Full wwPDB EM Validation Report

Mar 27, 2026 – 10:43 AM UTC

PDB ID	:	6QM7 / pdb_00006qm7
EMDB ID	:	EMD-4590
Title	:	Leishmania tarentolae proteasome 20S subunit complexed with GSK3494245
Authors	:	Rowland, P.; Goswami, P.
Deposited on	:	2019-02-01
Resolution	:	2.80 Å(reported)
Based on initial model	:	4R3O

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

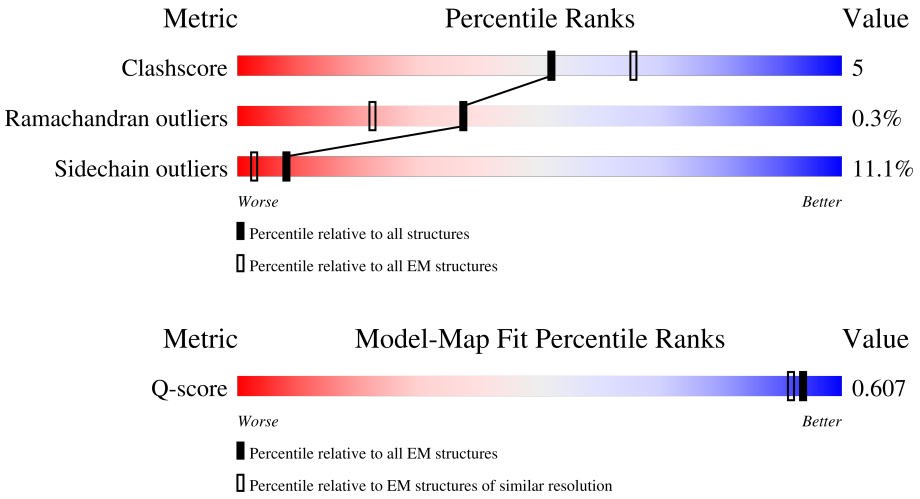
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

1 Overall quality at a glance

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

The reported resolution of this entry is 2.80 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	11806 (2.30 - 3.30)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	250	81% 15%
1	O	250	80% 17%
2	B	231	81% 16%
2	P	231	82% 16%

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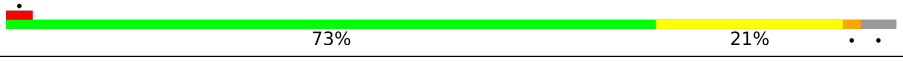
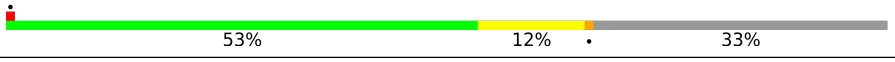
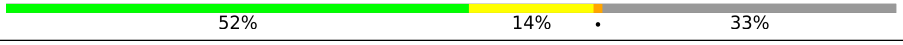
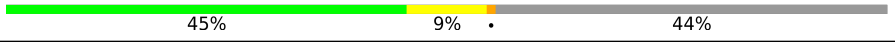
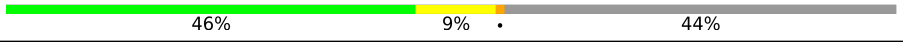
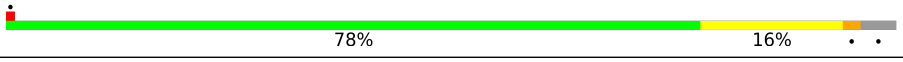
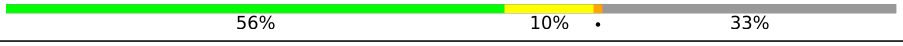
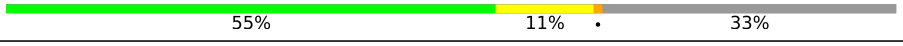
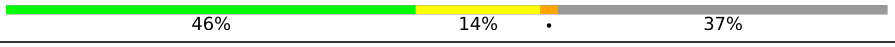
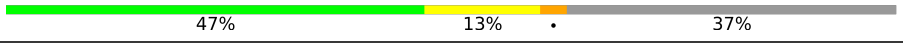
Mol	Chain	Length	Quality of chain
3	C	285	
3	Q	285	
4	D	248	
4	R	248	
5	E	344	
5	S	344	
6	F	428	
6	T	428	
7	G	238	
7	U	238	
8	H	283	
8	V	283	
9	I	254	
9	W	254	
10	J	205	
10	X	205	
11	K	206	
11	Y	206	
12	L	302	
12	Z	302	
13	M	339	
13	a	339	
14	N	220	
14	b	220	

2 Entry composition (i)

There are 16 unique types of molecules in this entry. The entry contains 49518 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 Proteasome alpha1 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	244	Total	C	N	O	S	0	0
			1857	1169	323	353	12		
1	O	244	Total	C	N	O	S	0	0
			1857	1169	323	353	12		

- Molecule 2 is a protein called Proteasome alpha2 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	229	Total	C	N	O	S	0	0
			1754	1112	292	342	8		
2	P	229	Total	C	N	O	S	0	0
			1754	1112	292	342	8		

- Molecule 3 is a protein called Proteasome alpha3 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	276	Total	C	N	O	S	0	0
			2195	1379	382	422	12		
3	Q	276	Total	C	N	O	S	0	0
			2195	1379	382	422	12		

- Molecule 4 is a protein called Proteasome alpha4 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	239	Total	C	N	O	S	0	0
			1873	1180	322	363	8		
4	R	239	Total	C	N	O	S	0	0
			1873	1180	322	363	8		

- Molecule 5 is a protein called Proteasome alpha5 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	229	Total	C	N	O	S	0	0
			1756	1094	302	347	13		
5	S	229	Total	C	N	O	S	0	0
			1756	1094	302	347	13		

- Molecule 6 is a protein called Proteasome alpha6 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	238	Total	C	N	O	S	0	0
			1869	1173	325	359	12		
6	T	238	Total	C	N	O	S	0	0
			1869	1173	325	359	12		

- Molecule 7 is a protein called Proteasome alpha7 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	228	Total	C	N	O	S	0	0
			1727	1077	306	334	10		
7	U	228	Total	C	N	O	S	0	0
			1727	1077	306	334	10		

- Molecule 8 is a protein called Proteasome beta1 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	229	Total	C	N	O	S	0	0
			1710	1062	295	341	12		
8	V	229	Total	C	N	O	S	0	0
			1710	1062	295	341	12		

- Molecule 9 is a protein called Proteasome beta2 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	219	Total	C	N	O	S	0	0
			1659	1037	292	318	12		
9	W	219	Total	C	N	O	S	0	0
			1659	1037	292	318	12		

- Molecule 10 is a protein called Proteasome beta3 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	204	Total	C	N	O	S	0	0
			1557	980	259	302	16		

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Mol	Chain	Residues	Atoms					AltConf	Trace
10	X	204	Total	C	N	O	S	0	0
			1557	980	259	302	16		

- Molecule 11 is a protein called Proteasome beta4 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	206	Total	C	N	O	S	0	0
			1612	1012	280	304	16		
11	Y	206	Total	C	N	O	S	0	0
			1612	1012	280	304	16		

- Molecule 12 is a protein called Proteasome beta5 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	202	Total	C	N	O	S	0	0
			1579	998	277	297	7		
12	Z	202	Total	C	N	O	S	0	0
			1579	998	277	297	7		

