



## Full wwPDB EM Validation Report ⓘ

Jan 29, 2022 – 06:22 am GMT

PDB ID : 7QJC  
EMDB ID : EMD-14017  
Title : Structure of recombinant human gamma-Tubulin Ring Complex (spokes 1-14, homogeneous dataset)  
Authors : Zupa, E.; Pfeffer, S.  
Deposited on : 2021-12-16  
Resolution : 16.10 Å (reported)  
Based on initial models : 6L81, 6X0U, 6V6S, 7AS4

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

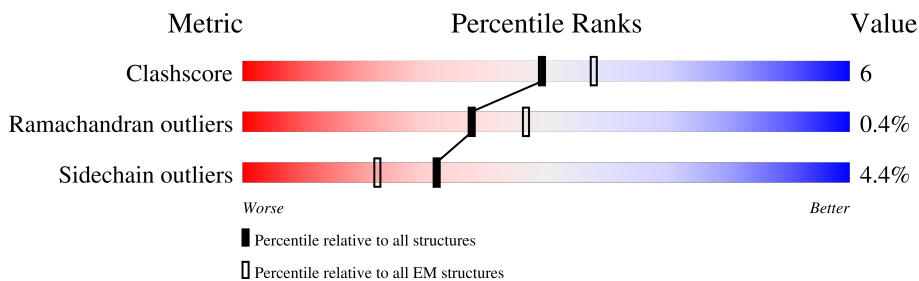
EMDB validation analysis : 0.0.0.dev97  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.26

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

Mol	Chain	Length	Quality of chain
1	e	375	
2	A	902	
2	C	902	
2	E	902	
2	G	902	
2	M	902	
3	B	907	
3	D	907	




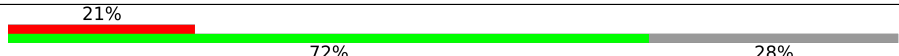
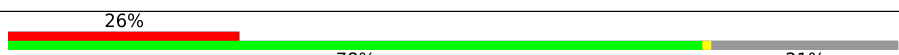

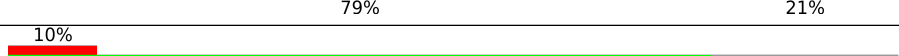

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Mol	Chain	Length	Quality of chain
3	F	907	48% 16% 34%
3	H	907	47% 16% 35%
3	N	907	47% 16% 35%
3	a	907	13% 87%
3	f	907	11% 89%
3	h	907	11% 89%
3	j	907	11% 88%
4	I	667	61% 14% 22%
4	K	667	64% 17% 16%
5	J	1024	43% 9% 48%
5	l	1024	10% 89%
6	L	1819	27% 69%
6	c	1819	8% 91%
7	1	451	83% 10% 7%
7	2	451	7% 81% 12% 7%
7	O	451	6% 77% 16% 7%
7	P	451	9% 80% 13% 7%
7	Q	451	11% 79% 14% 7%
7	R	451	12% 78% 14% 7%
7	S	451	5% 78% 15% 7%
7	T	451	85% 8% 7%
7	U	451	82% 11% 7%
7	V	451	84% 9% 7%
7	W	451	79% 14% 7%
7	X	451	79% 14% 7%

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Mol	Chain	Length	Quality of chain
7	Y	451	 78% 15% 7%
7	Z	451	 77% 16% 7%
8	b	82	 16% 79% 21%
8	d	82	 21% 72% 28%
8	g	82	 26% 78% 21%
8	i	82	 12% 79% 21%
8	k	82	 10% 79% 21%
8	m	82	 11% 78% 21%

## 2 Entry composition [i](#)

There are 8 unique types of molecules in this entry. The entry contains 125323 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 actin, cytoplasmic 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	e	364	Total	C	N	O	S	0	0
			1818	1083	364	370	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	A	613	Total	C	N	O	S	0	0
			4978	3212	831	903	32		
2	C	620	Total	C	N	O	S	0	0
			5044	3257	845	910	32		
2	E	638	Total	C	N	O	S	0	0
			5202	3354	873	942	33		
2	G	640	Total	C	N	O	S	0	0
			5217	3359	878	947	33		
2	M	636	Total	C	N	O	S	0	0
			5186	3342	871	940	33		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	B	610	Total	C	N	O	S	0	0
			5021	3198	888	910	25		
3	D	581	Total	C	N	O	S	0	0
			4796	3061	842	868	25		
3	F	599	Total	C	N	O	S	0	0
			4933	3146	871	891	25		
3	H	594	Total	C	N	O	S	0	0
			4899	3125	864	885	25		
3	a	116	Total	C	N	O	S	0	0
			933	591	171	169	2		
3	f	99	Total	C	N	O	S	0	0
			803	509	148	144	2		
3	h	99	Total	C	N	O	S	0	0
			803	509	148	144	2		

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Mol	Chain	Residues	Atoms					AltConf	Trace
3	j	107	Total	C	N	O	S	0	0
			864	545	161	156	2		
3	N	594	Total	C	N	O	S	0	0
			4899	3125	864	885	25		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
4	I	521	Total	C	N	O	S	0	0
			4222	2734	720	750	18		
4	K	562	Total	C	N	O	S	0	0
			4579	2964	781	816	18		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
5	J	534	Total	C	N	O	S	0	0
			4406	2879	733	771	23		
5	l	108	Total	C	N	O	S	0	0
			876	556	151	168	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
6	L	566	Total	C	N	O	S	0	0
			4556	2977	767	788	24		
6	c	158	Total	C	N	O	S	0	0
			1220	771	209	232	8		

- Molecule 7 is a protein called Tubulin gamma-1 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	O	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		
7	P	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		
7	Q	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		
7	R	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		
7	S	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		

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Mol	Chain	Residues	Atoms					AltConf	Trace
7	T	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		
7	U	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		
7	V	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		
7	W	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		
7	X	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		
7	Y	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		
7	Z	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		
7	1	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		
7	2	420	Total	C	N	O	S	0	0
			3371	2133	586	637	15		

- Molecule 8 is a protein called Mitotic-spindle organizing protein 1.

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

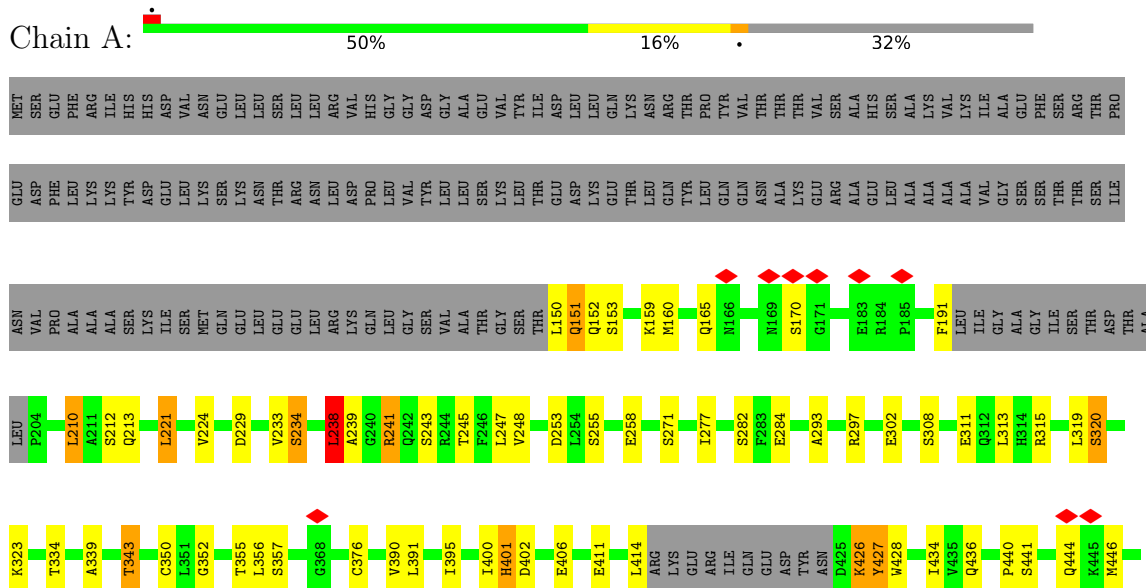
### 3 Residue-property plots

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.

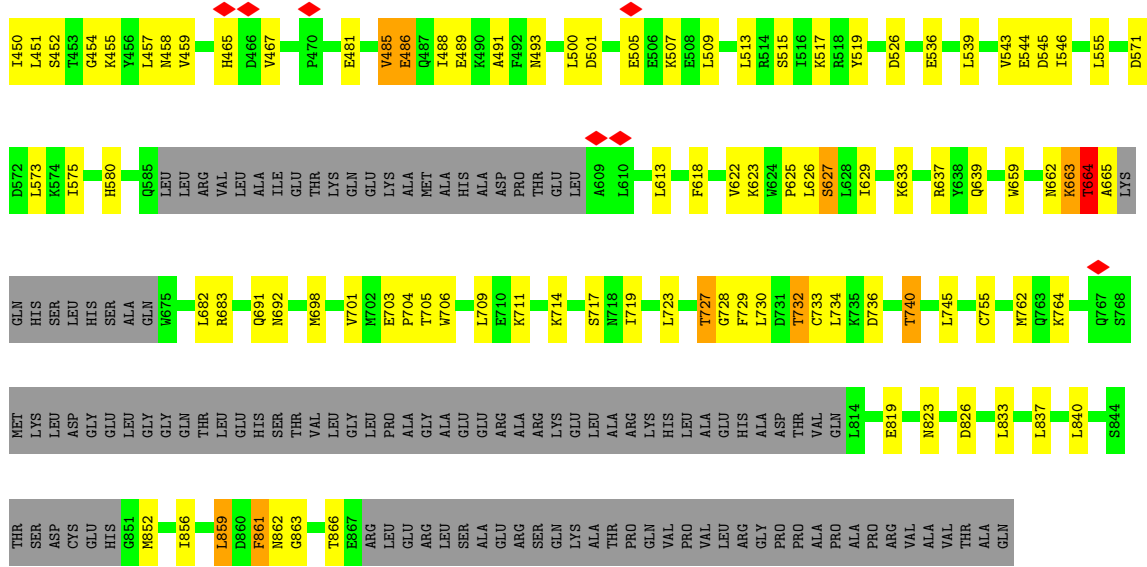
- Molecule 1: actin, cytoplasmic 1



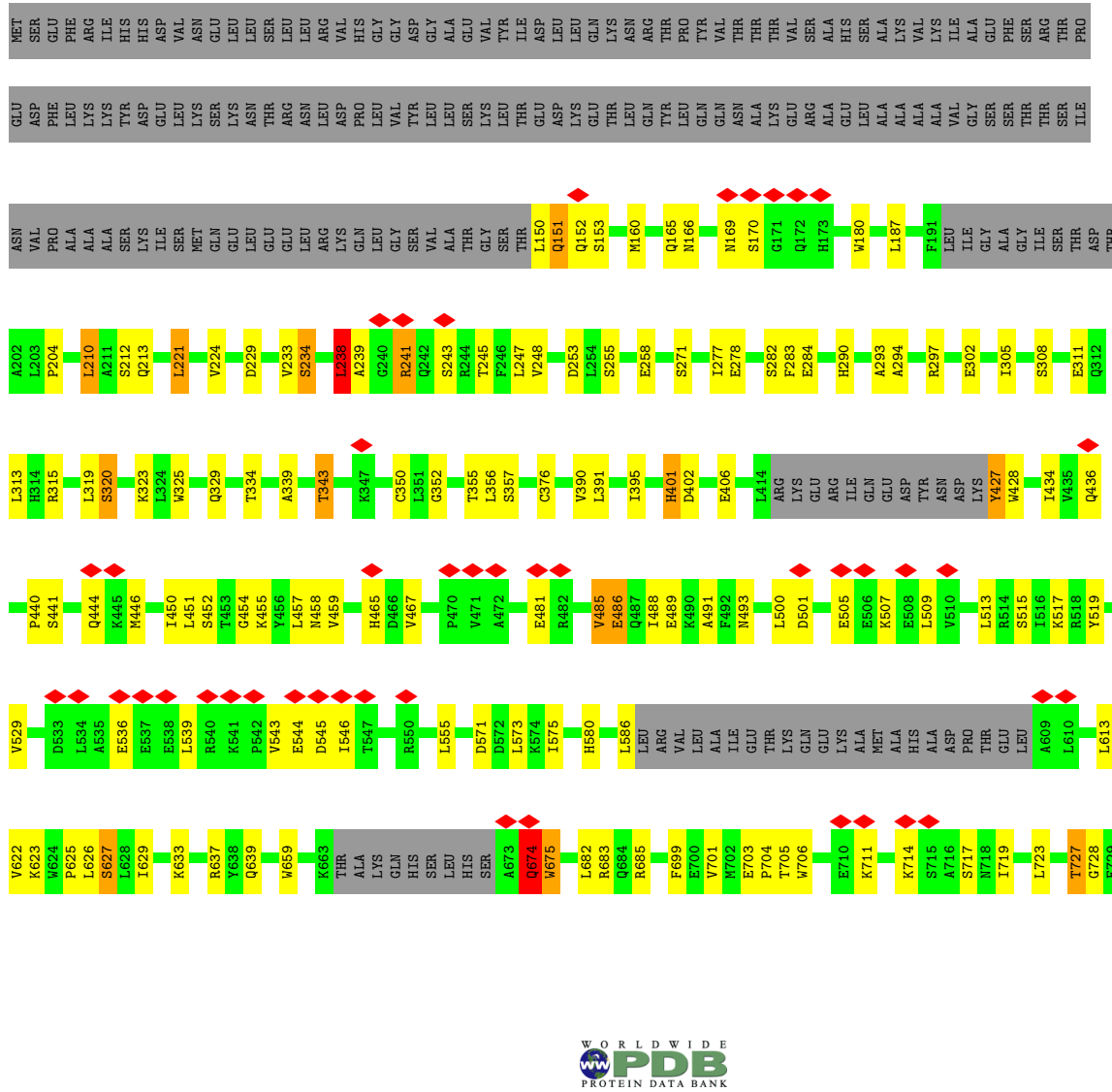
- Molecule 2: Gamma-tubulin complex component 2





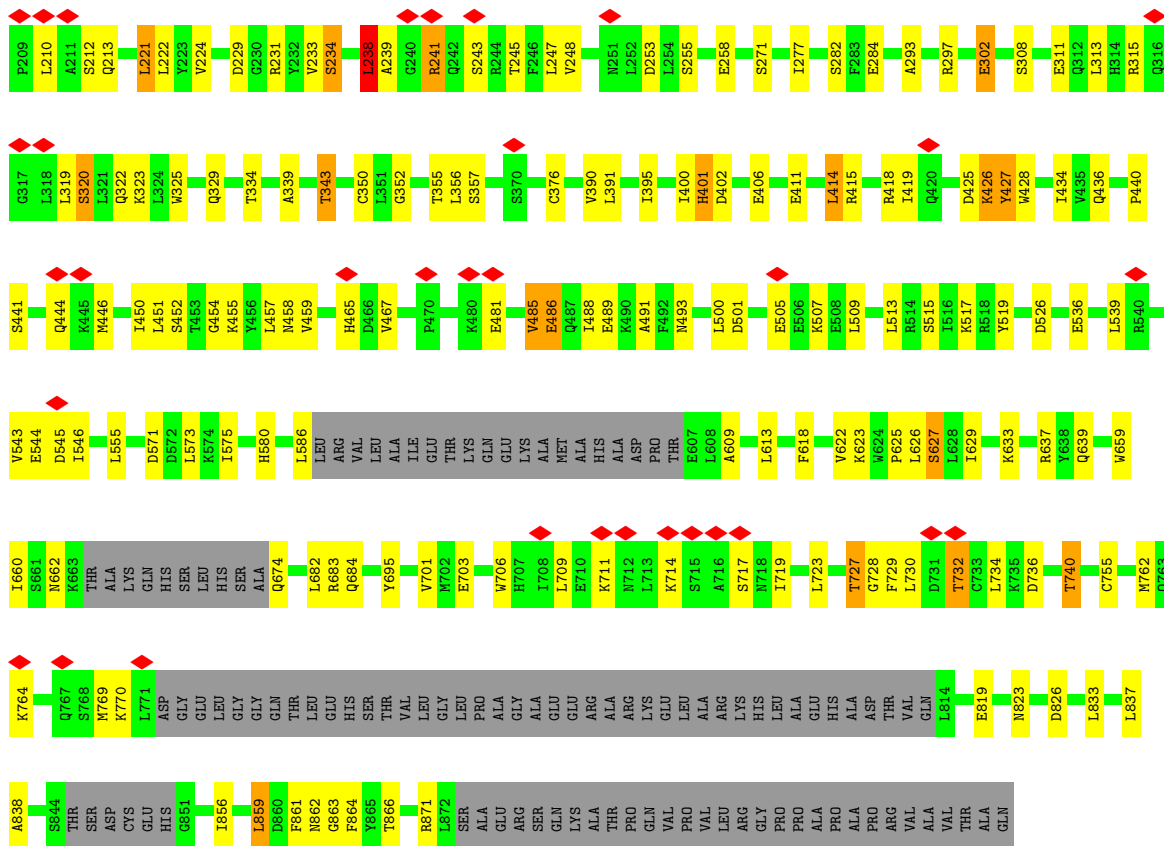


• Molecule 2: Gamma-tubulin complex component 2

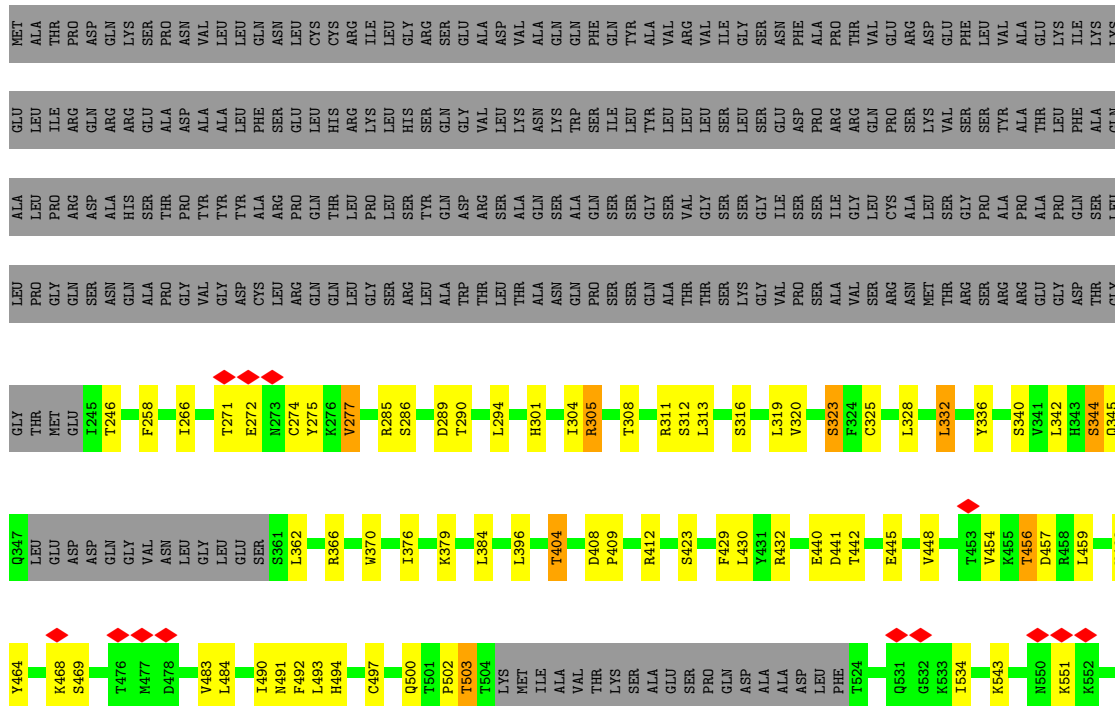


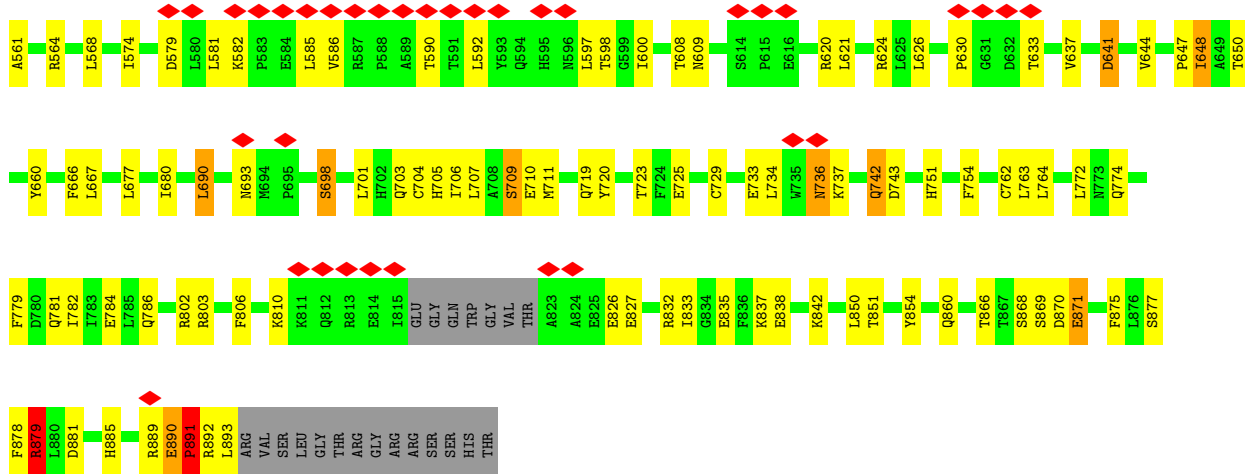




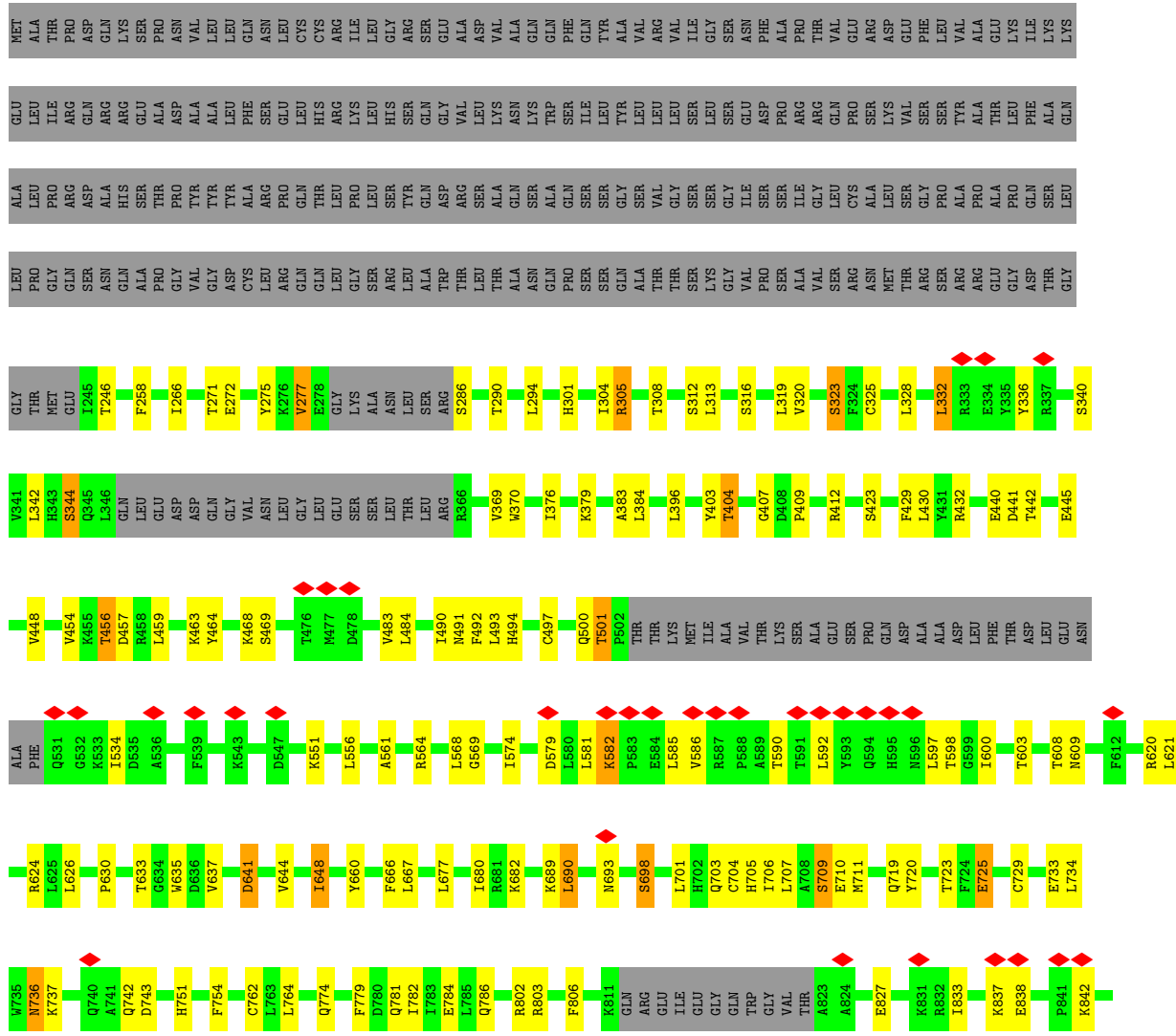


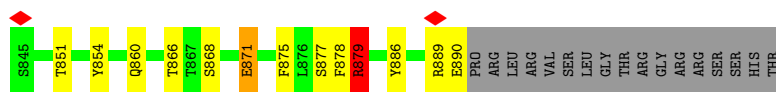
• Molecule 3: Gamma-tubulin complex component 3





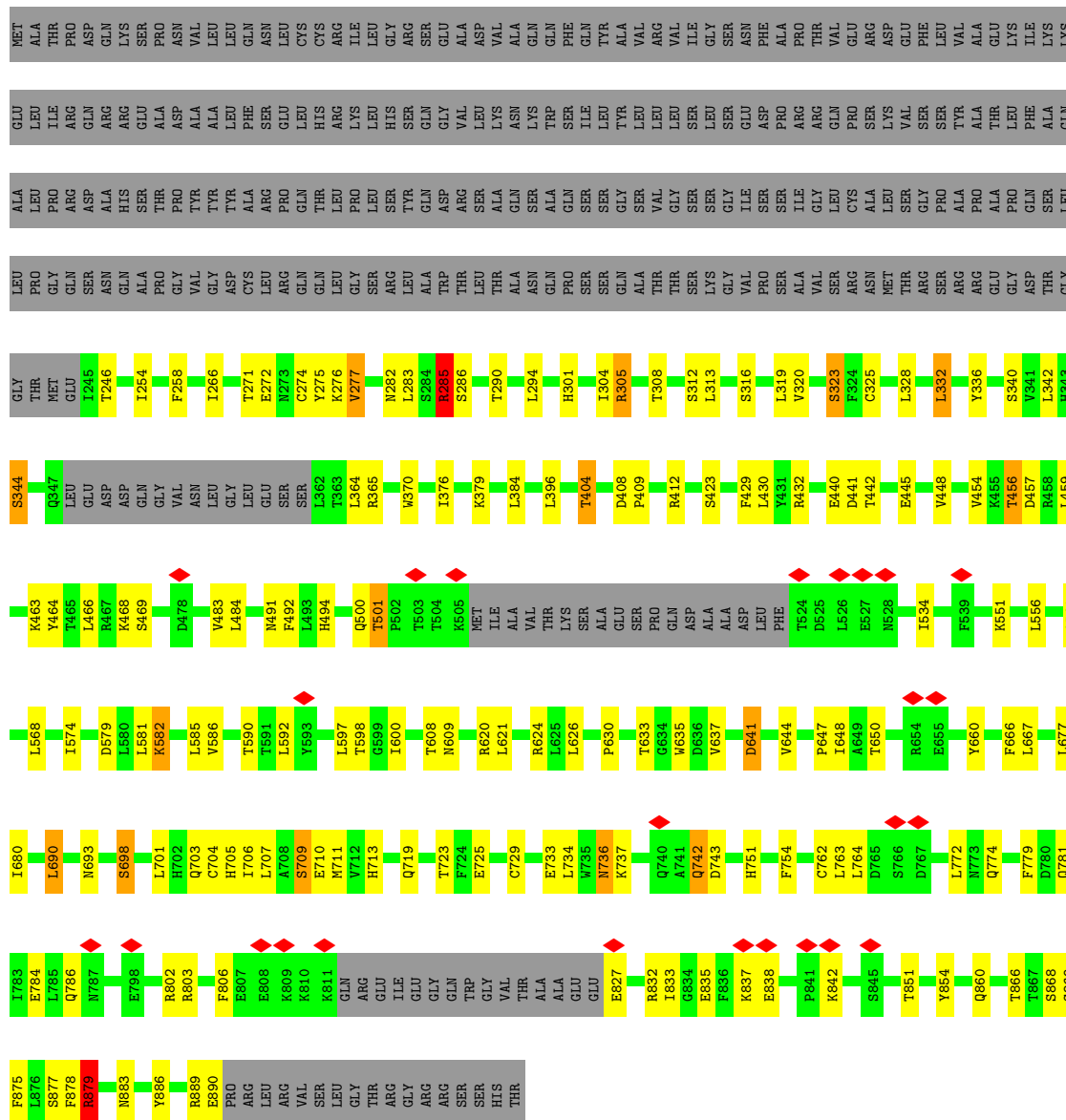
● Molecule 3: Gamma-tubulin complex component 3





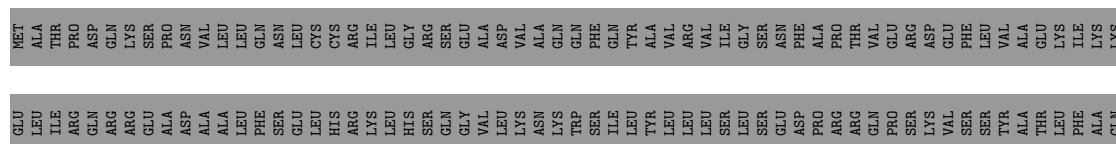
• Molecule 3: Gamma-tubulin complex component 3

