5:E:156:LEU:HD12	5:E:156:LEU:HA	1.80	0.42
5:G:637:ARG:O	5:G:641:LEU:HG	2.20	0.42
3:H:389:GLN:O	3:H:391:ARG:NH1	2.53	0.42
3:H:597:LEU:HG	3:H:623:VAL:HG21	2.01	0.42
3:H:837:LYS:HA	3:H:837:LYS:HD2	1.80	0.42
6:I:530:TYR:CE1	1:W:249:MET:HG2	2.53	0.42
7:L:416:GLN:HG3	7:L:433:THR:HG21	2.01	0.42
3:N:597:LEU:HA	3:N:597:LEU:HD13	1.81	0.42
1:T:384:ILE:HD12	1:T:384:ILE:HA	1.92	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:557:ASP:HA	3:F:560:GLN:HB3	2.01	0.42
3:F:879:ARG:HA	3:F:879:ARG:NE	2.34	0.42
6:I:143:ILE:HG23	6:I:148:ILE:HB	2.00	0.42
7:L:1728:VAL:HG11	7:L:1779:LEU:HB3	2.01	0.42
1:S:3:ARG:HB2	1:S:4:GLU:H	1.73	0.42
1:S:15:ASN:HD22	1:S:74:ILE:HG12	1.85	0.42
1:Z:15:ASN:HD22	1:Z:74:ILE:HG12	1.85	0.42
1:Z:324:ILE:HD11	1:Z:373:VAL:HG12	2.01	0.42
1:2:84:LYS:H	1:2:84:LYS:HG2	1.50	0.42
3:F:489:SER:HB2	3:F:545:LEU:HD11	2.01	0.42
5:G:222:LEU:HD21	5:G:310:LEU:HB2	2.01	0.42
5:G:259:LEU:HA	5:G:262:ARG:HE	1.84	0.42
3:H:448:VAL:HG22	3:H:484:LEU:HD12	2.02	0.42
1:S:110:GLN:HA	1:S:113:LYS:HE3	2.01	0.42
1:V:15:ASN:HD22	1:V:74:ILE:HG12	1.85	0.42
1:V:85:LEU:HD23	1:V:86:TYR:HD1	1.85	0.42
1:V:110:GLN:HA	1:V:113:LYS:HE3	2.01	0.42
1:V:393:ARG:HE	1:V:394:GLN:HG3	1.85	0.42
1:X:31:ILE:HG23	1:X:37:VAL:HA	2.01	0.42
1:2:393:ARG:HE	1:2:394:GLN:HG3	1.85	0.42
5:G:356:LEU:HD13	5:G:440:PRO:HB3	2.02	0.42
6:K:22:ARG:HA	6:K:22:ARG:HD2	4.77	0.42
5:M:659:TRP:HD1	5:M:683:ARG:HE	1.66	0.42
1:T:15:ASN:HD22	1:T:74:ILE:HG12	1.85	0.42
1:T:287:LYS:HA	1:T:287:LYS:HD2	1.94	0.42
1:Y:187:ASN:O	1:Y:191:THR:OG1	2.28	0.42
1:Y:324:ILE:HD11	1:Y:373:VAL:HG12	2.01	0.42
1:1:112:GLU:O	1:1:115:HIS:ND1	2.53	0.41
5:E:391:LEU:HG	5:E:407:PHE:HE1	1.85	0.41
5:G:470:PRO:HD3	5:G:494:TYR:CZ	2.55	0.41
2:J:267:GLU:HB3	7:L:298:GLU:OE2	2.20	0.41
5:M:329:GLN:HB3	5:M:333:ARG:HH12	1.85	0.41
1:S:112:GLU:O	1:S:115:HIS:ND1	2.53	0.41
1:S:324:ILE:HD11	1:S:373:VAL:HG12	2.01	0.41
1:W:31:ILE:HG23	1:W:37:VAL:HA	2.01	0.41
1:W:84:LYS:H	1:W:84:LYS:HG2	1.50	0.41
1:W:393:ARG:HE	1:W:394:GLN:HG3	1.85	0.41
1:X:112:GLU:O	1:X:115:HIS:ND1	2.53	0.41
1:Y:339:ARG:NH2	1:Y:342:GLU:HB2	2.32	0.41
1:2:339:ARG:NH2	1:2:342:GLU:HB2	2.32	0.41
3:F:490:ILE:HG12	3:F:494:HIS:HE1	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:277:VAL:HB	3:H:288:ARG:HG3	2.02	0.41
3:H:291:ALA:HA	3:H:366:ARG:HH22	1.85	0.41
7:L:1512:LEU:O	7:L:1516:LEU:HB2	2.20	0.41
5:M:154:LEU:HA	5:M:157:LYS:HD2	2.02	0.41
1:S:339:ARG:HH21	1:S:339:ARG:HD2	1.73	0.41
1:U:9:GLN:HA	1:U:138:CYS:HB2	2.01	0.41
1:U:31:ILE:HG23	1:U:37:VAL:HA	2.01	0.41
1:X:393:ARG:HE	1:X:394:GLN:HG3	1.85	0.41
1:Y:85:LEU:HD23	1:Y:86:TYR:HD1	1.85	0.41
1:1:84:LYS:H	1:1:84:LYS:HG2	1.50	0.41
5:E:319:LEU:HD21	5:E:324:LEU:HD13	2.01	0.41
5:E:396:TYR:CE2	5:E:471:VAL:HG13	2.55	0.41
3:F:719:GLN:HE22	1:T:249:MET:HG2	1.84	0.41
5:G:280:LYS:O	5:G:289:ASN:ND2	2.54	0.41
5:M:311:GLU:HG3	3:N:365:ARG:HH11	1.86	0.41
5:M:499:LEU:HD23	5:M:719:ILE:HG13	2.01	0.41
5:M:504:MET:SD	5:M:714:LYS:NZ	2.85	0.41
5:M:551:LEU:HD13	5:M:575:ILE:HG21	2.02	0.41
1:U:85:LEU:HD23	1:U:86:TYR:HD1	1.85	0.41
1:U:110:GLN:HA	1:U:113:LYS:HE3	2.01	0.41
1:W:305:VAL:HG11	1:W:384:ILE:HD13	2.03	0.41
1:2:110:GLN:HA	1:2:113:LYS:HE3	2.01	0.41
5:G:422:ASP:HB2	5:G:627:SER:HB2	2.02	0.41
5:G:574:LYS:HB2	5:G:619:ASP:HB3	2.03	0.41
3:H:576:HIS:O	3:H:580:LEU:HG	2.20	0.41
6:I:263:ILE:H	6:I:263:ILE:HG13	1.74	0.41
6:I:403:VAL:HG22	6:I:404:LEU:HD12	2.01	0.41
6:K:381:LYS:HA	6:K:381:LYS:HD3	1.95	0.41
1:S:67:LEU:HD23	1:S:67:LEU:HA	1.96	0.41
1:T:85:LEU:HD23	1:T:86:TYR:HD1	1.85	0.41
1:T:112:GLU:O	1:T:115:HIS:ND1	2.53	0.41
1:T:415:LYS:HD2	1:T:415:LYS:HA	1.88	0.41
1:W:15:ASN:HD22	1:W:74:ILE:HG12	1.85	0.41
1:Y:112:GLU:O	1:Y:115:HIS:ND1	2.53	0.41
1:1:393:ARG:HE	1:1:394:GLN:HG3	1.85	0.41
5:E:186:ALA:HA	5:E:191:PHE:CE2	2.54	0.41
5:E:716:ALA:HB2	5:E:725:HIS:HE1	1.85	0.41
5:E:868:ARG:HE	5:E:868:ARG:HB3	1.71	0.41
3:H:398:SER:HA	3:H:473:SER:OG	2.21	0.41
3:H:885:HIS:HB3	1:V:353:PRO:HB3	2.03	0.41
2:J:797:ASP:OD2	2:J:797:ASP:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:938:HIS:CE1	2:J:943:LEU:HB2	2.55	0.41
1:V:287:LYS:HA	1:V:287:LYS:HD2	1.94	0.41
1:W:187:ASN:O	1:W:191:THR:OG1	2.28	0.41
5:E:679:ALA:HB1	5:E:762:MET:SD	2.60	0.41
5:E:738:MET:N	5:E:738:MET:SD	2.93	0.41
3:H:600:ILE:O	3:H:603:THR:HB	2.20	0.41
2:J:370:LYS:HE3	2:J:370:LYS:HB2	1.88	0.41
5:M:739:LEU:HD13	5:M:739:LEU:HA	1.77	0.41
3:N:388:CYS:HB3	3:N:396:LEU:HG	2.02	0.41
1:S:85:LEU:HD23	1:S:86:TYR:HD1	1.85	0.41
1:V:3:ARG:HB2	1:V:4:GLU:H	1.73	0.41
1:V:112:GLU:O	1:V:115:HIS:ND1	2.53	0.41
1:Z:195:LEU:HD23	1:Z:195:LEU:HA	1.97	0.41
1:1:85:LEU:HD23	1:1:86:TYR:HD1	1.85	0.41
1:1:112:GLU:HA	1:1:152:TYR:CE2	2.56	0.41
5:G:557:LEU:O	5:G:558:ALA:C	2.58	0.41
5:G:693:ILE:HD13	5:G:859:LEU:HD11	2.02	0.41
3:H:409:PRO:HA	3:H:412:ARG:HG2	2.02	0.41
7:L:392:SER:O	7:L:395:SER:OG	2.35	0.41
7:L:1683:VAL:HG12	1:Z:330:PRO:HG2	2.02	0.41
1:T:395:TYR:HE2	1:T:425:ARG:HE	1.69	0.41
1:V:112:GLU:HA	1:V:152:TYR:CE2	2.56	0.41
1:V:305:VAL:HG11	1:V:384:ILE:HD13	2.03	0.41
1:Z:85:LEU:HD23	1:Z:86:TYR:HD1	1.85	0.41
1:Z:305:VAL:HG11	1:Z:384:ILE:HD13	2.03	0.41
1:2:85:LEU:HD23	1:2:86:TYR:HD1	1.85	0.41
5:M:356:LEU:HD12	5:M:356:LEU:HA	1.95	0.41
1:V:195:LEU:HD23	1:V:195:LEU:HA	1.96	0.41