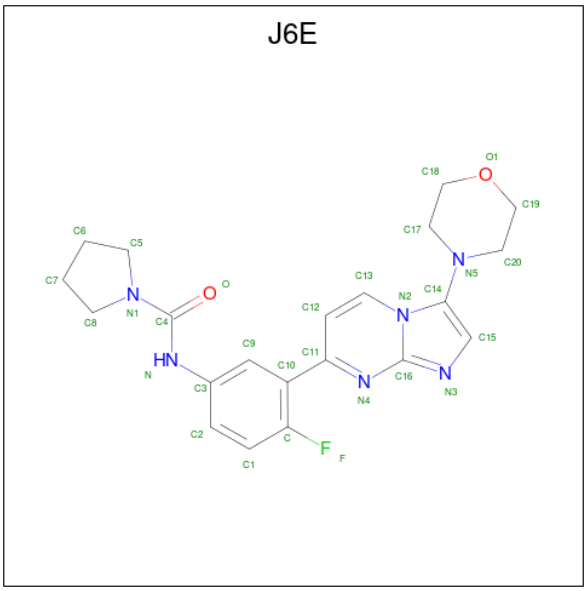
- Molecule 13 is a protein called Proteasome beta6 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	214	Total	C	N	O	S	0	0
			1702	1079	287	324	12		
13	a	214	Total	C	N	O	S	0	0
			1702	1079	287	324	12		

- Molecule 14 is a protein called Proteasome beta7 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	218	Total	C	N	O	S	0	0
			1712	1083	292	323	14		
14	b	218	Total	C	N	O	S	0	0
			1712	1083	292	323	14		

- Molecule 15 is {N}-[4-fluoranyl-3-(3-morpholin-4-ylimidazo[1,2-a]pyrimidin-7-yl)phenyl] pyrrolidine-1-carboxamide (CCD ID: J6E) (formula: $C_{21}H_{23}FN_6O_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	AltConf
15	L	1	Total C F N O 30 21 1 6 2	0
15	Z	1	Total C F N O 30 21 1 6 2	0

- Molecule 16 is water.

Mol	Chain	Residues	Atoms	AltConf
16	A	9	Total O 9 9	0
16	B	9	Total O 9 9	0
16	C	8	Total O 8 8	0
16	D	6	Total O 6 6	0
16	E	8	Total O 8 8	0
16	F	8	Total O 8 8	0
16	G	12	Total O 12 12	0
16	H	21	Total O 21 21	0
16	I	7	Total O 7 7	0
16	J	15	Total O 15 15	0

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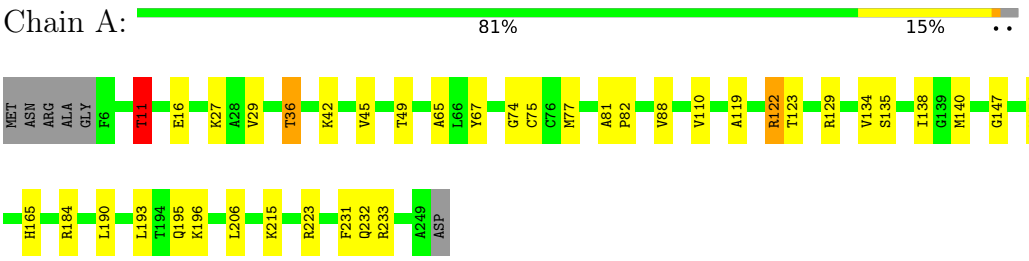
Mol	Chain	Residues	Atoms	AltConf
16	K	9	Total O 9 9	0
16	L	15	Total O 15 15	0
16	M	13	Total O 13 13	0
16	N	21	Total O 21 21	0
16	O	11	Total O 11 11	0
16	P	13	Total O 13 13	0
16	Q	8	Total O 8 8	0
16	R	9	Total O 9 9	0
16	S	6	Total O 6 6	0
16	T	8	Total O 8 8	0
16	U	5	Total O 5 5	0
16	V	19	Total O 19 19	0
16	W	15	Total O 15 15	0
16	X	23	Total O 23 23	0
16	Y	8	Total O 8 8	0
16	Z	17	Total O 17 17	0
16	a	11	Total O 11 11	0
16	b	20	Total O 20 20	0

3 Residue-property plots (i)

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

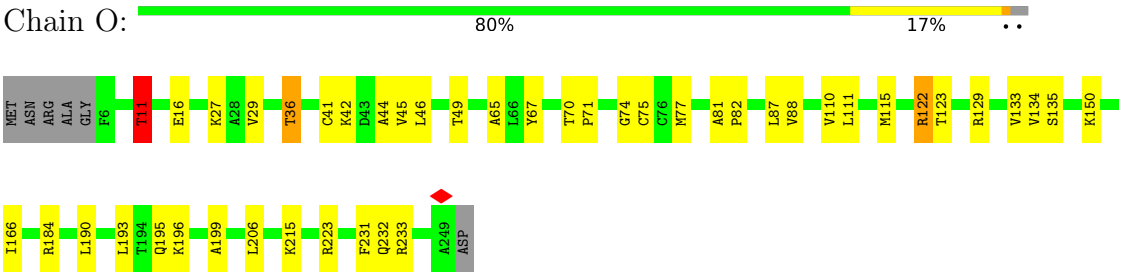
• Molecule 1: Proteasome alpha1 chain

Chain A:



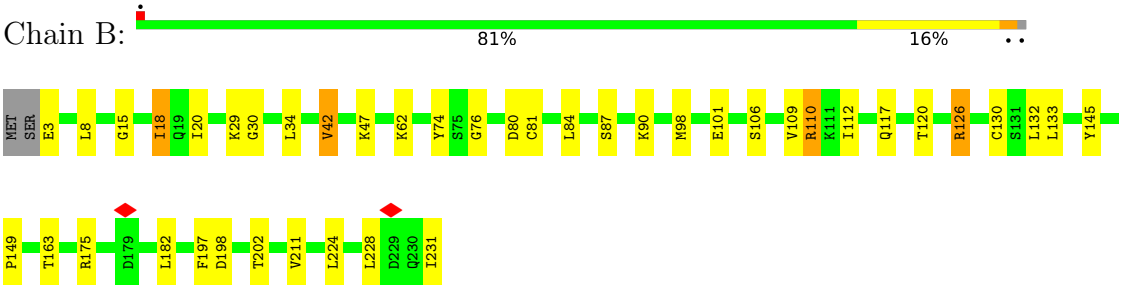
• Molecule 1: Proteasome alpha1 chain

Chain O:



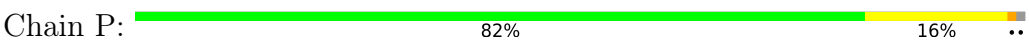
• Molecule 2: Proteasome alpha2 chain

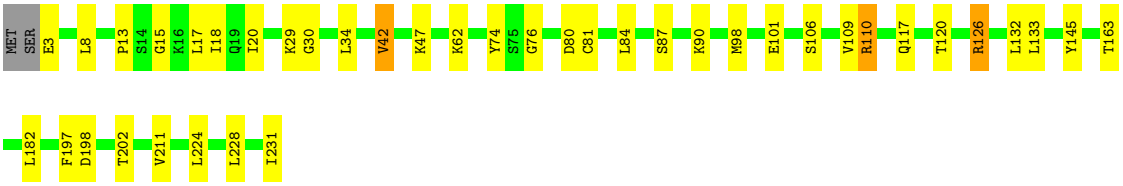
Chain B:



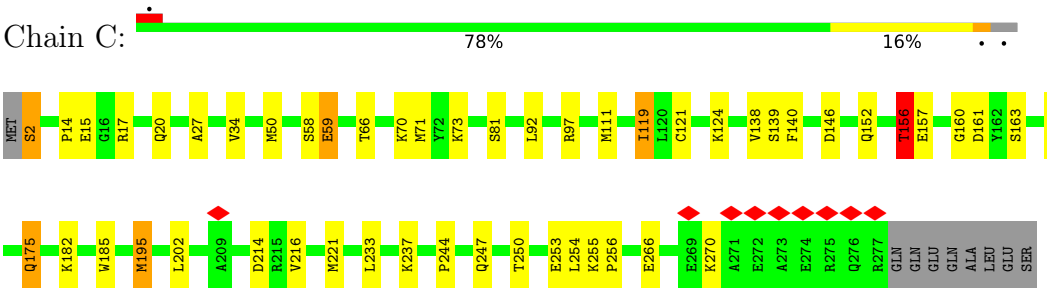
• Molecule 2: Proteasome alpha2 chain

Chain P:

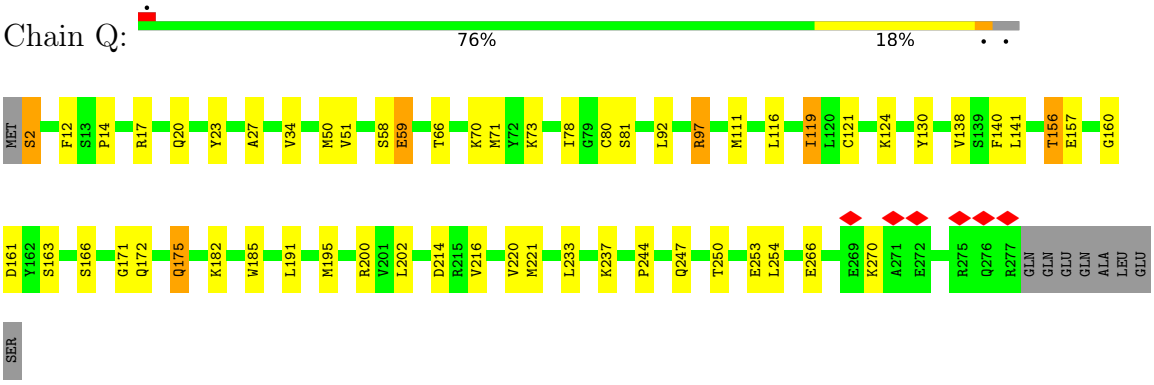




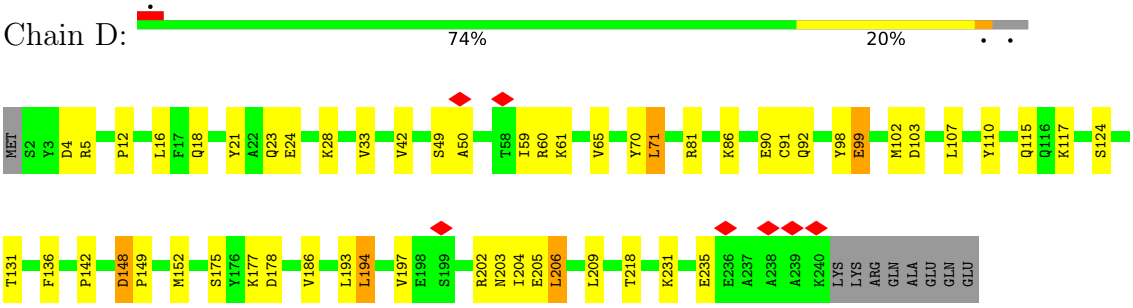
• Molecule 3: Proteasome alpha3 chain



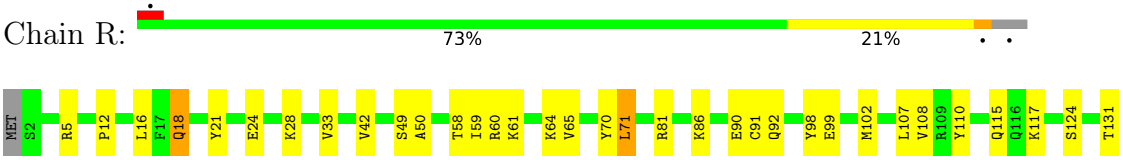
• Molecule 3: Proteasome alpha3 chain



• Molecule 4: Proteasome alpha4 chain

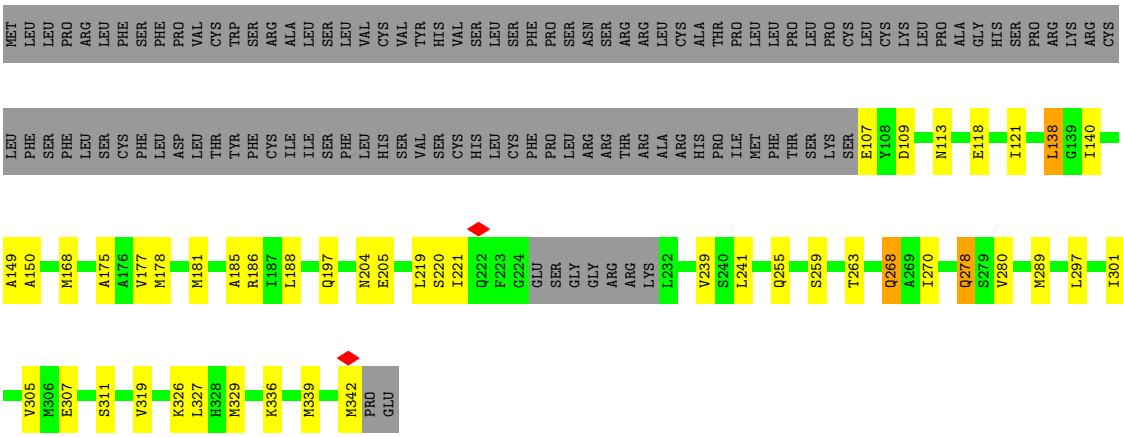


• Molecule 4: Proteasome alpha4 chain



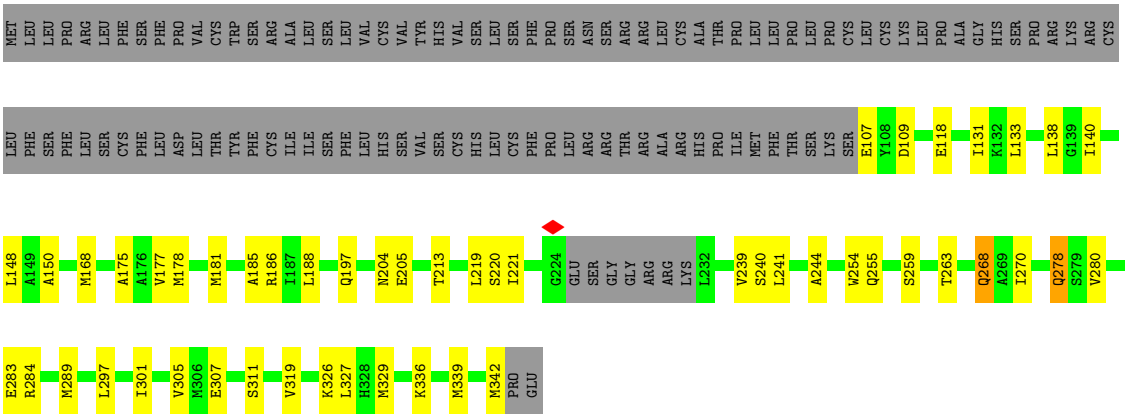
• Molecule 5: Proteasome alpha5 chain

Chain E:



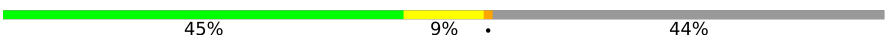
• Molecule 5: Proteasome alpha5 chain

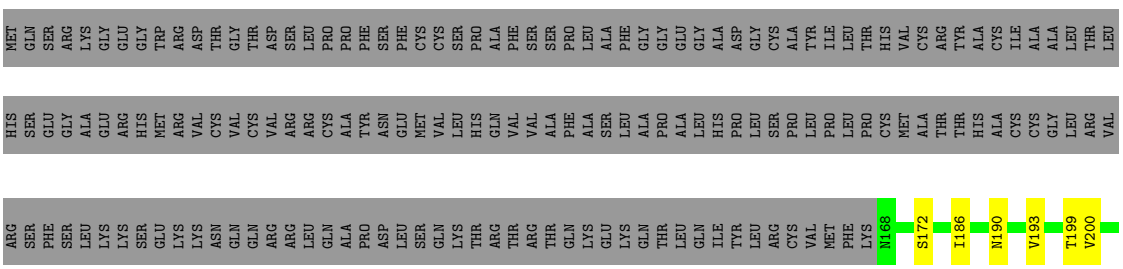
Chain S:

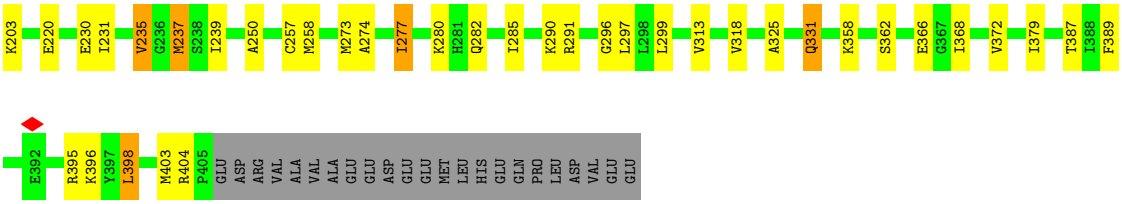


• Molecule 6: Proteasome alpha6 chain

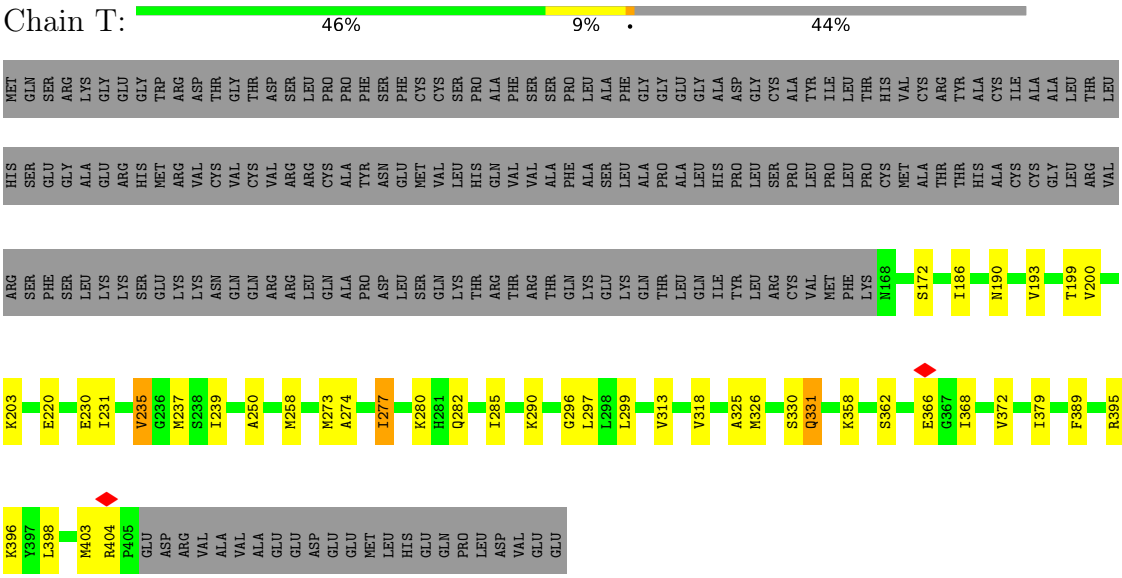
Chain F:



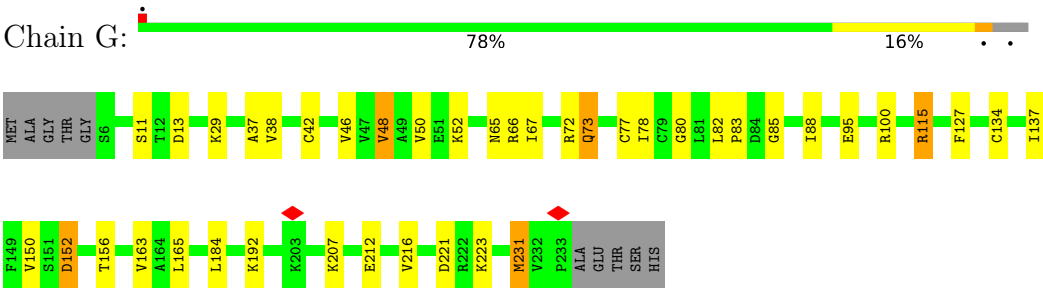




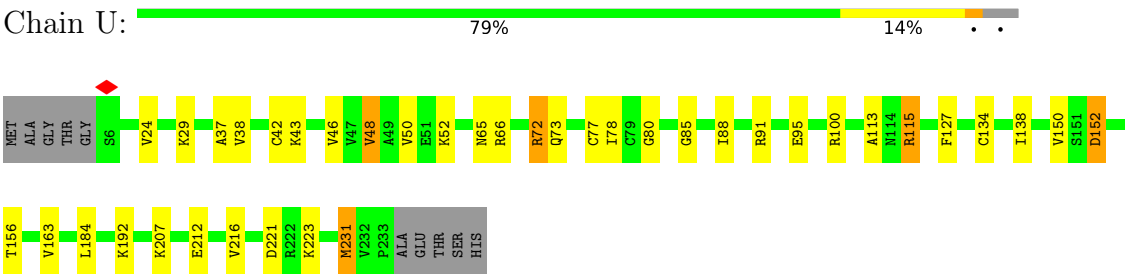
• Molecule 6: Proteasome alpha6 chain



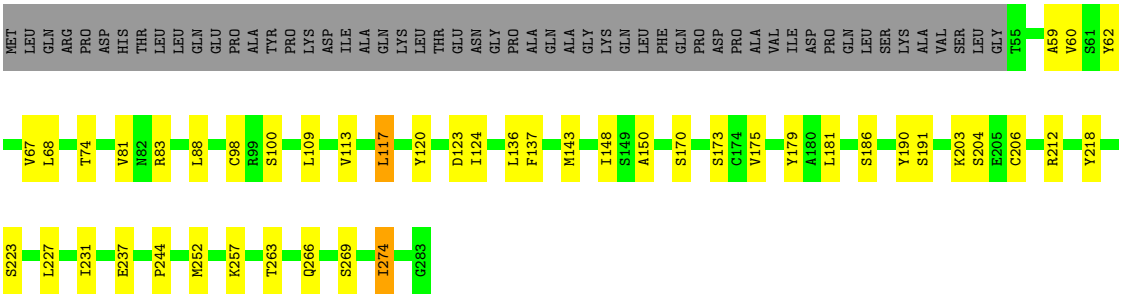
• Molecule 7: Proteasome alpha7 chain



• Molecule 7: Proteasome alpha7 chain

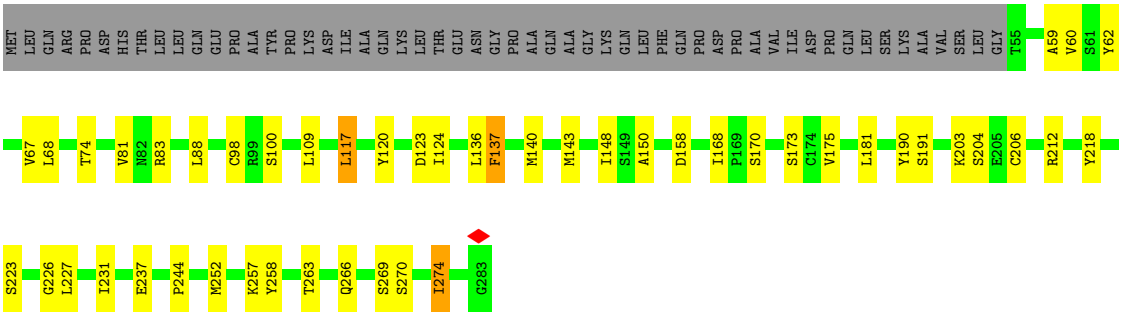


• Molecule 8: Proteasome beta1 chain



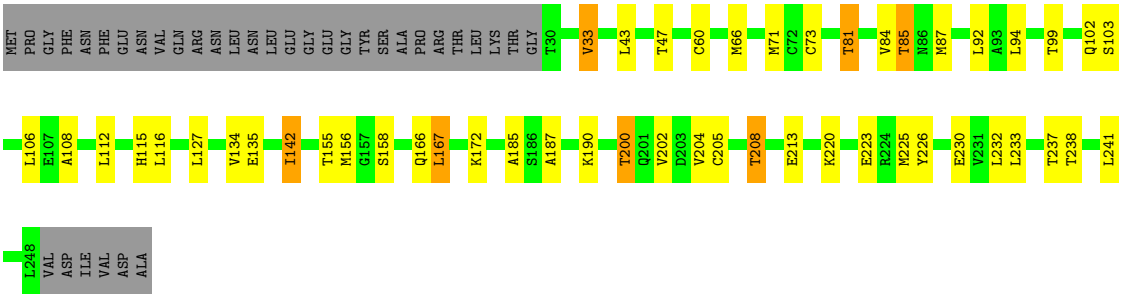
• Molecule 8: Proteasome beta1 chain

Chain V:



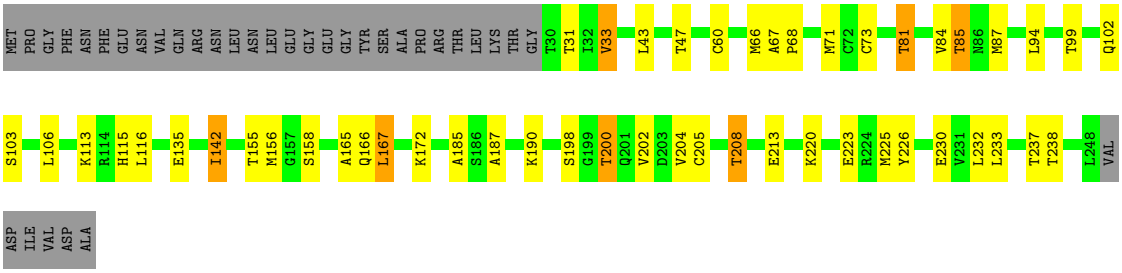
• Molecule 9: Proteasome beta2 chain

Chain I:



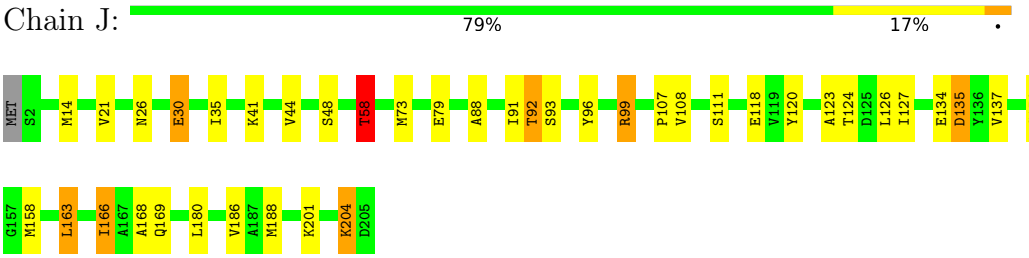
• Molecule 9: Proteasome beta2 chain

Chain W:



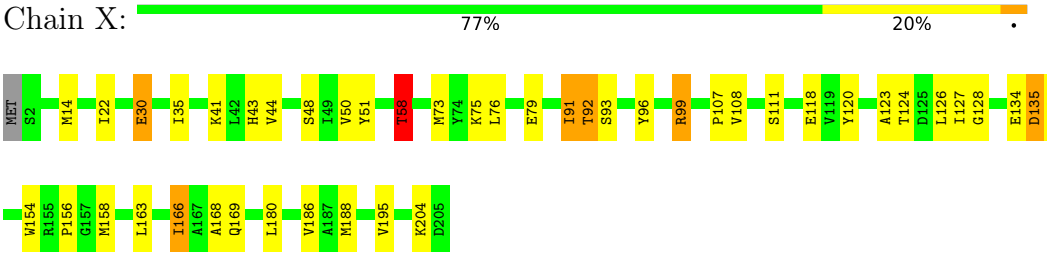
• Molecule 10: Proteasome beta3 chain

Chain J:



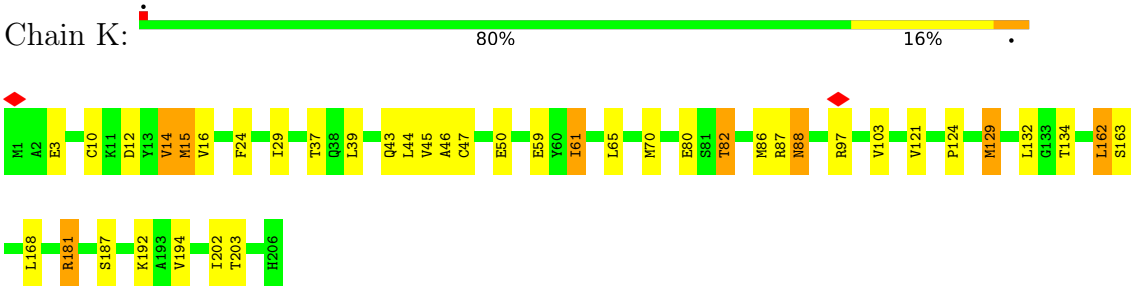
• Molecule 10: Proteasome beta3 chain

Chain X:



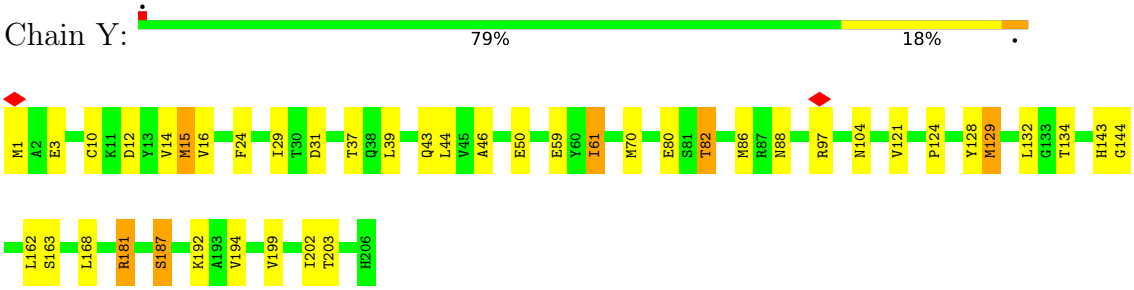
• Molecule 11: Proteasome beta4 chain

Chain K:



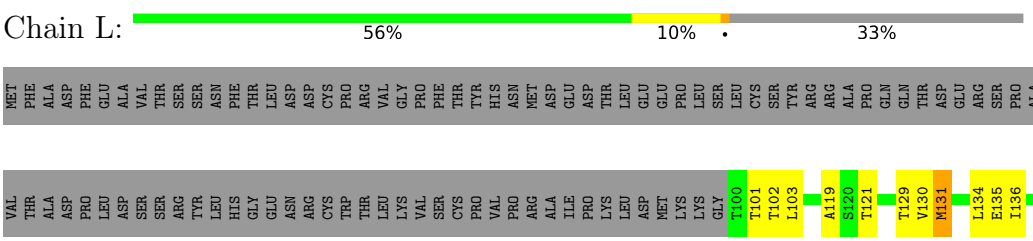
• Molecule 11: Proteasome beta4 chain

Chain Y:



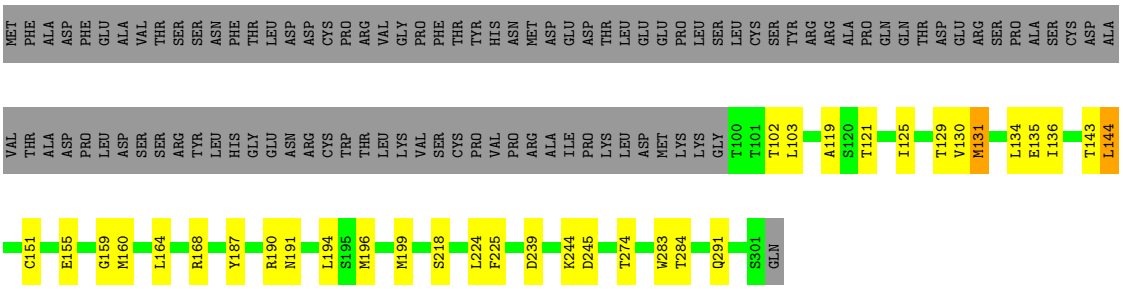
• Molecule 12: Proteasome beta5 chain

Chain L:



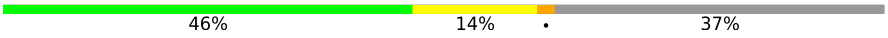
• Molecule 12: Proteasome beta5 chain

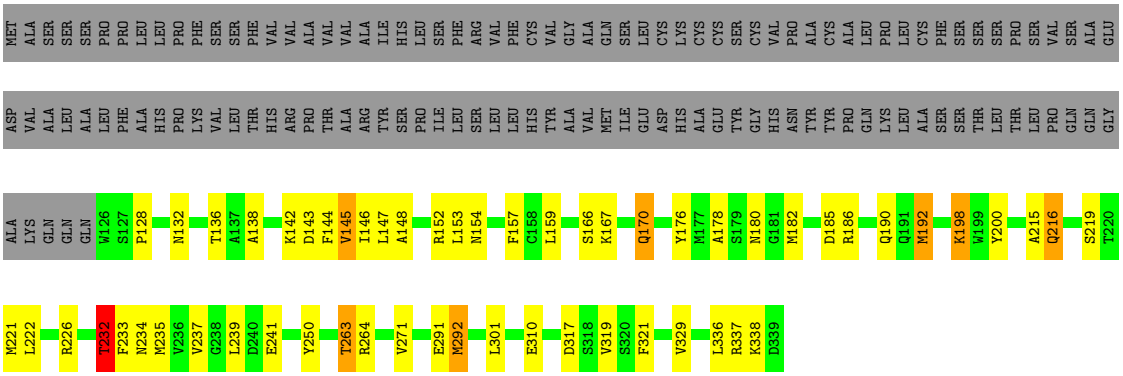
Chain Z:



• Molecule 13: Proteasome beta6 chain

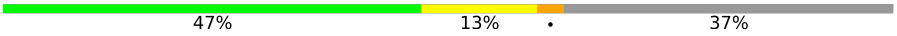
Chain M:

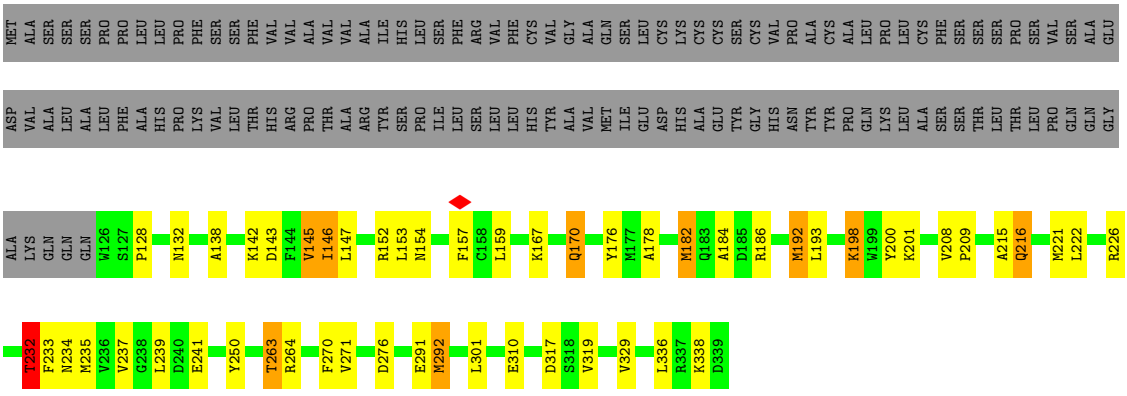




• Molecule 13: Proteasome beta6 chain

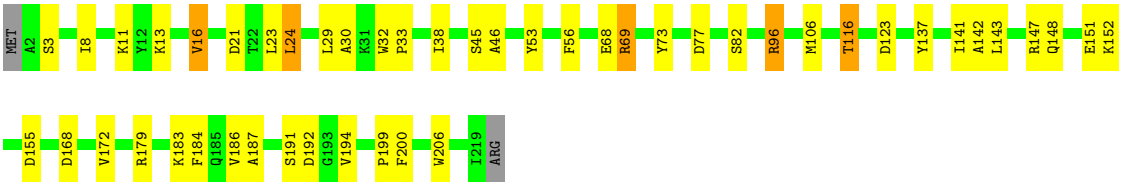
Chain a:





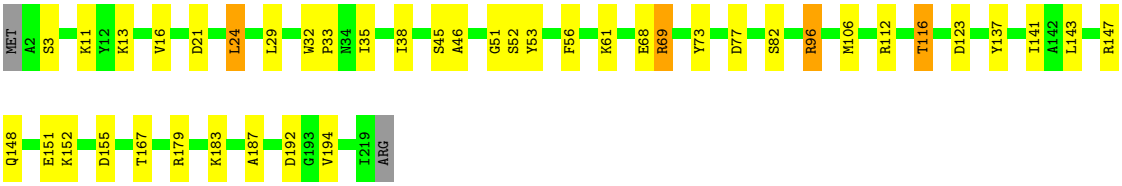
• Molecule 14: Proteasome beta7 chain

Chain N:



• Molecule 14: Proteasome beta7 chain

Chain b:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	182775	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	30	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.622	Depositor
Minimum map value	-0.361	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.022	Depositor
Recommended contour level	0.0667	Depositor
Map size (Å)	321.00003, 321.00003, 321.00003	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.07, 1.07, 1.07	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: J6E

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	A	0.94	0/1889	1.56	2/2562 (0.1%)
1	O	0.94	0/1889	1.54	2/2562 (0.1%)
2	B	0.92	0/1787	1.49	0/2421
2	P	0.91	0/1787	1.48	0/2421
3	C	0.94	0/2242	1.51	1/3034 (0.0%)
3	Q	0.94	0/2242	1.49	1/3034 (0.0%)
4	D	0.97	0/1902	1.57	2/2562 (0.1%)
4	R	0.94	0/1902	1.57	0/2562
5	E	0.97	0/1784	1.56	2/2414 (0.1%)
5	S	0.96	0/1784	1.57	4/2414 (0.2%)
6	F	0.94	0/1907	1.44	0/2575
6	T	0.94	0/1907	1.44	0/2575
7	G	0.94	0/1759	1.51	3/2379 (0.1%)
7	U	0.93	0/1759	1.49	2/2379 (0.1%)
8	H	0.90	0/1742	1.46	1/2359 (0.0%)
8	V	0.91	0/1742	1.46	2/2359 (0.1%)
9	I	0.91	0/1685	1.48	1/2284 (0.0%)
9	W	0.92	0/1685	1.47	2/2284 (0.1%)
10	J	0.90	0/1583	1.48	2/2135 (0.1%)
10	X	0.92	0/1583	1.47	3/2135 (0.1%)
11	K	0.91	0/1643	1.49	1/2222 (0.0%)
11	Y	0.91	0/1643	1.48	0/2222
12	L	0.88	0/1613	1.44	0/2183
12	Z	0.88	0/1613	1.45	2/2183 (0.1%)
13	M	0.90	0/1743	1.48	1/2354 (0.0%)
13	a	0.89	0/1743	1.49	3/2354 (0.1%)
14	N	0.89	0/1748	1.48	3/2363 (0.1%)
14	b	0.89	0/1748	1.49	4/2363 (0.2%)
All	All	0.92	0/50054	1.50	44/67694 (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	P	0	1
3	C	0	2
3	Q	0	3
10	J	0	1
10	X	0	1
All	All	0	8

There are no bond length outliers.

All (44) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	E	138	LEU	CA-C-N	7.55	126.78	121.65
5	E	138	LEU	C-N-CA	7.55	126.78	121.65
13	M	232	THR	CB-CA-C	7.03	120.17	110.34
5	S	138	LEU	CA-C-N	6.60	126.73	122.18
5	S	138	LEU	C-N-CA	6.60	126.73	122.18
14	N	21	ASP	CA-CB-CG	6.56	119.16	112.60
13	a	232	THR	CB-CA-C	6.25	118.94	110.94
14	b	21	ASP	CA-CB-CG	6.21	118.81	112.60
10	X	135	ASP	CA-CB-CG	6.15	118.75	112.60
10	J	58	THR	CB-CA-C	-6.05	100.69	110.74
13	a	276	ASP	CA-CB-CG	6.00	118.61	112.60
14	b	51	GLY	CA-C-O	-5.97	116.34	122.25
7	U	231	MET	CA-C-N	5.93	125.08	120.33
7	U	231	MET	C-N-CA	5.93	125.08	120.33
1	O	11	THR	CB-CA-C	5.88	120.99	112.05
7	G	231	MET	CA-C-N	5.86	125.02	120.33
7	G	231	MET	C-N-CA	5.86	125.02	120.33
1	A	11	THR	CB-CA-C	5.74	120.99	112.03
3	Q	156	THR	CB-CA-C	5.62	119.49	109.65
10	J	135	ASP	CA-CB-CG	5.60	118.20	112.60
3	C	156	THR	CB-CA-C	5.51	119.30	109.65
8	V	83	ARG	N-CA-CB	-5.46	102.51	110.53
8	H	83	ARG	N-CA-CB	-5.42	102.46	110.53
9	W	113	LYS	CB-CA-C	-5.40	102.18	110.81
13	a	270	PHE	CB-CA-C	-5.36	100.75	110.56
9	I	208	THR	CB-CA-C	5.36	119.89	110.36
11	K	88	ASN	N-CA-C	-5.33	105.55	111.36
12	Z	125	ILE	CA-C-N	5.33	127.37	120.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	Z	125	ILE	C-N-CA	5.33	127.37	120.44
1	O	166	ILE	N-CA-C	-5.30	106.52	111.45
10	X	58	THR	CB-CA-C	-5.28	101.97	110.74
1	A	157	ASP	CB-CA-C	5.28	117.19	109.48
14	N	191	SER	CA-C-N	5.22	127.54	120.38
14	N	191	SER	C-N-CA	5.22	127.54	120.38
9	W	208	THR	CB-CA-C	5.14	119.52	110.36
4	D	148	ASP	CB-CA-C	5.12	117.65	109.96
10	X	91	ILE	CA-C-O	-5.10	115.44	120.85
4	D	4	ASP	CA-CB-CG	5.04	117.64	112.60
7	G	144	ASP	CA-CB-CG	5.02	117.62	112.60
14	b	61	LYS	CA-C-N	5.01	127.25	120.38
14	b	61	LYS	C-N-CA	5.01	127.25	120.38
5	S	133	LEU	CA-C-N	5.01	125.90	120.44
5	S	133	LEU	C-N-CA	5.01	125.90	120.44
8	V	158	ASP	CA-CB-CG	5.00	117.60	112.60

There are no chirality outliers.