Chain F: 48% 16% 34%



• Molecule 3: Gamma-tubulin complex component 3

Chain H: 47% 16% 35%



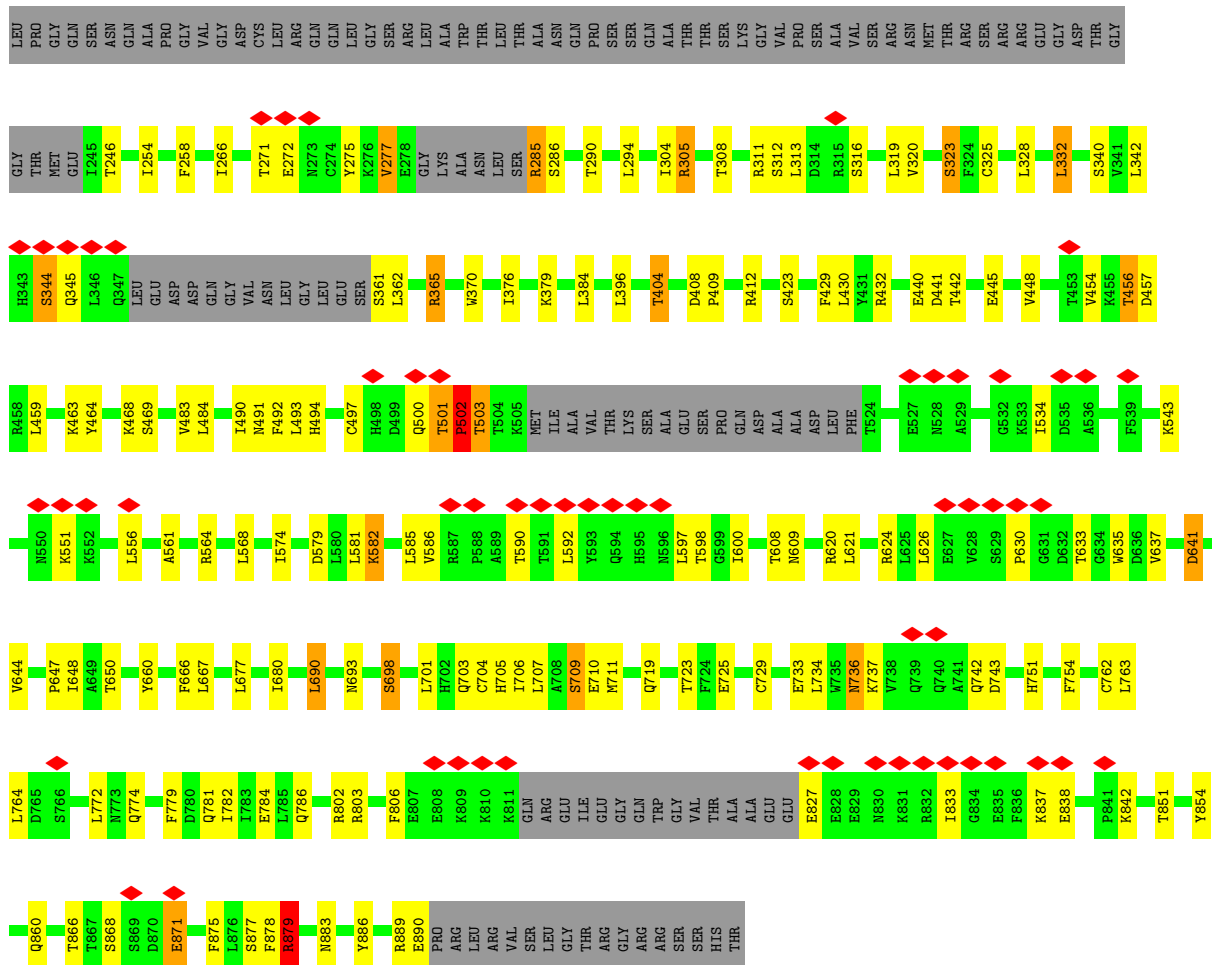




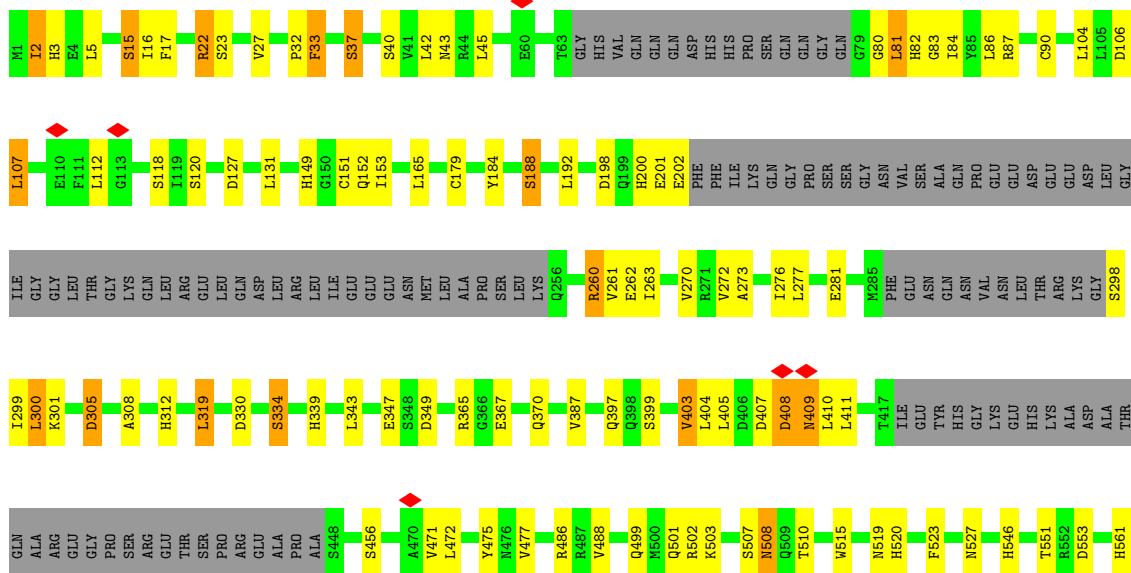


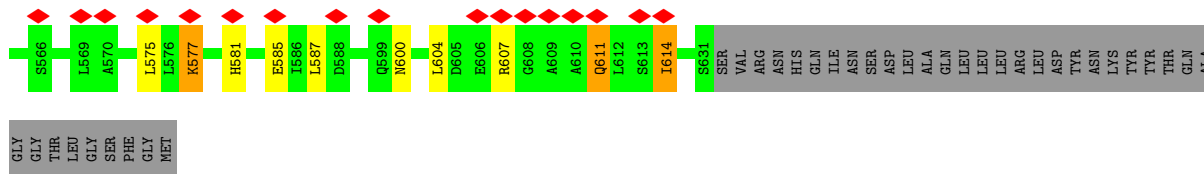






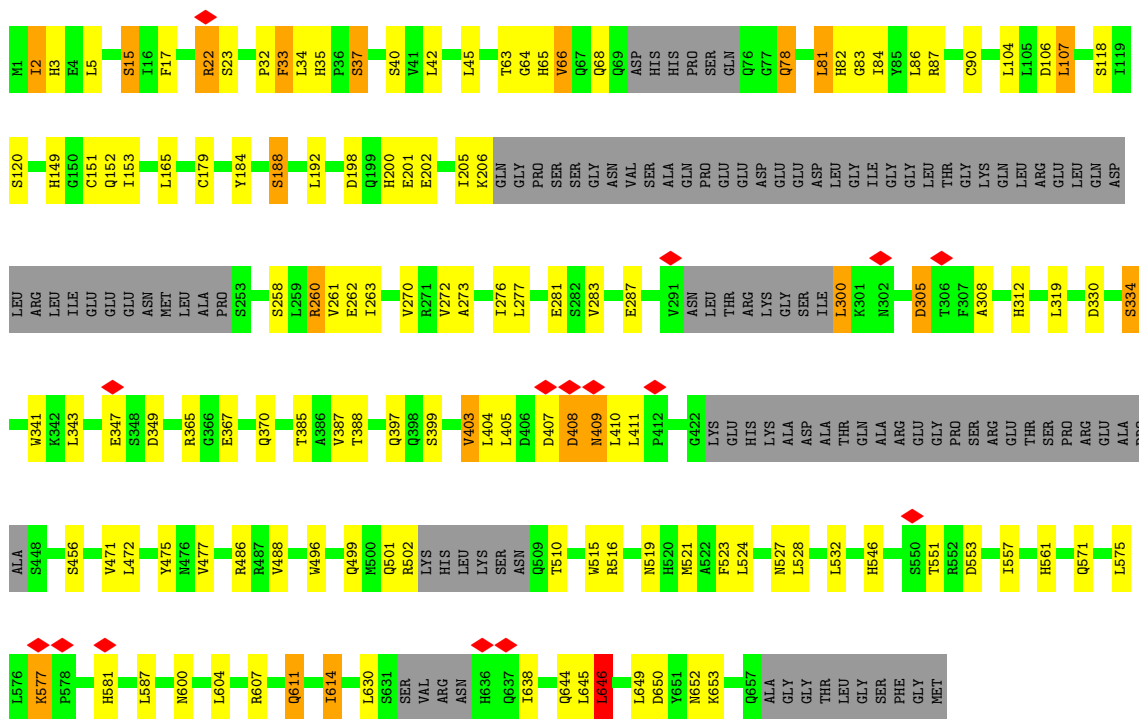
• Molecule 4: Gamma-tubulin complex component 4





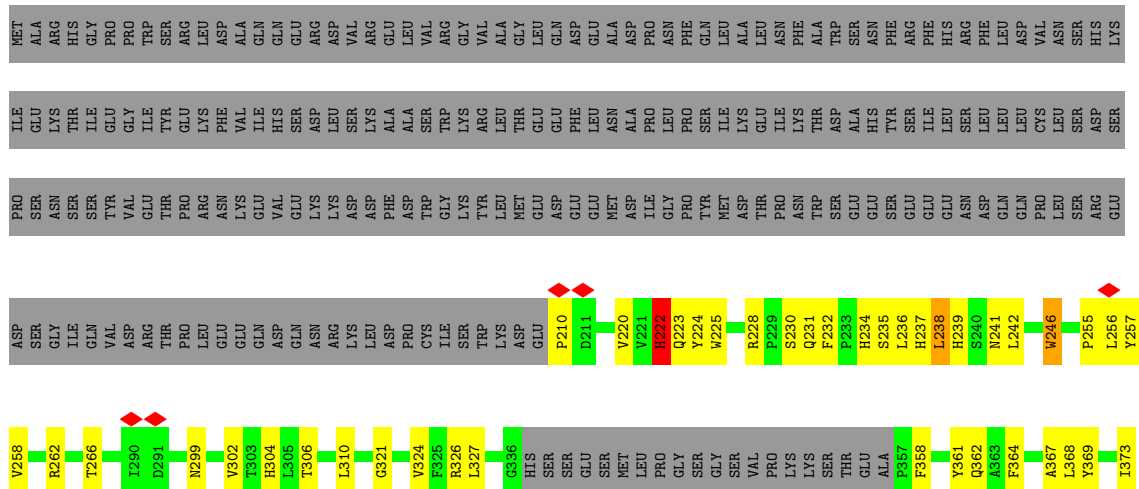
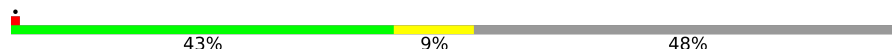
• Molecule 4: Gamma-tubulin complex component 4

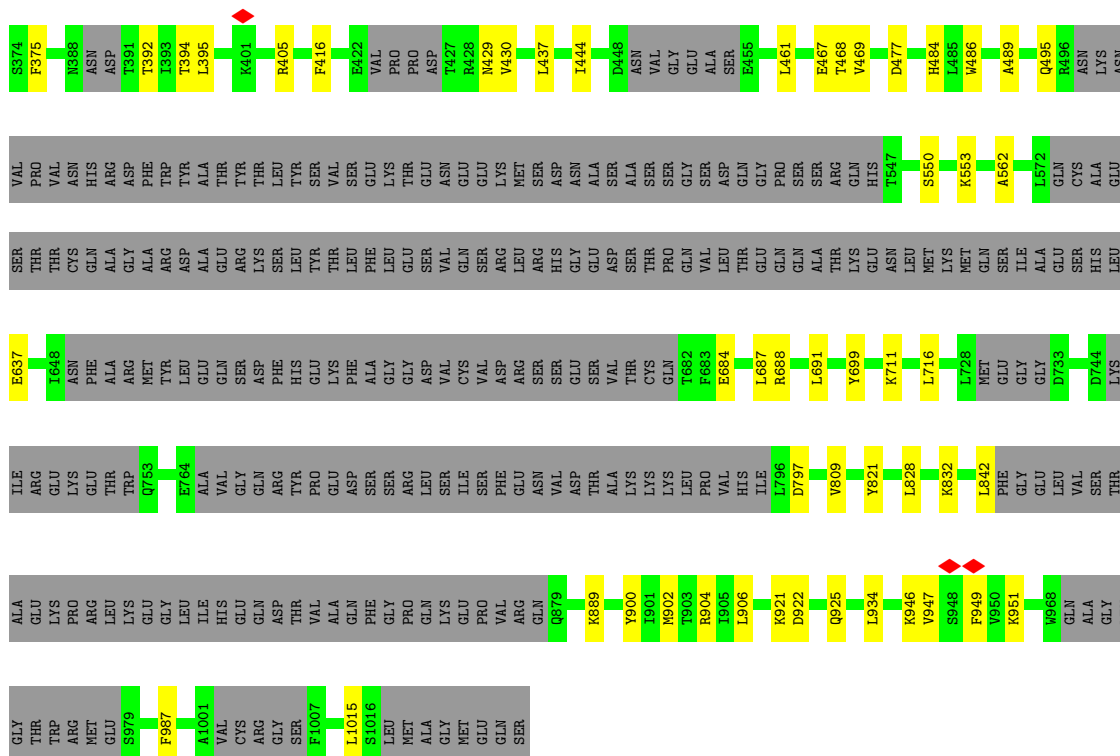
Chain K:



• Molecule 5: Gamma-tubulin complex component 5

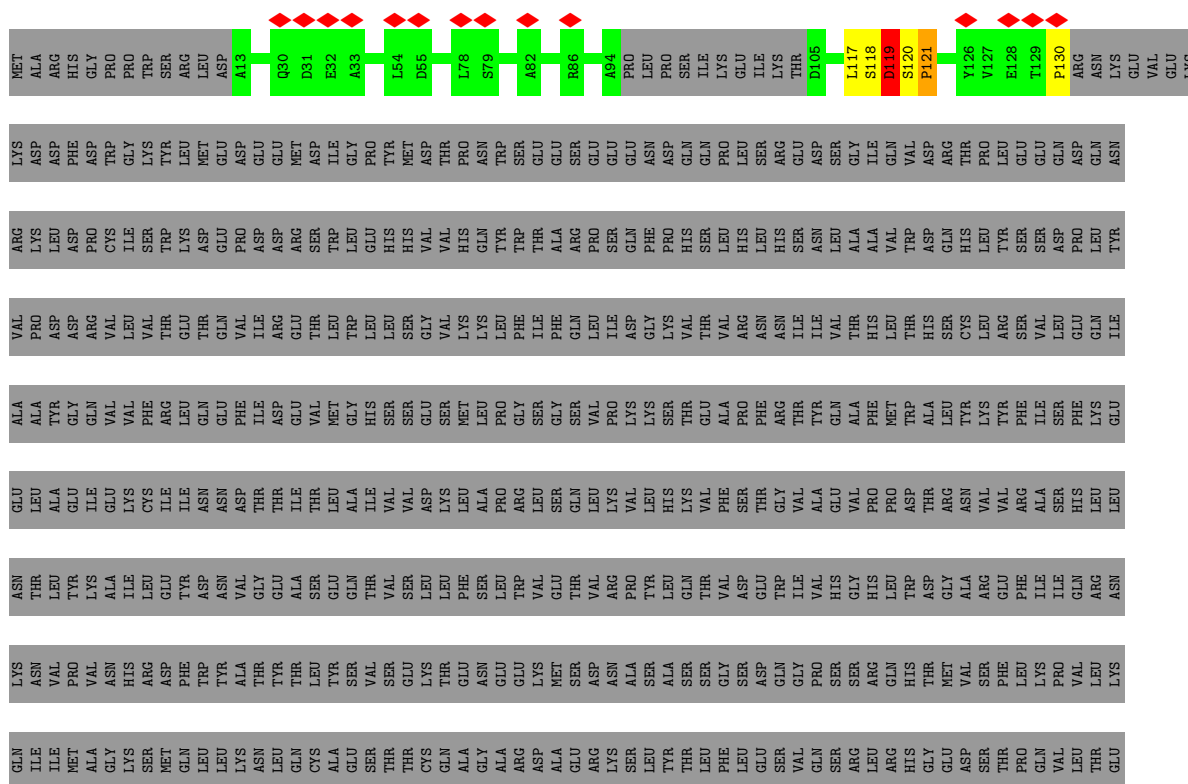
Chain J:





● Molecule 5: Gamma-tubulin complex component 5

Chain 1: 10% 89%



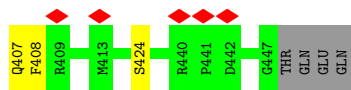




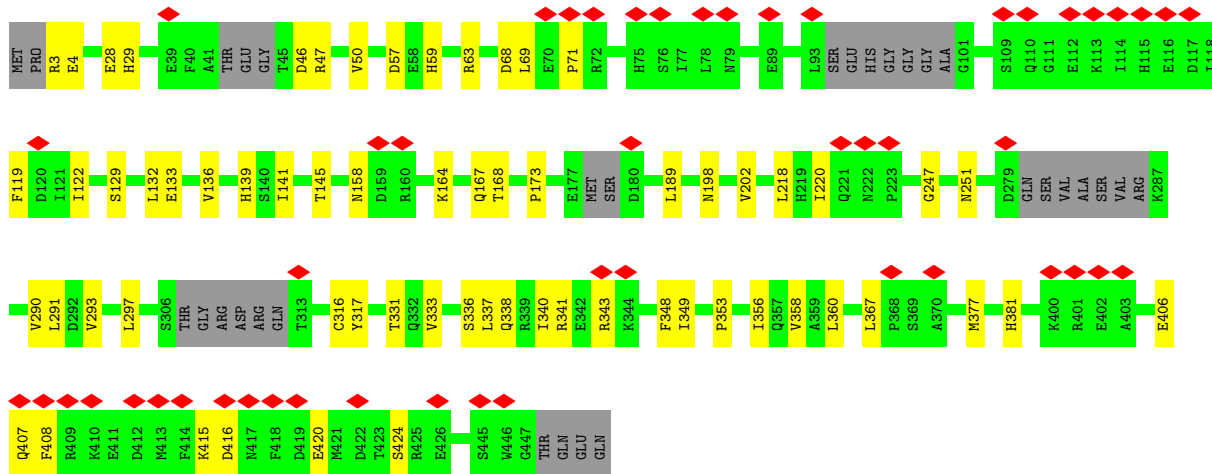
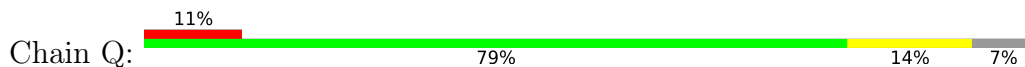




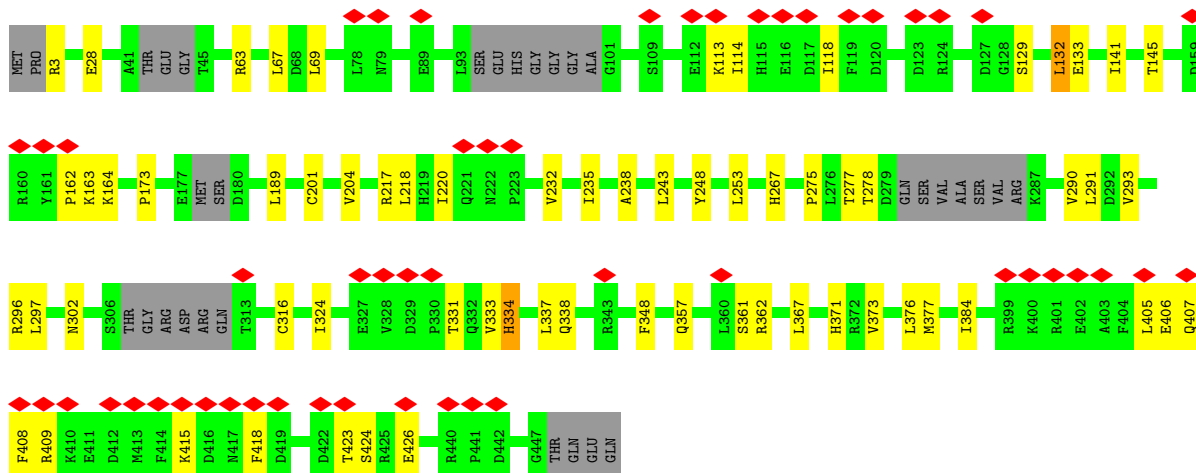
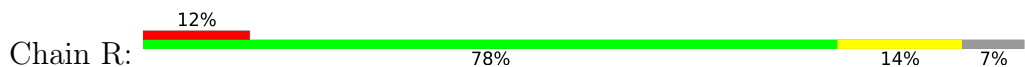




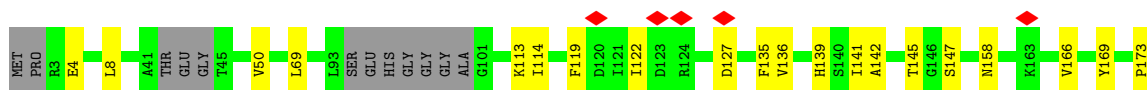
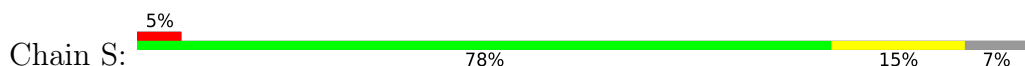
• Molecule 7: Tubulin gamma-1 chain

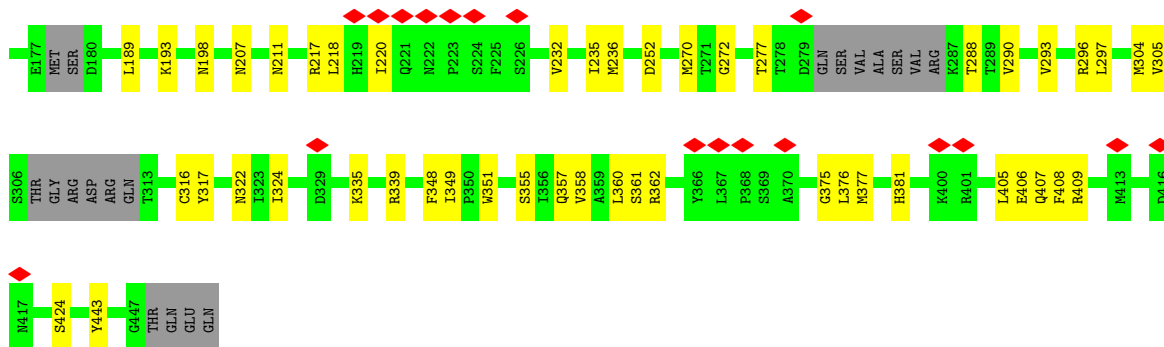


• Molecule 7: Tubulin gamma-1 chain

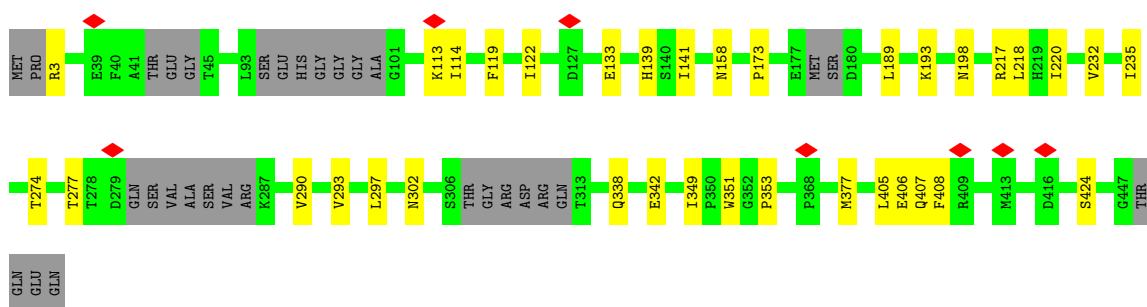
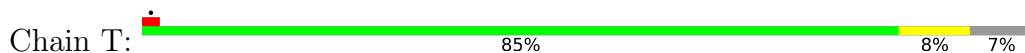


• Molecule 7: Tubulin gamma-1 chain

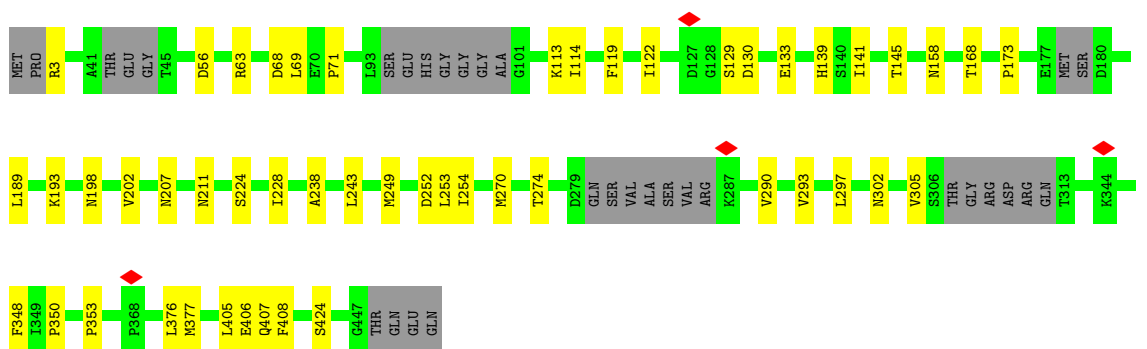
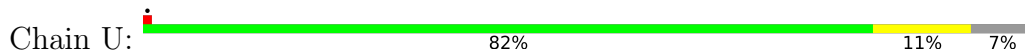




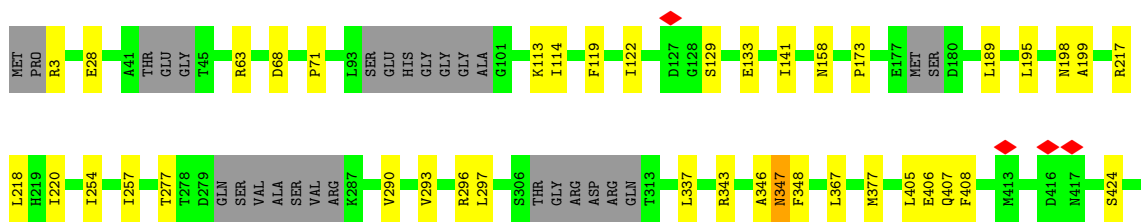
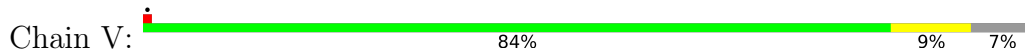
• Molecule 7: Tubulin gamma-1 chain



• Molecule 7: Tubulin gamma-1 chain



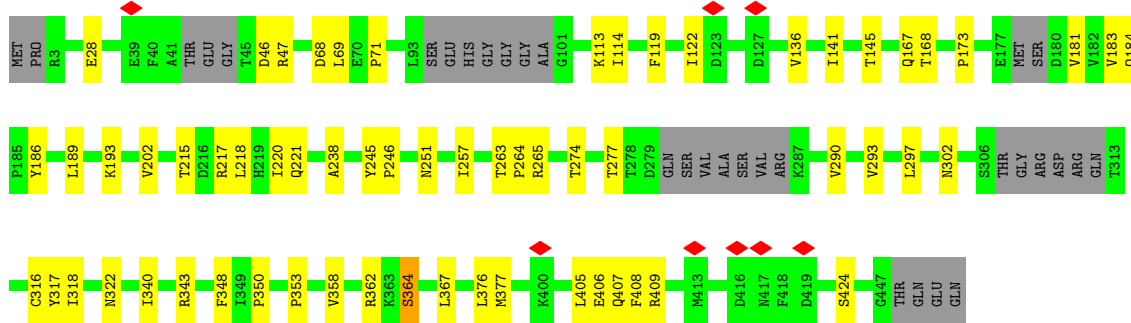
• Molecule 7: Tubulin gamma-1 chain



G447  
THR  
GLN  
GLU  
GLN

• Molecule 7: Tubulin gamma-1 chain

Chain W: 79% 14% 7%



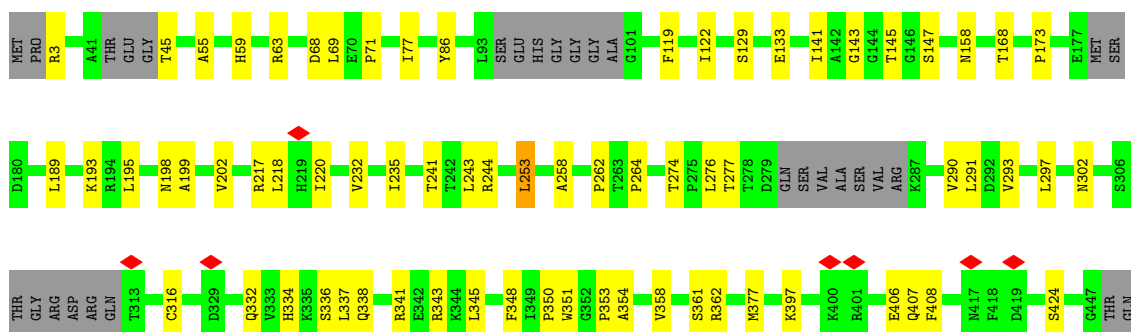
• Molecule 7: Tubulin gamma-1 chain

Chain X: 79% 14% 7%



• Molecule 7: Tubulin gamma-1 chain

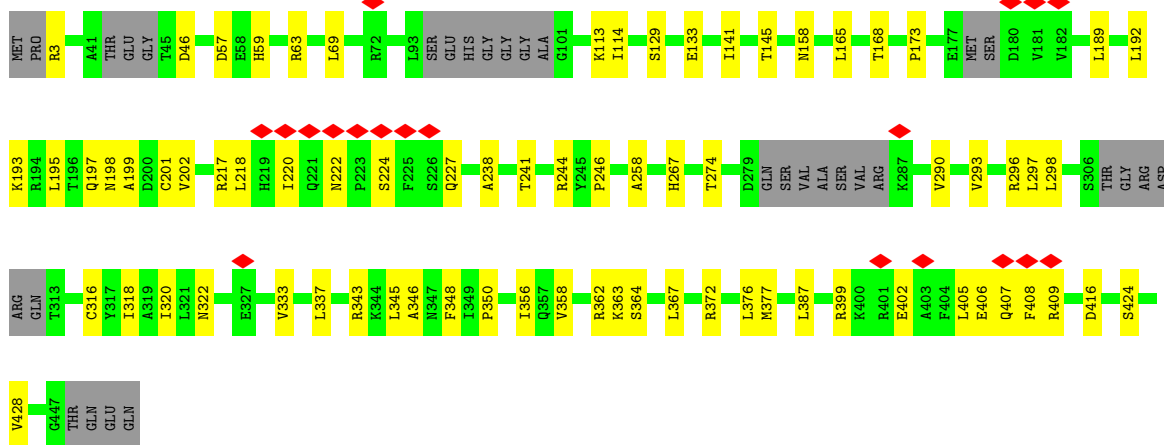
Chain Y: 78% 15% 7%



GLN

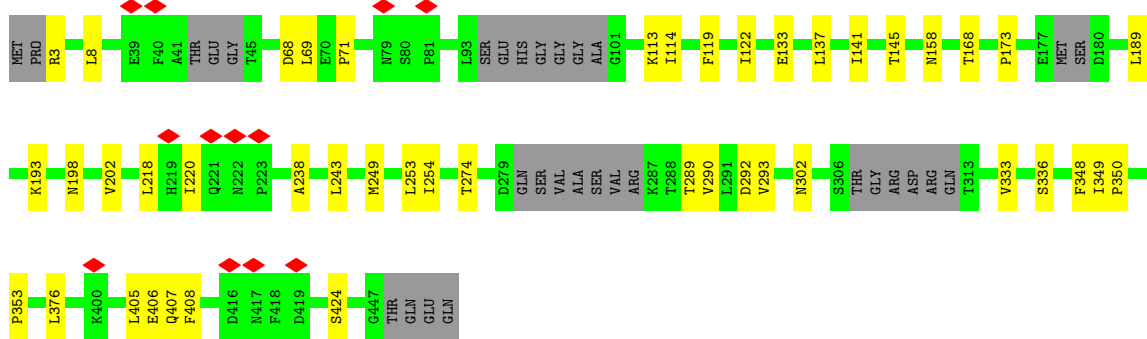
• Molecule 7: Tubulin gamma-1 chain

Chain Z: 77% 16% 7%



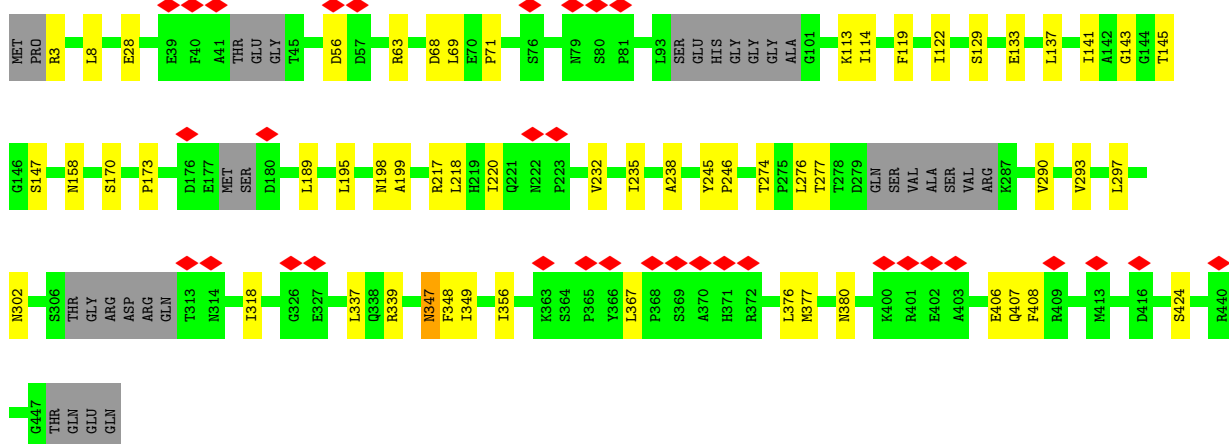
• Molecule 7: Tubulin gamma-1 chain

Chain 1: 83% 10% 7%

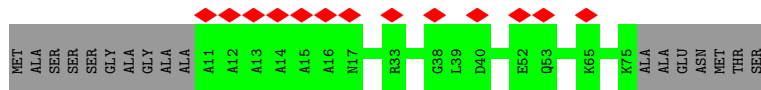
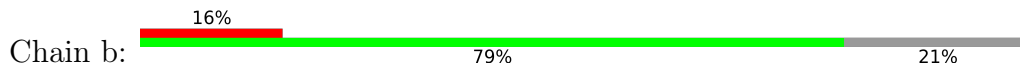