1:X:15:ASN:HD22	1:X:74:ILE:HG12	1.85	0.41
1:Y:31:ILE:HG23	1:Y:37:VAL:HA	2.01	0.41
1:Y:305:VAL:HG11	1:Y:384:ILE:HD13	2.03	0.41
1:Z:112:GLU:O	1:Z:115:HIS:ND1	2.53	0.41
1:Z:415:LYS:HD2	1:Z:415:LYS:HA	1.88	0.41
1:1:395:TYR:HE2	1:1:425:ARG:HE	1.69	0.41
5:E:550:ARG:NH2	1:T:342:GLU:OE2	2.54	0.41
3:H:706:ILE:O	3:H:709:SER:OG	2.24	0.41
2:J:234:HIS:ND1	2:J:236:LEU:HG	2.36	0.41
2:J:327:LEU:HD13	2:J:372:PHE:CE1	2.55	0.41
6:K:105:LEU:HA	6:K:105:LEU:HD23	1.87	0.41
6:K:253:SER:HB2	6:K:288:ASN:HD21	1.86	0.41
7:L:1588:PRO:HB2	7:L:1737:LEU:HD13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:M:408:MET:HG2	5:M:434:ILE:HG13	2.03	0.41
3:N:524:THR:OG1	3:N:525:ASP:N	2.54	0.41
1:S:220:ILE:HD12	1:S:223:PRO:HG2	2.03	0.41
1:U:220:ILE:HD12	1:U:223:PRO:HG2	2.03	0.41
1:V:339:ARG:NH2	1:V:342:GLU:HB2	2.32	0.41
1:W:112:GLU:O	1:W:115:HIS:ND1	2.53	0.41
1:Y:220:ILE:HD12	1:Y:223:PRO:HG2	2.03	0.41
1:Z:287:LYS:HA	1:Z:287:LYS:HD2	1.94	0.41
5:E:440:PRO:HD2	5:E:443:LEU:HD13	2.02	0.41
5:G:150:LEU:O	5:G:153:SER:OG	2.34	0.41
6:I:315:LYS:HB3	6:I:315:LYS:HE3	1.80	0.41
7:L:588:LEU:HD23	7:L:591:ILE:HG12	2.03	0.41
7:L:1608:ILE:HG12	7:L:1705:HIS:CE1	2.56	0.41
1:T:305:VAL:HG11	1:T:384:ILE:HD13	2.03	0.41
1:1:339:ARG:HH21	1:1:339:ARG:HD2	1.72	0.40
1:1:384:ILE:HD12	1:1:384:ILE:HA	1.92	0.40
3:H:664:PHE:HA	3:H:667:LEU:HG	2.02	0.40
3:H:862:LEU:HD11	3:H:887:LYS:HE2	2.02	0.40
7:L:357:LEU:HD21	7:L:448:LEU:HD21	2.03	0.40
3:N:493:LEU:HD13	3:N:545:LEU:HD22	2.01	0.40
1:U:112:GLU:O	1:U:115:HIS:ND1	2.53	0.40
1:U:187:ASN:O	1:U:191:THR:OG1	2.28	0.40
1:X:112:GLU:HA	1:X:152:TYR:CE2	2.56	0.40
1:Z:220:ILE:HD12	1:Z:223:PRO:HG2	2.03	0.40
1:Z:384:ILE:HD12	1:Z:384:ILE:HA	1.92	0.40
1:Z:393:ARG:HE	1:Z:394:GLN:HG3	1.85	0.40
1:2:278:THR:O	1:2:278:THR:OG1	2.34	0.40
5:E:864:PHE:CD2	1:S:353:PRO:HA	2.57	0.40
3:H:417:HIS:O	3:H:420:SER:OG	2.29	0.40
3:H:568:LEU:HD12	3:H:571:GLY:HA2	2.02	0.40
3:H:717:GLN:OE1	3:H:879:ARG:HB2	2.21	0.40
6:I:367:GLU:OE2	6:I:367:GLU:N	2.54	0.40
6:K:350:LEU:HD13	6:K:463:LEU:HG	2.03	0.40
1:V:278:THR:O	1:V:278:THR:OG1	2.34	0.40
1:X:85:LEU:HD23	1:X:86:TYR:HD1	1.85	0.40
1:Y:112:GLU:HA	1:Y:152:TYR:CE2	2.56	0.40
1:Y:195:LEU:HD23	1:Y:195:LEU:HA	1.96	0.40
1:2:112:GLU:O	1:2:115:HIS:ND1	2.53	0.40
5:E:412:HIS:HB2	5:E:431:ARG:HA	2.02	0.40
3:F:657:MET:HA	3:F:660:TYR:HB2	2.03	0.40
5:G:741:ASN:HD22	5:G:745:LEU:HG	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:303:LYS:H	3:H:303:LYS:HG2	1.62	0.40
3:H:857:ILE:HD12	3:H:857:ILE:HA	1.95	0.40
6:I:42:LEU:O	6:I:45:LEU:HB2	2.21	0.40
6:K:260:ARG:HE	6:K:260:ARG:HB3	1.68	0.40
7:L:1668:PHE:CE2	7:L:1732:ILE:HG21	2.56	0.40
1:S:112:GLU:HA	1:S:152:TYR:CE2	2.56	0.40
1:W:85:LEU:HD23	1:W:86:TYR:HD1	1.85	0.40
1:Y:395:TYR:HE2	1:Y:425:ARG:HE	1.69	0.40
1:2:112:GLU:HA	1:2:152:TYR:CE2	2.56	0.40
5:G:292:LEU:HA	5:G:292:LEU:HD23	1.88	0.40
6:I:259:LEU:HB3	6:I:277:LEU:HD21	2.04	0.40
6:I:270:VAL:HG22	6:I:271:ARG:HH11	1.86	0.40
6:I:548:ILE:HG22	6:I:557:ILE:HD12	2.04	0.40
5:M:517:LYS:O	5:M:523:ASP:N	2.54	0.40
5:M:855:VAL:O	5:M:859:LEU:HG	2.21	0.40
1:T:220:ILE:HD12	1:T:223:PRO:HG2	2.03	0.40
1:V:395:TYR:HE2	1:V:425:ARG:HE	1.69	0.40
1:W:112:GLU:HA	1:W:152:TYR:CE2	2.56	0.40
1:2:358:VAL:HG23	3:N:879:ARG:HH11	1.86	0.40
5:E:529:VAL:HG11	1:S:251:ASN:HD21	1.87	0.40
5:E:541:LYS:O	5:E:546:ILE:HD11	2.20	0.40
5:G:408:MET:O	5:G:435:VAL:N	2.54	0.40
5:G:578:MET:HG2	5:G:581:ASP:HA	2.04	0.40
6:I:196:LEU:HD23	6:I:196:LEU:HA	1.98	0.40
7:L:467:GLY:O	7:L:470:LEU:HG	2.22	0.40
7:L:1522:GLU:HA	7:L:1525:GLN:HB2	2.03	0.40
3:N:870:ASP:OD2	3:N:870:ASP:N	2.53	0.40
1:S:192:LEU:O	1:S:196:THR:HG23	2.22	0.40
1:T:192:LEU:O	1:T:196:THR:HG23	2.22	0.40
1:V:192:LEU:O	1:V:196:THR:HG23	2.22	0.40
1:W:192:LEU:O	1:W:196:THR:HG23	2.22	0.40
1:Y:192:LEU:O	1:Y:196:THR:HG23	2.22	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%)	391 (96%)	15 (4%)	2 (0%)	29	69
1	2	408/451 (90%)	391 (96%)	15 (4%)	2 (0%)	29	69
1	S	408/451 (90%)	391 (96%)	15 (4%)	2 (0%)	29	69
1	T	408/451 (90%)	391 (96%)	15 (4%)	2 (0%)	29	69
1	U	408/451 (90%)	391 (96%)	15 (4%)	2 (0%)	29	69
1	V	408/451 (90%)	391 (96%)	15 (4%)	2 (0%)	29	69
1	W	408/451 (90%)	391 (96%)	15 (4%)	2 (0%)	29	69
1	X	408/451 (90%)	391 (96%)	15 (4%)	2 (0%)	29	69
1	Y	408/451 (90%)	391 (96%)	15 (4%)	2 (0%)	29	69
1	Z	408/451 (90%)	391 (96%)	15 (4%)	2 (0%)	29	69
2	J	506/1024 (49%)	470 (93%)	33 (6%)	3 (1%)	25	66
2	l	104/1024 (10%)	94 (90%)	7 (7%)	3 (3%)	4	29
3	F	591/907 (65%)	559 (95%)	32 (5%)	0	100	100
3	H	584/907 (64%)	560 (96%)	22 (4%)	2 (0%)	41	77
3	N	584/907 (64%)	556 (95%)	26 (4%)	2 (0%)	41	77
3	a	112/907 (12%)	106 (95%)	6 (5%)	0	100	100
3	j	97/907 (11%)	96 (99%)	1 (1%)	0	100	100
3	n	97/907 (11%)	91 (94%)	6 (6%)	0	100	100
4	b	63/82 (77%)	62 (98%)	1 (2%)	0	100	100
4	k	63/82 (77%)	62 (98%)	1 (2%)	0	100	100
4	m	63/82 (77%)	62 (98%)	1 (2%)	0	100	100
4	o	63/82 (77%)	62 (98%)	1 (2%)	0	100	100
5	E	626/902 (69%)	590 (94%)	33 (5%)	3 (0%)	29	69
5	G	628/902 (70%)	590 (94%)	35 (6%)	3 (0%)	29	69
5	M	624/902 (69%)	581 (93%)	38 (6%)	5 (1%)	19	60
6	I	511/667 (77%)	477 (93%)	30 (6%)	4 (1%)	19	60
6	K	548/667 (82%)	528 (96%)	19 (4%)	1 (0%)	47	81
7	L	540/1819 (30%)	505 (94%)	30 (6%)	5 (1%)	17	57
All	All	10484/18187 (58%)	9961 (95%)	472 (4%)	51 (0%)	32	69

All (51) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	l	117	LEU
5	E	581	ASP
5	G	241	ARG
3	H	270	ASN
6	I	408	ASP
6	I	508	ASN
5	M	241	ARG
5	M	703	GLU
3	N	527	GLU
1	1	350	PRO
1	2	350	PRO
3	H	602	GLU
7	L	308	GLU
3	N	455	LYS
1	S	350	PRO
1	T	350	PRO
1	U	350	PRO
1	V	350	PRO
1	W	350	PRO
1	X	350	PRO
1	Y	350	PRO
1	Z	350	PRO
1	1	330	PRO
1	2	330	PRO
5	E	425	ASP
6	I	405	LEU
7	L	310	PRO
7	L	311	TYR
5	M	675	TRP
1	S	330	PRO
1	T	330	PRO
1	U	330	PRO
1	V	330	PRO
1	W	330	PRO
1	X	330	PRO
1	Y	330	PRO
1	Z	330	PRO
2	J	238	LEU
2	J	714	TYR
6	K	409	ASN
7	L	309	GLU
2	l	120	SER

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Mol	Chain	Res	Type
5	E	582	LEU
6	I	404	LEU
2	J	257	TYR
7	L	346	LEU
5	G	558	ALA
5	G	581	ASP
5	M	704	PRO
5	M	701	VAL
2	l	121	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%)	326 (87%)	50 (13%)	4 18
1	2	376/400 (94%)	326 (87%)	50 (13%)	4 18
1	S	376/400 (94%)	326 (87%)	50 (13%)	4 18
1	T	376/400 (94%)	326 (87%)	50 (13%)	4 18
1	U	376/400 (94%)	326 (87%)	50 (13%)	4 18
1	V	376/400 (94%)	326 (87%)	50 (13%)	4 18
1	W	376/400 (94%)	326 (87%)	50 (13%)	4 18
1	X	376/400 (94%)	326 (87%)	50 (13%)	4 18
1	Y	376/400 (94%)	326 (87%)	50 (13%)	4 18
1	Z	376/400 (94%)	326 (87%)	50 (13%)	4 18
2	J	498/933 (53%)	497 (100%)	1 (0%)	93 96
2	l	96/933 (10%)	94 (98%)	2 (2%)	53 72
3	F	542/798 (68%)	541 (100%)	1 (0%)	93 96
3	H	539/798 (68%)	538 (100%)	1 (0%)	93 96
3	N	539/798 (68%)	538 (100%)	1 (0%)	93 96
3	a	101/798 (13%)	100 (99%)	1 (1%)	76 86
3	j	88/798 (11%)	88 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
3	n	88/798 (11%)	87 (99%)	1 (1%)	73 84
4	b	53/62 (86%)	43 (81%)	10 (19%)	1 8
4	k	53/62 (86%)	43 (81%)	10 (19%)	1 8
4	m	53/62 (86%)	43 (81%)	10 (19%)	1 8
4	o	53/62 (86%)	43 (81%)	10 (19%)	1 8
5	E	574/791 (73%)	570 (99%)	4 (1%)	84 90
5	G	575/791 (73%)	571 (99%)	4 (1%)	84 90
5	M	572/791 (72%)	565 (99%)	7 (1%)	71 83
6	I	472/594 (80%)	466 (99%)	6 (1%)	69 81
6	K	509/594 (86%)	507 (100%)	2 (0%)	91 94
7	L	501/1546 (32%)	495 (99%)	6 (1%)	71 83
All	All	9666/16009 (60%)	9089 (94%)	577 (6%)	23 44

All (577) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1	8	LEU
1	1	10	LEU
1	1	31	ILE
1	1	50	VAL
1	1	66	LEU
1	1	72	ARG
1	1	73	VAL
1	1	78	LEU
1	1	84	LYS
1	1	85	LEU
1	1	90	ASN
1	1	109	SER
1	1	131	SER
1	1	136	VAL
1	1	147	SER
1	1	154	LEU
1	1	165	LEU
1	1	168	THR
1	1	189	LEU
1	1	191	THR
1	1	192	LEU
1	1	204	VAL

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Mol	Chain	Res	Type
1	1	205	LEU
1	1	218	LEU
1	1	222	ASN
1	1	236	MET
1	1	237	SER
1	1	242	THR
1	1	252	ASP
1	1	256	LEU
1	1	259	SER
1	1	263	THR
1	1	270	MET
1	1	278	THR
1	1	288	THR
1	1	290	VAL
1	1	298	LEU
1	1	316	CYS
1	1	331	THR
1	1	339	ARG
1	1	345	LEU
1	1	355	SER
1	1	360	LEU
1	1	369	SER
1	1	382	THR
1	1	391	THR
1	1	407	GLN
1	1	423	THR
1	1	439	THR
1	1	442	ASP
1	2	8	LEU
1	2	10	LEU
1	2	31	ILE
1	2	50	VAL
1	2	66	LEU
1	2	72	ARG
1	2	73	VAL
1	2	78	LEU
1	2	84	LYS
1	2	85	LEU
1	2	90	ASN
1	2	109	SER
1	2	131	SER
1	2	136	VAL

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Mol	Chain	Res	Type
1	2	147	SER
1	2	154	LEU
1	2	165	LEU
1	2	168	THR
1	2	189	LEU
1	2	191	THR
1	2	192	LEU
1	2	204	VAL
1	2	205	LEU
1	2	218	LEU
1	2	222	ASN
1	2	236	MET
1	2	237	SER
1	2	242	THR
1	2	252	ASP
1	2	256	LEU
1	2	259	SER
1	2	263	THR
1	2	270	MET
1	2	278	THR
1	2	288	THR
1	2	290	VAL
1	2	298	LEU
1	2	316	CYS
1	2	331	THR
1	2	339	ARG
1	2	345	LEU
1	2	355	SER
1	2	360	LEU
1	2	369	SER
1	2	382	THR
1	2	391	THR
1	2	407	GLN
1	2	423	THR
1	2	439	THR
1	2	442	ASP
2	l	52	ARG
2	l	117	LEU
3	n	49	ARG
4	o	21	VAL
4	o	24	THR
4	o	32	SER