• Molecule 7: Tubulin gamma-1 chain

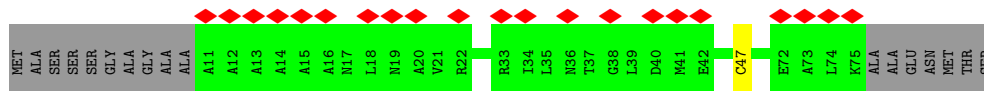
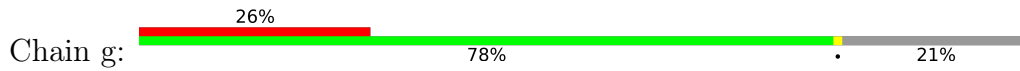
Chain 2: 7% 81% 12% 7%



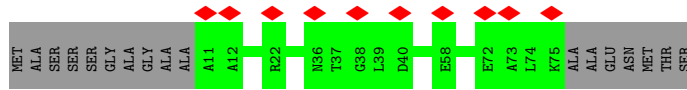
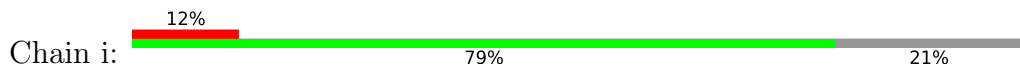
• Molecule 8: Mitotic-spindle organizing protein 1



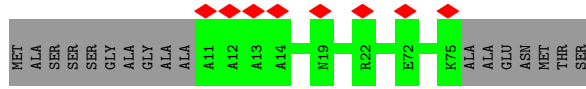
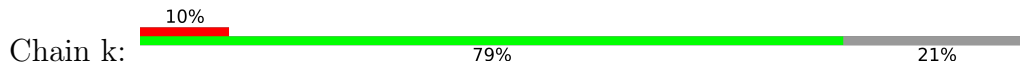
• Molecule 8: Mitotic-spindle organizing protein 1



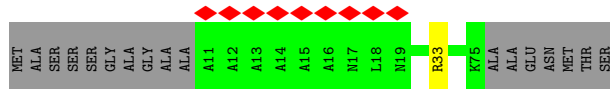
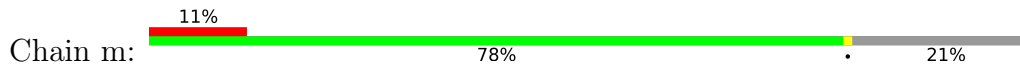
• Molecule 8: Mitotic-spindle organizing protein 1



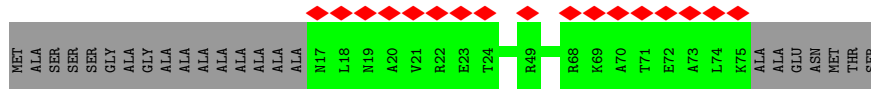
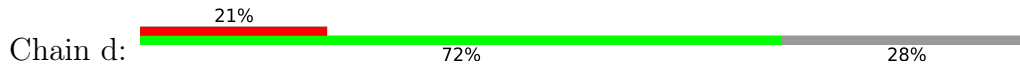
• Molecule 8: Mitotic-spindle organizing protein 1



• Molecule 8: Mitotic-spindle organizing protein 1



• Molecule 8: Mitotic-spindle organizing protein 1



## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	2645	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	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	0.091	Depositor
Minimum map value	-0.035	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.0319	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	e	0.49	1/1818 (0.1%)	0.47	0/2525
2	A	0.34	0/5085	0.61	4/6866 (0.1%)
2	C	0.34	0/5151	0.62	6/6955 (0.1%)
2	E	0.34	0/5311	0.62	4/7169 (0.1%)
2	G	0.34	0/5326	0.63	5/7188 (0.1%)
2	M	0.34	0/5295	0.61	4/7147 (0.1%)
3	B	0.33	0/5125	0.62	5/6919 (0.1%)
3	D	0.32	0/4897	0.60	4/6610 (0.1%)
3	F	0.33	0/5036	0.61	4/6798 (0.1%)
3	H	0.33	0/5001	0.62	6/6750 (0.1%)
3	N	0.34	0/5001	0.62	5/6750 (0.1%)
3	a	0.32	0/948	0.57	0/1277
3	f	0.31	0/815	0.58	0/1096
3	h	0.30	0/815	0.56	0/1096
3	j	0.44	0/877	0.75	4/1179 (0.3%)
4	I	0.35	0/4319	0.66	6/5849 (0.1%)
4	K	0.36	0/4683	0.67	7/6338 (0.1%)
5	J	0.39	2/4501 (0.0%)	0.66	4/6089 (0.1%)
5	l	0.36	0/895	0.68	3/1210 (0.2%)
6	L	0.41	2/4666 (0.0%)	0.69	9/6310 (0.1%)
6	c	0.38	0/1235	0.72	3/1664 (0.2%)
7	1	0.34	0/3439	0.62	1/4658 (0.0%)
7	2	0.34	0/3439	0.60	1/4658 (0.0%)
7	O	0.36	0/3439	0.64	1/4658 (0.0%)
7	P	0.37	0/3439	0.68	5/4658 (0.1%)
7	Q	0.36	0/3439	0.66	1/4658 (0.0%)
7	R	0.35	0/3439	0.65	3/4658 (0.1%)
7	S	0.35	0/3439	0.67	4/4658 (0.1%)
7	T	0.34	0/3439	0.60	1/4658 (0.0%)
7	U	0.34	0/3439	0.61	1/4658 (0.0%)
7	V	0.33	0/3439	0.60	2/4658 (0.0%)
7	W	0.33	0/3439	0.60	1/4658 (0.0%)
7	X	0.33	0/3439	0.60	1/4658 (0.0%)
7	Y	0.35	0/3439	0.64	2/4658 (0.0%)



Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
7	Z	0.35	0/3439	0.61	1/4658 (0.0%)
8	b	0.36	0/484	0.63	0/653
8	d	0.35	0/454	0.59	0/611
8	g	0.30	0/484	0.57	0/653
8	i	0.30	0/484	0.56	0/653
8	k	0.30	0/484	0.56	0/653
8	m	0.39	0/484	0.69	0/653
All	All	0.35	5/127820 (0.0%)	0.63	108/172873 (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
2	A	0	9
2	C	0	7
2	E	0	7
2	G	0	10
2	M	0	8
3	B	0	3
3	D	0	3
3	F	0	5
3	H	0	7
3	N	0	6
3	j	0	1
4	I	0	7
4	K	0	7
5	J	0	1
5	l	0	3
6	L	0	1
7	2	0	1
7	P	0	2
7	V	0	2
All	All	0	90

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	e	243	PRO	N-CD	17.75	1.72	1.47
6	L	323	PHE	CD1-CE1	-6.57	1.26	1.39
6	L	297	TRP	CB-CG	-5.91	1.39	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	J	220	VAL	CB-CG1	-5.15	1.42	1.52
5	J	246	TRP	CB-CG	-5.03	1.41	1.50

All (108) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	Q	360	LEU	CA-CB-CG	9.23	136.54	115.30
6	L	346	LEU	CA-CB-CG	8.96	135.91	115.30
6	c	82	LEU	CA-CB-CG	8.69	135.29	115.30
6	L	287	LEU	CA-CB-CG	8.54	134.95	115.30
3	D	879	ARG	NE-CZ-NH1	-8.39	116.10	120.30
3	F	879	ARG	NE-CZ-NH1	-8.36	116.12	120.30
3	H	879	ARG	NE-CZ-NH2	8.35	124.47	120.30
5	l	121	PRO	CA-N-CD	-8.34	99.83	111.50
5	l	130	PRO	CA-N-CD	-8.34	99.83	111.50
3	N	879	ARG	NE-CZ-NH2	8.33	124.47	120.30
3	H	879	ARG	NE-CZ-NH1	-8.32	116.14	120.30
3	D	879	ARG	NE-CZ-NH2	8.31	124.46	120.30
3	F	879	ARG	NE-CZ-NH2	8.31	124.46	120.30
3	N	879	ARG	NE-CZ-NH1	-8.29	116.15	120.30
3	B	879	ARG	NE-CZ-NH2	8.28	124.44	120.30
3	H	871	GLU	CA-CB-CG	8.18	131.38	113.40
3	N	871	GLU	CA-CB-CG	8.17	131.38	113.40
3	D	871	GLU	CA-CB-CG	8.17	131.38	113.40
3	F	871	GLU	CA-CB-CG	8.16	131.36	113.40
3	B	879	ARG	NE-CZ-NH1	-8.16	116.22	120.30
3	B	871	GLU	CA-CB-CG	8.14	131.32	113.40
2	E	151	GLN	CA-CB-CG	7.83	130.62	113.40
2	G	151	GLN	CA-CB-CG	7.82	130.61	113.40
2	M	151	GLN	CA-CB-CG	7.82	130.60	113.40
2	C	151	GLN	CA-CB-CG	7.82	130.59	113.40
2	A	151	GLN	CA-CB-CG	7.81	130.58	113.40
4	K	577	LYS	CB-CG-CD	7.67	131.56	111.60
4	I	577	LYS	CB-CG-CD	7.65	131.48	111.60
3	j	64	ARG	NE-CZ-NH2	-7.49	116.56	120.30
6	L	312	LEU	CA-CB-CG	7.15	131.75	115.30
3	B	891	PRO	CA-N-CD	-7.02	101.68	111.50
5	J	220	VAL	CG1-CB-CG2	-6.96	99.77	110.90
3	N	690	LEU	CA-CB-CG	6.90	131.17	115.30
3	F	690	LEU	CA-CB-CG	6.90	131.17	115.30
3	D	690	LEU	CA-CB-CG	6.89	131.16	115.30
3	B	690	LEU	CA-CB-CG	6.89	131.15	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	H	690	LEU	CA-CB-CG	6.88	131.12	115.30
7	S	376	LEU	CA-CB-CG	6.67	130.65	115.30
2	M	501	ASP	CB-CG-OD1	6.57	124.21	118.30
2	A	501	ASP	CB-CG-OD1	6.56	124.20	118.30
2	G	869	LEU	CA-CB-CG	6.56	130.39	115.30
2	C	501	ASP	CB-CG-OD1	6.55	124.20	118.30
2	E	501	ASP	CB-CG-OD1	6.55	124.20	118.30
2	G	501	ASP	CB-CG-OD1	6.54	124.18	118.30
3	j	64	ARG	NE-CZ-NH1	6.50	123.55	120.30
4	K	646	LEU	CA-CB-CG	6.33	129.86	115.30
6	L	306	HIS	C-N-CA	6.28	137.40	121.70
2	A	426	LYS	C-N-CA	6.22	137.24	121.70
2	G	771	LEU	CA-CB-CG	6.20	129.55	115.30
2	M	238	LEU	CA-CB-CG	6.14	129.43	115.30
2	E	238	LEU	CA-CB-CG	6.13	129.39	115.30
2	C	238	LEU	CA-CB-CG	6.12	129.38	115.30
2	G	238	LEU	CA-CB-CG	6.12	129.38	115.30
2	A	238	LEU	CA-CB-CG	6.12	129.37	115.30
2	C	872	LEU	CA-CB-CG	6.07	129.26	115.30
6	L	363	VAL	CG1-CB-CG2	5.94	120.41	110.90
3	H	364	LEU	CA-CB-CG	5.90	128.86	115.30
6	L	567	LEU	CA-CB-CG	5.79	128.61	115.30
3	j	63	ILE	CG1-CB-CG2	-5.62	99.03	111.40
2	M	586	LEU	CA-CB-CG	5.61	128.20	115.30
7	P	360	LEU	CA-CB-CG	5.58	128.12	115.30
6	c	153	LEU	CB-CG-CD1	-5.56	101.54	111.00
7	S	127	ASP	CB-CG-OD2	5.56	123.30	118.30
2	E	425	ASP	O-C-N	-5.53	113.85	122.70
4	K	349	ASP	CB-CG-OD1	5.53	123.28	118.30
3	j	53	LEU	CA-CB-CG	5.52	128.00	115.30
4	I	349	ASP	CB-CG-OD1	5.51	123.26	118.30
4	I	107	LEU	CA-CB-CG	5.49	127.92	115.30
4	K	107	LEU	CA-CB-CG	5.47	127.89	115.30
4	I	300	LEU	CA-CB-CG	5.41	127.74	115.30
4	K	300	LEU	CA-CB-CG	5.40	127.71	115.30
6	c	175	ILE	CG1-CB-CG2	-5.37	99.58	111.40
7	V	347	ASN	C-N-CA	5.36	135.09	121.70
4	K	646	LEU	CB-CG-CD2	5.32	120.04	111.00
2	C	674	GLN	CA-CB-CG	5.32	125.09	113.40
5	J	256	LEU	C-N-CA	5.30	134.95	121.70
3	N	502	PRO	CA-C-N	-5.29	105.55	117.20
7	Y	291	LEU	CA-CB-CG	5.29	127.47	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	J	235	SER	C-N-CA	5.29	134.92	121.70
7	S	360	LEU	CA-CB-CG	5.27	127.42	115.30
6	L	457	LEU	CB-CG-CD2	-5.26	102.05	111.00
5	I	119	ASP	CB-CG-OD2	5.23	123.01	118.30
7	Y	253	LEU	CA-CB-CG	5.21	127.28	115.30
7	P	339	ARG	CB-CG-CD	5.20	125.12	111.60
7	W	405	LEU	C-N-CA	5.19	134.68	121.70
3	H	502	PRO	CA-C-N	-5.19	105.78	117.20
7	P	291	LEU	CA-CB-CG	5.18	127.22	115.30
7	T	405	LEU	C-N-CA	5.18	134.65	121.70
4	I	81	LEU	CA-CB-CG	5.18	127.20	115.30
4	K	81	LEU	CA-CB-CG	5.17	127.20	115.30
6	L	312	LEU	CB-CG-CD2	-5.17	102.22	111.00
7	X	405	LEU	C-N-CA	5.16	134.60	121.70
7	P	337	LEU	CA-CB-CG	5.15	127.15	115.30
7	I	405	LEU	C-N-CA	5.12	134.51	121.70
7	P	405	LEU	C-N-CA	5.12	134.49	121.70
7	U	405	LEU	C-N-CA	5.12	134.49	121.70
6	L	1604	LEU	CB-CG-CD2	-5.11	102.31	111.00
7	R	405	LEU	C-N-CA	5.11	134.47	121.70
7	V	405	LEU	C-N-CA	5.10	134.46	121.70
2	C	586	LEU	CA-CB-CG	5.09	127.01	115.30
7	S	405	LEU	C-N-CA	5.08	134.41	121.70
5	J	224	TYR	CA-CB-CG	5.06	123.02	113.40
7	O	405	LEU	C-N-CA	5.06	134.34	121.70
7	R	291	LEU	CA-CB-CG	5.04	126.90	115.30
4	I	319	LEU	CA-CB-CG	5.03	126.86	115.30
7	2	347	ASN	C-N-CA	5.02	134.25	121.70
7	R	132	LEU	CA-CB-CG	5.01	126.82	115.30
7	Z	405	LEU	C-N-CA	5.01	134.22	121.70

There are no chirality outliers.

All (90) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
7	2	347	ASN	Peptide
2	A	238	LEU	Peptide
2	A	239	ALA	Peptide
2	A	426	LYS	Peptide
2	A	467	VAL	Peptide
2	A	580	HIS	Peptide
2	A	663	LYS	Peptide

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>Group</b>
2	A	664	THR	Peptide
2	A	852	MET	Peptide
2	A	861	PHE	Peptide
3	B	272	GLU	Peptide
3	B	630	PRO	Peptide
3	B	641	ASP	Peptide
2	C	238	LEU	Peptide
2	C	239	ALA	Peptide
2	C	467	VAL	Peptide
2	C	580	HIS	Peptide
2	C	674	GLN	Peptide
2	C	861	PHE	Peptide
2	C	868	ARG	Peptide
3	D	272	GLU	Peptide
3	D	630	PRO	Peptide
3	D	641	ASP	Peptide
2	E	238	LEU	Peptide
2	E	239	ALA	Peptide
2	E	424	ASN	Peptide
2	E	425	ASP	Mainchain
2	E	467	VAL	Peptide
2	E	580	HIS	Peptide
2	E	861	PHE	Peptide
3	F	272	GLU	Peptide
3	F	285	ARG	Peptide
3	F	364	LEU	Peptide
3	F	630	PRO	Peptide
3	F	641	ASP	Peptide
2	G	202	ALA	Peptide
2	G	238	LEU	Peptide
2	G	239	ALA	Peptide
2	G	414	LEU	Peptide
2	G	425	ASP	Peptide
2	G	426	LYS	Peptide
2	G	467	VAL	Peptide
2	G	580	HIS	Peptide
2	G	585	GLN	Peptide
2	G	674	GLN	Peptide
3	H	272	GLU	Peptide
3	H	285	ARG	Peptide
3	H	502	PRO	Peptide,Mainchain
3	H	503	THR	Peptide

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>Group</b>
3	H	630	PRO	Peptide
3	H	641	ASP	Peptide
4	I	15	SER	Peptide
4	I	298	SER	Peptide
4	I	403	VAL	Peptide
4	I	408	ASP	Peptide
4	I	507	SER	Peptide
4	I	81	LEU	Peptide
4	I	83	GLY	Peptide
5	J	210	PRO	Peptide
4	K	15	SER	Peptide
4	K	403	VAL	Peptide
4	K	408	ASP	Peptide
4	K	64	GLY	Peptide
4	K	646	LEU	Peptide
4	K	81	LEU	Peptide
4	K	83	GLY	Peptide
6	L	306	HIS	Peptide
2	M	238	LEU	Peptide
2	M	239	ALA	Peptide
2	M	414	LEU	Peptide
2	M	425	ASP	Peptide
2	M	426	LYS	Peptide
2	M	467	VAL	Peptide
2	M	580	HIS	Peptide
2	M	674	GLN	Peptide
3	N	272	GLU	Peptide
3	N	502	PRO	Peptide,Mainchain
3	N	503	THR	Peptide
3	N	630	PRO	Peptide
3	N	641	ASP	Peptide
7	P	334	HIS	Sidechain
7	P	355	SER	Peptide
7	V	346	ALA	Peptide
7	V	347	ASN	Peptide
3	j	112	SER	Peptide
5	l	117	LEU	Peptide
5	l	118	SER	Peptide
5	l	119	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	e	1818	0	860	0	0
2	A	4978	0	4996	77	0
2	C	5044	0	5081	89	0
2	E	5202	0	5241	75	0
2	G	5217	0	5248	80	0
2	M	5186	0	5219	80	0
3	B	5021	0	5002	82	0
3	D	4796	0	4775	92	0
3	F	4933	0	4919	86	0
3	H	4899	0	4880	81	0
3	N	4899	0	4880	78	0
3	a	933	0	953	0	0
3	f	803	0	831	0	0
3	h	803	0	831	0	0
3	j	864	0	894	0	0
4	I	4222	0	4250	54	0
4	K	4579	0	4586	58	0
5	J	4406	0	4452	53	0
5	l	876	0	842	0	0
6	L	4556	0	4559	40	0
6	c	1220	0	1231	0	0
7	1	3371	0	3320	25	0
7	2	3371	0	3320	28	0
7	O	3371	0	3320	40	0
7	P	3371	0	3320	31	0
7	Q	3371	0	3320	40	0
7	R	3371	0	3320	42	0
7	S	3371	0	3320	34	0
7	T	3371	0	3320	20	0
7	U	3371	0	3320	28	0
7	V	3371	0	3320	19	0
7	W	3371	0	3320	34	0
7	X	3371	0	3320	33	0
7	Y	3371	0	3320	42	0
7	Z	3371	0	3320	38	0
8	b	484	0	512	0	0
8	d	454	0	482	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	g	484	0	512	0	0
8	i	484	0	512	0	0
8	k	484	0	512	0	0
8	m	484	0	512	0	0
All	All	125323	0	124052	1379	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 6.