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Mol	Chain	Res	Type
4	o	39	LEU
4	o	43	THR
4	o	45	SER
4	o	47	CYS
4	o	48	VAL
4	o	62	SER
4	o	64	ILE
4	m	21	VAL
4	m	24	THR
4	m	32	SER
4	m	39	LEU
4	m	43	THR
4	m	45	SER
4	m	47	CYS
4	m	48	VAL
4	m	62	SER
4	m	64	ILE
5	E	425	ASP
5	E	561	MET
5	E	633	LYS
5	E	681	THR
3	F	371	THR
5	G	241	ARG
5	G	248	VAL
5	G	557	LEU
5	G	675	TRP
3	H	266	ILE
6	I	260	ARG
6	I	271	ARG
6	I	315	LYS
6	I	475	TYR
6	I	600	ASN
6	I	601	LEU
2	J	238	LEU
6	K	86	LEU
6	K	651	TYR
7	L	283	TRP
7	L	294	ARG
7	L	414	SER
7	L	465	LYS
7	L	468	ARG
7	L	588	LEU

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Mol	Chain	Res	Type
5	M	524	GLN
5	M	562	SER
5	M	563	THR
5	M	701	VAL
5	M	703	GLU
5	M	705	THR
5	M	759	THR
3	N	678	THR
4	k	21	VAL
4	k	24	THR
4	k	32	SER
4	k	39	LEU
4	k	43	THR
4	k	45	SER
4	k	47	CYS
4	k	48	VAL
4	k	62	SER
4	k	64	ILE
4	b	21	VAL
4	b	24	THR
4	b	32	SER
4	b	39	LEU
4	b	43	THR
4	b	45	SER
4	b	47	CYS
4	b	48	VAL
4	b	62	SER
4	b	64	ILE
3	a	117	LEU
1	S	8	LEU
1	S	10	LEU
1	S	31	ILE
1	S	50	VAL
1	S	66	LEU
1	S	72	ARG
1	S	73	VAL
1	S	78	LEU
1	S	84	LYS
1	S	85	LEU
1	S	90	ASN
1	S	109	SER
1	S	131	SER

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Mol	Chain	Res	Type
1	S	136	VAL
1	S	147	SER
1	S	154	LEU
1	S	165	LEU
1	S	168	THR
1	S	189	LEU
1	S	191	THR
1	S	192	LEU
1	S	204	VAL
1	S	205	LEU
1	S	218	LEU
1	S	222	ASN
1	S	236	MET
1	S	237	SER
1	S	242	THR
1	S	252	ASP
1	S	256	LEU
1	S	259	SER
1	S	263	THR
1	S	270	MET
1	S	278	THR
1	S	288	THR
1	S	290	VAL
1	S	298	LEU
1	S	316	CYS
1	S	331	THR
1	S	339	ARG
1	S	345	LEU
1	S	355	SER
1	S	360	LEU
1	S	369	SER
1	S	382	THR
1	S	391	THR
1	S	407	GLN
1	S	423	THR
1	S	439	THR
1	S	442	ASP
1	T	8	LEU
1	T	10	LEU
1	T	31	ILE
1	T	50	VAL
1	T	66	LEU

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Mol	Chain	Res	Type
1	T	72	ARG
1	T	73	VAL
1	T	78	LEU
1	T	84	LYS
1	T	85	LEU
1	T	90	ASN
1	T	109	SER
1	T	131	SER
1	T	136	VAL
1	T	147	SER
1	T	154	LEU
1	T	165	LEU
1	T	168	THR
1	T	189	LEU
1	T	191	THR
1	T	192	LEU
1	T	204	VAL
1	T	205	LEU
1	T	218	LEU
1	T	222	ASN
1	T	236	MET
1	T	237	SER
1	T	242	THR
1	T	252	ASP
1	T	256	LEU
1	T	259	SER
1	T	263	THR
1	T	270	MET
1	T	278	THR
1	T	288	THR
1	T	290	VAL
1	T	298	LEU
1	T	316	CYS
1	T	331	THR
1	T	339	ARG
1	T	345	LEU
1	T	355	SER
1	T	360	LEU
1	T	369	SER
1	T	382	THR
1	T	391	THR
1	T	407	GLN

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Mol	Chain	Res	Type
1	T	423	THR
1	T	439	THR
1	T	442	ASP
1	U	8	LEU
1	U	10	LEU
1	U	31	ILE
1	U	50	VAL
1	U	66	LEU
1	U	72	ARG
1	U	73	VAL
1	U	78	LEU
1	U	84	LYS
1	U	85	LEU
1	U	90	ASN
1	U	109	SER
1	U	131	SER
1	U	136	VAL
1	U	147	SER
1	U	154	LEU
1	U	165	LEU
1	U	168	THR
1	U	189	LEU
1	U	191	THR
1	U	192	LEU
1	U	204	VAL
1	U	205	LEU
1	U	218	LEU
1	U	222	ASN
1	U	236	MET
1	U	237	SER
1	U	242	THR
1	U	252	ASP
1	U	256	LEU
1	U	259	SER
1	U	263	THR
1	U	270	MET
1	U	278	THR
1	U	288	THR
1	U	290	VAL
1	U	298	LEU
1	U	316	CYS
1	U	331	THR

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Mol	Chain	Res	Type
1	U	339	ARG
1	U	345	LEU
1	U	355	SER
1	U	360	LEU
1	U	369	SER
1	U	382	THR
1	U	391	THR
1	U	407	GLN
1	U	423	THR
1	U	439	THR
1	U	442	ASP
1	V	8	LEU
1	V	10	LEU
1	V	31	ILE
1	V	50	VAL
1	V	66	LEU
1	V	72	ARG
1	V	73	VAL
1	V	78	LEU
1	V	84	LYS
1	V	85	LEU
1	V	90	ASN
1	V	109	SER
1	V	131	SER
1	V	136	VAL
1	V	147	SER
1	V	154	LEU
1	V	165	LEU
1	V	168	THR
1	V	189	LEU
1	V	191	THR
1	V	192	LEU
1	V	204	VAL
1	V	205	LEU
1	V	218	LEU
1	V	222	ASN
1	V	236	MET
1	V	237	SER
1	V	242	THR
1	V	252	ASP
1	V	256	LEU
1	V	259	SER

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Mol	Chain	Res	Type
1	V	263	THR
1	V	270	MET
1	V	278	THR
1	V	288	THR
1	V	290	VAL
1	V	298	LEU
1	V	316	CYS
1	V	331	THR
1	V	339	ARG
1	V	345	LEU
1	V	355	SER
1	V	360	LEU
1	V	369	SER
1	V	382	THR
1	V	391	THR
1	V	407	GLN
1	V	423	THR
1	V	439	THR
1	V	442	ASP
1	W	8	LEU
1	W	10	LEU
1	W	31	ILE
1	W	50	VAL
1	W	66	LEU
1	W	72	ARG
1	W	73	VAL
1	W	78	LEU
1	W	84	LYS
1	W	85	LEU
1	W	90	ASN
1	W	109	SER
1	W	131	SER
1	W	136	VAL
1	W	147	SER
1	W	154	LEU
1	W	165	LEU
1	W	168	THR
1	W	189	LEU
1	W	191	THR
1	W	192	LEU
1	W	204	VAL
1	W	205	LEU

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Mol	Chain	Res	Type
1	W	218	LEU
1	W	222	ASN
1	W	236	MET
1	W	237	SER
1	W	242	THR
1	W	252	ASP
1	W	256	LEU
1	W	259	SER
1	W	263	THR
1	W	270	MET
1	W	278	THR
1	W	288	THR
1	W	290	VAL
1	W	298	LEU
1	W	316	CYS
1	W	331	THR
1	W	339	ARG
1	W	345	LEU
1	W	355	SER
1	W	360	LEU
1	W	369	SER
1	W	382	THR
1	W	391	THR
1	W	407	GLN
1	W	423	THR
1	W	439	THR
1	W	442	ASP
1	X	8	LEU
1	X	10	LEU
1	X	31	ILE
1	X	50	VAL
1	X	66	LEU
1	X	72	ARG
1	X	73	VAL
1	X	78	LEU
1	X	84	LYS
1	X	85	LEU
1	X	90	ASN
1	X	109	SER
1	X	131	SER
1	X	136	VAL
1	X	147	SER

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Mol	Chain	Res	Type
1	X	154	LEU
1	X	165	LEU
1	X	168	THR
1	X	189	LEU
1	X	191	THR
1	X	192	LEU
1	X	204	VAL
1	X	205	LEU
1	X	218	LEU
1	X	222	ASN
1	X	236	MET
1	X	237	SER
1	X	242	THR
1	X	252	ASP
1	X	256	LEU
1	X	259	SER
1	X	263	THR
1	X	270	MET
1	X	278	THR
1	X	288	THR
1	X	290	VAL
1	X	298	LEU
1	X	316	CYS
1	X	331	THR
1	X	339	ARG
1	X	345	LEU
1	X	355	SER
1	X	360	LEU
1	X	369	SER
1	X	382	THR
1	X	391	THR
1	X	407	GLN
1	X	423	THR
1	X	439	THR
1	X	442	ASP
1	Y	8	LEU
1	Y	10	LEU
1	Y	31	ILE
1	Y	50	VAL
1	Y	66	LEU
1	Y	72	ARG
1	Y	73	VAL

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Mol	Chain	Res	Type
1	Y	78	LEU
1	Y	84	LYS
1	Y	85	LEU
1	Y	90	ASN
1	Y	109	SER
1	Y	131	SER
1	Y	136	VAL
1	Y	147	SER
1	Y	154	LEU
1	Y	165	LEU
1	Y	168	THR
1	Y	189	LEU
1	Y	191	THR
1	Y	192	LEU
1	Y	204	VAL
1	Y	205	LEU
1	Y	218	LEU
1	Y	222	ASN
1	Y	236	MET
1	Y	237	SER
1	Y	242	THR
1	Y	252	ASP
1	Y	256	LEU
1	Y	259	SER
1	Y	263	THR
1	Y	270	MET
1	Y	278	THR
1	Y	288	THR
1	Y	290	VAL
1	Y	298	LEU
1	Y	316	CYS
1	Y	331	THR
1	Y	339	ARG
1	Y	345	LEU
1	Y	355	SER
1	Y	360	LEU
1	Y	369	SER
1	Y	382	THR
1	Y	391	THR
1	Y	407	GLN
1	Y	423	THR
1	Y	439	THR

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Mol	Chain	Res	Type
1	Y	442	ASP
1	Z	8	LEU
1	Z	10	LEU
1	Z	31	ILE
1	Z	50	VAL
1	Z	66	LEU
1	Z	72	ARG
1	Z	73	VAL
1	Z	78	LEU
1	Z	84	LYS
1	Z	85	LEU
1	Z	90	ASN
1	Z	109	SER
1	Z	131	SER
1	Z	136	VAL
1	Z	147	SER
1	Z	154	LEU
1	Z	165	LEU
1	Z	168	THR
1	Z	189	LEU
1	Z	191	THR
1	Z	192	LEU
1	Z	204	VAL
1	Z	205	LEU
1	Z	218	LEU
1	Z	222	ASN
1	Z	236	MET
1	Z	237	SER
1	Z	242	THR
1	Z	252	ASP
1	Z	256	LEU
1	Z	259	SER
1	Z	263	THR
1	Z	270	MET
1	Z	278	THR
1	Z	288	THR
1	Z	290	VAL
1	Z	298	LEU
1	Z	316	CYS
1	Z	331	THR
1	Z	339	ARG
1	Z	345	LEU

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Mol	Chain	Res	Type
1	Z	355	SER
1	Z	360	LEU
1	Z	369	SER
1	Z	382	THR
1	Z	391	THR
1	Z	407	GLN
1	Z	423	THR
1	Z	439	THR
1	Z	442	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (114) such sidechains are listed below:

Mol	Chain	Res	Type
1	1	103	ASN
1	1	334	HIS
1	1	357	GLN
1	1	394	GLN
1	2	103	ASN
1	2	250	ASN
1	2	394	GLN
2	l	38	GLN
2	l	42	ASN
3	n	84	GLN
4	o	53	GLN
5	E	644	HIS
5	E	691	GLN
5	E	725	HIS
3	F	302	ASN
3	F	387	HIS
3	F	500	GLN
3	F	550	ASN
3	F	594	GLN
3	F	643	HIS
3	F	719	GLN
3	F	786	GLN
3	F	789	GLN
5	G	166	ASN
5	G	173	HIS
5	G	289	ASN
5	G	444	GLN
5	G	493	ASN
5	G	691	GLN

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Mol	Chain	Res	Type
5	G	760	ASN
5	G	763	GLN
3	H	330	GLN
3	H	479	GLN
3	H	500	GLN
3	H	558	HIS
3	H	576	HIS
3	H	716	HIS
3	H	736	ASN
3	H	751	HIS
3	H	883	ASN
6	I	121	HIS
6	I	130	GLN
6	I	303	GLN
6	I	409	ASN
6	I	529	GLN
6	I	533	GLN
6	I	543	GLN
6	I	581	HIS
2	J	642	HIS
2	J	698	GLN
2	J	830	GLN
2	J	892	HIS
2	J	895	ASN
2	J	930	HIS
2	J	938	HIS
2	J	989	ASN
6	K	29	GLN
6	K	370	GLN
6	K	377	GLN
6	K	393	ASN
6	K	520	HIS
7	L	416	GLN
7	L	1666	GLN
7	L	1770	ASN
5	M	151	GLN
5	M	172	GLN
5	M	173	HIS
5	M	213	GLN
5	M	251	ASN
5	M	316	GLN
5	M	373	GLN

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Mol	Chain	Res	Type
5	M	437	GLN
5	M	530	HIS
5	M	639	GLN
5	M	674	GLN
5	M	712	ASN
3	N	389	GLN
3	N	461	HIS
3	N	479	GLN
3	N	491	ASN
3	N	494	HIS
3	N	643	HIS
3	N	716	HIS
3	N	736	ASN
3	N	740	GLN
4	k	53	GLN
3	j	84	GLN
1	S	103	ASN
1	S	251	ASN
1	S	394	GLN
1	T	103	ASN
1	T	158	ASN
1	T	250	ASN
1	T	251	ASN
1	T	334	HIS
1	T	338	GLN
1	T	394	GLN
1	U	103	ASN
1	U	334	HIS
1	U	394	GLN
1	V	103	ASN
1	V	394	GLN
1	W	103	ASN
1	W	334	HIS
1	W	394	GLN
1	X	103	ASN
1	X	334	HIS
1	X	394	GLN
1	Y	103	ASN
1	Y	394	GLN
1	Z	103	ASN
1	Z	250	ASN
1	Z	334	HIS

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Mol	Chain	Res	Type
1	Z	394	GLN

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

There are no chain breaks in this entry.

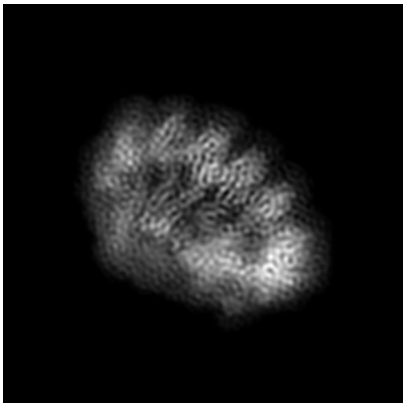
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-14009. These allow visual inspection of the internal detail of the map and identification of artifacts.