All (1379) 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:B:890:GLU:HA	3:B:893:LEU:HD12	1.61	0.80
3:N:345:GLN:HB2	3:N:362:LEU:HD22	1.65	0.77
7:U:270:MET:HG2	7:U:305:VAL:HG21	1.69	0.75
3:D:879:ARG:HE	7:R:334:HIS:CE1	2.05	0.73
7:R:3:ARG:HB2	7:R:133:GLU:HB2	1.69	0.73
3:B:810:LYS:NZ	3:B:826:GLU:OE1	2.21	0.73
5:J:222:HIS:CD2	5:J:225:TRP:HE1	2.05	0.72
7:S:141:ILE:HB	7:S:173:PRO:HD3	1.69	0.72
7:Q:3:ARG:HB2	7:Q:133:GLU:HB2	1.71	0.72
4:K:283:VAL:O	4:K:287:GLU:HB2	1.89	0.71
4:K:650:ASP:HA	7:Y:341:ARG:HG3	1.73	0.71
7:W:136:VAL:HG12	7:W:167:GLN:HB3	1.73	0.70
7:Z:290:VAL:HA	7:Z:293:VAL:HG22	1.73	0.70
7:Q:316:CYS:HB2	7:Q:348:PHE:HA	1.72	0.70
6:L:1571:ASN:HB3	6:L:1599:LYS:HB3	1.72	0.70
7:2:3:ARG:HB2	7:2:133:GLU:HB2	1.76	0.68
7:O:3:ARG:HB2	7:O:133:GLU:HB2	1.77	0.67
6:L:507:GLN:O	6:L:511:HIS:HB2	1.95	0.67
7:1:3:ARG:HB2	7:1:133:GLU:HB2	1.77	0.67
7:Q:132:LEU:HG	7:Q:164:LYS:HD3	1.77	0.66
7:Z:3:ARG:HB2	7:Z:133:GLU:HB2	1.77	0.66
2:M:222:LEU:HB3	3:N:365:ARG:HH12	1.61	0.66
7:V:3:ARG:HB2	7:V:133:GLU:HB2	1.76	0.66
2:C:294:ALA:HB1	3:D:409:PRO:HD3	1.79	0.65
7:T:3:ARG:HB2	7:T:133:GLU:HB2	1.78	0.65
7:Y:316:CYS:HB2	7:Y:348:PHE:HA	1.77	0.65
4:K:305:ASP:N	4:K:305:ASP:OD1	2.30	0.65
7:O:320:ILE:HB	7:O:356:ILE:HG12	1.79	0.65
3:F:624:ARG:HB2	3:F:641:ASP:HB2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:I:305:ASP:N	4:I:305:ASP:OD1	2.30	0.65
7:U:3:ARG:HB2	7:U:133:GLU:HB2	1.77	0.65
3:D:624:ARG:HB2	3:D:641:ASP:HB2	1.78	0.65
7:Z:316:CYS:HB2	7:Z:348:PHE:HA	1.78	0.65
3:B:624:ARG:HB2	3:B:641:ASP:HB2	1.78	0.65
3:D:689:LYS:NZ	7:R:162:PRO:O	2.30	0.64
3:N:624:ARG:HB2	3:N:641:ASP:HB2	1.78	0.64
2:C:858:ARG:HH12	7:Q:358:VAL:HG22	1.61	0.64
3:H:624:ARG:HB2	3:H:641:ASP:HB2	1.78	0.64
2:G:660:ILE:HG21	7:U:254:ILE:HD11	1.79	0.64
3:H:345:GLN:HB2	3:H:362:LEU:HD22	1.79	0.63
6:L:444:ARG:HH22	2:M:322:GLN:HE22	1.46	0.63
2:C:526:ASP:HB2	7:Q:47:ARG:HD2	1.81	0.63
5:J:1015:LEU:HD13	7:X:338:GLN:HE22	1.63	0.63
7:O:270:MET:HG2	7:O:305:VAL:HG21	1.81	0.63
7:X:316:CYS:HB2	7:X:348:PHE:HA	1.81	0.63
2:M:233:VAL:HG12	2:M:248:VAL:HG12	1.81	0.62
3:B:456:THR:OG1	3:B:457:ASP:N	2.32	0.62
2:E:233:VAL:HG12	2:E:248:VAL:HG12	1.81	0.62
2:G:233:VAL:HG12	2:G:248:VAL:HG12	1.81	0.62
7:1:254:ILE:HD11	2:M:660:ILE:HG21	1.81	0.62
7:Z:224:SER:HA	7:Z:227:GLN:HE21	1.64	0.62
7:Z:158:ASN:HD21	7:Z:198:ASN:HD22	1.45	0.62
7:W:217:ARG:HH21	7:W:277:THR:HA	1.64	0.62
2:A:233:VAL:HG12	2:A:248:VAL:HG12	1.81	0.61
3:D:456:THR:OG1	3:D:457:ASP:N	2.32	0.61
7:X:217:ARG:HH21	7:X:277:THR:HA	1.65	0.61
7:2:349:ILE:O	3:N:883:ASN:ND2	2.28	0.61
2:C:233:VAL:HG12	2:C:248:VAL:HG12	1.81	0.61
2:C:395:ILE:HD11	2:C:450:ILE:HG23	1.82	0.61
2:A:395:ILE:HD11	2:A:450:ILE:HG23	1.82	0.61
7:Y:217:ARG:HH21	7:Y:277:THR:HA	1.65	0.61
3:F:456:THR:OG1	3:F:457:ASP:N	2.32	0.61
3:H:456:THR:OG1	3:H:457:ASP:N	2.32	0.61
7:S:158:ASN:HD21	7:S:198:ASN:HD22	1.49	0.61
3:F:736:ASN:OD1	3:F:736:ASN:N	2.34	0.61
2:M:395:ILE:HD11	2:M:450:ILE:HG23	1.82	0.61
3:B:736:ASN:N	3:B:736:ASN:OD1	2.34	0.61
2:G:395:ILE:HD11	2:G:450:ILE:HG23	1.82	0.61
4:I:523:PHE:O	4:I:527:ASN:ND2	2.34	0.61
2:M:390:VAL:HG22	2:M:401:HIS:HE1	1.66	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:390:VAL:HG22	2:C:401:HIS:HE1	1.66	0.60
3:D:682:LYS:HE2	7:R:163:LYS:HE3	1.83	0.60
4:I:367:GLU:HA	7:W:251:ASN:HD22	1.66	0.60
2:A:390:VAL:HG22	2:A:401:HIS:HE1	1.66	0.60
2:C:674:GLN:HA	2:C:675:TRP:CD1	2.36	0.60
7:Y:3:ARG:HB2	7:Y:133:GLU:HB2	1.84	0.60
2:M:509:LEU:HD21	2:M:629:ILE:HG21	1.84	0.60
2:E:395:ILE:HD11	2:E:450:ILE:HG23	1.82	0.60
7:X:28:GLU:HA	7:X:367:LEU:HD11	1.84	0.60
2:A:509:LEU:HD21	2:A:629:ILE:HG21	1.84	0.60
2:E:313:LEU:HD23	2:E:319:LEU:HD12	1.84	0.60
2:G:509:LEU:HD21	2:G:629:ILE:HG21	1.84	0.60
3:D:736:ASN:OD1	3:D:736:ASN:N	2.34	0.60
7:X:36:ILE:HG23	7:X:58:GLU:HB3	1.84	0.60
2:G:313:LEU:HD23	2:G:319:LEU:HD12	1.84	0.60
2:C:313:LEU:HD23	2:C:319:LEU:HD12	1.84	0.60
2:C:509:LEU:HD21	2:C:629:ILE:HG21	1.84	0.60
7:W:263:THR:HG22	7:W:265:ARG:H	1.66	0.60
2:G:238:LEU:HD21	2:G:245:THR:H	1.68	0.59
3:H:875:PHE:O	3:H:879:ARG:NH1	2.35	0.59
7:R:141:ILE:HB	7:R:173:PRO:HD3	1.84	0.59
2:M:238:LEU:HD21	2:M:245:THR:H	1.67	0.59
3:B:666:PHE:HB2	3:B:764:LEU:HD21	1.84	0.59
2:E:509:LEU:HD21	2:E:629:ILE:HG21	1.84	0.59
4:K:523:PHE:O	4:K:527:ASN:ND2	2.34	0.59
3:N:875:PHE:O	3:N:879:ARG:NH1	2.35	0.59
2:G:390:VAL:HG22	2:G:401:HIS:HE1	1.66	0.59
3:H:666:PHE:HB2	3:H:764:LEU:HD21	1.84	0.59
7:P:54:GLN:HE22	7:P:58:GLU:HA	1.66	0.59
7:Y:195:LEU:O	7:Y:199:ALA:HB3	2.02	0.59
2:E:238:LEU:HD21	2:E:245:THR:H	1.67	0.59
2:E:390:VAL:HG22	2:E:401:HIS:HE1	1.66	0.59
2:E:555:LEU:HD22	2:E:575:ILE:HG13	1.85	0.59
3:D:875:PHE:O	3:D:879:ARG:NH1	2.35	0.59
4:K:524:LEU:HD13	7:Y:354:ALA:HA	1.84	0.59
2:M:313:LEU:HD23	2:M:319:LEU:HD12	1.84	0.59
2:A:238:LEU:HD21	2:A:245:THR:H	1.67	0.59
5:J:716:LEU:HG	5:J:809:VAL:HG13	1.84	0.59
7:1:158:ASN:HD21	7:1:198:ASN:HD22	1.50	0.59
2:E:427:TYR:HE1	2:E:455:LYS:HG3	1.68	0.59
3:F:875:PHE:O	3:F:879:ARG:NH1	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:266:ILE:HD11	3:B:275:TYR:HB3	1.85	0.59
2:E:489:GLU:O	2:E:493:ASN:ND2	2.36	0.59
7:O:217:ARG:HH21	7:O:277:THR:HA	1.67	0.59
3:B:879:ARG:HH21	3:B:879:ARG:HB3	1.68	0.59
7:S:270:MET:HG2	7:S:305:VAL:HG21	1.84	0.59
7:T:158:ASN:HD21	7:T:198:ASN:HD22	1.51	0.59
7:2:318:ILE:HB	7:2:380:ASN:HB3	1.85	0.59
2:M:427:TYR:HE1	2:M:455:LYS:HG3	1.68	0.59
3:D:666:PHE:HB2	3:D:764:LEU:HD21	1.84	0.59
3:D:879:ARG:HH21	3:D:879:ARG:HB3	1.68	0.58
3:N:266:ILE:HD11	3:N:275:TYR:HB3	1.85	0.58
3:N:879:ARG:HH21	3:N:879:ARG:HB3	1.68	0.58
2:A:543:VAL:HG13	2:A:544:GLU:HG2	1.85	0.58
7:Q:141:ILE:HB	7:Q:173:PRO:HD3	1.85	0.58
7:Q:158:ASN:HD21	7:Q:198:ASN:HD22	1.51	0.58
2:M:555:LEU:HD22	2:M:575:ILE:HG13	1.84	0.58
2:A:663:LYS:HD3	2:A:664:THR:HA	1.85	0.58
2:G:427:TYR:HE1	2:G:455:LYS:HG3	1.68	0.58
7:Z:297:LEU:HD13	7:Z:377:MET:HB3	1.86	0.58
3:B:875:PHE:O	3:B:879:ARG:NH1	2.35	0.58
2:G:489:GLU:O	2:G:493:ASN:ND2	2.36	0.58
7:W:316:CYS:HB2	7:W:348:PHE:HA	1.86	0.58
2:G:454:GLY:HA2	2:G:457:LEU:HD12	1.86	0.58
6:L:1805:ASN:ND2	7:Z:348:PHE:O	2.37	0.58
7:O:232:VAL:HA	7:O:235:ILE:HD12	1.85	0.58
2:A:454:GLY:HA2	2:A:457:LEU:HD12	1.86	0.58
2:C:427:TYR:HE1	2:C:455:LYS:HG3	1.68	0.58
3:F:879:ARG:HH21	3:F:879:ARG:HB3	1.68	0.58
3:H:266:ILE:HD11	3:H:275:TYR:HB3	1.85	0.58
3:H:879:ARG:HB3	3:H:879:ARG:HH21	1.68	0.58
5:J:242:LEU:HB3	5:J:304:HIS:HA	1.85	0.58
7:R:316:CYS:HB2	7:R:348:PHE:HA	1.84	0.58
7:V:290:VAL:HA	7:V:293:VAL:HG22	1.84	0.58
7:X:6:ILE:HG12	7:X:63:ARG:HB3	1.85	0.58
7:1:68:ASP:HB2	7:1:71:PRO:HB3	1.84	0.58
2:A:313:LEU:HD23	2:A:319:LEU:HD12	1.84	0.58
2:C:238:LEU:HD21	2:C:245:THR:H	1.67	0.58
2:G:555:LEU:HD22	2:G:575:ILE:HG13	1.85	0.58
3:H:404:THR:O	3:H:404:THR:OG1	2.22	0.58
7:P:334:HIS:NE2	7:P:338:GLN:HG2	2.18	0.58
7:X:158:ASN:HD21	7:X:198:ASN:HD22	1.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:454:GLY:HA2	2:M:457:LEU:HD12	1.86	0.58
3:N:666:PHE:HB2	3:N:764:LEU:HD21	1.84	0.58
2:A:555:LEU:HD22	2:A:575:ILE:HG13	1.84	0.58
3:D:266:ILE:HD11	3:D:275:TYR:HB3	1.85	0.58
3:H:736:ASN:OD1	3:H:736:ASN:N	2.34	0.58
5:J:477:ASP:OD2	5:J:637:GLU:N	2.37	0.58
3:N:456:THR:OG1	3:N:457:ASP:N	2.32	0.58
2:C:555:LEU:HD22	2:C:575:ILE:HG13	1.85	0.58
3:F:666:PHE:HB2	3:F:764:LEU:HD21	1.84	0.58
3:F:719:GLN:O	3:F:723:THR:OG1	2.22	0.58
7:U:68:ASP:HB2	7:U:71:PRO:HB3	1.86	0.58
7:U:158:ASN:HD21	7:U:198:ASN:HD22	1.51	0.58
2:M:231:ARG:HE	3:N:285:ARG:HE	1.51	0.58
3:B:719:GLN:O	3:B:723:THR:OG1	2.22	0.57
3:D:266:ILE:HB	3:D:277:VAL:HG23	1.86	0.57
4:I:405:LEU:HD21	7:W:47:ARG:HA	1.86	0.57
5:J:306:THR:O	5:J:306:THR:OG1	2.20	0.57
4:K:532:LEU:HD22	4:K:644:GLN:HG2	1.85	0.57
3:N:266:ILE:HB	3:N:277:VAL:HG23	1.86	0.57
7:Q:47:ARG:NH1	7:Q:251:ASN:O	2.37	0.57
2:A:489:GLU:O	2:A:493:ASN:ND2	2.36	0.57
2:C:489:GLU:O	2:C:493:ASN:ND2	2.36	0.57
3:D:501:THR:O	3:D:501:THR:OG1	2.22	0.57
3:N:736:ASN:OD1	3:N:736:ASN:N	2.34	0.57
3:H:266:ILE:HB	3:H:277:VAL:HG23	1.86	0.57
2:M:489:GLU:O	2:M:493:ASN:ND2	2.36	0.57
3:N:719:GLN:O	3:N:723:THR:OG1	2.22	0.57
7:R:217:ARG:HH21	7:R:277:THR:HA	1.68	0.57
7:W:168:THR:HB	7:W:202:VAL:HG22	1.87	0.57
2:C:543:VAL:HG13	2:C:544:GLU:HG2	1.85	0.57
2:E:543:VAL:HG13	2:E:544:GLU:HG2	1.85	0.57
7:Q:290:VAL:HA	7:Q:293:VAL:HG22	1.86	0.57
2:C:454:GLY:HA2	2:C:457:LEU:HD12	1.86	0.57
2:G:543:VAL:HG13	2:G:544:GLU:HG2	1.85	0.57
5:J:904:ARG:HH22	7:X:331:THR:HG23	1.69	0.57
7:P:16:GLN:HE21	7:P:73:VAL:HG11	1.69	0.57
2:A:705:THR:HG1	2:A:733:CYS:HG	1.53	0.57
3:F:266:ILE:HD11	3:F:275:TYR:HB3	1.85	0.57
7:S:290:VAL:HA	7:S:293:VAL:HG22	1.86	0.57
7:Y:68:ASP:HB2	7:Y:71:PRO:HB3	1.86	0.57
3:F:266:ILE:HB	3:F:277:VAL:HG23	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:688:ARG:HH11	5:J:691:LEU:HD22	1.69	0.57
7:R:28:GLU:HA	7:R:367:LEU:HD11	1.85	0.57
7:T:290:VAL:HA	7:T:293:VAL:HG22	1.85	0.57
7:2:217:ARG:HH21	7:2:277:THR:HA	1.70	0.57
2:M:543:VAL:HG13	2:M:544:GLU:HG2	1.85	0.57
4:I:184:TYR:O	4:I:188:SER:OG	2.23	0.56
7:X:290:VAL:HA	7:X:293:VAL:HG22	1.85	0.56
3:B:266:ILE:HB	3:B:277:VAL:HG23	1.86	0.56
2:C:278:GLU:OE2	3:D:379:LYS:NZ	2.26	0.56
7:V:28:GLU:HA	7:V:367:LEU:HD11	1.86	0.56
2:E:454:GLY:HA2	2:E:457:LEU:HD12	1.86	0.56
7:Z:193:LYS:HE2	7:Z:197:GLN:HE22	1.70	0.56
5:J:392:THR:HB	6:L:295:ARG:HB3	1.86	0.56
5:J:900:TYR:O	5:J:904:ARG:HB3	2.05	0.56
2:E:311:GLU:OE2	3:F:365:ARG:NH1	2.39	0.56
2:E:421:GLU:O	2:E:426:LYS:NZ	2.32	0.56
7:S:135:PHE:HB2	7:S:166:VAL:HG22	1.88	0.56
3:F:581:LEU:HG	3:F:585:LEU:HG	1.88	0.56
7:Z:63:ARG:NE	7:Z:129:SER:OG	2.39	0.56
3:N:404:THR:O	3:N:404:THR:OG1	2.22	0.56
5:J:394:THR:OG1	5:J:395:LEU:N	2.38	0.56
7:P:158:ASN:HD21	7:P:198:ASN:HD22	1.52	0.56
2:A:427:TYR:HE1	2:A:455:LYS:HG3	1.68	0.56
2:C:685:ARG:HA	7:Q:353:PRO:HG3	1.86	0.56
3:D:660:TYR:OH	3:D:751:HIS:NE2	2.36	0.56
4:K:652:ASN:OD1	7:Y:341:ARG:NH2	2.39	0.56
5:J:375:PHE:HE1	5:J:405:ARG:HB3	1.71	0.56
7:O:158:ASN:HD21	7:O:198:ASN:HD22	1.53	0.56
7:Q:28:GLU:HA	7:Q:367:LEU:HD11	1.86	0.56
7:Q:218:LEU:HB2	7:Q:220:ILE:HG12	1.86	0.56
7:S:322:ASN:HD21	7:S:358:VAL:HG12	1.70	0.56
7:Y:158:ASN:HD21	7:Y:198:ASN:HD22	1.53	0.56
3:D:404:THR:O	3:D:404:THR:OG1	2.22	0.55
3:D:879:ARG:HD3	7:R:337:LEU:HD23	1.87	0.55
7:Y:141:ILE:HB	7:Y:173:PRO:HD3	1.88	0.55
4:K:37:SER:O	4:K:40:SER:OG	2.21	0.55
4:K:184:TYR:O	4:K:188:SER:OG	2.23	0.55
2:M:623:LYS:O	2:M:627:SER:OG	2.24	0.55
3:N:608:THR:OG1	3:N:609:ASN:N	2.40	0.55
2:G:307:VAL:HG12	3:H:365:ARG:HH11	1.71	0.55
5:J:255:PRO:HD2	5:J:257:TYR:H	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:R:218:LEU:HB2	7:R:220:ILE:HG12	1.87	0.55
3:F:286:SER:O	3:F:290:THR:OG1	2.25	0.55
3:F:608:THR:OG1	3:F:609:ASN:N	2.40	0.55
5:J:223:GLN:HB2	5:J:230:SER:HB3	1.89	0.55
3:B:404:THR:O	3:B:404:THR:OG1	2.22	0.55
3:D:581:LEU:HG	3:D:585:LEU:HG	1.88	0.55
3:H:660:TYR:OH	3:H:751:HIS:NE2	2.36	0.55
7:T:218:LEU:HB2	7:T:220:ILE:HG12	1.88	0.55
2:E:623:LYS:O	2:E:627:SER:OG	2.24	0.55
7:O:218:LEU:HB2	7:O:220:ILE:HG12	1.89	0.55
3:B:320:VAL:HG13	3:B:396:LEU:HD23	1.89	0.55
3:H:501:THR:O	3:H:501:THR:OG1	2.22	0.55
3:H:592:LEU:HD21	3:H:597:LEU:HD21	1.89	0.55
4:K:571:GLN:HE22	4:K:638:ILE:HD13	1.72	0.55
4:K:646:LEU:HB3	7:Y:341:ARG:HD2	1.89	0.55
7:T:141:ILE:HB	7:T:173:PRO:HD3	1.88	0.55
3:B:286:SER:O	3:B:290:THR:OG1	2.25	0.55
4:I:37:SER:O	4:I:40:SER:OG	2.21	0.55
7:S:316:CYS:HB2	7:S:349:ILE:H	1.72	0.55
2:C:623:LYS:O	2:C:627:SER:OG	2.24	0.55
3:H:608:THR:OG1	3:H:609:ASN:N	2.40	0.55
5:J:444:ILE:HG12	5:J:461:LEU:HB3	1.89	0.55
3:N:320:VAL:HG13	3:N:396:LEU:HD23	1.89	0.55
2:A:160:MET:HB2	2:A:284:GLU:HB3	1.90	0.55
2:A:819:GLU:O	2:A:823:ASN:ND2	2.41	0.55
3:H:286:SER:O	3:H:290:THR:OG1	2.25	0.55
5:J:238:LEU:HA	5:J:241:ASN:H	1.72	0.55
7:S:288:THR:HB	7:S:296:ARG:HH12	1.72	0.55
3:B:345:GLN:HB2	3:B:362:LEU:HD13	1.87	0.54
3:H:581:LEU:HG	3:H:585:LEU:HG	1.88	0.54
6:L:299:ARG:HB3	6:L:303:PRO:HB3	1.90	0.54
7:P:130:ASP:OD1	7:P:130:ASP:N	2.38	0.54
7:S:8:LEU:N	7:S:136:VAL:O	2.34	0.54
7:W:46:ASP:HA	7:W:246:PRO:HD3	1.87	0.54
3:N:779:PHE:HA	3:N:782:ILE:HD12	1.90	0.54
2:A:637:ARG:HB2	2:A:730:LEU:HD21	1.90	0.54
2:E:507:LYS:HE3	2:E:625:PRO:HG2	1.90	0.54
3:H:320:VAL:HG13	3:H:396:LEU:HD23	1.89	0.54
3:D:608:THR:OG1	3:D:609:ASN:N	2.40	0.54
3:D:719:GLN:O	3:D:723:THR:OG1	2.22	0.54
3:H:719:GLN:O	3:H:723:THR:OG1	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:779:PHE:HA	3:H:782:ILE:HD12	1.89	0.54
7:O:335:LYS:O	7:O:339:ARG:HB2	2.07	0.54
7:U:141:ILE:HB	7:U:173:PRO:HD3	1.88	0.54
7:2:218:LEU:HB2	7:2:220:ILE:HG12	1.89	0.54
2:M:819:GLU:O	2:M:823:ASN:ND2	2.41	0.54
2:A:434:ILE:HB	2:A:451:LEU:HD22	1.90	0.54
3:F:320:VAL:HG13	3:F:396:LEU:HD23	1.89	0.54
3:F:592:LEU:HD21	3:F:597:LEU:HD21	1.89	0.54
2:G:623:LYS:O	2:G:627:SER:OG	2.24	0.54
7:Z:141:ILE:HB	7:Z:173:PRO:HD3	1.89	0.54
2:M:434:ILE:HB	2:M:451:LEU:HD22	1.90	0.54
3:B:581:LEU:HG	3:B:585:LEU:HG	1.88	0.54
3:B:592:LEU:HD21	3:B:597:LEU:HD21	1.89	0.54
3:F:448:VAL:HG22	3:F:484:LEU:HD12	1.89	0.54
7:Y:168:THR:HB	7:Y:202:VAL:HG22	1.89	0.54
3:B:779:PHE:HA	3:B:782:ILE:HD12	1.89	0.54
2:C:819:GLU:O	2:C:823:ASN:ND2	2.41	0.54
2:G:819:GLU:O	2:G:823:ASN:ND2	2.41	0.54
7:P:290:VAL:HA	7:P:293:VAL:HG22	1.90	0.54
7:R:232:VAL:HA	7:R:235:ILE:HD12	1.89	0.54
7:Y:218:LEU:HB2	7:Y:220:ILE:HG12	1.89	0.54
2:A:691:GLN:NE2	7:O:255:GLY:O	2.40	0.54
2:E:160:MET:HB2	2:E:284:GLU:HB3	1.90	0.54
2:E:833:LEU:HD11	2:E:859:LEU:HD21	1.90	0.54
3:H:448:VAL:HG22	3:H:484:LEU:HD12	1.89	0.54
7:R:243:LEU:HD21	7:R:253:LEU:HB3	1.90	0.54
7:W:141:ILE:HB	7:W:173:PRO:HD3	1.88	0.54
7:Y:243:LEU:HD21	7:Y:253:LEU:HB3	1.89	0.54
2:M:637:ARG:HB2	2:M:730:LEU:HD21	1.90	0.54
3:N:448:VAL:HG22	3:N:484:LEU:HD12	1.89	0.54
2:A:507:LYS:HE3	2:A:625:PRO:HG2	1.89	0.54
2:C:637:ARG:HB2	2:C:730:LEU:HD21	1.90	0.54
2:E:819:GLU:O	2:E:823:ASN:ND2	2.41	0.54
2:G:637:ARG:HB2	2:G:730:LEU:HD21	1.90	0.54
3:N:286:SER:O	3:N:290:THR:OG1	2.25	0.54
3:B:608:THR:OG1	3:B:609:ASN:N	2.40	0.54
7:P:136:VAL:HG22	7:P:167:GLN:HB3	1.90	0.54
7:V:217:ARG:HH21	7:V:277:THR:HA	1.73	0.54
7:Z:218:LEU:HB2	7:Z:220:ILE:HG12	1.89	0.54
7:1:243:LEU:HD21	7:1:253:LEU:HB3	1.89	0.54
3:D:320:VAL:HG13	3:D:396:LEU:HD23	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:U:297:LEU:HD21	7:U:377:MET:HB3	1.89	0.54
2:C:434:ILE:HB	2:C:451:LEU:HD22	1.90	0.53
2:G:160:MET:HB2	2:G:284:GLU:HB3	1.90	0.53
2:G:434:ILE:HB	2:G:451:LEU:HD22	1.90	0.53
7:O:34:GLU:HG3	7:O:84:LYS:HE3	1.90	0.53
3:N:592:LEU:HD21	3:N:597:LEU:HD21	1.89	0.53
3:D:779:PHE:HA	3:D:782:ILE:HD12	1.89	0.53
2:E:637:ARG:HB2	2:E:730:LEU:HD21	1.90	0.53
3:F:660:TYR:OH	3:F:751:HIS:NE2	2.36	0.53
4:K:630:LEU:HB3	4:K:645:LEU:HG	1.91	0.53
7:T:217:ARG:HH21	7:T:277:THR:HA	1.73	0.53
7:V:218:LEU:HB2	7:V:220:ILE:HG12	1.90	0.53
7:X:68:ASP:HB2	7:X:71:PRO:HB3	1.90	0.53
3:F:501:THR:OG1	3:F:501:THR:O	2.22	0.53
4:I:502:ARG:O	4:I:508:ASN:ND2	2.42	0.53
4:K:330:ASP:O	4:K:334:SER:OG	2.25	0.53
7:V:68:ASP:HB2	7:V:71:PRO:HB3	1.89	0.53
2:M:160:MET:HB2	2:M:284:GLU:HB3	1.90	0.53
3:N:581:LEU:HG	3:N:585:LEU:HG	1.88	0.53
2:G:833:LEU:HD11	2:G:859:LEU:HD21	1.90	0.53
2:A:623:LYS:O	2:A:627:SER:OG	2.24	0.53
3:B:448:VAL:HG22	3:B:484:LEU:HD12	1.89	0.53
2:C:290:HIS:HB3	3:D:407:GLY:HA3	1.90	0.53
3:D:448:VAL:HG22	3:D:484:LEU:HD12	1.89	0.53
3:D:592:LEU:HD21	3:D:597:LEU:HD21	1.89	0.53
5:J:947:VAL:HA	5:J:951:LYS:HB3	1.90	0.53
7:P:218:LEU:HB2	7:P:220:ILE:HG12	1.89	0.53
3:D:286:SER:O	3:D:290:THR:OG1	2.25	0.53
3:F:779:PHE:HA	3:F:782:ILE:HD12	1.89	0.53
7:Q:338:GLN:HE22	7:Q:341:ARG:HD2	1.74	0.53
7:X:436:HIS:O	7:X:440:ARG:NH2	2.42	0.53
3:N:342:LEU:HD11	3:N:370:TRP:HB3	1.91	0.53
3:N:454:VAL:HB	3:N:463:LYS:HD2	1.91	0.53
3:D:342:LEU:HD11	3:D:370:TRP:HB3	1.91	0.53
2:E:434:ILE:HB	2:E:451:LEU:HD22	1.90	0.53
3:H:454:VAL:HB	3:H:463:LYS:HD2	1.91	0.53
2:M:833:LEU:HD11	2:M:859:LEU:HD21	1.90	0.53
2:A:833:LEU:HD11	2:A:859:LEU:HD21	1.90	0.53
2:C:833:LEU:HD11	2:C:859:LEU:HD21	1.90	0.53
4:I:330:ASP:O	4:I:334:SER:OG	2.25	0.53
7:X:218:LEU:HB2	7:X:220:ILE:HG12	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:2:28:GLU:HA	7:2:367:LEU:HD11	1.90	0.53
7:2:297:LEU:HD21	7:2:377:MET:HB3	1.91	0.53
2:C:507:LYS:HE3	2:C:625:PRO:HG2	1.89	0.53
2:E:500:LEU:HA	2:E:719:ILE:HD11	1.91	0.53
4:I:16:ILE:HG12	5:J:246:TRP:HZ3	1.74	0.53
7:O:297:LEU:HD21	7:O:377:MET:HB3	1.90	0.53
7:W:218:LEU:HB2	7:W:220:ILE:HG12	1.90	0.53
7:Y:332:GLN:O	7:Y:336:SER:HB3	2.09	0.53
2:M:500:LEU:HA	2:M:719:ILE:HD11	1.91	0.53
3:B:342:LEU:HD11	3:B:370:TRP:HB3	1.91	0.52
2:C:160:MET:HB2	2:C:284:GLU:HB3	1.90	0.52
4:K:206:LYS:N	4:K:258:SER:O	2.34	0.52
7:W:322:ASN:HD21	7:W:358:VAL:HG12	1.74	0.52
4:K:403:VAL:O	4:K:405:LEU:N	2.43	0.52
7:U:243:LEU:HD21	7:U:253:LEU:HB3	1.91	0.52
2:A:500:LEU:HA	2:A:719:ILE:HD11	1.91	0.52
3:D:454:VAL:HB	3:D:463:LYS:HD2	1.91	0.52
4:K:283:VAL:O	4:K:287:GLU:CB	2.56	0.52
4:K:521:MET:HA	7:Y:353:PRO:HG3	1.91	0.52
7:Y:297:LEU:HD21	7:Y:377:MET:HB3	1.91	0.52
2:M:507:LYS:HE3	2:M:625:PRO:HG2	1.90	0.52
3:D:409:PRO:HA	3:D:412:ARG:HB3	1.92	0.52
2:E:277:ILE:HD13	2:E:297:ARG:HG2	1.91	0.52
7:V:141:ILE:HB	7:V:173:PRO:HD3	1.90	0.52
7:1:290:VAL:HA	7:1:293:VAL:HG22	1.91	0.52
2:A:277:ILE:HD13	2:A:297:ARG:HG2	1.91	0.52
3:B:340:SER:O	3:B:344:SER:OG	2.28	0.52
3:B:454:VAL:HB	3:B:463:LYS:HD2	1.91	0.52
3:H:409:PRO:HA	3:H:412:ARG:HB3	1.91	0.52
4:I:149:HIS:HE1	4:I:201:GLU:HA	1.75	0.52
7:Z:298:LEU:HD22	7:Z:346:ALA:HB2	1.90	0.52
2:M:418:ARG:HB2	2:M:426:LYS:HD3	1.91	0.52
3:F:409:PRO:HA	3:F:412:ARG:HB3	1.92	0.52
2:G:500:LEU:HA	2:G:719:ILE:HD11	1.91	0.52
3:H:705:HIS:O	3:H:709:SER:OG	2.28	0.52
6:L:595:ILE:HD11	6:L:1484:LEU:HD21	1.92	0.52
7:P:141:ILE:HB	7:P:173:PRO:HD3	1.91	0.52
7:R:67:LEU:HD22	7:R:118:ILE:HD12	1.92	0.52
7:R:296:ARG:O	7:R:302:ASN:ND2	2.37	0.52
7:S:217:ARG:HH21	7:S:277:THR:HA	1.74	0.52
7:U:238:ALA:HB3	7:U:376:LEU:HD13	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:W:245:TYR:OH	7:W:364:SER:OG	2.25	0.52
3:N:705:HIS:O	3:N:709:SER:OG	2.28	0.52
2:C:865:TYR:HE2	7:Q:353:PRO:HB3	1.75	0.52
3:D:561:ALA:HA	3:D:564:ARG:HD3	1.92	0.52
3:H:329:HIS:CE1	4:I:131:LEU:HD21	2.45	0.52
4:K:499:GLN:OE1	4:K:502:ARG:NH2	2.43	0.52
7:T:297:LEU:HD21	7:T:377:MET:HB3	1.92	0.52
7:Z:168:THR:HB	7:Z:202:VAL:HG22	1.91	0.52
7:1:238:ALA:HB3	7:1:376:LEU:HD13	1.92	0.52
2:C:441:SER:HA	2:C:444:GLN:HG3	1.91	0.52
3:F:342:LEU:HD11	3:F:370:TRP:HB3	1.91	0.52
2:G:695:TYR:HE1	7:U:249:MET:HG2	1.74	0.52
4:I:403:VAL:O	4:I:405:LEU:N	2.43	0.52
7:R:189:LEU:O	7:R:424:SER:OG	2.28	0.52
3:N:501:THR:O	3:N:501:THR:OG1	2.22	0.52
2:A:441:SER:HA	2:A:444:GLN:HG3	1.91	0.52
3:D:340:SER:O	3:D:344:SER:OG	2.28	0.52
2:E:441:SER:HA	2:E:444:GLN:HG3	1.91	0.52
3:F:454:VAL:HB	3:F:463:LYS:HD2	1.91	0.52
2:G:441:SER:HA	2:G:444:GLN:HG3	1.91	0.52
2:G:507:LYS:HE3	2:G:625:PRO:HG2	1.90	0.52
6:L:1678:ASN:ND2	6:L:1679:GLN:OE1	2.42	0.52
7:Z:364:SER:HB2	7:Z:367:LEU:HD22	1.92	0.52
3:N:585:LEU:O	3:N:633:THR:OG1	2.28	0.52
2:C:500:LEU:HA	2:C:719:ILE:HD11	1.91	0.51
4:I:202:GLU:OE1	4:I:260:ARG:NH2	2.43	0.51
7:Q:4:GLU:HG3	7:Q:50:VAL:HA	1.92	0.51
7:X:168:THR:HB	7:X:202:VAL:HG22	1.92	0.51
3:N:340:SER:O	3:N:344:SER:OG	2.28	0.51
3:N:561:ALA:HA	3:N:564:ARG:HD3	1.92	0.51
3:H:342:LEU:HD11	3:H:370:TRP:HB3	1.91	0.51
3:H:561:ALA:HA	3:H:564:ARG:HD3	1.92	0.51
7:O:141:ILE:HB	7:O:173:PRO:HD3	1.92	0.51
2:M:277:ILE:HD13	2:M:297:ARG:HG2	1.91	0.51
2:C:297:ARG:HH21	3:D:376:ILE:HD11	1.74	0.51
3:D:494:HIS:O	3:D:500:GLN:NE2	2.44	0.51
3:D:585:LEU:O	3:D:633:THR:OG1	2.28	0.51
3:D:680:ILE:HD11	3:D:786:GLN:HA	1.92	0.51
3:D:802:ARG:O	3:D:806:PHE:N	2.42	0.51
3:H:376:ILE:HA	3:H:379:LYS:HE2	1.92	0.51
4:K:202:GLU:OE1	4:K:260:ARG:NH2	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:X:241:THR:OG1	7:X:244:ARG:NH2	2.42	0.51
3:N:409:PRO:HA	3:N:412:ARG:HB3	1.91	0.51
3:B:409:PRO:HA	3:B:412:ARG:HB3	1.91	0.51
3:F:585:LEU:O	3:F:633:THR:OG1	2.28	0.51
2:G:277:ILE:HD13	2:G:297:ARG:HG2	1.91	0.51
4:I:499:GLN:OE1	4:I:502:ARG:NH2	2.43	0.51
5:J:326:ARG:HE	5:J:416:PHE:HE2	1.57	0.51
7:P:334:HIS:CE1	7:P:338:GLN:HG2	2.45	0.51
7:X:141:ILE:HB	7:X:173:PRO:HD3	1.92	0.51
7:1:189:LEU:O	7:1:424:SER:OG	2.27	0.51
3:N:376:ILE:HA	3:N:379:LYS:HE2	1.92	0.51
2:A:282:SER:OG	2:A:284:GLU:OE1	2.25	0.51
3:B:705:HIS:O	3:B:709:SER:OG	2.28	0.51
4:K:149:HIS:HE1	4:K:201:GLU:HA	1.75	0.51
3:N:494:HIS:O	3:N:500:GLN:NE2	2.44	0.51
3:B:585:LEU:O	3:B:633:THR:OG1	2.28	0.51
3:B:881:ASP:O	7:P:341:ARG:NH2	2.37	0.51
2:C:277:ILE:HD13	2:C:297:ARG:HG2	1.91	0.51
3:F:376:ILE:HA	3:F:379:LYS:HE2	1.92	0.51
3:F:705:HIS:O	3:F:709:SER:OG	2.28	0.51
7:Q:415:LYS:HD3	7:Q:420:GLU:HB2	1.93	0.51
2:M:441:SER:HA	2:M:444:GLN:HG3	1.91	0.51
3:B:660:TYR:OH	3:B:751:HIS:NE2	2.36	0.51
3:F:340:SER:O	3:F:344:SER:OG	2.28	0.51
3:F:680:ILE:HD11	3:F:786:GLN:HA	1.92	0.51
3:H:340:SER:O	3:H:344:SER:OG	2.28	0.51
3:H:585:LEU:O	3:H:633:THR:OG1	2.28	0.51
5:J:367:ALA:HB2	5:J:467:GLU:HB2	1.92	0.51
7:2:68:ASP:HB2	7:2:71:PRO:HB3	1.92	0.51
2:A:395:ILE:HG22	2:A:491:ALA:HB3	1.93	0.51
3:B:308:THR:OG1	3:B:325:CYS:SG	2.68	0.51
3:D:723:THR:HG23	7:R:248:TYR:CD2	2.45	0.51
4:I:551:THR:HG23	4:I:553:ASP:H	1.76	0.51
7:Q:168:THR:HB	7:Q:202:VAL:HG22	1.93	0.51
3:N:660:TYR:OH	3:N:751:HIS:NE2	2.36	0.51
3:N:680:ILE:HD11	3:N:786:GLN:HA	1.92	0.51
3:B:376:ILE:HA	3:B:379:LYS:HE2	1.92	0.51
3:B:561:ALA:HA	3:B:564:ARG:HD3	1.92	0.51
2:C:282:SER:OG	2:C:284:GLU:OE1	2.25	0.51
2:C:283:PHE:HZ	3:D:403:TYR:HA	1.76	0.51
3:D:301:HIS:NE2	3:D:336:TYR:OH	2.30	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:723:THR:HG23	7:R:248:TYR:HD2	1.76	0.51
3:F:494:HIS:O	3:F:500:GLN:NE2	2.44	0.51
2:G:395:ILE:HG22	2:G:491:ALA:HB3	1.93	0.51
7:U:168:THR:HB	7:U:202:VAL:HG22	1.93	0.51
3:B:677:LEU:HD21	3:B:711:MET:HB3	1.93	0.51
3:D:677:LEU:HD21	3:D:711:MET:HB3	1.93	0.51
3:F:308:THR:HB	3:F:328:LEU:HD23	1.93	0.51
5:J:562:ALA:HB2	5:J:699:TYR:HD1	1.75	0.51
5:J:922:ASP:HB3	5:J:925:GLN:HG2	1.93	0.51
4:K:82:HIS:O	4:K:200:HIS:NE2	2.42	0.51
7:R:290:VAL:HA	7:R:293:VAL:HG22	1.92	0.51
7:U:113:LYS:HG3	7:U:114:ILE:HG23	1.93	0.51
3:B:494:HIS:O	3:B:500:GLN:NE2	2.44	0.50
3:B:680:ILE:HD11	3:B:786:GLN:HA	1.92	0.50
3:D:308:THR:OG1	3:D:325:CYS:SG	2.68	0.50
3:D:603:THR:HG23	7:S:339:ARG:HH22	1.76	0.50
4:I:365:ARG:HH22	4:I:367:GLU:HB2	1.76	0.50
7:P:168:THR:HB	7:P:202:VAL:HG22	1.93	0.50
7:T:113:LYS:HG3	7:T:114:ILE:HG23	1.92	0.50
7:V:158:ASN:HD21	7:V:198:ASN:HD22	1.58	0.50
7:Y:406:GLU:HB3	7:Y:408:PHE:HD2	1.76	0.50
3:H:308:THR:HB	3:H:328:LEU:HD23	1.93	0.50
4:K:104:LEU:HD12	4:K:107:LEU:HD12	1.93	0.50
4:K:551:THR:HG23	4:K:553:ASP:H	1.76	0.50
2:M:395:ILE:HG22	2:M:491:ALA:HB3	1.93	0.50
3:B:308:THR:HB	3:B:328:LEU:HD23	1.94	0.50
5:J:684:GLU:H	5:J:687:LEU:HB3	1.76	0.50
7:Z:320:ILE:HB	7:Z:356:ILE:HG12	1.93	0.50
5:J:562:ALA:HB2	5:J:699:TYR:CD1	2.47	0.50
5:J:842:LEU:HD11	7:X:254:ILE:HD11	1.93	0.50
7:O:318:ILE:HA	7:O:350:PRO:HG3	1.93	0.50
7:P:406:GLU:HB3	7:P:408:PHE:HD2	1.77	0.50
7:Q:291:LEU:HG	7:Q:336:SER:HA	1.92	0.50
7:X:8:LEU:N	7:X:136:VAL:O	2.37	0.50
7:1:218:LEU:HB2	7:1:220:ILE:HG12	1.93	0.50
3:N:361:SER:OG	3:N:362:LEU:N	2.43	0.50
2:A:233:VAL:HA	2:A:248:VAL:HA	1.94	0.50
3:F:301:HIS:NE2	3:F:336:TYR:OH	2.30	0.50
2:G:418:ARG:HG3	2:G:426:LYS:HB3	1.94	0.50
3:H:494:HIS:O	3:H:500:GLN:NE2	2.44	0.50
4:K:365:ARG:HH22	4:K:367:GLU:HB2	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:O:290:VAL:HA	7:O:293:VAL:HG22	1.92	0.50
7:R:415:LYS:HB2	7:R:418:PHE:HA	1.92	0.50
7:1:348:PHE:HB3	7:1:350:PRO:HD3	1.94	0.50
3:B:581:LEU:HD13	3:B:600:ILE:HG21	1.94	0.50
3:B:698:SER:HA	3:B:701:LEU:HB3	1.94	0.50
3:D:376:ILE:HA	3:D:379:LYS:HE2	1.92	0.50
3:F:802:ARG:O	3:F:806:PHE:N	2.42	0.50
5:J:394:THR:HB	6:L:297:TRP:HE1	1.77	0.50
5:J:902:MET:HA	5:J:906:LEU:HB2	1.94	0.50
4:K:488:VAL:HG21	4:K:587:LEU:HB3	1.94	0.50
7:V:297:LEU:HD21	7:V:377:MET:HB3	1.92	0.50
2:M:517:LYS:NZ	2:M:703:GLU:OE2	2.44	0.50
5:J:437:LEU:HD21	5:J:469:VAL:HG23	1.94	0.50
6:L:533:THR:O	6:L:537:HIS:HB2	2.12	0.50
6:L:1570:SER:OG	6:L:1571:ASN:N	2.45	0.50
7:Q:189:LEU:O	7:Q:424:SER:OG	2.29	0.50
3:N:308:THR:HB	3:N:328:LEU:HD23	1.94	0.50
3:N:581:LEU:HD13	3:N:600:ILE:HG21	1.94	0.50
2:C:395:ILE:HG22	2:C:491:ALA:HB3	1.93	0.50
2:E:675:TRP:HZ2	2:E:770:LYS:HE2	1.77	0.50
7:U:189:LEU:O	7:U:424:SER:OG	2.30	0.50
7:W:317:TYR:HB2	7:W:348:PHE:HB3	1.94	0.50
2:M:282:SER:OG	2:M:284:GLU:OE1	2.25	0.50
3:N:677:LEU:HD21	3:N:711:MET:HB3	1.93	0.50
4:I:22:ARG:HH21	4:I:23:SER:HB3	1.77	0.50
4:K:152:GLN:NE2	4:K:262:GLU:O	2.45	0.50
7:X:189:LEU:O	7:X:424:SER:OG	2.29	0.50
3:B:723:THR:HA	7:P:248:TYR:HD1	1.76	0.49
2:C:233:VAL:HA	2:C:248:VAL:HA	1.94	0.49
2:C:864:PHE:HE1	7:Q:349:ILE:HD12	1.77	0.49
3:F:561:ALA:HA	3:F:564:ARG:HD3	1.92	0.49
3:F:698:SER:HA	3:F:701:LEU:HB3	1.94	0.49
7:Z:189:LEU:O	7:Z:424:SER:OG	2.30	0.49
3:B:720:TYR:OH	7:P:250:ASN:ND2	2.45	0.49
3:D:698:SER:HA	3:D:701:LEU:HB3	1.94	0.49
2:G:517:LYS:NZ	2:G:703:GLU:OE2	2.44	0.49
4:I:273:ALA:HA	4:I:276:ILE:HD12	1.94	0.49
5:J:232:PHE:HE2	6:L:298:GLU:HB3	1.77	0.49
7:S:324:ILE:HD12	7:S:375:GLY:HA3	1.94	0.49
7:1:141:ILE:HB	7:1:173:PRO:HD3	1.94	0.49
7:1:168:THR:HB	7:1:202:VAL:HG22	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:282:SER:OG	2:G:284:GLU:OE1	2.25	0.49
3:H:432:ARG:NH2	3:H:440:GLU:O	2.45	0.49
3:H:677:LEU:HD21	3:H:711:MET:HB3	1.93	0.49
3:H:680:ILE:HD11	3:H:786:GLN:HA	1.92	0.49
6:L:447:VAL:HG22	6:L:448:LEU:HG	1.95	0.49
7:Y:290:VAL:HA	7:Y:293:VAL:HG22	1.94	0.49
3:D:677:LEU:HD13	3:D:782:ILE:HG23	1.95	0.49
3:D:879:ARG:HH11	7:R:334:HIS:CE1	2.31	0.49
2:E:728:GLY:O	2:E:732:THR:OG1	2.29	0.49
3:F:581:LEU:HD13	3:F:600:ILE:HG21	1.94	0.49
3:F:677:LEU:HD21	3:F:711:MET:HB3	1.93	0.49
4:I:488:VAL:HG21	4:I:587:LEU:HB3	1.94	0.49
4:K:273:ALA:HA	4:K:276:ILE:HD12	1.94	0.49
4:K:611:GLN:HA	4:K:614:ILE:HB	1.94	0.49
4:K:308:ALA:O	4:K:312:HIS:N	2.41	0.49
2:A:692:ASN:HD21	7:O:355:SER:HB2	1.77	0.49
3:H:698:SER:HA	3:H:701:LEU:HB3	1.94	0.49
5:J:327:LEU:HD22	5:J:368:LEU:HD21	1.95	0.49
7:P:189:LEU:O	7:P:424:SER:OG	2.30	0.49
7:S:189:LEU:O	7:S:424:SER:OG	2.31	0.49
7:Y:189:LEU:O	7:Y:424:SER:OG	2.31	0.49
3:N:441:ASP:OD1	3:N:441:ASP:N	2.46	0.49
2:A:517:LYS:NZ	2:A:703:GLU:OE2	2.44	0.49
3:F:432:ARG:NH2	3:F:440:GLU:O	2.45	0.49
2:G:233:VAL:HA	2:G:248:VAL:HA	1.94	0.49
3:H:677:LEU:HD13	3:H:782:ILE:HG23	1.95	0.49
4:I:104:LEU:HD12	4:I:107:LEU:HD12	1.93	0.49
7:T:349:ILE:HD11	7:T:351:TRP:CE2	2.47	0.49
7:Z:363:LYS:HG2	7:Z:372:ARG:HD2	1.95	0.49
3:B:312:SER:OG	3:B:325:CYS:SG	2.67	0.49
3:D:432:ARG:NH2	3:D:440:GLU:O	2.45	0.49
3:D:705:HIS:O	3:D:709:SER:OG	2.28	0.49
2:G:629:ILE:HA	2:G:723:LEU:HD11	1.95	0.49
4:I:82:HIS:O	4:I:200:HIS:NE2	2.42	0.49
4:I:151:CYS:HB2	4:I:263:ILE:HG13	1.95	0.49
4:K:515:TRP:O	4:K:519:ASN:N	2.40	0.49
7:P:274:THR:HG22	7:P:297:LEU:HD13	1.94	0.49
7:U:290:VAL:HA	7:U:293:VAL:HG22	1.94	0.49
7:X:113:LYS:HG3	7:X:114:ILE:HG23	1.95	0.49
2:M:233:VAL:HA	2:M:248:VAL:HA	1.94	0.49
3:N:432:ARG:NH2	3:N:440:GLU:O	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:441:ASP:N	3:D:441:ASP:OD1	2.46	0.49
3:D:581:LEU:HD13	3:D:600:ILE:HG21	1.94	0.49
3:F:713:HIS:CE1	7:T:353:PRO:HB2	2.48	0.49
3:H:333:ARG:HD3	4:I:127:ASP:HB3	1.95	0.49
7:O:246:PRO:O	7:O:362:ARG:NH1	2.42	0.49
7:2:406:GLU:HB3	7:2:408:PHE:HD2	1.78	0.49
3:N:698:SER:HA	3:N:701:LEU:HB3	1.94	0.49
3:B:677:LEU:HD13	3:B:782:ILE:HG23	1.95	0.49
5:J:358:PHE:HD2	5:J:361:TYR:H	1.61	0.49
7:Y:232:VAL:HA	7:Y:235:ILE:HD12	1.94	0.49
3:N:677:LEU:HD13	3:N:782:ILE:HG23	1.95	0.49
2:C:517:LYS:NZ	2:C:703:GLU:OE2	2.44	0.48
2:E:233:VAL:HA	2:E:248:VAL:HA	1.94	0.48
7:W:189:LEU:O	7:W:424:SER:OG	2.29	0.48
7:2:113:LYS:HG3	7:2:114:ILE:HG23	1.94	0.48
2:A:629:ILE:HA	2:A:723:LEU:HD11	1.95	0.48
3:B:432:ARG:NH2	3:B:440:GLU:O	2.45	0.48
3:B:885:HIS:CD2	7:P:353:PRO:HB3	2.48	0.48
2:E:395:ILE:HG22	2:E:491:ALA:HB3	1.93	0.48
7:O:274:THR:O	7:O:302:ASN:ND2	2.45	0.48
7:S:218:LEU:HB2	7:S:220:ILE:HG12	1.94	0.48
7:X:232:VAL:HA	7:X:235:ILE:HD12	1.94	0.48
3:B:774:GLN:HE22	3:B:860:GLN:HB3	1.79	0.48
3:F:677:LEU:HD13	3:F:782:ILE:HG23	1.95	0.48
2:G:320:SER:H	2:G:323:LYS:HB2	1.78	0.48
3:H:774:GLN:HE22	3:H:860:GLN:HB3	1.78	0.48
4:I:515:TRP:O	4:I:519:ASN:N	2.40	0.48
5:J:266:THR:OG1	6:L:298:GLU:OE1	2.29	0.48
6:L:346:LEU:HA	6:L:347:VAL:HA	1.63	0.48
6:L:1630:MET:SD	6:L:1673:GLN:NE2	2.81	0.48
6:L:1800:LEU:HD21	7:Z:337:LEU:HB3	1.95	0.48
7:O:113:LYS:HG3	7:O:114:ILE:HG23	1.94	0.48
7:R:297:LEU:HD21	7:R:377:MET:HB3	1.94	0.48
7:V:113:LYS:HG3	7:V:114:ILE:HG23	1.94	0.48
4:K:151:CYS:HB2	4:K:263:ILE:HG13	1.95	0.48
7:S:406:GLU:HB3	7:S:408:PHE:HD2	1.79	0.48
2:M:629:ILE:HA	2:M:723:LEU:HD11	1.95	0.48
2:A:320:SER:H	2:A:323:LYS:HB2	1.78	0.48
3:B:441:ASP:OD1	3:B:441:ASP:N	2.46	0.48
2:E:629:ILE:HA	2:E:723:LEU:HD11	1.95	0.48
4:K:22:ARG:HH21	4:K:23:SER:HB3	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:U:274:THR:O	7:U:302:ASN:ND2	2.47	0.48
7:1:113:LYS:HG3	7:1:114:ILE:HG23	1.95	0.48
7:2:158:ASN:HD21	7:2:198:ASN:HD22	1.61	0.48
2:C:629:ILE:HA	2:C:723:LEU:HD11	1.95	0.48
4:K:649:LEU:HD12	4:K:652:ASN:HA	1.94	0.48
7:S:113:LYS:HG3	7:S:114:ILE:HG23	1.95	0.48
3:N:774:GLN:HE22	3:N:860:GLN:HB3	1.79	0.48
3:B:459:LEU:HD21	3:B:492:PHE:HA	1.96	0.48
3:B:802:ARG:O	3:B:806:PHE:N	2.42	0.48
3:B:827:GLU:N	3:B:827:GLU:OE1	2.47	0.48
2:C:320:SER:H	2:C:323:LYS:HB2	1.78	0.48
3:D:626:LEU:HD22	3:D:637:VAL:HG12	1.96	0.48
4:I:611:GLN:HA	4:I:614:ILE:HB	1.94	0.48
7:W:406:GLU:HB3	7:W:408:PHE:HD2	1.79	0.48
7:Z:113:LYS:HG3	7:Z:114:ILE:HG23	1.96	0.48
3:N:827:GLU:N	3:N:827:GLU:OE1	2.47	0.48
3:D:308:THR:HB	3:D:328:LEU:HD23	1.93	0.48
3:D:459:LEU:HD21	3:D:492:PHE:HA	1.96	0.48
2:E:307:VAL:HG12	3:F:365:ARG:HH21	1.79	0.48
2:E:320:SER:H	2:E:323:LYS:HB2	1.78	0.48
3:H:581:LEU:HD13	3:H:600:ILE:HG21	1.94	0.48
7:Y:45:THR:OG1	7:Y:362:ARG:NH1	2.46	0.48
2:M:728:GLY:O	2:M:732:THR:OG1	2.29	0.48
2:A:728:GLY:O	2:A:732:THR:OG1	2.29	0.48
3:F:827:GLU:N	3:F:827:GLU:OE1	2.47	0.48
3:H:626:LEU:HD22	3:H:637:VAL:HG12	1.96	0.48
7:R:423:THR:HA	7:R:426:GLU:HG3	1.96	0.48
7:W:274:THR:O	7:W:302:ASN:ND2	2.47	0.48
3:B:626:LEU:HD22	3:B:637:VAL:HG12	1.96	0.47
2:E:446:MET:SD	2:E:446:MET:N	2.87	0.47
3:F:441:ASP:N	3:F:441:ASP:OD1	2.46	0.47
6:L:294:ARG:HH12	6:L:306:HIS:CE1	2.32	0.47
7:O:189:LEU:O	7:O:424:SER:OG	2.30	0.47
7:Z:217:ARG:HG3	7:Z:218:LEU:HG	1.96	0.47
7:Z:399:ARG:NH1	7:Z:402:GLU:OE2	2.47	0.47
2:M:838:ALA:HB1	2:M:871:ARG:HD2	1.96	0.47
3:H:301:HIS:NE2	3:H:336:TYR:OH	2.30	0.47
4:I:112:LEU:HD21	6:L:295:ARG:HG2	1.96	0.47
5:J:364:PHE:HA	5:J:468:THR:HG22	1.96	0.47
7:Z:343:ARG:HB3	7:Z:345:LEU:HG	1.96	0.47
3:B:889:ARG:HD3	3:B:889:ARG:HA	1.66	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:446:MET:SD	2:C:446:MET:N	2.87	0.47
3:D:774:GLN:HE22	3:D:860:GLN:HB3	1.78	0.47
2:A:446:MET:SD	2:A:446:MET:N	2.87	0.47
2:C:728:GLY:O	2:C:732:THR:OG1	2.29	0.47
3:H:827:GLU:OE1	3:H:827:GLU:N	2.47	0.47
7:S:207:ASN:O	7:S:211:ASN:HB2	2.14	0.47
7:S:297:LEU:HD21	7:S:377:MET:HB2	1.95	0.47
7:X:406:GLU:HB3	7:X:408:PHE:HD2	1.79	0.47
2:M:320:SER:H	2:M:323:LYS:HB2	1.78	0.47
3:H:441:ASP:N	3:H:441:ASP:OD1	2.46	0.47
4:I:367:GLU:HG3	7:W:251:ASN:HB2	1.95	0.47
4:K:653:LYS:HZ2	7:Y:353:PRO:HB3	1.79	0.47
3:N:626:LEU:HD22	3:N:637:VAL:HG12	1.96	0.47
2:A:633:LYS:NZ	2:A:727:THR:OG1	2.48	0.47
4:K:600:ASN:HB2	4:K:604:LEU:HD11	1.97	0.47
7:V:189:LEU:O	7:V:424:SER:OG	2.32	0.47
7:W:113:LYS:HG3	7:W:114:ILE:HG23	1.95	0.47
3:N:660:TYR:HH	3:N:751:HIS:HE2	1.59	0.47
2:A:509:LEU:HD13	2:A:626:LEU:HD22	1.97	0.47
2:E:517:LYS:NZ	2:E:703:GLU:OE2	2.44	0.47
2:E:633:LYS:NZ	2:E:727:THR:OG1	2.48	0.47
3:F:404:THR:O	3:F:404:THR:OG1	2.22	0.47
2:G:415:ARG:HG3	2:G:419:ILE:HD12	1.97	0.47
2:G:446:MET:SD	2:G:446:MET:N	2.87	0.47
2:G:536:GLU:HA	2:G:539:LEU:HB2	1.97	0.47
5:J:946:LYS:HA	5:J:949:PHE:HD2	1.79	0.47
7:P:213:ILE:HD13	7:P:304:MET:HG2	1.97	0.47
7:Q:69:LEU:HD23	7:Q:145:THR:HB	1.96	0.47
7:W:318:ILE:HA	7:W:350:PRO:HB3	1.97	0.47
7:X:69:LEU:HD23	7:X:145:THR:HB	1.97	0.47
7:Y:133:GLU:HG2	7:Y:253:LEU:HD21	1.97	0.47
7:Z:46:ASP:HA	7:Z:246:PRO:HD3	1.95	0.47
2:M:509:LEU:HD13	2:M:626:LEU:HD22	1.97	0.47
2:M:536:GLU:HA	2:M:539:LEU:HB2	1.97	0.47
3:N:308:THR:OG1	3:N:325:CYS:SG	2.68	0.47
3:N:312:SER:OG	3:N:325:CYS:SG	2.67	0.47
3:N:802:ARG:O	3:N:806:PHE:N	2.42	0.47
2:A:191:PHE:CD1	3:B:289:ASP:HB3	2.50	0.47
2:A:536:GLU:HA	2:A:539:LEU:HB2	1.97	0.47
2:C:311:GLU:OE1	2:C:315:ARG:NH1	2.48	0.47
2:C:705:THR:HG1	2:C:733:CYS:HG	1.58	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:308:THR:OG1	3:F:325:CYS:SG	2.68	0.47
3:F:774:GLN:HE22	3:F:860:GLN:HB3	1.78	0.47
4:I:409:ASN:O	4:I:411:LEU:N	2.47	0.47
2:M:446:MET:N	2:M:446:MET:SD	2.87	0.47
2:M:633:LYS:NZ	2:M:727:THR:OG1	2.48	0.47
2:A:213:GLN:HE22	2:A:253:ASP:H	1.63	0.47
3:F:660:TYR:HH	3:F:751:HIS:HE2	1.61	0.47
2:G:633:LYS:NZ	2:G:727:THR:OG1	2.48	0.47
2:G:728:GLY:O	2:G:732:THR:OG1	2.29	0.47
7:O:37:VAL:HG23	7:O:58:GLU:HB3	1.96	0.47
3:N:459:LEU:HD21	3:N:492:PHE:HA	1.96	0.47
4:K:397:GLN:HE22	4:K:411:LEU:HD13	1.80	0.46
7:O:168:THR:HB	7:O:202:VAL:HG22	1.96	0.46
7:P:69:LEU:HD11	7:P:149:LEU:HD13	1.97	0.46
2:M:302:GLU:H	2:M:302:GLU:HG3	1.56	0.46
2:M:311:GLU:OE1	2:M:315:ARG:NH1	2.48	0.46
2:M:428:TRP:CD1	2:M:455:LYS:HD3	2.51	0.46
2:A:311:GLU:OE1	2:A:315:ARG:NH1	2.48	0.46
2:C:428:TRP:CD1	2:C:455:LYS:HD3	2.51	0.46
2:A:428:TRP:CD1	2:A:455:LYS:HD3	2.51	0.46
3:F:626:LEU:HD22	3:F:637:VAL:HG12	1.96	0.46
3:H:459:LEU:HD21	3:H:492:PHE:HA	1.96	0.46
4:I:600:ASN:HB2	4:I:604:LEU:HD11	1.97	0.46
6:L:361:ILE:HB	6:L:363:VAL:HG13	1.97	0.46
7:1:349:ILE:HA	2:M:864:PHE:HZ	1.80	0.46
3:D:464:TYR:OH	3:D:491:ASN:ND2	2.45	0.46
4:I:152:GLN:NE2	4:I:262:GLU:O	2.45	0.46
6:L:1676:ILE:HG23	6:L:1680:ILE:HD12	1.98	0.46
2:M:241:ARG:HD2	2:M:241:ARG:HA	1.43	0.46
2:A:618:PHE:O	2:A:639:GLN:NE2	2.45	0.46
2:C:633:LYS:NZ	2:C:727:THR:OG1	2.48	0.46
3:D:889:ARG:HA	3:D:889:ARG:HD3	1.65	0.46
2:E:428:TRP:CD1	2:E:455:LYS:HD3	2.51	0.46
3:F:879:ARG:HH22	7:T:338:GLN:HE22	1.63	0.46
2:G:509:LEU:HD13	2:G:626:LEU:HD22	1.97	0.46
7:Z:406:GLU:HB3	7:Z:408:PHE:HD2	1.80	0.46
7:2:238:ALA:HB3	7:2:376:LEU:HD13	1.97	0.46
2:E:282:SER:OG	2:E:284:GLU:OE1	2.25	0.46
2:E:509:LEU:HD13	2:E:626:LEU:HD22	1.97	0.46
4:K:496:TRP:CE2	7:Y:258:ALA:HA	2.51	0.46
6:L:1699:GLU:HA	6:L:1702:GLN:HE21	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Z:195:LEU:O	7:Z:199:ALA:HB3	2.14	0.46
2:M:618:PHE:O	2:M:639:GLN:NE2	2.45	0.46
2:C:325:TRP:O	2:C:329:GLN:NE2	2.46	0.46
2:C:674:GLN:HA	2:C:675:TRP:HD1	1.81	0.46
2:E:213:GLN:HE22	2:E:253:ASP:H	1.63	0.46
3:F:886:TYR:HA	3:F:890:GLU:HB3	1.98	0.46
2:G:241:ARG:HD2	2:G:241:ARG:HA	1.43	0.46
4:I:397:GLN:HE22	4:I:411:LEU:HD13	1.80	0.46
4:I:471:VAL:HG21	4:I:561:HIS:HE1	1.80	0.46
6:L:1738:LYS:O	6:L:1741:SER:OG	2.34	0.46
7:P:113:LYS:HG3	7:P:114:ILE:HG23	1.96	0.46
7:W:297:LEU:HD21	7:W:377:MET:HB3	1.98	0.46
3:N:886:TYR:HA	3:N:890:GLU:HB3	1.98	0.46
2:C:221:LEU:HA	2:C:224:VAL:HG12	1.98	0.46
2:C:864:PHE:CE1	7:Q:349:ILE:HD12	2.50	0.46
3:F:459:LEU:HD21	3:F:492:PHE:HA	1.96	0.46
2:G:428:TRP:CD1	2:G:455:LYS:HD3	2.51	0.46
6:L:357:LEU:HD21	6:L:459:ILE:HD12	1.96	0.46
7:S:119:PHE:HA	7:S:122:ILE:HG12	1.98	0.46
7:T:189:LEU:O	7:T:424:SER:OG	2.33	0.46
7:U:252:ASP:N	7:U:252:ASP:OD1	2.48	0.46
2:A:221:LEU:HA	2:A:224:VAL:HG12	1.98	0.46
5:J:369:TYR:CE2	5:J:373:ILE:HD11	2.51	0.46
6:L:308:GLU:O	6:L:309:GLU:C	2.54	0.46
7:R:406:GLU:HB3	7:R:408:PHE:HD2	1.81	0.46
7:S:69:LEU:HD23	7:S:145:THR:HB	1.98	0.46
7:T:193:LYS:HG3	7:T:424:SER:HA	1.98	0.46
7:Y:63:ARG:NE	7:Y:129:SER:OG	2.49	0.46
3:D:886:TYR:HA	3:D:890:GLU:HB3	1.98	0.46
2:G:221:LEU:HA	2:G:224:VAL:HG12	1.98	0.46
2:G:311:GLU:OE1	2:G:315:ARG:NH1	2.48	0.46
4:K:471:VAL:HG21	4:K:561:HIS:HE1	1.80	0.46
7:O:317:TYR:HA	7:O:381:HIS:HA	1.98	0.46
7:R:63:ARG:NE	7:R:129:SER:OG	2.48	0.46
7:W:68:ASP:HB2	7:W:71:PRO:HB3	1.97	0.46
2:C:180:TRP:HZ2	3:D:383:ALA:HA	1.81	0.45
3:F:733:GLU:HG2	3:F:737:LYS:HE2	1.98	0.45
3:H:733:GLU:HG2	3:H:737:LYS:HE2	1.98	0.45
6:L:1635:ASP:O	6:L:1639:HIS:HB2	2.15	0.45
7:O:238:ALA:HB3	7:O:376:LEU:HD13	1.98	0.45
7:Q:29:HIS:ND1	7:Q:46:ASP:OD2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:U:56:ASP:OD1	7:V:296:ARG:NH1	2.50	0.45
7:1:406:GLU:HB3	7:1:408:PHE:HD2	1.81	0.45
2:M:213:GLN:HE22	2:M:253:ASP:H	1.63	0.45
3:N:733:GLU:HG2	3:N:737:LYS:HE2	1.98	0.45
2:A:698:MET:HB2	7:O:248:TYR:HB3	1.97	0.45
3:B:490:ILE:HG22	3:B:503:THR:HG21	1.97	0.45
3:F:883:ASN:ND2	7:T:349:ILE:O	2.25	0.45
7:O:252:ASP:OD1	7:O:252:ASP:N	2.48	0.45
7:X:4:GLU:OE2	7:X:131:SER:N	2.48	0.45
2:C:509:LEU:HD13	2:C:626:LEU:HD22	1.97	0.45
2:E:536:GLU:HA	2:E:539:LEU:HB2	1.97	0.45
2:G:618:PHE:O	2:G:639:GLN:NE2	2.45	0.45
4:I:472:LEU:HA	4:I:475:TYR:HB2	1.99	0.45
7:X:238:ALA:HB3	7:X:376:LEU:HD13	1.98	0.45
2:M:221:LEU:HA	2:M:224:VAL:HG12	1.98	0.45
2:E:221:LEU:HA	2:E:224:VAL:HG12	1.98	0.45
3:H:889:ARG:HA	3:H:889:ARG:HD3	1.65	0.45
7:O:249:MET:HB3	7:O:250:ASN:H	1.65	0.45
7:T:119:PHE:HA	7:T:122:ILE:HG12	1.98	0.45
2:E:311:GLU:OE1	2:E:315:ARG:NH1	2.48	0.45
3:F:483:VAL:HG12	3:F:534:ILE:HD12	1.99	0.45
3:H:464:TYR:OH	3:H:491:ASN:ND2	2.45	0.45
7:R:132:LEU:HG	7:R:164:LYS:NZ	2.31	0.45
7:S:351:TRP:NE1	7:S:443:TYR:HB3	2.32	0.45
2:C:701:VAL:HG13	2:C:736:ASP:HB3	1.99	0.45
3:H:886:TYR:HA	3:H:890:GLU:HB3	1.98	0.45
4:I:308:ALA:O	4:I:312:HIS:N	2.41	0.45
5:J:225:TRP:HD1	4:K:35:HIS:CD2	2.34	0.45
4:K:34:LEU:HB3	6:L:312:LEU:HD22	1.98	0.45
4:K:409:ASN:O	4:K:411:LEU:N	2.47	0.45
7:O:69:LEU:HD23	7:O:145:THR:HB	1.98	0.45
7:Q:340:ILE:HD13	7:Q:343:ARG:HD2	1.99	0.45
3:F:620:ARG:HH21	3:F:644:VAL:HA	1.82	0.45
2:G:213:GLN:HE22	2:G:253:ASP:H	1.63	0.45
2:G:701:VAL:HG13	2:G:736:ASP:HB3	1.99	0.45
5:J:302:VAL:HG23	5:J:310:LEU:HD22	1.97	0.45
7:P:131:SER:OG	7:P:132:LEU:N	2.48	0.45
7:Q:297:LEU:HD21	7:Q:377:MET:HB3	1.97	0.45
7:V:195:LEU:O	7:V:199:ALA:HB3	2.17	0.45
7:X:318:ILE:HA	7:X:350:PRO:HB3	1.98	0.45
2:C:305:ILE:HA	3:D:369:VAL:HG21	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:483:VAL:HG12	3:D:534:ILE:HD12	1.99	0.45
2:G:734:LEU:O	2:G:740:THR:OG1	2.35	0.45
7:S:335:LYS:O	7:S:339:ARG:HB2	2.17	0.45
7:T:139:HIS:CE1	7:T:141:ILE:HD13	2.52	0.45
2:C:290:HIS:HB3	3:D:407:GLY:H	1.81	0.45
2:C:659:TRP:HB2	2:C:683:ARG:HD2	1.99	0.45
7:2:143:GLY:H	7:2:147:SER:HB3	1.82	0.45
2:M:701:VAL:HG13	2:M:736:ASP:HB3	1.99	0.45
3:B:483:VAL:HG12	3:B:534:ILE:HD12	1.99	0.45
3:D:620:ARG:HH21	3:D:644:VAL:HA	1.82	0.45
2:E:701:VAL:HG13	2:E:736:ASP:HB3	1.99	0.45
3:F:707:LEU:HD13	3:F:851:THR:HG22	1.99	0.45
2:G:659:TRP:HB2	2:G:683:ARG:HD2	1.99	0.45
4:I:299:ILE:HG13	4:I:339:HIS:CD2	2.52	0.45
7:W:28:GLU:HA	7:W:367:LEU:HD11	1.98	0.45
7:W:340:ILE:HD13	7:W:343:ARG:HE	1.82	0.45
7:X:193:LYS:HG3	7:X:424:SER:HA	1.99	0.45
2:A:356:LEU:HB3	2:A:440:PRO:HB3	1.99	0.44
2:A:659:TRP:HB2	2:A:683:ARG:HD2	1.99	0.44
2:C:356:LEU:HB3	2:C:440:PRO:HB3	2.00	0.44
2:C:536:GLU:HA	2:C:539:LEU:HB2	1.97	0.44
2:E:734:LEU:O	2:E:740:THR:OG1	2.35	0.44
5:J:797:ASP:OD1	5:J:797:ASP:N	2.47	0.44
7:R:69:LEU:HD23	7:R:145:THR:HB	1.98	0.44
7:Y:274:THR:O	7:Y:302:ASN:ND2	2.51	0.44
7:1:289:THR:HG23	7:1:292:ASP:H	1.82	0.44
2:M:356:LEU:HB3	2:M:440:PRO:HB3	2.00	0.44
3:B:733:GLU:HG2	3:B:737:LYS:HE2	1.98	0.44
2:C:339:ALA:O	2:C:343:THR:OG1	2.36	0.44
2:C:350:CYS:HB3	2:C:355:THR:HB	1.99	0.44
3:D:707:LEU:HD13	3:D:851:THR:HG22	1.99	0.44
2:E:350:CYS:HB3	2:E:355:THR:HB	1.99	0.44
3:F:464:TYR:OH	3:F:491:ASN:ND2	2.45	0.44
3:H:620:ARG:HH21	3:H:644:VAL:HA	1.82	0.44
2:M:659:TRP:HB2	2:M:683:ARG:HD2	1.99	0.44
2:C:529:VAL:HG21	7:Q:251:ASN:HB2	1.99	0.44
2:E:485:VAL:HG23	2:E:486:GLU:HG3	2.00	0.44
2:G:705:THR:OG1	2:G:733:CYS:SG	2.68	0.44
3:H:707:LEU:HD13	3:H:851:THR:HG22	1.99	0.44
6:L:1679:GLN:HA	6:L:1683:VAL:HG22	1.98	0.44
7:S:4:GLU:HA	7:S:50:VAL:HA	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:620:ARG:HH21	3:N:644:VAL:HA	1.82	0.44
3:B:648:ILE:H	3:B:648:ILE:HG13	1.45	0.44
2:G:356:LEU:HB3	2:G:440:PRO:HB3	2.00	0.44
3:H:802:ARG:O	3:H:806:PHE:N	2.42	0.44
6:L:444:ARG:O	6:L:444:ARG:NH1	2.47	0.44
7:Q:406:GLU:HB3	7:Q:408:PHE:HD2	1.81	0.44
7:S:361:SER:OG	7:S:362:ARG:N	2.50	0.44
7:W:238:ALA:HB3	7:W:376:LEU:HD13	1.99	0.44
2:M:339:ALA:O	2:M:343:THR:OG1	2.36	0.44
2:A:485:VAL:HG23	2:A:486:GLU:HG3	2.00	0.44
3:B:429:PHE:HE2	3:B:445:GLU:HB2	1.83	0.44
3:D:703:GLN:HA	3:D:706:ILE:HG12	2.00	0.44
3:F:710:GLU:HG2	3:F:854:TYR:HE2	1.83	0.44
3:H:254:ILE:HD13	3:H:254:ILE:HA	1.88	0.44
7:2:232:VAL:HA	7:2:235:ILE:HD12	1.98	0.44
3:N:408:ASP:O	3:N:412:ARG:N	2.48	0.44
3:B:707:LEU:HD13	3:B:851:THR:HG22	1.99	0.44
3:B:710:GLU:HG2	3:B:854:TYR:HE2	1.83	0.44
4:I:2:ILE:H	4:I:2:ILE:HG12	1.58	0.44
7:Q:247:GLY:O	7:Q:251:ASN:ND2	2.38	0.44
7:R:361:SER:OG	7:R:362:ARG:N	2.51	0.44
3:B:703:GLN:HA	3:B:706:ILE:HG12	2.00	0.44
2:C:734:LEU:O	2:C:740:THR:OG1	2.35	0.44
3:D:733:GLU:HG2	3:D:737:LYS:HE2	1.98	0.44
7:R:275:PRO:HB2	7:R:278:THR:HB	2.00	0.44
7:W:181:VAL:HB	7:W:184:GLN:HB2	1.99	0.44
2:M:325:TRP:O	2:M:329:GLN:NE2	2.46	0.44
2:M:734:LEU:O	2:M:740:THR:OG1	2.35	0.44
3:N:647:PRO:O	3:N:650:THR:OG1	2.36	0.44
2:C:241:ARG:HD2	2:C:241:ARG:HA	1.43	0.44
2:C:485:VAL:HG23	2:C:486:GLU:HG3	2.00	0.44
3:D:305:ARG:HG3	3:D:332:LEU:HD21	2.00	0.44
3:D:429:PHE:HE2	3:D:445:GLU:HB2	1.83	0.44
3:D:581:LEU:HD12	3:D:581:LEU:HA	1.87	0.44
3:D:710:GLU:HG2	3:D:854:TYR:HE2	1.83	0.44
2:E:325:TRP:O	2:E:329:GLN:NE2	2.46	0.44
2:E:659:TRP:HB2	2:E:683:ARG:HD2	1.99	0.44
2:G:543:VAL:HA	2:G:546:ILE:HG22	2.00	0.44
5:J:237:HIS:O	5:J:239:HIS:N	2.50	0.44
7:Q:68:ASP:HB2	7:Q:71:PRO:HB3	2.00	0.44
7:V:119:PHE:HA	7:V:122:ILE:HG12	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:W:193:LYS:HG3	7:W:424:SER:HA	2.00	0.44
7:X:119:PHE:HA	7:X:122:ILE:HG12	1.99	0.44
7:X:290:VAL:HG21	7:X:328:VAL:HG13	1.99	0.44
7:Y:193:LYS:HG3	7:Y:424:SER:HA	2.00	0.44
7:Y:334:HIS:O	7:Y:338:GLN:HG2	2.18	0.44
7:Y:348:PHE:HB2	7:Y:350:PRO:HD3	2.00	0.44
7:1:249:MET:HG2	2:M:695:TYR:HE1	1.83	0.44
7:2:56:ASP:OD2	7:2:56:ASP:N	2.51	0.44
2:A:350:CYS:HB3	2:A:355:THR:HB	1.99	0.44
2:A:543:VAL:HA	2:A:546:ILE:HG22	2.00	0.44
2:A:701:VAL:HG13	2:A:736:ASP:HB3	1.99	0.44
2:A:734:LEU:O	2:A:740:THR:OG1	2.35	0.44
3:B:305:ARG:HG3	3:B:332:LEU:HD21	2.00	0.44
3:D:743:ASP:OD1	3:D:743:ASP:N	2.51	0.44
2:G:350:CYS:HB3	2:G:355:THR:HB	1.99	0.44
3:H:743:ASP:N	3:H:743:ASP:OD1	2.51	0.44
7:Q:416:ASP:N	7:Q:416:ASP:OD2	2.46	0.44
7:V:254:ILE:HA	7:V:257:ILE:HB	1.99	0.44
7:W:290:VAL:HA	7:W:293:VAL:HG22	1.99	0.44
7:1:274:THR:O	7:1:302:ASN:ND2	2.51	0.44
2:M:543:VAL:HA	2:M:546:ILE:HG22	2.00	0.44
2:C:213:GLN:HE22	2:C:253:ASP:H	1.63	0.43
3:H:483:VAL:HG12	3:H:534:ILE:HD12	1.99	0.43
3:H:710:GLU:HG2	3:H:854:TYR:HE2	1.83	0.43
7:T:274:THR:O	7:T:302:ASN:ND2	2.51	0.43
3:N:429:PHE:HE2	3:N:445:GLU:HB2	1.83	0.43
3:N:464:TYR:OH	3:N:491:ASN:ND2	2.45	0.43
3:N:490:ILE:H	3:N:490:ILE:HG12	1.64	0.43
2:E:513:LEU:HB3	2:E:706:TRP:HH2	1.84	0.43
3:F:254:ILE:HD13	3:F:254:ILE:HA	1.89	0.43
3:F:429:PHE:HE2	3:F:445:GLU:HB2	1.83	0.43
3:H:308:THR:OG1	3:H:325:CYS:SG	2.68	0.43
3:H:312:SER:OG	3:H:325:CYS:SG	2.67	0.43
5:J:262:ARG:HA	5:J:299:ASN:HB3	2.00	0.43
4:K:528:LEU:O	4:K:644:GLN:NE2	2.52	0.43
7:T:232:VAL:HA	7:T:235:ILE:HD12	1.99	0.43
3:N:483:VAL:HG12	3:N:534:ILE:HD12	1.99	0.43
3:N:743:ASP:OD1	3:N:743:ASP:N	2.51	0.43
3:B:620:ARG:HH21	3:B:644:VAL:HA	1.82	0.43
2:C:543:VAL:HA	2:C:546:ILE:HG22	2.00	0.43
2:E:339:ALA:O	2:E:343:THR:OG1	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:543:VAL:HA	2:E:546:ILE:HG22	2.00	0.43
2:G:352:GLY:HA3	2:G:406:GLU:HB2	2.01	0.43
4:K:472:LEU:HA	4:K:475:TYR:HB2	1.99	0.43
6:L:390:PRO:HB2	6:L:391:GLU:H	1.64	0.43
3:N:710:GLU:HG2	3:N:854:TYR:HE2	1.83	0.43
2:A:414:LEU:HD23	2:A:414:LEU:HA	1.90	0.43
2:E:415:ARG:HD3	2:E:415:ARG:HA	1.86	0.43
4:I:5:LEU:HD21	4:I:45:LEU:HD13	2.01	0.43
4:I:520:HIS:HE1	7:W:353:PRO:HD2	1.84	0.43
7:U:63:ARG:NE	7:U:129:SER:OG	2.52	0.43
7:Y:276:LEU:HA	7:Y:276:LEU:HD23	1.83	0.43
7:1:69:LEU:HD23	7:1:145:THR:HB	2.00	0.43
7:2:189:LEU:O	7:2:424:SER:OG	2.35	0.43
2:A:665:ALA:HB1	7:O:197:GLN:HG2	2.00	0.43
3:D:312:SER:OG	3:D:325:CYS:SG	2.67	0.43
3:D:319:LEU:O	3:D:323:SER:OG	2.36	0.43
3:F:408:ASP:O	3:F:412:ARG:N	2.48	0.43
3:F:742:GLN:H	3:F:742:GLN:HG3	1.69	0.43
4:K:188:SER:HA	4:K:192:LEU:HD23	2.00	0.43
6:L:1666:GLN:HE22	7:Z:258:ALA:HB3	1.83	0.43
7:P:69:LEU:HD22	7:P:145:THR:HB	1.99	0.43
7:W:69:LEU:HD23	7:W:145:THR:HB	2.01	0.43
2:M:350:CYS:HB3	2:M:355:THR:HB	1.99	0.43
2:M:513:LEU:HB3	2:M:706:TRP:HH2	1.83	0.43
3:B:568:LEU:HG	3:B:574:ILE:HG13	2.01	0.43
3:F:312:SER:OG	3:F:325:CYS:SG	2.67	0.43
2:G:391:LEU:HD21	2:G:488:ILE:HD11	2.01	0.43
3:H:305:ARG:HG3	3:H:332:LEU:HD21	2.00	0.43
7:U:69:LEU:HD23	7:U:145:THR:HB	2.01	0.43
7:1:353:PRO:HD2	2:M:684:GLN:HE21	1.83	0.43
2:M:166:ASN:O	2:M:169:ASN:ND2	2.46	0.43
2:M:391:LEU:HD21	2:M:488:ILE:HD11	2.01	0.43
2:M:485:VAL:HG23	2:M:486:GLU:HG3	2.00	0.43
3:N:319:LEU:O	3:N:323:SER:OG	2.36	0.43
2:E:307:VAL:HG12	3:F:365:ARG:NH2	2.33	0.43
2:G:513:LEU:HB3	2:G:706:TRP:HH2	1.84	0.43
2:G:861:PHE:O	2:G:863:GLY:N	2.52	0.43
3:H:429:PHE:HE2	3:H:445:GLU:HB2	1.83	0.43
7:O:243:LEU:HD21	7:O:253:LEU:HB2	2.01	0.43
7:Y:77:ILE:O	7:Y:86:TYR:OH	2.35	0.43
2:A:513:LEU:HB3	2:A:706:TRP:HH2	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:861:PHE:O	2:A:863:GLY:N	2.52	0.43
2:E:234:SER:O	2:E:247:LEU:N	2.40	0.43
2:E:419:ILE:HD12	2:E:424:ASN:HB3	2.01	0.43
2:G:427:TYR:OH	2:G:458:ASN:HB3	2.19	0.43
7:R:113:LYS:HG3	7:R:114:ILE:HG23	2.01	0.43
7:Y:241:THR:OG1	7:Y:244:ARG:NH2	2.51	0.43
7:1:290:VAL:HG13	7:1:336:SER:HB2	2.00	0.43
7:2:290:VAL:HA	7:2:293:VAL:HG22	2.00	0.43
2:M:769:MET:HG3	2:M:770:LYS:HD3	2.01	0.43
2:A:241:ARG:HA	2:A:241:ARG:HD2	1.43	0.43
3:B:647:PRO:O	3:B:650:THR:OG1	2.36	0.43
2:C:277:ILE:HA	2:C:293:ALA:HB1	2.01	0.43
2:C:391:LEU:HD21	2:C:488:ILE:HD11	2.00	0.43
2:E:352:GLY:HA3	2:E:406:GLU:HB2	2.01	0.43
2:E:861:PHE:O	2:E:863:GLY:N	2.52	0.43
3:F:568:LEU:HG	3:F:574:ILE:HG13	2.01	0.43
3:H:326:ALA:HB2	4:I:165:LEU:HD23	2.01	0.43
4:K:385:THR:O	4:K:388:THR:OG1	2.30	0.43
7:Y:361:SER:OG	7:Y:362:ARG:N	2.52	0.43
3:N:254:ILE:HD13	3:N:254:ILE:HA	1.89	0.43
3:N:703:GLN:HA	3:N:706:ILE:HG12	2.00	0.43
2:A:277:ILE:HA	2:A:293:ALA:HB1	2.01	0.43
3:B:319:LEU:O	3:B:323:SER:OG	2.36	0.43
3:F:703:GLN:HA	3:F:706:ILE:HG12	2.00	0.43
3:F:743:ASP:N	3:F:743:ASP:OD1	2.51	0.43
2:G:339:ALA:O	2:G:343:THR:OG1	2.36	0.43
3:H:319:LEU:O	3:H:323:SER:OG	2.36	0.43
4:K:2:ILE:H	4:K:2:ILE:HG12	1.58	0.43
3:N:707:LEU:HD13	3:N:851:THR:HG22	2.00	0.43
2:A:745:LEU:HD12	2:A:745:LEU:HA	1.88	0.42
3:D:725:GLU:OE1	7:R:334:HIS:CE1	2.72	0.42
3:D:781:GLN:HA	3:D:784:GLU:HB3	2.01	0.42
3:F:680:ILE:HD13	3:F:680:ILE:HA	1.94	0.42
3:H:311:ARG:HD3	3:H:311:ARG:HA	1.81	0.42
5:J:821:TYR:CZ	5:J:934:LEU:HD21	2.53	0.42
4:K:84:ILE:HD12	4:K:87:ARG:HD2	2.01	0.42
7:P:62:PRO:HD2	7:P:86:TYR:HA	2.00	0.42
7:P:290:VAL:HG23	7:P:336:SER:HB2	2.01	0.42
7:2:274:THR:O	7:2:302:ASN:ND2	2.52	0.42
3:B:311:ARG:HA	3:B:311:ARG:HD3	1.81	0.42
2:C:352:GLY:HA3	2:C:406:GLU:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:682:LEU:HD13	2:C:826:ASP:HA	2.02	0.42
2:E:391:LEU:HD21	2:E:488:ILE:HD11	2.01	0.42
2:G:325:TRP:O	2:G:329:GLN:NE2	2.46	0.42
5:J:484:HIS:CE1	5:J:486:TRP:HB2	2.54	0.42
7:O:348:PHE:HD2	7:O:350:PRO:HD2	1.84	0.42
2:M:352:GLY:HA3	2:M:406:GLU:HB2	2.01	0.42
2:M:861:PHE:O	2:M:863:GLY:N	2.52	0.42
3:N:305:ARG:HG3	3:N:332:LEU:HD21	2.00	0.42
2:C:234:SER:O	2:C:247:LEU:N	2.40	0.42
3:D:568:LEU:HG	3:D:574:ILE:HG13	2.01	0.42
2:E:166:ASN:O	2:E:169:ASN:ND2	2.45	0.42
2:E:277:ILE:HA	2:E:293:ALA:HB1	2.01	0.42
2:G:485:VAL:HG23	2:G:486:GLU:HG3	2.00	0.42
2:G:682:LEU:HD13	2:G:826:ASP:HA	2.02	0.42
5:J:889:LYS:HG2	5:J:987:PHE:HE2	1.84	0.42
5:J:921:LYS:H	5:J:925:GLN:HE21	1.66	0.42
6:L:1590:VAL:HG11	6:L:1733:PHE:HB3	2.01	0.42
7:R:290:VAL:HG21	7:R:333:VAL:HG23	2.02	0.42
7:W:119:PHE:HA	7:W:122:ILE:HG12	2.01	0.42
2:M:427:TYR:OH	2:M:458:ASN:HB3	2.19	0.42
2:M:682:LEU:HD13	2:M:826:ASP:HA	2.01	0.42
2:A:152:GLN:OE1	2:A:152:GLN:N	2.50	0.42
2:A:391:LEU:HD21	2:A:488:ILE:HD11	2.01	0.42
2:C:152:GLN:OE1	2:C:152:GLN:N	2.50	0.42
4:I:84:ILE:HD12	4:I:87:ARG:HD2	2.01	0.42
5:J:394:THR:HB	6:L:297:TRP:NE1	2.34	0.42
4:K:516:ARG:HD2	7:Y:264:PRO:HD3	2.00	0.42
7:O:235:ILE:O	7:O:239:SER:OG	2.31	0.42
7:Q:63:ARG:NE	7:Q:129:SER:OG	2.53	0.42
7:S:193:LYS:HG3	7:S:424:SER:HA	2.00	0.42
2:A:234:SER:O	2:A:247:LEU:N	2.40	0.42
2:A:339:ALA:O	2:A:343:THR:OG1	2.36	0.42
2:C:861:PHE:O	2:C:863:GLY:N	2.52	0.42
3:F:319:LEU:O	3:F:323:SER:OG	2.36	0.42
3:H:285:ARG:NH2	3:H:288:ARG:HB2	2.33	0.42
4:I:503:LYS:HA	4:I:503:LYS:HD2	1.76	0.42
6:L:393:ILE:O	6:L:397:LEU:HB2	2.19	0.42
7:Q:139:HIS:CE1	7:Q:141:ILE:HD13	2.54	0.42
7:R:201:CYS:HA	7:R:267:HIS:HB2	2.01	0.42
7:R:204:VAL:HG11	7:R:384:ILE:HD11	2.01	0.42
7:S:232:VAL:HA	7:S:235:ILE:HD12	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Y:262:PRO:HB2	7:Y:351:TRP:CH2	2.54	0.42
7:2:195:LEU:O	7:2:199:ALA:HB3	2.19	0.42
2:C:166:ASN:O	2:C:169:ASN:ND2	2.45	0.42
2:C:180:TRP:CZ2	3:D:383:ALA:HA	2.54	0.42
2:E:356:LEU:HB3	2:E:440:PRO:HB3	1.99	0.42
3:H:781:GLN:HA	3:H:784:GLU:HB3	2.01	0.42
4:I:370:GLN:HB2	4:I:486:ARG:HH21	1.85	0.42
7:O:316:CYS:HB2	7:O:349:ILE:H	1.83	0.42
7:S:272:GLY:HA2	7:S:304:MET:HG3	2.02	0.42
7:X:317:TYR:HB2	7:X:348:PHE:HB3	2.02	0.42
7:Z:69:LEU:HD23	7:Z:145:THR:HB	2.01	0.42
2:M:234:SER:O	2:M:247:LEU:N	2.40	0.42
3:D:827:GLU:OE1	3:D:827:GLU:N	2.47	0.42
3:F:581:LEU:HD12	3:F:581:LEU:HA	1.88	0.42
3:H:261:ILE:HG21	4:I:37:SER:HA	2.02	0.42
6:L:299:ARG:HH21	6:L:306:HIS:HB3	1.83	0.42
7:P:195:LEU:O	7:P:199:ALA:HB3	2.19	0.42
7:U:119:PHE:HA	7:U:122:ILE:HG12	2.02	0.42
7:X:181:VAL:HB	7:X:184:GLN:HB2	2.02	0.42
7:Z:193:LYS:HG3	7:Z:424:SER:HA	2.01	0.42
7:Z:274:THR:HG23	7:Z:296:ARG:HB3	2.02	0.42
3:N:568:LEU:HG	3:N:574:ILE:HG13	2.01	0.42
3:N:729:CYS:O	3:N:733:GLU:N	2.49	0.42
2:A:352:GLY:HA3	2:A:406:GLU:HB2	2.01	0.42
2:C:390:VAL:HG22	2:C:401:HIS:CE1	2.52	0.42
2:C:427:TYR:OH	2:C:458:ASN:HB3	2.19	0.42
2:C:513:LEU:HB3	2:C:706:TRP:HH2	1.84	0.42
2:E:390:VAL:HG22	2:E:401:HIS:CE1	2.52	0.42
2:G:871:ARG:HA	2:G:871:ARG:HD3	1.83	0.42
3:H:408:ASP:O	3:H:412:ARG:N	2.48	0.42
3:H:568:LEU:HG	3:H:574:ILE:HG13	2.01	0.42
4:K:370:GLN:HB2	4:K:486:ARG:HH21	1.84	0.42
7:U:406:GLU:HB3	7:U:408:PHE:HD2	1.84	0.42
3:B:408:ASP:O	3:B:412:ARG:N	2.48	0.42
2:E:201:THR:N	3:F:282:ASN:O	2.53	0.42
2:E:427:TYR:OH	2:E:458:ASN:HB3	2.19	0.42
2:E:519:TYR:CG	2:E:573:LEU:HD11	2.55	0.42
4:I:188:SER:HA	4:I:192:LEU:HD23	2.00	0.42
4:K:5:LEU:HD21	4:K:45:LEU:HD13	2.01	0.42
4:K:17:PHE:HE2	4:K:42:LEU:HD22	1.85	0.42
6:L:296:CYS:SG	6:L:297:TRP:N	2.93	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Q:57:ASP:HB3	7:Q:59:HIS:CD2	2.55	0.42
7:R:371:HIS:ND1	7:R:373:VAL:O	2.48	0.42
7:S:169:TYR:CD1	7:S:236:MET:HG2	2.55	0.42
7:T:406:GLU:HB3	7:T:408:PHE:HD2	1.85	0.42
7:X:276:LEU:HD23	7:X:276:LEU:HA	1.81	0.42
2:A:159:LYS:HA	2:A:159:LYS:HD3	1.92	0.42
2:A:519:TYR:CG	2:A:573:LEU:HD11	2.55	0.42
3:B:781:GLN:HA	3:B:784:GLU:HB3	2.01	0.42
2:G:277:ILE:HA	2:G:293:ALA:HB1	2.02	0.42
2:G:837:LEU:HD21	2:G:859:LEU:HD22	2.02	0.42
3:H:490:ILE:H	3:H:490:ILE:HG12	1.64	0.42
3:H:703:GLN:HA	3:H:706:ILE:HG12	2.00	0.42
4:I:17:PHE:HE2	4:I:42:LEU:HD22	1.85	0.42
4:I:22:ARG:HE	4:I:22:ARG:HB3	1.29	0.42
4:K:205:ILE:O	4:K:260:ARG:NH2	2.53	0.42
7:O:8:LEU:HD12	7:O:137:LEU:HD11	2.02	0.42
7:O:333:VAL:HG23	7:O:334:HIS:CE1	2.54	0.42
7:P:232:VAL:HA	7:P:235:ILE:HD12	2.02	0.42
7:S:322:ASN:ND2	7:S:357:GLN:O	2.52	0.42
7:Y:343:ARG:HB3	7:Y:345:LEU:HG	2.02	0.42
7:Z:57:ASP:HB3	7:Z:59:HIS:CD2	2.55	0.42
7:Z:192:LEU:HD22	7:Z:428:VAL:HG23	2.02	0.42
7:2:119:PHE:HA	7:2:122:ILE:HG12	2.01	0.42
7:2:141:ILE:HD11	7:2:170:SER:HB2	2.02	0.42
2:A:427:TYR:OH	2:A:458:ASN:HB3	2.19	0.41
2:E:662:ASN:ND2	2:E:762:MET:SD	2.93	0.41
2:G:234:SER:O	2:G:247:LEU:N	2.40	0.41
5:J:550:SER:HA	5:J:553:LYS:HB2	2.01	0.41
3:N:781:GLN:HA	3:N:784:GLU:HB3	2.01	0.41
2:A:662:ASN:ND2	2:A:762:MET:SD	2.93	0.41
2:E:682:LEU:HD13	2:E:826:ASP:HA	2.01	0.41
3:F:305:ARG:HG3	3:F:332:LEU:HD21	2.00	0.41
3:F:763:LEU:HB3	3:F:772:LEU:HB2	2.02	0.41
5:J:228:ARG:NH1	5:J:231:GLN:H	2.18	0.41
5:J:321:GLY:HA2	5:J:324:VAL:HG12	2.02	0.41
6:L:532:TYR:HA	6:L:535:PHE:HD2	1.85	0.41
7:P:343:ARG:HB3	7:P:345:LEU:HG	2.01	0.41
7:Q:136:VAL:HG22	7:Q:167:GLN:HB3	2.02	0.41
7:S:142:ALA:N	7:S:147:SER:OG	2.53	0.41
7:2:141:ILE:HB	7:2:173:PRO:HD3	2.01	0.41
2:A:682:LEU:HD13	2:A:826:ASP:HA	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:742:GLN:H	3:B:742:GLN:HG3	1.69	0.41
2:C:519:TYR:CG	2:C:573:LEU:HD11	2.55	0.41
2:C:837:LEU:HD22	2:C:856:ILE:HG23	2.02	0.41
3:D:734:LEU:HB2	3:D:754:PHE:HB2	2.03	0.41
4:I:299:ILE:HG22	4:I:301:LYS:HG2	2.02	0.41
5:J:362:GLN:HE22	4:K:165:LEU:N	2.18	0.41
5:J:429:ASN:ND2	5:J:489:ALA:O	2.53	0.41
7:S:139:HIS:HE1	7:S:141:ILE:HD13	1.85	0.41
7:S:252:ASP:OD1	7:S:252:ASP:N	2.52	0.41
7:S:317:TYR:HA	7:S:381:HIS:HA	2.01	0.41
7:U:207:ASN:O	7:U:211:ASN:HB2	2.20	0.41
7:U:224:SER:O	7:U:228:ILE:HB	2.20	0.41
7:X:361:SER:OG	7:X:362:ARG:N	2.52	0.41
7:Z:201:CYS:HA	7:Z:267:HIS:HB2	2.02	0.41
7:1:119:PHE:HA	7:1:122:ILE:HG12	2.02	0.41
3:N:493:LEU:HA	3:N:497:CYS:HB2	2.02	0.41
2:C:618:PHE:O	2:C:639:GLN:NE2	2.45	0.41
2:E:770:LYS:HB2	2:E:771:LEU:HD12	2.03	0.41
3:F:803:ARG:HH12	3:F:833:ILE:HD11	1.85	0.41
3:H:258:PHE:HZ	3:H:294:LEU:HD22	1.86	0.41
5:J:828:LEU:O	5:J:832:LYS:HG2	2.20	0.41
7:U:193:LYS:HG3	7:U:424:SER:HA	2.02	0.41
7:V:406:GLU:HB3	7:V:408:PHE:HD2	1.85	0.41
7:W:257:ILE:HD13	7:W:257:ILE:HA	1.94	0.41
7:Z:238:ALA:HB3	7:Z:376:LEU:HD13	2.02	0.41
7:2:337:LEU:HD11	7:2:356:ILE:HG23	2.01	0.41
3:N:258:PHE:HZ	3:N:294:LEU:HD22	1.86	0.41
3:N:311:ARG:HD3	3:N:311:ARG:HA	1.81	0.41
2:A:434:ILE:HD13	2:A:451:LEU:HB2	2.03	0.41
2:A:662:ASN:O	2:A:664:THR:N	2.53	0.41
2:C:704:PRO:HB3	7:Q:331:THR:HB	2.01	0.41
3:D:258:PHE:HZ	3:D:294:LEU:HD22	1.86	0.41
3:D:648:ILE:H	3:D:648:ILE:HG13	1.45	0.41
3:D:680:ILE:HD13	3:D:680:ILE:HA	1.94	0.41
2:G:486:GLU:HG3	2:G:486:GLU:H	1.63	0.41
4:K:32:PRO:HD2	4:K:33:PHE:CE2	2.56	0.41
7:P:384:ILE:HD12	7:P:384:ILE:HA	1.95	0.41
7:V:63:ARG:NE	7:V:129:SER:OG	2.53	0.41
7:Y:69:LEU:HD23	7:Y:145:THR:HB	2.02	0.41
7:1:290:VAL:HG21	7:1:333:VAL:HG12	2.02	0.41
3:B:301:HIS:NE2	3:B:336:TYR:OH	2.30	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:729:CYS:O	3:F:733:GLU:N	2.49	0.41
3:F:781:GLN:HA	3:F:784:GLU:HB3	2.01	0.41
5:J:711:LYS:HA	5:J:711:LYS:HD3	1.85	0.41
7:Z:318:ILE:HA	7:Z:350:PRO:HG3	2.03	0.41
7:2:276:LEU:HA	7:2:276:LEU:HD23	1.86	0.41
2:M:277:ILE:HA	2:M:293:ALA:HB1	2.02	0.41
3:B:729:CYS:O	3:B:733:GLU:N	2.49	0.41
3:B:803:ARG:HH12	3:B:833:ILE:HD11	1.85	0.41
2:C:770:LYS:HB3	2:C:770:LYS:HE2	1.47	0.41
3:D:569:GLY:HA2	7:R:248:TYR:CE1	2.56	0.41
3:D:879:ARG:HH12	7:R:338:GLN:HE22	1.68	0.41
2:E:302:GLU:H	2:E:302:GLU:HG3	1.56	0.41
4:I:86:LEU:HG	4:I:153:ILE:HD13	2.03	0.41
7:O:290:VAL:HG11	7:O:328:VAL:HG13	2.03	0.41
7:R:238:ALA:HB3	7:R:376:LEU:HD13	2.02	0.41
7:U:139:HIS:CE1	7:U:141:ILE:HD13	2.56	0.41
7:Z:274:THR:HG21	7:Z:293:VAL:HB	2.02	0.41
7:2:8:LEU:HD12	7:2:137:LEU:HD11	2.03	0.41
7:2:69:LEU:HD23	7:2:145:THR:HB	2.02	0.41
3:B:464:TYR:OH	3:B:491:ASN:ND2	2.45	0.41
2:C:210:LEU:HD13	2:C:210:LEU:HA	1.95	0.41
2:C:837:LEU:HD21	2:C:859:LEU:HD22	2.02	0.41
2:E:709:LEU:HB2	2:E:729:PHE:HB2	2.02	0.41
2:G:519:TYR:CG	2:G:573:LEU:HD11	2.55	0.41
2:G:837:LEU:HD22	2:G:856:ILE:HG23	2.02	0.41
4:I:503:LYS:HG2	7:W:264:PRO:HG3	2.02	0.41
7:Q:317:TYR:HA	7:Q:381:HIS:HA	2.03	0.41
7:Q:337:LEU:HG	7:Q:356:ILE:HD11	2.03	0.41
7:S:317:TYR:HD1	7:S:348:PHE:HB3	1.86	0.41
2:M:519:TYR:CG	2:M:573:LEU:HD11	2.55	0.41
2:M:709:LEU:HB2	2:M:729:PHE:HB2	2.02	0.41
3:N:763:LEU:HB3	3:N:772:LEU:HB2	2.02	0.41
3:N:803:ARG:HH12	3:N:833:ILE:HD11	1.85	0.41
2:A:704:PRO:HA	7:O:330:PRO:HB2	2.02	0.41
2:A:709:LEU:HB2	2:A:729:PHE:HB2	2.02	0.41
2:A:837:LEU:HD22	2:A:856:ILE:HG23	2.02	0.41
2:A:840:LEU:HB3	2:A:856:ILE:HD11	2.03	0.41
3:B:274:CYS:SG	3:B:275:TYR:N	2.93	0.41
3:B:493:LEU:HA	3:B:497:CYS:HB2	2.02	0.41
3:B:543:LYS:HD2	3:B:543:LYS:HA	1.86	0.41
3:B:734:LEU:HB2	3:B:754:PHE:HB2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:763:LEU:HB3	3:B:772:LEU:HB2	2.02	0.41
3:D:701:LEU:O	3:D:705:HIS:ND1	2.54	0.41
2:E:543:VAL:HG12	2:E:609:ALA:HA	2.03	0.41
2:E:618:PHE:O	2:E:639:GLN:NE2	2.45	0.41
3:F:283:LEU:HD13	3:F:286:SER:HB2	2.03	0.41
3:F:647:PRO:O	3:F:650:THR:OG1	2.35	0.41
3:F:734:LEU:HB2	3:F:754:PHE:HB2	2.02	0.41
2:G:434:ILE:HD13	2:G:451:LEU:HB2	2.03	0.41
2:G:543:VAL:HG12	2:G:609:ALA:HA	2.03	0.41
2:G:865:TYR:HB3	2:G:868:ARG:CZ	2.51	0.41
3:H:729:CYS:O	3:H:733:GLU:N	2.49	0.41
3:H:763:LEU:HB3	3:H:772:LEU:HB2	2.02	0.41
3:H:848:ARG:O	3:H:851:THR:OG1	2.37	0.41
4:I:343:LEU:HD12	4:I:347:GLU:HG3	2.03	0.41
6:L:1623:LEU:HD12	6:L:1623:LEU:HA	1.88	0.41
7:O:63:ARG:NE	7:O:129:SER:OG	2.54	0.41
7:O:68:ASP:HB2	7:O:71:PRO:HB3	2.03	0.41
7:X:297:LEU:HD21	7:X:377:MET:HB3	2.03	0.41
7:Y:55:ALA:HB3	7:Y:59:HIS:HB2	2.03	0.41
7:Z:322:ASN:HD21	7:Z:358:VAL:HG12	1.86	0.41
7:2:63:ARG:NE	7:2:129:SER:OG	2.54	0.41
2:C:486:GLU:HG3	2:C:486:GLU:H	1.63	0.41
3:D:493:LEU:HA	3:D:497:CYS:HB2	2.03	0.41
3:F:274:CYS:SG	3:F:275:TYR:N	2.93	0.41
2:G:234:SER:N	2:G:247:LEU:O	2.54	0.41
2:G:400:ILE:HD11	2:G:411:GLU:HB2	2.03	0.41
2:G:684:GLN:HE21	7:U:353:PRO:HD2	1.86	0.41
3:H:276:LYS:HA	3:H:276:LYS:HD3	1.87	0.41
4:K:343:LEU:HD12	4:K:347:GLU:HG3	2.03	0.41
7:1:193:LYS:HG3	7:1:424:SER:HA	2.03	0.41
2:M:234:SER:N	2:M:247:LEU:O	2.54	0.41
2:M:415:ARG:HG3	2:M:419:ILE:HD12	2.03	0.41
2:M:486:GLU:HG3	2:M:486:GLU:H	1.63	0.41
2:M:662:ASN:ND2	2:M:762:MET:SD	2.93	0.41
3:N:701:LEU:O	3:N:705:HIS:ND1	2.54	0.41
2:E:434:ILE:HD13	2:E:451:LEU:HB2	2.03	0.40
2:G:662:ASN:ND2	2:G:762:MET:SD	2.93	0.40
3:H:803:ARG:HH12	3:H:833:ILE:HD11	1.85	0.40
4:I:32:PRO:HD2	4:I:33:PHE:CE2	2.55	0.40
4:I:277:LEU:O	4:I:281:GLU:HG2	2.21	0.40
4:I:585:GLU:OE1	4:I:585:GLU:N	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:1:8:LEU:HD12	7:1:137:LEU:HD11	2.03	0.40
3:N:582:LYS:HD3	3:N:635:TRP:HZ2	1.86	0.40
2:A:234:SER:N	2:A:247:LEU:O	2.54	0.40
2:A:837:LEU:HD21	2:A:859:LEU:HD22	2.02	0.40
3:B:258:PHE:HZ	3:B:294:LEU:HD22	1.86	0.40
3:B:850:LEU:HD12	3:B:850:LEU:HA	1.94	0.40
3:B:869:SER:OG	3:B:870:ASP:N	2.54	0.40
2:C:187:LEU:HG	3:D:379:LYS:HD2	2.02	0.40
2:C:745:LEU:HD12	2:C:745:LEU:HA	1.88	0.40
2:C:861:PHE:HZ	7:Q:340:ILE:HG22	1.86	0.40
3:D:729:CYS:HB3	7:R:331:THR:HB	2.03	0.40
2:E:553:ALA:HB1	7:T:342:GLU:HG3	2.03	0.40
2:E:837:LEU:HD21	2:E:859:LEU:HD22	2.02	0.40
3:F:258:PHE:HZ	3:F:294:LEU:HD22	1.86	0.40
3:F:582:LYS:HD3	3:F:635:TRP:HZ2	1.86	0.40
3:F:869:SER:OG	3:F:870:ASP:N	2.54	0.40
2:G:840:LEU:HB3	2:G:856:ILE:HD11	2.03	0.40
3:H:701:LEU:O	3:H:705:HIS:ND1	2.54	0.40
3:H:734:LEU:HB2	3:H:754:PHE:HB2	2.03	0.40
5:J:430:VAL:HG11	5:J:495:GLN:HE21	1.86	0.40
4:K:277:LEU:O	4:K:281:GLU:HG2	2.21	0.40
4:K:341:TRP:HE1	4:K:557:ILE:HD11	1.86	0.40
7:O:193:LYS:HG3	7:O:424:SER:HA	2.02	0.40
7:P:254:ILE:HA	7:P:257:ILE:HB	2.02	0.40
7:R:293:VAL:HG21	7:R:324:ILE:HD13	2.03	0.40
7:R:337:LEU:HD12	7:R:337:LEU:HA	1.90	0.40
7:V:337:LEU:HD12	7:V:337:LEU:HA	1.84	0.40
7:W:215:THR:HG22	7:W:221:GLN:HG2	2.03	0.40
7:2:245:TYR:HA	7:2:246:PRO:HD3	1.93	0.40
2:M:400:ILE:HD11	2:M:411:GLU:HB2	2.03	0.40
2:M:414:LEU:HD23	2:M:414:LEU:HA	1.90	0.40
2:M:543:VAL:HG12	2:M:609:ALA:HA	2.03	0.40
2:M:837:LEU:HD21	2:M:859:LEU:HD22	2.02	0.40
2:A:400:ILE:HD11	2:A:411:GLU:HB2	2.03	0.40
3:B:743:ASP:OD1	3:B:743:ASP:N	2.51	0.40
2:C:699:PHE:HB3	7:Q:333:VAL:HG11	2.03	0.40
3:D:582:LYS:HD3	3:D:635:TRP:HZ2	1.86	0.40
3:D:803:ARG:HH12	3:D:833:ILE:HD11	1.85	0.40
3:F:832:ARG:HA	3:F:835:GLU:HG3	2.04	0.40
2:G:152:GLN:OE1	2:G:152:GLN:N	2.49	0.40
4:I:27:VAL:HG12	4:I:43:ASN:HD21	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:L:1779:LEU:HA	6:L:1782:VAL:HG12	2.02	0.40
7:Q:119:PHE:HA	7:Q:122:ILE:HG12	2.04	0.40
7:U:130:ASP:OD1	7:V:343:ARG:NH1	2.47	0.40
7:U:348:PHE:HB3	7:U:350:PRO:HD3	2.03	0.40
7:Y:119:PHE:HA	7:Y:122:ILE:HG12	2.03	0.40
7:Z:416:ASP:N	7:Z:416:ASP:OD2	2.53	0.40
2:C:234:SER:N	2:C:247:LEU:O	2.54	0.40
3:D:490:ILE:H	3:D:490:ILE:HG12	1.64	0.40
3:D:720:TYR:HE2	7:R:357:GLN:HB3	1.85	0.40
3:F:276:LYS:HD3	3:F:276:LYS:HA	1.87	0.40
3:F:466:LEU:HD12	3:F:466:LEU:HA	1.93	0.40
3:F:701:LEU:O	3:F:705:HIS:ND1	2.54	0.40
3:F:889:ARG:HD3	3:F:889:ARG:HA	1.65	0.40
2:G:207:THR:OG1	2:G:251:ASN:O	2.40	0.40
3:H:482:LYS:HE3	3:H:482:LYS:HB2	1.90	0.40
3:H:582:LYS:HD3	3:H:635:TRP:HZ2	1.86	0.40
6:L:444:ARG:NH2	2:M:322:GLN:HE22	2.16	0.40
7:R:163:LYS:HA	7:R:163:LYS:HD2	1.88	0.40
7:W:183:VAL:HG22	7:W:186:TYR:HB2	2.03	0.40
7:Y:143:GLY:H	7:Y:147:SER:HB3	1.85	0.40
7:Z:241:THR:OG1	7:Z:244:ARG:NH2	2.55	0.40
3:N:543:LYS:HD2	3:N:543:LYS:HA	1.86	0.40
3:N:889:ARG:HD3	3:N:889:ARG:HA	1.65	0.40
2:A:210:LEU:HD13	2:A:210:LEU:HA	1.95	0.40
3:B:832:ARG:HA	3:B:835:GLU:HG3	2.04	0.40
2:E:234:SER:N	2:E:247:LEU:O	2.54	0.40
2:E:546:ILE:HD11	2:E:551:LEU:HD21	2.03	0.40
2:G:299:LEU:HB2	2:G:338:LEU:HD11	2.04	0.40
2:G:311:GLU:HB2	3:H:365:ARG:HH12	1.87	0.40
2:G:390:VAL:HG22	2:G:401:HIS:CE1	2.52	0.40
2:G:745:LEU:HD12	2:G:745:LEU:HA	1.88	0.40
4:K:86:LEU:HG	4:K:153:ILE:HD13	2.03	0.40
7:O:260:LEU:HD21	7:O:321:LEU:HB3	2.04	0.40
7:P:217:ARG:HH22	7:P:279:ASP:HB2	1.87	0.40
7:Y:337:LEU:HD12	7:Y:358:VAL:HG13	2.03	0.40
2:M:434:ILE:HD13	2:M:451:LEU:HB2	2.03	0.40
2:M:837:LEU:HD22	2:M:856:ILE:HG23	2.02	0.40
3:N:734:LEU:HB2	3:N:754:PHE:HB2	2.02	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	e	360/375 (96%)	345 (96%)	15 (4%)	0	100	100
2	A	599/902 (66%)	567 (95%)	31 (5%)	1 (0%)	47	81
2	C	606/902 (67%)	573 (95%)	30 (5%)	3 (0%)	29	69
2	E	626/902 (69%)	587 (94%)	36 (6%)	3 (0%)	29	69
2	G	628/902 (70%)	594 (95%)	33 (5%)	1 (0%)	47	81
2	M	624/902 (69%)	592 (95%)	31 (5%)	1 (0%)	47	81
3	B	602/907 (66%)	568 (94%)	31 (5%)	3 (0%)	29	69
3	D	571/907 (63%)	546 (96%)	25 (4%)	0	100	100
3	F	591/907 (65%)	561 (95%)	29 (5%)	1 (0%)	47	81
3	H	584/907 (64%)	550 (94%)	32 (6%)	2 (0%)	41	77
3	N	584/907 (64%)	551 (94%)	31 (5%)	2 (0%)	41	77
3	a	112/907 (12%)	106 (95%)	6 (5%)	0	100	100
3	f	97/907 (11%)	92 (95%)	5 (5%)	0	100	100
3	h	97/907 (11%)	92 (95%)	5 (5%)	0	100	100
3	j	105/907 (12%)	94 (90%)	11 (10%)	0	100	100
4	I	511/667 (77%)	483 (94%)	23 (4%)	5 (1%)	15	55
4	K	548/667 (82%)	515 (94%)	27 (5%)	6 (1%)	14	52
5	J	506/1024 (49%)	476 (94%)	25 (5%)	5 (1%)	15	55
5	l	104/1024 (10%)	95 (91%)	6 (6%)	3 (3%)	4	29
6	L	540/1819 (30%)	506 (94%)	29 (5%)	5 (1%)	17	57
6	c	148/1819 (8%)	141 (95%)	7 (5%)	0	100	100
7	1	408/451 (90%)	389 (95%)	18 (4%)	1 (0%)	47	81
7	2	408/451 (90%)	388 (95%)	18 (4%)	2 (0%)	29	69
7	O	408/451 (90%)	392 (96%)	14 (3%)	2 (0%)	29	69
7	P	408/451 (90%)	396 (97%)	11 (3%)	1 (0%)	47	81