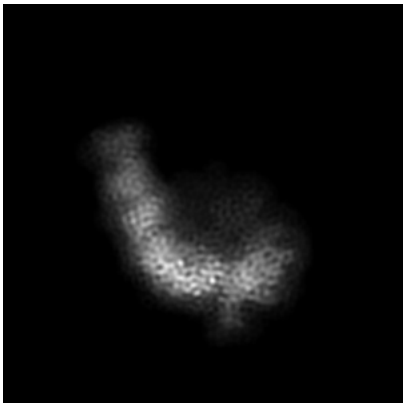
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

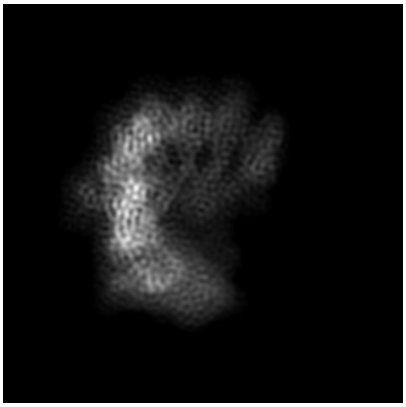
6.1.1 Primary map



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

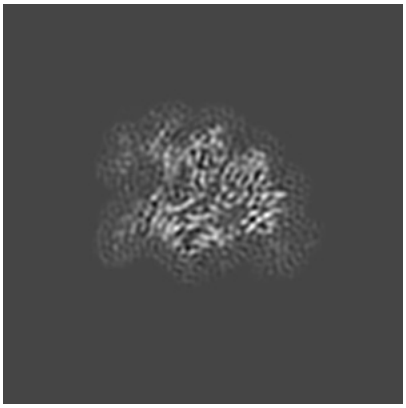
Y Index: 100

Z Index: 100

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

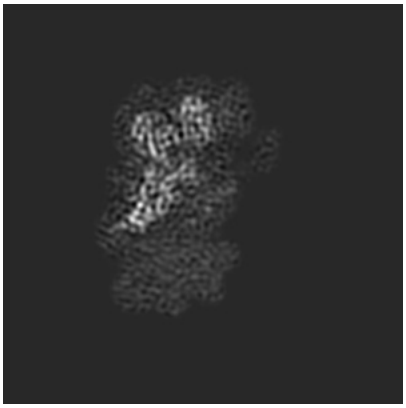
6.3 Largest variance slices (i)

6.3.1 Primary map



X Index: 62

Y Index: 98

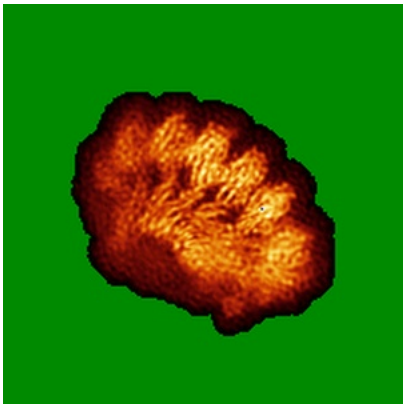


Z Index: 74

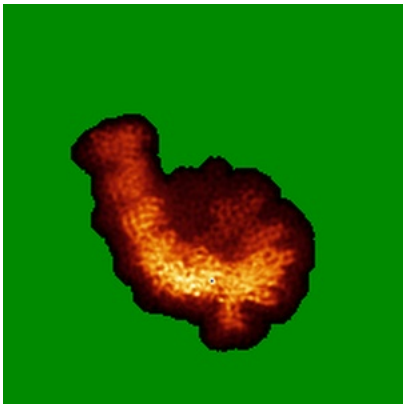
The images above show the largest variance slices of the map in three orthogonal directions.

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

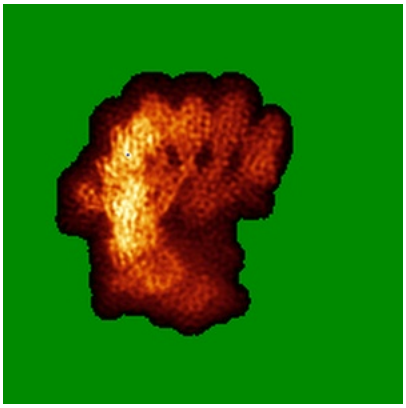
6.4.1 Primary map



X



Y

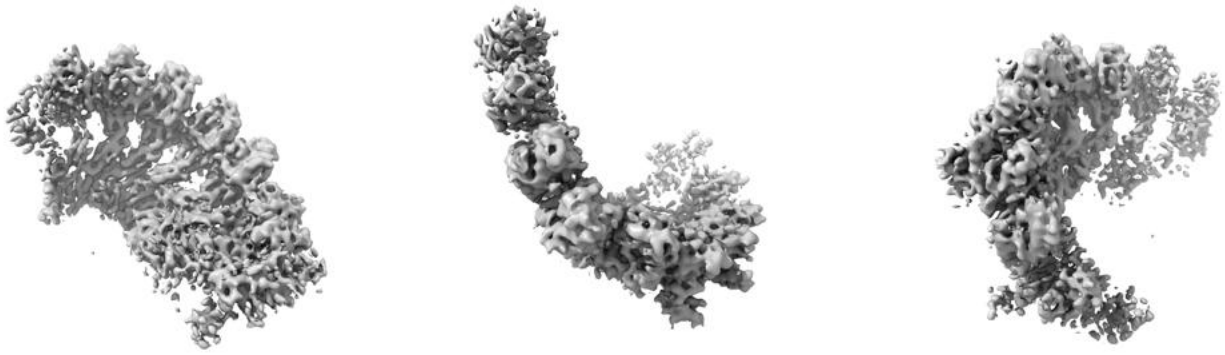


Z

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 0.0514. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

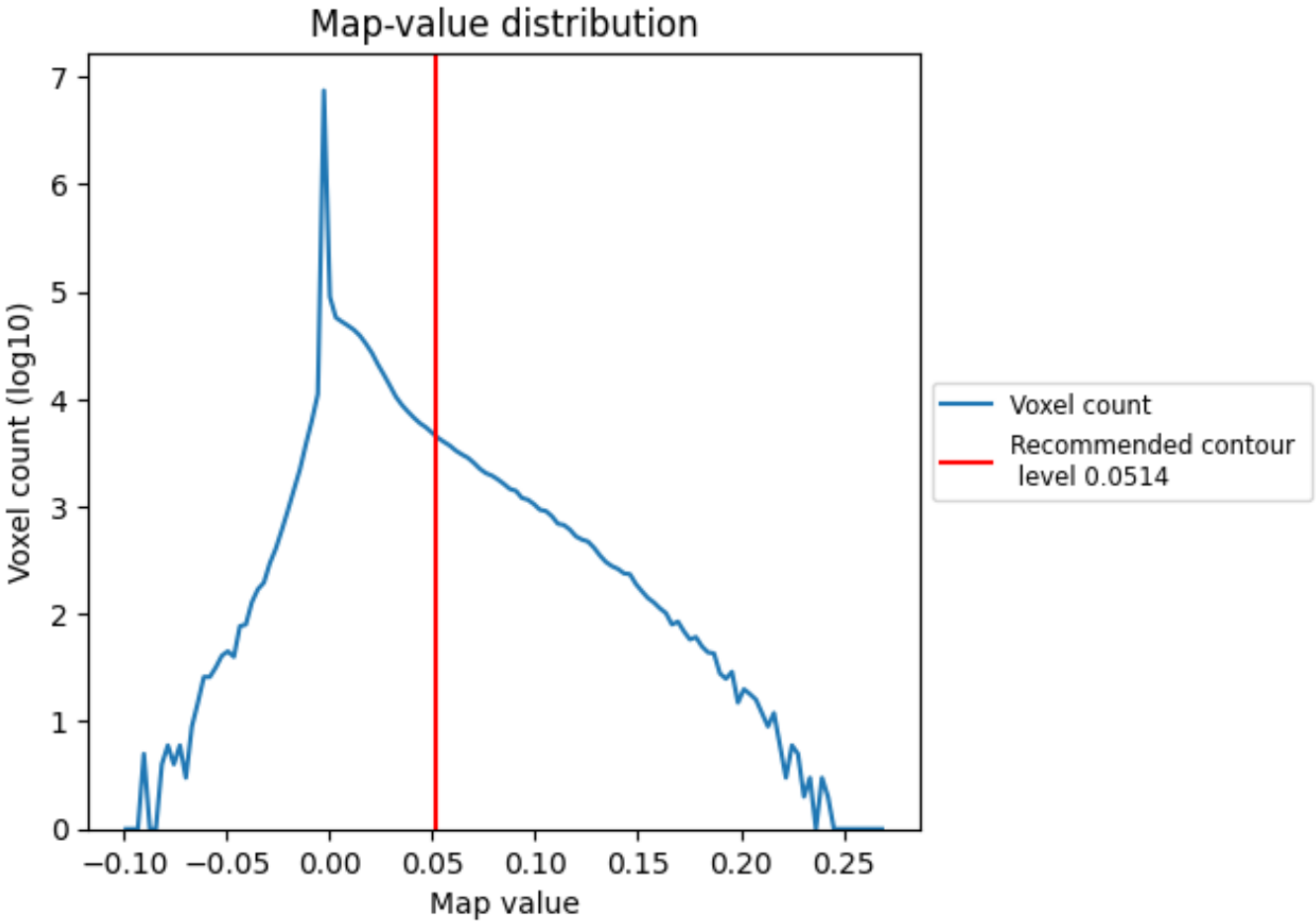
6.6 Mask visualisation (i)

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

7 Map analysis

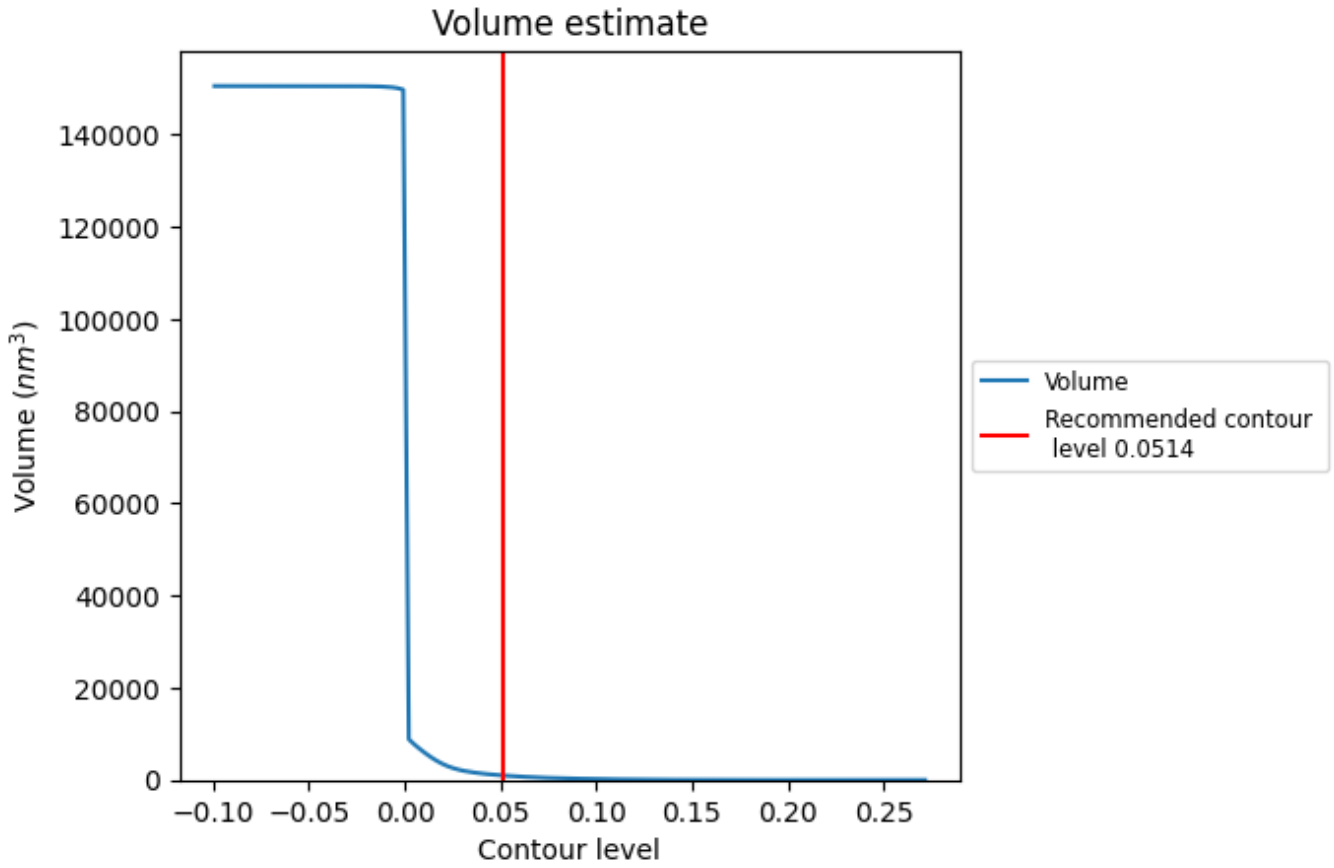
This section contains the results of statistical analysis of the map.

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.

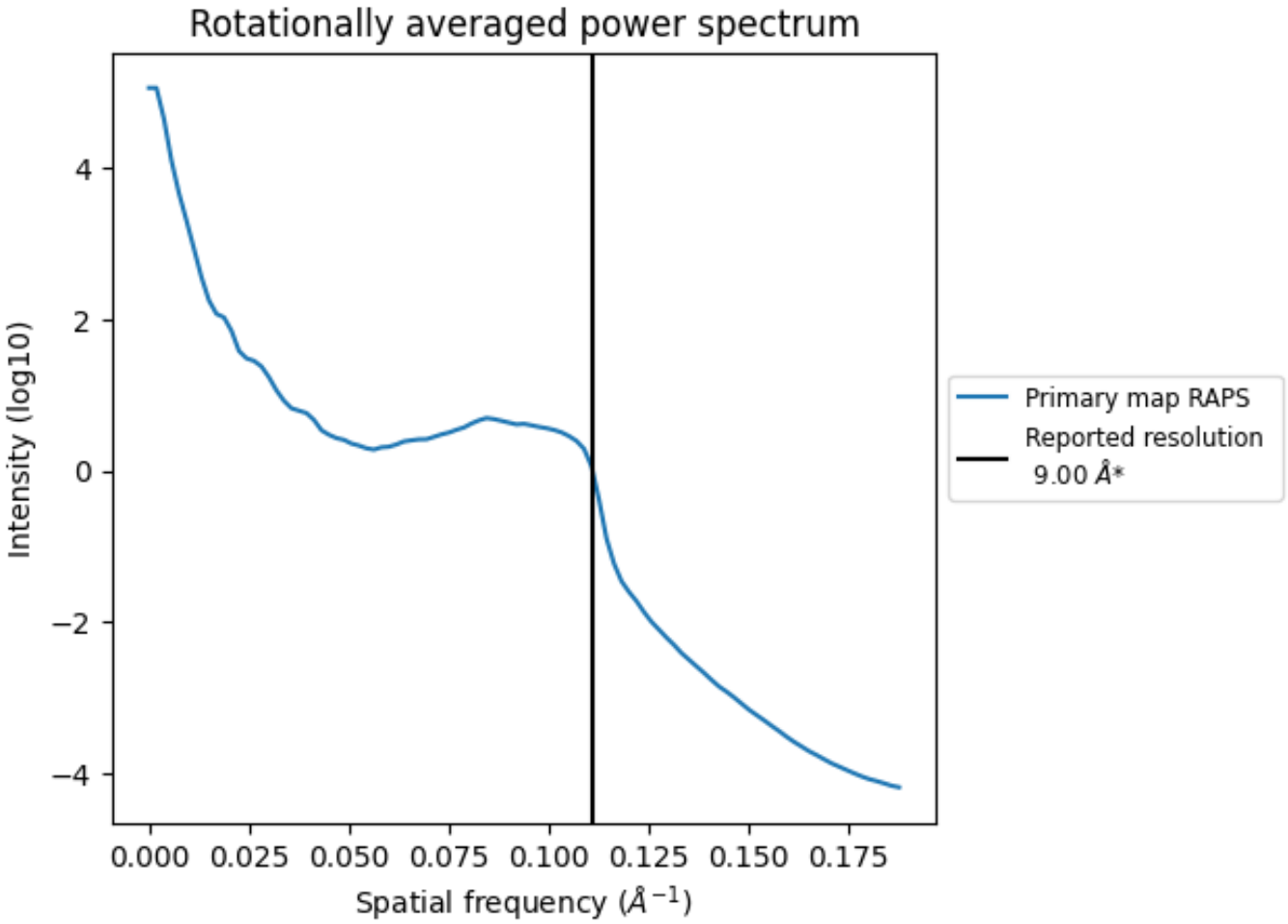
7.2 Volume estimate



The volume at the recommended contour level is 970 nm^3; this corresponds to an approximate mass of 876 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 0.111 Å^{-1}

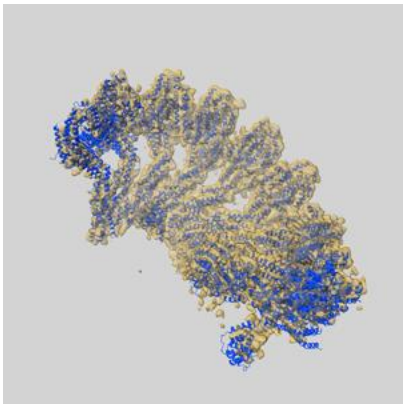
8 Fourier-Shell correlation

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

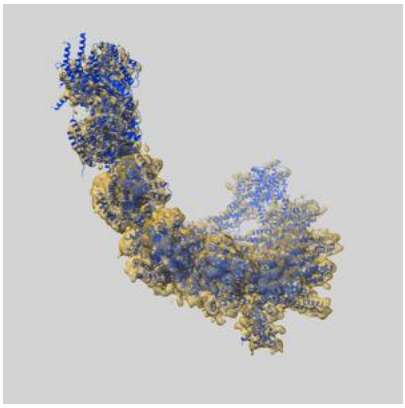
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-14009 and PDB model 7QJ4. Per-residue inclusion information can be found in section 3 on page 7.