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	Q	408/451 (90%)	391 (96%)	16 (4%)	1 (0%)	47	81
7	R	408/451 (90%)	390 (96%)	17 (4%)	1 (0%)	47	81
7	S	408/451 (90%)	391 (96%)	15 (4%)	2 (0%)	29	69
7	T	408/451 (90%)	393 (96%)	14 (3%)	1 (0%)	47	81
7	U	408/451 (90%)	390 (96%)	17 (4%)	1 (0%)	47	81
7	V	408/451 (90%)	389 (95%)	17 (4%)	2 (0%)	29	69
7	W	408/451 (90%)	386 (95%)	21 (5%)	1 (0%)	47	81
7	X	408/451 (90%)	393 (96%)	14 (3%)	1 (0%)	47	81
7	Y	408/451 (90%)	391 (96%)	16 (4%)	1 (0%)	47	81
7	Z	408/451 (90%)	396 (97%)	11 (3%)	1 (0%)	47	81
8	b	63/82 (77%)	62 (98%)	1 (2%)	0	100	100
8	d	57/82 (70%)	56 (98%)	1 (2%)	0	100	100
8	g	63/82 (77%)	63 (100%)	0	0	100	100
8	i	63/82 (77%)	62 (98%)	1 (2%)	0	100	100
8	k	63/82 (77%)	62 (98%)	1 (2%)	0	100	100
8	m	63/82 (77%)	61 (97%)	2 (3%)	0	100	100
All	All	15227/26874 (57%)	14475 (95%)	693 (5%)	59 (0%)	38	72