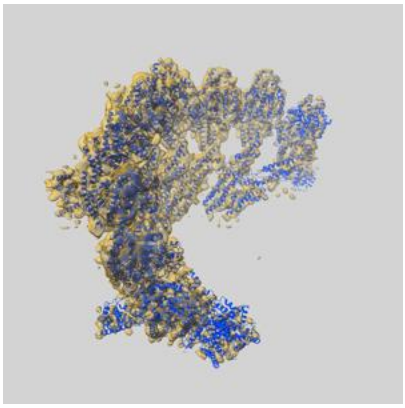
9.1 Map-model overlay



X



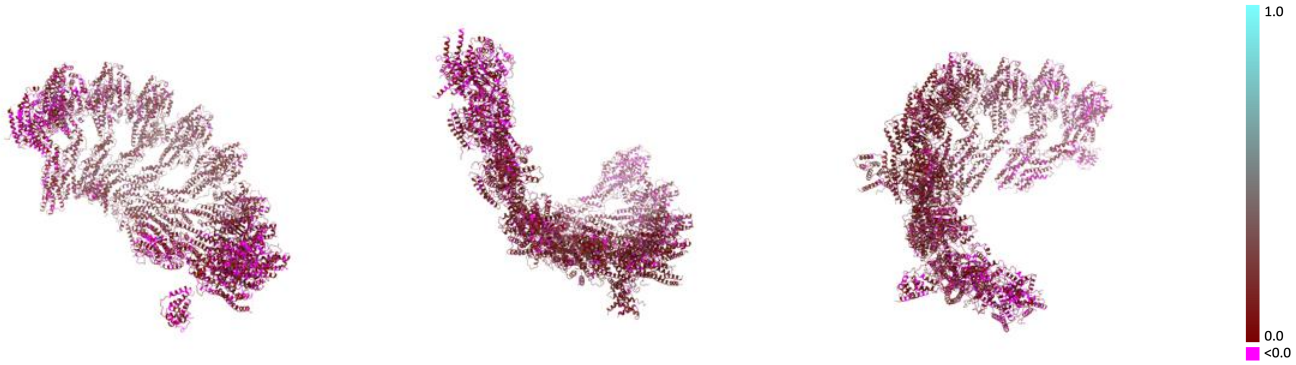
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0514 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

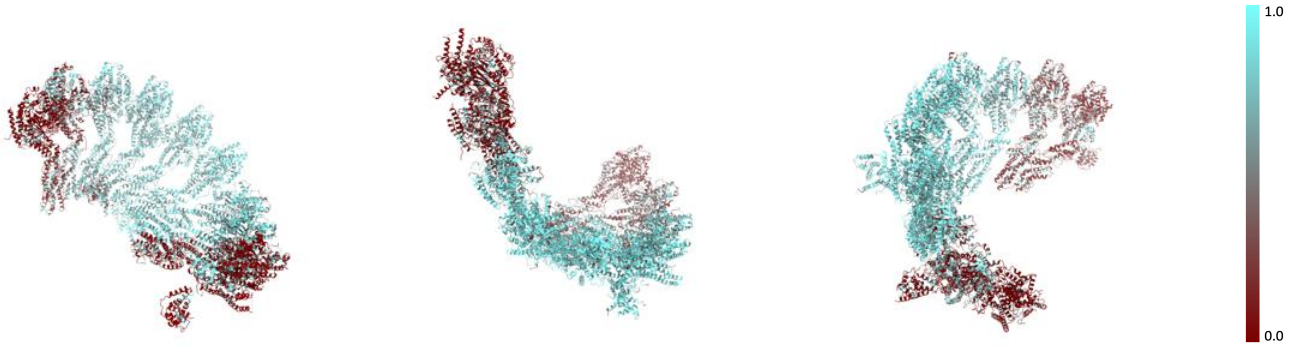
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

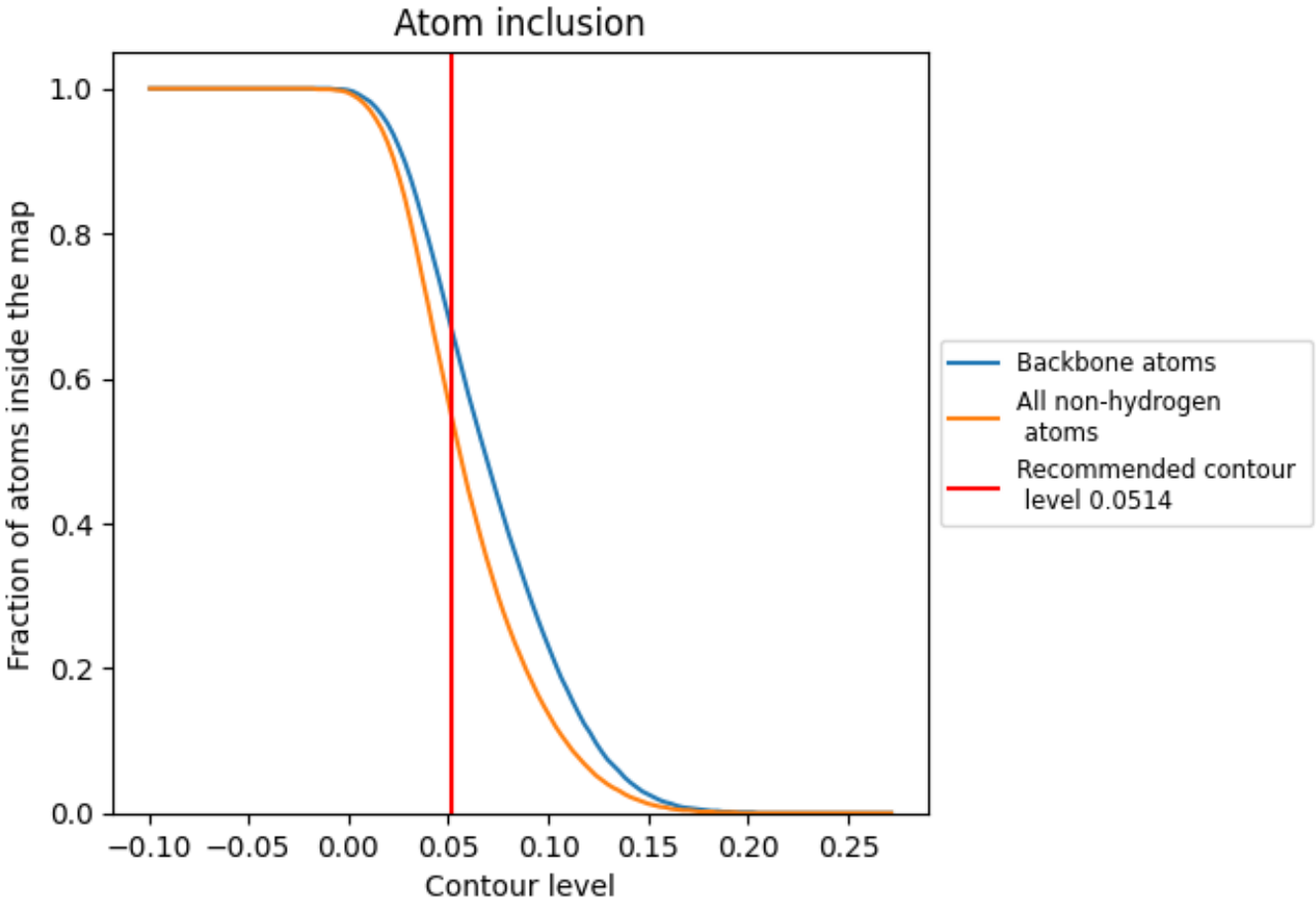
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0514).

9.4 Atom inclusion (i)



At the recommended contour level, 67% of all backbone atoms, 55% 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 (0.0514) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5510	0.1090
1	0.2640	0.0620
2	0.1360	0.0390
E	0.1810	0.0680
F	0.4140	0.1160
G	0.7340	0.1390
H	0.7970	0.1480
I	0.7980	0.1570
J	0.8170	0.1580
K	0.7930	0.1380
L	0.7720	0.1310
M	0.2980	0.0810
N	0.2730	0.0760
S	0.0880	0.0420
T	0.3620	0.0720
U	0.6790	0.1040
V	0.7740	0.1270
W	0.7930	0.1320
X	0.8320	0.1400
Y	0.7740	0.1070
Z	0.6950	0.1160
a	0.3940	0.1220
b	0.3970	0.1150
j	0.2400	0.1020
k	0.1680	0.0770
l	0.7840	0.1480
m	0.7650	0.1600
n	0.1470	0.0420
o	0.1850	0.0310