All (59) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	B	891	PRO
2	E	425	ASP
3	H	503	THR
4	I	404	LEU
5	J	236	LEU
5	J	238	LEU
4	K	65	HIS
4	K	404	LEU
6	L	307	ARG
6	L	310	PRO
7	O	407	GLN
7	U	407	GLN
7	V	348	PHE
7	V	407	GLN
5	l	119	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
5	1	121	PRO
7	2	348	PHE
3	N	502	PRO
3	N	503	THR
2	E	427	TYR
3	H	502	PRO
4	I	409	ASN
5	J	222	HIS
5	J	234	HIS
4	K	66	VAL
4	K	409	ASN
7	Q	407	GLN
7	R	407	GLN
7	S	407	GLN
7	T	407	GLN
7	W	407	GLN
7	X	407	GLN
7	1	407	GLN
4	I	410	LEU
4	I	508	ASN
4	K	410	LEU
6	L	303	PRO
7	P	407	GLN
7	Y	407	GLN
7	Z	407	GLN
7	2	407	GLN
3	B	366	ARG
2	C	675	TRP
4	K	78	GLN
6	L	309	GLU
2	A	862	ASN
3	B	502	PRO
2	C	862	ASN
2	E	862	ASN
3	F	285	ARG
2	G	862	ASN
7	O	350	PRO
7	S	355	SER
5	1	120	SER
2	M	862	ASN
6	L	452	PRO
4	I	80	GLY

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Mol	Chain	Res	Type
5	J	258	VAL
2	C	204	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	e	8/318 (2%)	8 (100%)	0	100 100
2	A	549/791 (69%)	498 (91%)	51 (9%)	9 28
2	C	556/791 (70%)	506 (91%)	50 (9%)	9 30
2	E	574/791 (73%)	524 (91%)	50 (9%)	10 31
2	G	575/791 (73%)	522 (91%)	53 (9%)	9 29
2	M	572/791 (72%)	522 (91%)	50 (9%)	10 31
3	B	548/798 (69%)	497 (91%)	51 (9%)	9 28
3	D	525/798 (66%)	478 (91%)	47 (9%)	9 30
3	F	539/798 (68%)	491 (91%)	48 (9%)	9 30
3	H	536/798 (67%)	489 (91%)	47 (9%)	10 31
3	N	536/798 (67%)	487 (91%)	49 (9%)	9 29
3	a	101/798 (13%)	101 (100%)	0	100 100
3	f	88/798 (11%)	88 (100%)	0	100 100
3	h	88/798 (11%)	88 (100%)	0	100 100
3	j	96/798 (12%)	94 (98%)	2 (2%)	53 72
4	I	471/594 (79%)	435 (92%)	36 (8%)	13 37
4	K	509/594 (86%)	468 (92%)	41 (8%)	11 35
5	J	493/933 (53%)	492 (100%)	1 (0%)	93 96
5	l	96/933 (10%)	96 (100%)	0	100 100
6	L	492/1546 (32%)	485 (99%)	7 (1%)	67 80
6	c	135/1546 (9%)	134 (99%)	1 (1%)	84 90
7	1	375/400 (94%)	375 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	2	375/400 (94%)	374 (100%)	1 (0%)	92	95
7	O	375/400 (94%)	374 (100%)	1 (0%)	92	95
7	P	375/400 (94%)	374 (100%)	1 (0%)	92	95
7	Q	375/400 (94%)	375 (100%)	0	100	100
7	R	375/400 (94%)	373 (100%)	2 (0%)	88	93
7	S	375/400 (94%)	374 (100%)	1 (0%)	92	95
7	T	375/400 (94%)	375 (100%)	0	100	100
7	U	375/400 (94%)	375 (100%)	0	100	100
7	V	375/400 (94%)	375 (100%)	0	100	100
7	W	375/400 (94%)	372 (99%)	3 (1%)	81	89
7	X	375/400 (94%)	374 (100%)	1 (0%)	92	95
7	Y	375/400 (94%)	374 (100%)	1 (0%)	92	95
7	Z	375/400 (94%)	369 (98%)	6 (2%)	62	79
8	b	53/62 (86%)	53 (100%)	0	100	100
8	d	53/62 (86%)	53 (100%)	0	100	100
8	g	53/62 (86%)	52 (98%)	1 (2%)	57	75
8	i	53/62 (86%)	53 (100%)	0	100	100
8	k	53/62 (86%)	53 (100%)	0	100	100
8	m	53/62 (86%)	52 (98%)	1 (2%)	57	75
All	All	13655/23573 (58%)	13052 (96%)	603 (4%)	32	53

All (603) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	A	150	LEU
2	A	151	GLN
2	A	153	SER
2	A	165	GLN
2	A	170	SER
2	A	210	LEU
2	A	212	SER
2	A	221	LEU
2	A	229	ASP
2	A	234	SER
2	A	241	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	A	243	SER
2	A	255	SER
2	A	258	GLU
2	A	271	SER
2	A	302	GLU
2	A	308	SER
2	A	320	SER
2	A	334	THR
2	A	343	THR
2	A	357	SER
2	A	376	CYS
2	A	401	HIS
2	A	402	ASP
2	A	427	TYR
2	A	436	GLN
2	A	452	SER
2	A	459	VAL
2	A	465	HIS
2	A	481	GLU
2	A	485	VAL
2	A	486	GLU
2	A	505	GLU
2	A	515	SER
2	A	526	ASP
2	A	545	ASP
2	A	571	ASP
2	A	613	LEU
2	A	622	VAL
2	A	627	SER
2	A	664	THR
2	A	711	LYS
2	A	714	LYS
2	A	717	SER
2	A	727	THR
2	A	732	THR
2	A	740	THR
2	A	755	CYS
2	A	764	LYS
2	A	859	LEU
2	A	866	THR
3	B	246	THR
3	B	271	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	277	VAL
3	B	285	ARG
3	B	304	ILE
3	B	305	ARG
3	B	313	LEU
3	B	316	SER
3	B	323	SER
3	B	332	LEU
3	B	344	SER
3	B	384	LEU
3	B	404	THR
3	B	423	SER
3	B	430	LEU
3	B	442	THR
3	B	456	THR
3	B	468	LYS
3	B	469	SER
3	B	503	THR
3	B	551	LYS
3	B	556	LEU
3	B	579	ASP
3	B	582	LYS
3	B	586	VAL
3	B	590	THR
3	B	598	THR
3	B	621	LEU
3	B	648	ILE
3	B	667	LEU
3	B	690	LEU
3	B	693	ASN
3	B	698	SER
3	B	704	CYS
3	B	709	SER
3	B	725	GLU
3	B	736	ASN
3	B	742	GLN
3	B	762	CYS
3	B	837	LYS
3	B	838	GLU
3	B	842	LYS
3	B	866	THR
3	B	868	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	871	GLU
3	B	877	SER
3	B	878	PHE
3	B	879	ARG
3	B	890	GLU
3	B	891	PRO
3	B	892	ARG
2	C	150	LEU
2	C	151	GLN
2	C	153	SER
2	C	165	GLN
2	C	170	SER
2	C	210	LEU
2	C	212	SER
2	C	221	LEU
2	C	229	ASP
2	C	234	SER
2	C	241	ARG
2	C	243	SER
2	C	255	SER
2	C	258	GLU
2	C	271	SER
2	C	302	GLU
2	C	308	SER
2	C	320	SER
2	C	334	THR
2	C	343	THR
2	C	357	SER
2	C	376	CYS
2	C	401	HIS
2	C	402	ASP
2	C	427	TYR
2	C	436	GLN
2	C	452	SER
2	C	459	VAL
2	C	465	HIS
2	C	481	GLU
2	C	485	VAL
2	C	486	GLU
2	C	505	GLU
2	C	515	SER
2	C	526	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	C	545	ASP
2	C	571	ASP
2	C	613	LEU
2	C	622	VAL
2	C	627	SER
2	C	711	LYS
2	C	714	LYS
2	C	717	SER
2	C	727	THR
2	C	732	THR
2	C	740	THR
2	C	755	CYS
2	C	764	LYS
2	C	859	LEU
2	C	866	THR
3	D	246	THR
3	D	271	THR
3	D	277	VAL
3	D	304	ILE
3	D	305	ARG
3	D	313	LEU
3	D	316	SER
3	D	323	SER
3	D	332	LEU
3	D	344	SER
3	D	384	LEU
3	D	404	THR
3	D	423	SER
3	D	430	LEU
3	D	442	THR
3	D	456	THR
3	D	468	LYS
3	D	469	SER
3	D	501	THR
3	D	551	LYS
3	D	556	LEU
3	D	579	ASP
3	D	582	LYS
3	D	586	VAL
3	D	590	THR
3	D	598	THR
3	D	621	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	D	648	ILE
3	D	667	LEU
3	D	690	LEU
3	D	693	ASN
3	D	698	SER
3	D	704	CYS
3	D	709	SER
3	D	725	GLU
3	D	736	ASN
3	D	742	GLN
3	D	762	CYS
3	D	837	LYS
3	D	838	GLU
3	D	842	LYS
3	D	866	THR
3	D	868	SER
3	D	871	GLU
3	D	877	SER
3	D	878	PHE
3	D	879	ARG
2	E	150	LEU
2	E	151	GLN
2	E	153	SER
2	E	165	GLN
2	E	170	SER
2	E	210	LEU
2	E	212	SER
2	E	221	LEU
2	E	229	ASP
2	E	234	SER
2	E	241	ARG
2	E	243	SER
2	E	255	SER
2	E	258	GLU
2	E	271	SER
2	E	302	GLU
2	E	308	SER
2	E	320	SER
2	E	334	THR
2	E	343	THR
2	E	357	SER
2	E	376	CYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	E	401	HIS
2	E	402	ASP
2	E	427	TYR
2	E	436	GLN
2	E	452	SER
2	E	459	VAL
2	E	465	HIS
2	E	481	GLU
2	E	485	VAL
2	E	486	GLU
2	E	505	GLU
2	E	515	SER
2	E	526	ASP
2	E	545	ASP
2	E	571	ASP
2	E	613	LEU
2	E	622	VAL
2	E	627	SER
2	E	711	LYS
2	E	714	LYS
2	E	717	SER
2	E	727	THR
2	E	732	THR
2	E	740	THR
2	E	755	CYS
2	E	764	LYS
2	E	859	LEU
2	E	866	THR
3	F	246	THR
3	F	271	THR
3	F	277	VAL
3	F	285	ARG
3	F	304	ILE
3	F	305	ARG
3	F	313	LEU
3	F	316	SER
3	F	323	SER
3	F	332	LEU
3	F	344	SER
3	F	384	LEU
3	F	404	THR
3	F	423	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	F	430	LEU
3	F	442	THR
3	F	456	THR
3	F	468	LYS
3	F	469	SER
3	F	501	THR
3	F	551	LYS
3	F	556	LEU
3	F	579	ASP
3	F	582	LYS
3	F	586	VAL
3	F	590	THR
3	F	598	THR
3	F	621	LEU
3	F	648	ILE
3	F	667	LEU
3	F	690	LEU
3	F	693	ASN
3	F	698	SER
3	F	704	CYS
3	F	709	SER
3	F	725	GLU
3	F	736	ASN
3	F	742	GLN
3	F	762	CYS
3	F	837	LYS
3	F	838	GLU
3	F	842	LYS
3	F	866	THR
3	F	868	SER
3	F	871	GLU
3	F	877	SER
3	F	878	PHE
3	F	879	ARG
2	G	150	LEU
2	G	151	GLN
2	G	153	SER
2	G	165	GLN
2	G	170	SER
2	G	203	LEU
2	G	210	LEU
2	G	212	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	G	221	LEU
2	G	229	ASP
2	G	234	SER
2	G	241	ARG
2	G	243	SER
2	G	255	SER
2	G	258	GLU
2	G	271	SER
2	G	302	GLU
2	G	308	SER
2	G	320	SER
2	G	334	THR
2	G	343	THR
2	G	357	SER
2	G	376	CYS
2	G	401	HIS
2	G	402	ASP
2	G	427	TYR
2	G	436	GLN
2	G	452	SER
2	G	459	VAL
2	G	465	HIS
2	G	481	GLU
2	G	485	VAL
2	G	486	GLU
2	G	505	GLU
2	G	515	SER
2	G	526	ASP
2	G	545	ASP
2	G	571	ASP
2	G	613	LEU
2	G	622	VAL
2	G	627	SER
2	G	711	LYS
2	G	714	LYS
2	G	717	SER
2	G	727	THR
2	G	732	THR
2	G	740	THR
2	G	755	CYS
2	G	764	LYS
2	G	859	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	G	866	THR
2	G	868	ARG
2	G	871	ARG
3	H	246	THR
3	H	271	THR
3	H	277	VAL
3	H	304	ILE
3	H	305	ARG
3	H	313	LEU
3	H	316	SER
3	H	323	SER
3	H	332	LEU
3	H	344	SER
3	H	384	LEU
3	H	404	THR
3	H	423	SER
3	H	430	LEU
3	H	442	THR
3	H	456	THR
3	H	468	LYS
3	H	469	SER
3	H	501	THR
3	H	551	LYS
3	H	556	LEU
3	H	579	ASP
3	H	582	LYS
3	H	586	VAL
3	H	590	THR
3	H	598	THR
3	H	621	LEU
3	H	648	ILE
3	H	667	LEU
3	H	690	LEU
3	H	693	ASN
3	H	698	SER
3	H	704	CYS
3	H	709	SER
3	H	725	GLU
3	H	736	ASN
3	H	742	GLN
3	H	762	CYS
3	H	837	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	H	838	GLU
3	H	842	LYS
3	H	866	THR
3	H	868	SER
3	H	871	GLU
3	H	877	SER
3	H	878	PHE
3	H	879	ARG
4	I	2	ILE
4	I	3	HIS
4	I	15	SER
4	I	22	ARG
4	I	33	PHE
4	I	37	SER
4	I	90	CYS
4	I	106	ASP
4	I	118	SER
4	I	120	SER
4	I	179	CYS
4	I	188	SER
4	I	198	ASP
4	I	260	ARG
4	I	261	VAL
4	I	270	VAL
4	I	272	VAL
4	I	300	LEU
4	I	305	ASP
4	I	319	LEU
4	I	334	SER
4	I	387	VAL
4	I	399	SER
4	I	407	ASP
4	I	408	ASP
4	I	456	SER
4	I	477	VAL
4	I	501	GLN
4	I	510	THR
4	I	546	HIS
4	I	575	LEU
4	I	577	LYS
4	I	581	HIS
4	I	607	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	I	611	GLN
4	I	614	ILE
5	J	222	HIS
4	K	2	ILE
4	K	3	HIS
4	K	15	SER
4	K	22	ARG
4	K	33	PHE
4	K	37	SER
4	K	63	THR
4	K	66	VAL
4	K	68	GLN
4	K	78	GLN
4	K	90	CYS
4	K	106	ASP
4	K	118	SER
4	K	120	SER
4	K	179	CYS
4	K	188	SER
4	K	198	ASP
4	K	260	ARG
4	K	261	VAL
4	K	270	VAL
4	K	272	VAL
4	K	300	LEU
4	K	305	ASP
4	K	319	LEU
4	K	334	SER
4	K	387	VAL
4	K	399	SER
4	K	407	ASP
4	K	408	ASP
4	K	456	SER
4	K	477	VAL
4	K	501	GLN
4	K	510	THR
4	K	546	HIS
4	K	575	LEU
4	K	577	LYS
4	K	581	HIS
4	K	607	ARG
4	K	611	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	K	614	ILE
4	K	646	LEU
6	L	307	ARG
6	L	309	GLU
6	L	310	PRO
6	L	322	LYS
6	L	347	VAL
6	L	444	ARG
6	L	1612	CYS
7	O	409	ARG
7	P	274	THR
7	R	334	HIS
7	R	409	ARG
7	S	409	ARG
7	W	362	ARG
7	W	364	SER
7	W	409	ARG
7	X	409	ARG
7	Y	397	LYS
7	Z	165	LEU
7	Z	222	ASN
7	Z	333	VAL
7	Z	362	ARG
7	Z	387	LEU
7	Z	409	ARG
8	g	47	CYS
8	m	33	ARG
3	j	64	ARG
3	j	107	GLN
6	c	171	CYS
7	2	339	ARG
2	M	150	LEU
2	M	151	GLN
2	M	153	SER
2	M	165	GLN
2	M	170	SER
2	M	210	LEU
2	M	212	SER
2	M	221	LEU
2	M	229	ASP
2	M	234	SER
2	M	241	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	M	243	SER
2	M	255	SER
2	M	258	GLU
2	M	271	SER
2	M	302	GLU
2	M	308	SER
2	M	320	SER
2	M	334	THR
2	M	343	THR
2	M	357	SER
2	M	376	CYS
2	M	401	HIS
2	M	402	ASP
2	M	427	TYR
2	M	436	GLN
2	M	452	SER
2	M	459	VAL
2	M	465	HIS
2	M	481	GLU
2	M	485	VAL
2	M	486	GLU
2	M	505	GLU
2	M	515	SER
2	M	526	ASP
2	M	545	ASP
2	M	571	ASP
2	M	613	LEU
2	M	622	VAL
2	M	627	SER
2	M	711	LYS
2	M	714	LYS
2	M	717	SER
2	M	727	THR
2	M	732	THR
2	M	740	THR
2	M	755	CYS
2	M	764	LYS
2	M	859	LEU
2	M	866	THR
3	N	246	THR
3	N	271	THR
3	N	277	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	N	285	ARG
3	N	304	ILE
3	N	305	ARG
3	N	313	LEU
3	N	316	SER
3	N	323	SER
3	N	332	LEU
3	N	344	SER
3	N	365	ARG
3	N	384	LEU
3	N	404	THR
3	N	423	SER
3	N	430	LEU
3	N	442	THR
3	N	456	THR
3	N	468	LYS
3	N	469	SER
3	N	501	THR
3	N	551	LYS
3	N	556	LEU
3	N	579	ASP
3	N	582	LYS
3	N	586	VAL
3	N	590	THR
3	N	598	THR
3	N	621	LEU
3	N	648	ILE
3	N	667	LEU
3	N	690	LEU
3	N	693	ASN
3	N	698	SER
3	N	704	CYS
3	N	709	SER
3	N	725	GLU
3	N	736	ASN
3	N	742	GLN
3	N	762	CYS
3	N	837	LYS
3	N	838	GLU
3	N	842	LYS
3	N	866	THR
3	N	868	SER

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Mol	Chain	Res	Type
3	N	871	GLU
3	N	877	SER
3	N	878	PHE
3	N	879	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (175) such sidechains are listed below:

Mol	Chain	Res	Type
2	A	213	GLN
2	A	373	GLN
2	A	692	ASN
2	A	718	ASN
3	B	387	HIS
3	B	491	ASN
3	B	713	HIS
3	B	719	GLN
3	B	885	HIS
2	C	213	GLN
2	C	309	GLN
2	C	373	GLN
2	C	718	ASN
2	C	862	ASN
3	D	345	GLN
3	D	491	ASN
3	D	773	ASN
3	D	885	HIS
2	E	213	GLN
2	E	373	GLN
2	E	718	ASN
3	F	387	HIS
3	F	491	ASN
3	F	885	HIS
2	G	213	GLN
2	G	373	GLN
2	G	420	GLN
2	G	718	ASN
3	H	387	HIS
3	H	491	ASN
3	H	885	HIS
4	I	43	ASN
4	I	149	HIS
4	I	180	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	I	397	GLN
4	I	401	HIS
4	I	493	GLN
4	I	520	HIS
4	I	529	GLN
4	I	533	GLN
4	I	540	GLN
4	I	547	GLN
4	I	561	HIS
4	I	563	HIS
4	I	567	ASN
4	I	571	GLN
5	J	222	HIS
5	J	223	GLN
5	J	231	GLN
5	J	241	ASN
5	J	362	GLN
5	J	413	HIS
5	J	474	GLN
5	J	818	GLN
5	J	822	ASN
5	J	830	GLN
5	J	925	GLN
5	J	938	HIS
4	K	35	HIS
4	K	43	ASN
4	K	149	HIS
4	K	180	HIS
4	K	493	GLN
4	K	529	GLN
4	K	533	GLN
4	K	540	GLN
4	K	547	GLN
4	K	561	HIS
4	K	563	HIS
4	K	567	ASN
4	K	571	GLN
6	L	441	GLN
6	L	517	HIS
6	L	1559	GLN
6	L	1678	ASN
6	L	1679	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
6	L	1702	GLN
6	L	1705	HIS
6	L	1777	HIS
6	L	1805	ASN
7	O	54	GLN
7	O	139	HIS
7	O	198	ASN
7	O	314	ASN
7	O	334	HIS
7	O	357	GLN
7	P	16	GLN
7	P	24	GLN
7	P	54	GLN
7	P	139	HIS
7	P	198	ASN
7	P	250	ASN
7	P	322	ASN
7	P	357	GLN
7	Q	174	ASN
7	Q	198	ASN
7	Q	338	GLN
7	Q	380	ASN
7	R	139	HIS
7	R	174	ASN
7	R	322	ASN
7	R	338	GLN
7	R	380	ASN
7	S	198	ASN
7	S	322	ASN
7	T	139	HIS
7	T	174	ASN
7	T	198	ASN
7	T	338	GLN
7	T	380	ASN
7	U	16	GLN
7	U	139	HIS
7	U	174	ASN
7	U	198	ASN
7	U	338	GLN
7	U	380	ASN
7	V	139	HIS
7	V	174	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
7	V	198	ASN
7	W	54	GLN
7	W	139	HIS
7	W	267	HIS
7	W	322	ASN
7	X	29	HIS
7	X	139	HIS
7	X	174	ASN
7	X	198	ASN
7	X	338	GLN
7	Y	139	HIS
7	Y	174	ASN
7	Y	198	ASN
7	Z	139	HIS
7	Z	198	ASN
7	Z	227	GLN
7	Z	302	ASN
7	Z	380	ASN
8	b	36	ASN
8	g	36	ASN
8	i	36	ASN
8	i	56	ASN
8	k	19	ASN
8	m	17	ASN
8	m	19	ASN
8	m	36	ASN
3	a	31	GLN
3	a	65	GLN
3	f	31	GLN
3	h	31	GLN
3	h	65	GLN
3	j	31	GLN
3	j	42	ASN
3	j	65	GLN
8	d	17	ASN
8	d	53	GLN
6	c	48	ASN
6	c	176	GLN
5	l	93	ASN
7	1	16	GLN
7	1	139	HIS
7	1	174	ASN

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type
7	1	198	ASN
7	1	222	ASN
7	1	338	GLN
7	2	79	ASN
7	2	174	ASN
7	2	198	ASN
2	M	213	GLN
2	M	322	GLN
2	M	373	GLN
2	M	684	GLN
2	M	718	ASN
3	N	387	HIS
3	N	491	ASN
3	N	713	HIS
3	N	885	HIS

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

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

There are no ligands in this entry.

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

There are no such residues in this entry.

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

There are no chain breaks in this entry.

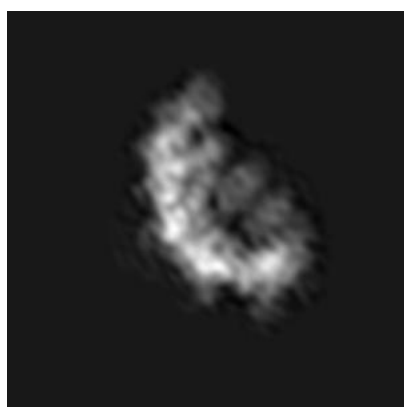
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-14017. These allow visual inspection of the internal detail of the map and identification of artifacts.

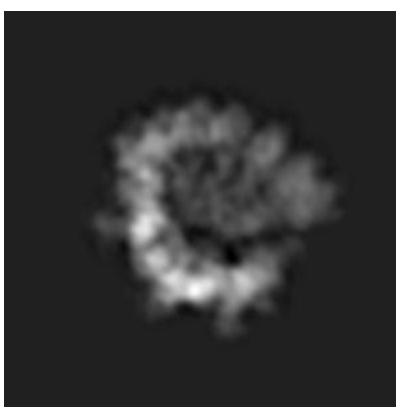
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

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

#### 6.1.1 Primary map



X



Y



Z

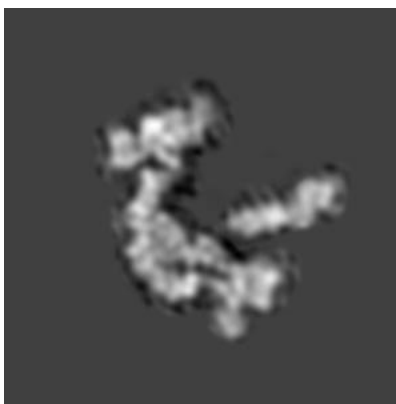
The images above show the map projected in three orthogonal directions.

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

#### 6.2.1 Primary map



X Index: 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: 63



Y Index: 81

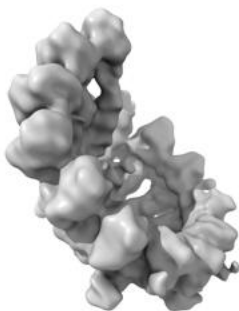


Z Index: 71

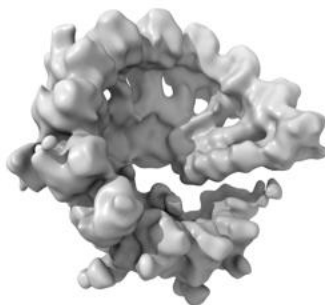
The images above show the largest variance slices of the map in three orthogonal directions.

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

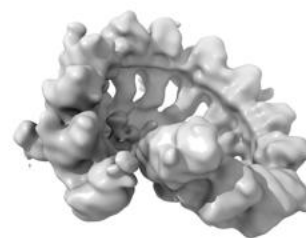
### 6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0319. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

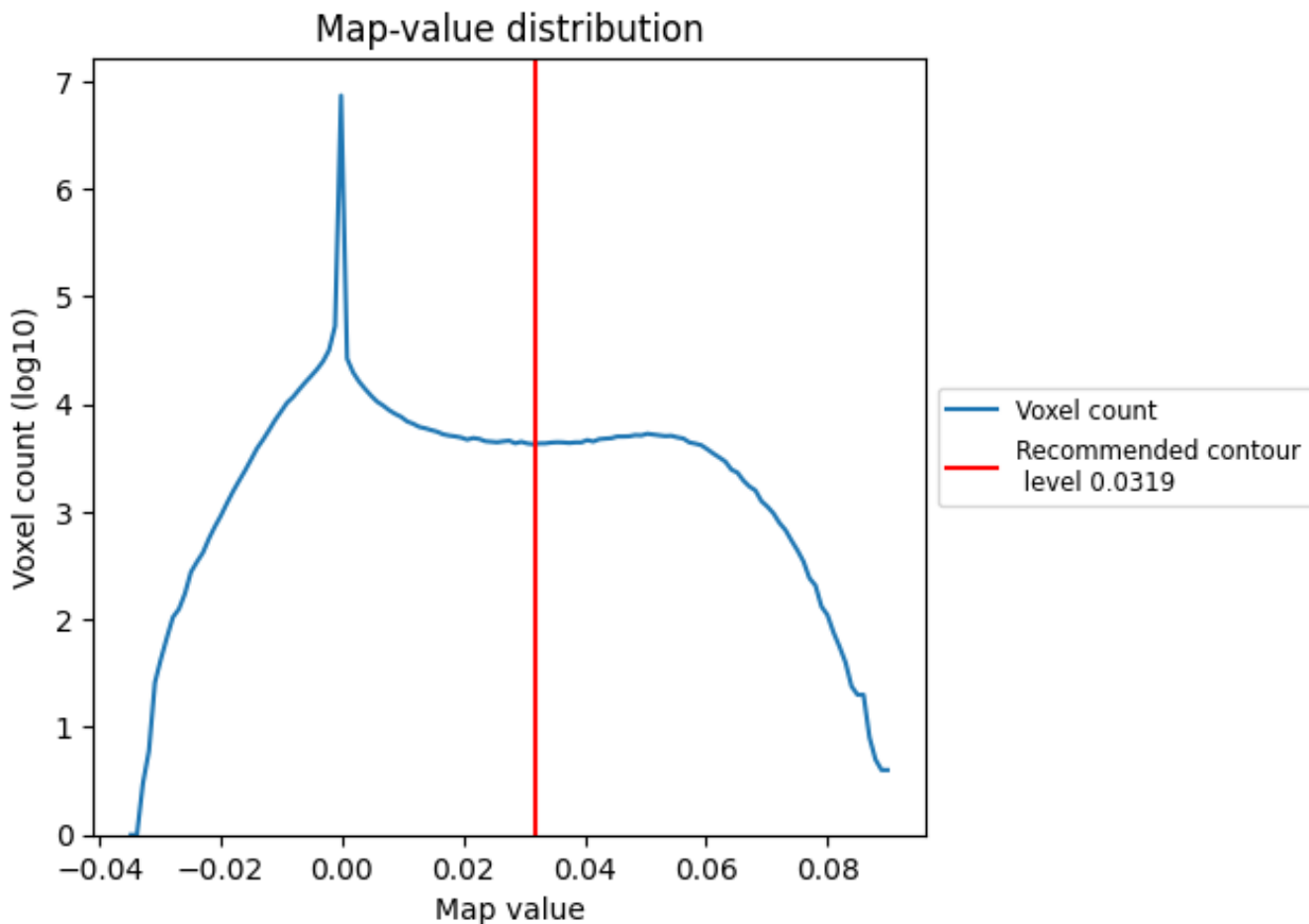
## 6.5 Mask visualisation

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

## 7 Map analysis [i](#)

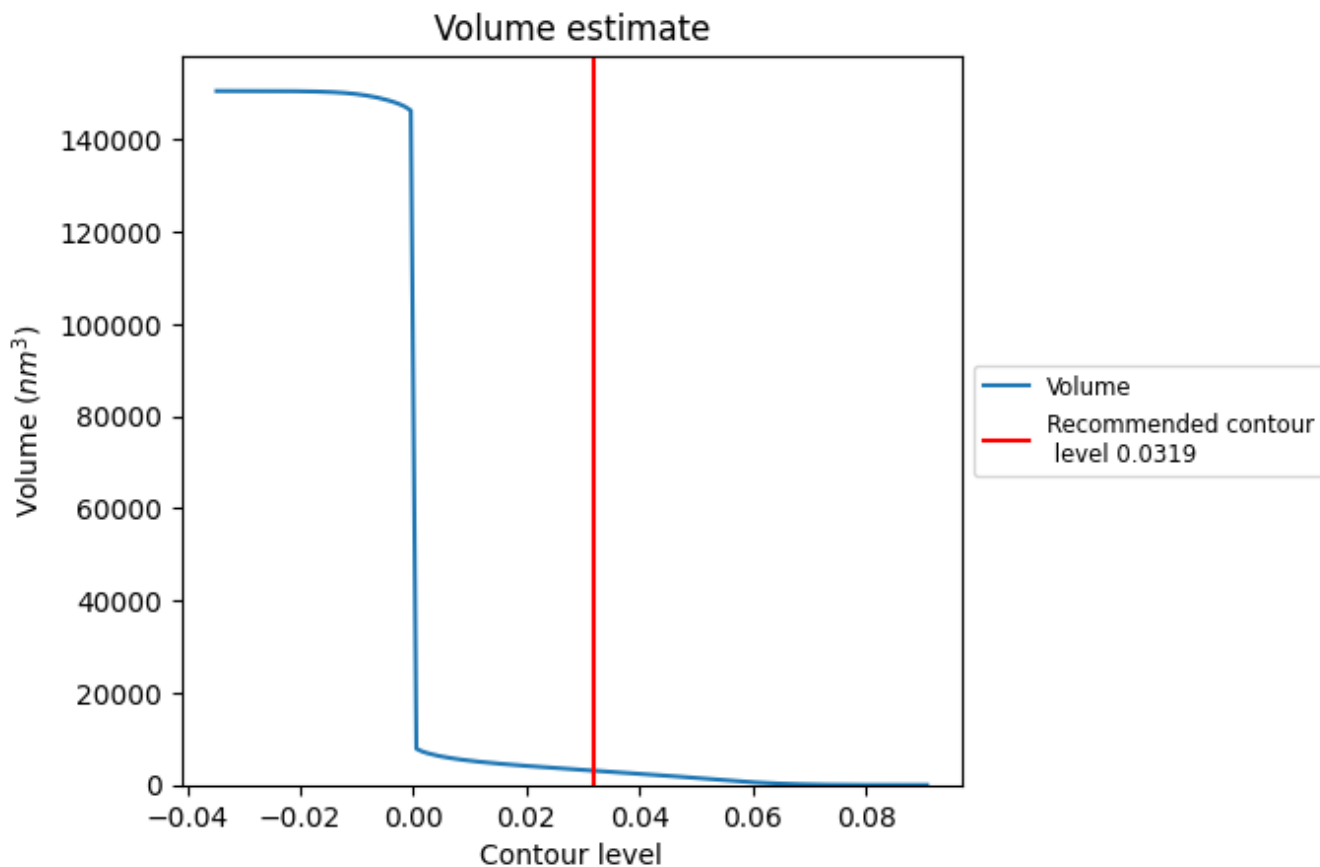
This section contains the results of statistical analysis of the map.

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



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

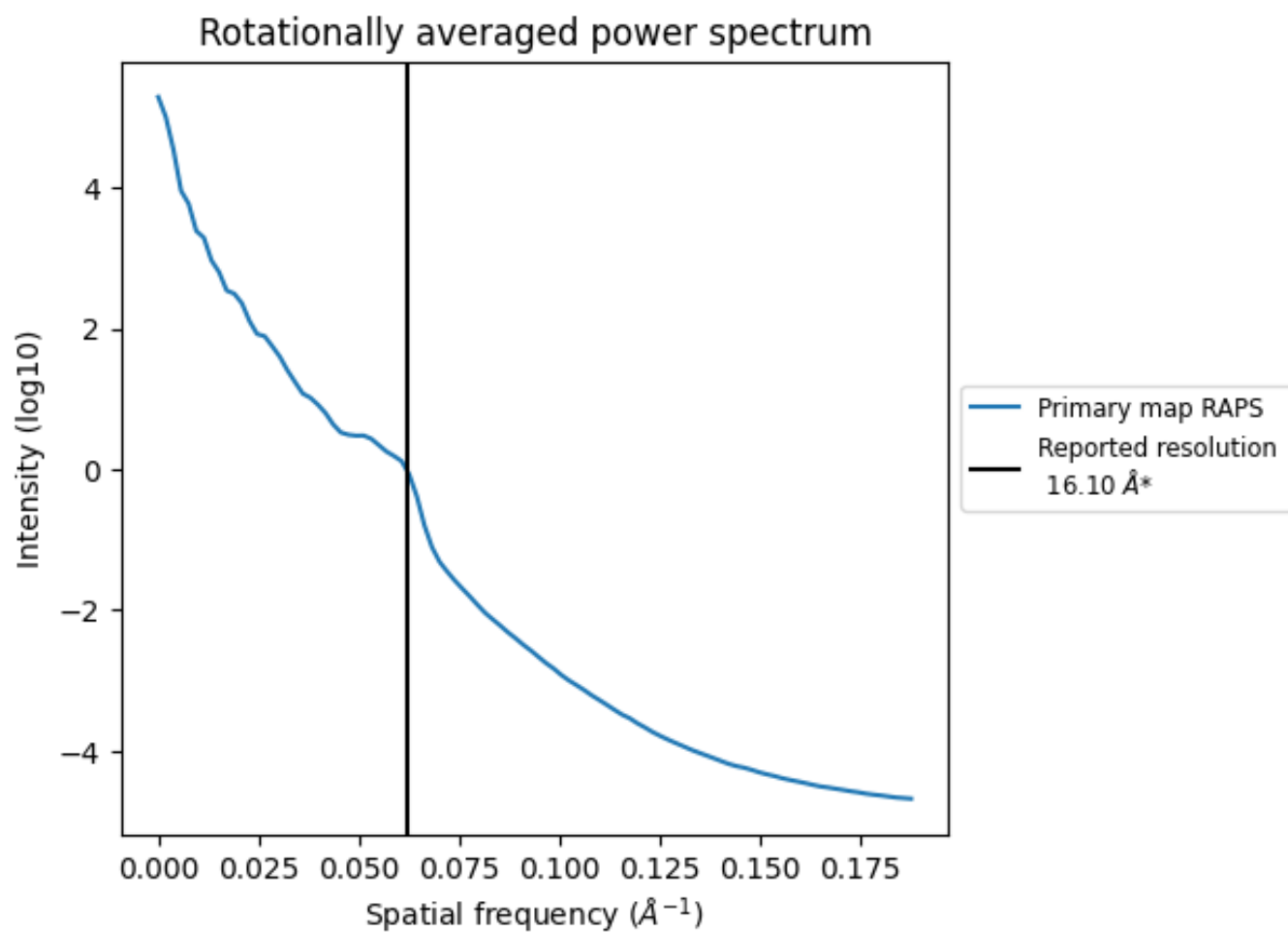
## 7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 3109  $\text{nm}^3$ ; this corresponds to an approximate mass of 2809 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 0.062 Å<sup>-1</sup>

## 8 Fourier-Shell correlation

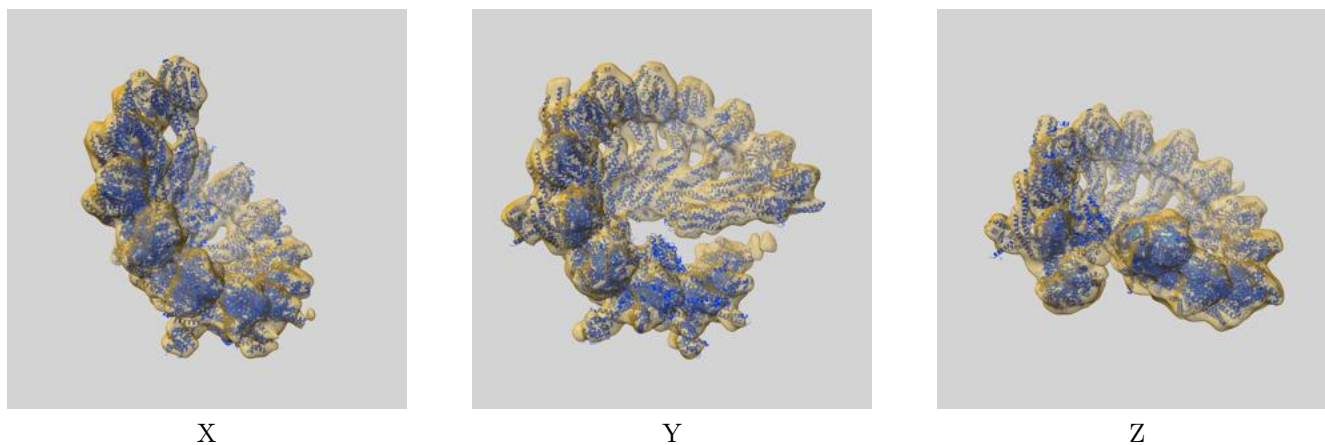
This section was not generated. No FSC curve or half-maps provided.



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

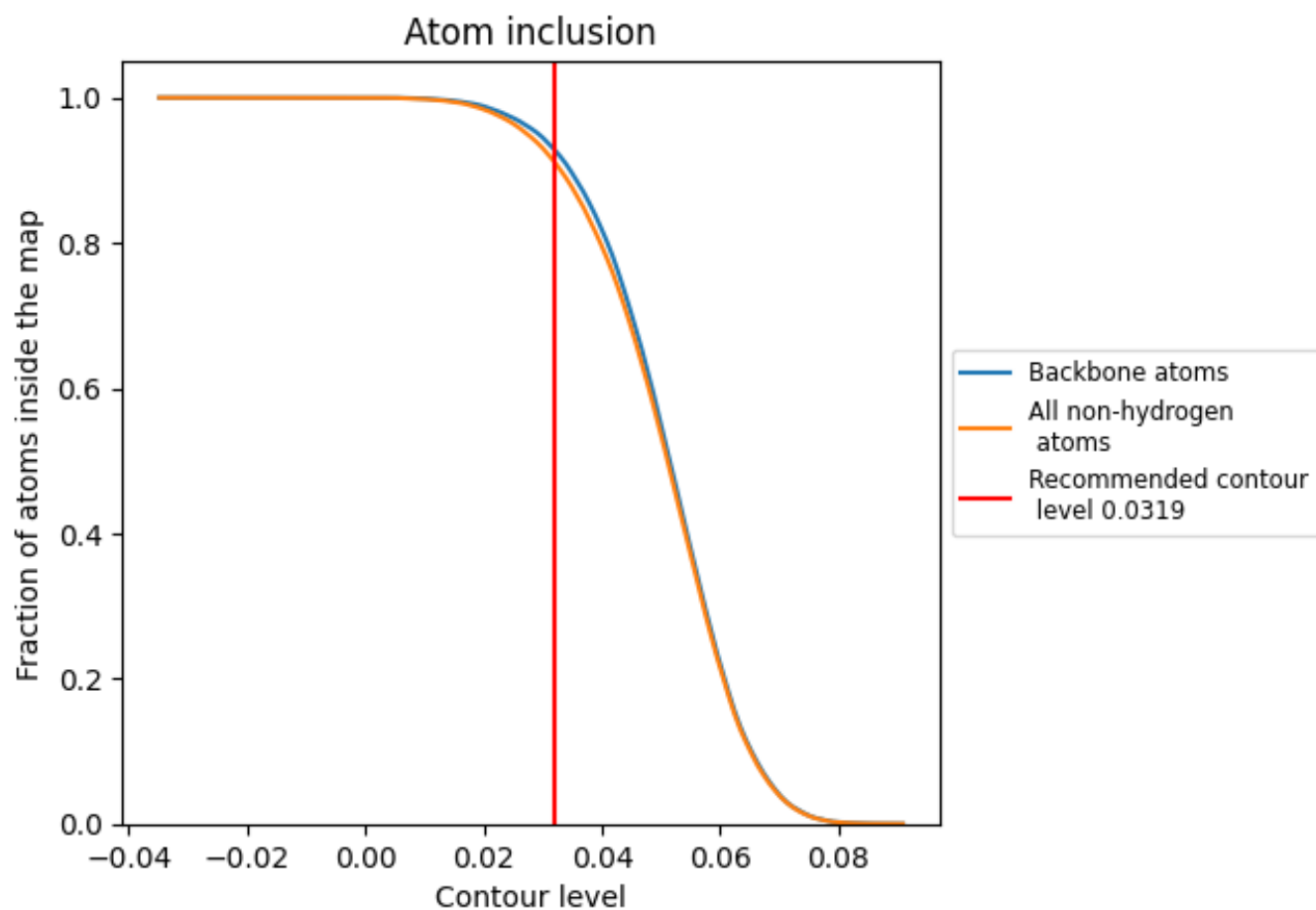
This section contains information regarding the fit between EMDB map EMD-14017 and PDB model 7QJC. Per-residue inclusion information can be found in section 3 on page 8.

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



The images above show the 3D surface view of the map at the recommended contour level 0.0319 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 Atom inclusion [i](#)



At the recommended contour level, 93% of all backbone atoms, 91% of all non-hydrogen atoms, are inside the map.