All (8) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	C	140	PHE	Peptide
3	C	171	GLY	Peptide
10	J	204	LYS	Peptide
2	P	132	LEU	Peptide
3	Q	130	TYR	Peptide
3	Q	140	PHE	Peptide
3	Q	171	GLY	Peptide
10	X	204	LYS	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	A	1857	0	1871	17	0
1	O	1857	0	1871	18	0
2	B	1754	0	1741	15	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	P	1754	0	1741	14	0
3	C	2195	0	2142	22	0
3	Q	2195	0	2142	25	0
4	D	1873	0	1868	17	0
4	R	1873	0	1868	22	0
5	E	1756	0	1736	21	0
5	S	1756	0	1736	24	0
6	F	1869	0	1823	22	0
6	T	1869	0	1823	19	0
7	G	1727	0	1691	23	0
7	U	1727	0	1691	18	0
8	H	1710	0	1665	20	0
8	V	1710	0	1665	19	0
9	I	1659	0	1684	23	0
9	W	1659	0	1684	22	0
10	J	1557	0	1552	26	0
10	X	1557	0	1552	29	0
11	K	1612	0	1571	18	0
11	Y	1612	0	1571	22	0
12	L	1579	0	1538	16	0
12	Z	1579	0	1538	16	0
13	M	1702	0	1638	30	0
13	a	1702	0	1638	26	0
14	N	1712	0	1668	28	0
14	b	1712	0	1668	22	0
15	L	30	0	0	0	0
15	Z	30	0	0	0	0
16	A	9	0	0	1	0
16	B	9	0	0	0	0
16	C	8	0	0	0	0
16	D	6	0	0	0	0
16	E	8	0	0	0	0
16	F	8	0	0	0	0
16	G	12	0	0	0	0
16	H	21	0	0	1	0
16	I	7	0	0	0	0
16	J	15	0	0	0	0
16	K	9	0	0	0	0
16	L	15	0	0	0	0
16	M	13	0	0	0	0
16	N	21	0	0	0	0
16	O	11	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
16	P	13	0	0	0	0
16	Q	8	0	0	0	0
16	R	9	0	0	0	0
16	S	6	0	0	0	0
16	T	8	0	0	0	0
16	U	5	0	0	0	0
16	V	19	0	0	0	0
16	W	15	0	0	1	0
16	X	23	0	0	0	0
16	Y	8	0	0	0	0
16	Z	17	0	0	0	0
16	a	11	0	0	0	0
16	b	20	0	0	1	0
All	All	49518	0	48376	525	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 5.

All (525) 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)
11:Y:15:MET:HE1	11:Y:168:LEU:HD23	1.38	1.05
11:K:15:MET:HE1	11:K:168:LEU:HD23	1.36	1.02
4:D:91:CYS:SG	4:D:107:LEU:HD13	2.20	0.82
1:O:36:THR:HG22	1:O:49:THR:HG23	1.62	0.82
5:E:185:ALA:HB2	5:E:239:VAL:HG21	1.66	0.78
1:A:36:THR:HG22	1:A:49:THR:HG23	1.67	0.77
8:V:68:LEU:HD23	8:V:98:CYS:SG	2.24	0.77
9:W:33:VAL:HG22	9:W:155:THR:HG22	1.69	0.74
1:A:195:GLN:OE1	1:A:223:ARG:NH1	2.20	0.74
9:W:238:THR:HG21	10:X:168:ALA:HB1	1.69	0.73
6:T:235:VAL:HG21	6:T:273:MET:HE1	1.69	0.73
6:F:235:VAL:HG21	6:F:273:MET:HE1	1.68	0.73
8:H:269:SER:O	7:U:100:ARG:NH1	2.21	0.73
1:O:195:GLN:OE1	1:O:223:ARG:NH1	2.21	0.73
13:M:145:VAL:HG11	13:M:237:VAL:HG13	1.70	0.72
13:M:232:THR:HG23	13:M:234:ASN:HD21	1.54	0.71
5:S:185:ALA:HB2	5:S:239:VAL:HG21	1.71	0.71
13:a:145:VAL:HG11	13:a:237:VAL:HG13	1.73	0.71
8:H:117:LEU:HD13	8:H:136:LEU:HD12	1.73	0.70
10:J:44:VAL:HG21	10:J:188:MET:HE1	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:U:66:ARG:NH1	7:U:80:GLY:O	2.23	0.70
5:E:204:ASN:HB2	13:M:216:GLN:HG3	1.72	0.70
13:a:232:THR:HG23	13:a:234:ASN:HD21	1.56	0.70
4:R:91:CYS:SG	4:R:107:LEU:HD13	2.32	0.69
8:V:117:LEU:HD13	8:V:136:LEU:HD12	1.73	0.69
9:I:238:THR:HG21	10:J:168:ALA:HB1	1.74	0.69
7:G:100:ARG:NH1	8:V:269:SER:O	2.25	0.69
11:K:10:CYS:SG	11:K:162:LEU:HD12	2.33	0.69
6:T:237:MET:HE1	6:T:250:ALA:HB2	1.75	0.68
5:E:289:MET:HE1	5:E:297:LEU:HD22	1.74	0.68
2:P:74:TYR:HB2	2:P:81:CYS:SG	2.33	0.68
8:H:68:LEU:HD23	8:H:98:CYS:SG	2.33	0.68
10:J:126:LEU:HD12	10:J:127:ILE:HG23	1.76	0.67
8:H:263:THR:HG21	8:H:274:ILE:HG23	1.76	0.67
9:I:87:MET:HE1	9:I:115:HIS:CE1	2.31	0.66
2:B:20:ILE:HD11	2:B:120:THR:HB	1.77	0.66
12:L:239:ASP:OD2	11:Y:181:ARG:HD3	1.96	0.65
5:S:289:MET:HE1	5:S:297:LEU:HD22	1.78	0.65
4:D:206:LEU:C	4:D:206:LEU:HD12	2.21	0.65
3:Q:175:GLN:HE21	3:Q:175:GLN:HA	1.61	0.65
1:A:122:ARG:NH1	1:A:129:ARG:O	2.27	0.65
5:E:268:GLN:HE21	5:E:268:GLN:HA	1.62	0.65
1:O:122:ARG:NH1	1:O:129:ARG:O	2.29	0.65
2:P:20:ILE:HD11	2:P:120:THR:HB	1.78	0.64
5:S:268:GLN:HE21	5:S:268:GLN:HA	1.62	0.64
6:F:237:MET:HE1	6:F:250:ALA:HB2	1.80	0.63
10:X:126:LEU:HD12	10:X:127:ILE:HG23	1.80	0.63
11:K:24:PHE:HB2	11:K:29:ILE:HD11	1.79	0.63
2:B:74:TYR:HB2	2:B:81:CYS:SG	2.37	0.63
7:G:150:VAL:HG21	7:G:163:VAL:HG21	1.80	0.63
5:S:204:ASN:HB2	13:a:216:GLN:HG3	1.79	0.63
6:T:258:MET:HE2	13:a:198:LYS:HG2	1.79	0.63
7:G:66:ARG:NH1	7:G:80:GLY:O	2.32	0.62
12:L:119:ALA:HB2	12:L:130:VAL:HG21	1.79	0.62
3:C:175:GLN:HA	3:C:175:GLN:HE21	1.64	0.62
5:S:168:MET:SD	5:S:178:MET:HE1	2.39	0.62
11:K:181:ARG:HD3	12:Z:239:ASP:OD2	2.00	0.62
4:R:71:LEU:HD13	4:R:131:THR:HG23	1.82	0.62
1:A:74:GLY:HA3	1:A:231:PHE:CD1	2.35	0.62
3:Q:121:CYS:HB3	3:Q:160:GLY:O	2.00	0.61
4:R:206:LEU:C	4:R:206:LEU:HD12	2.24	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:33:VAL:HG22	9:I:155:THR:HG22	1.80	0.61
9:I:166:GLN:HE21	9:I:190:LYS:HE2	1.66	0.61
7:U:150:VAL:HG21	7:U:163:VAL:HG21	1.82	0.61
12:Z:119:ALA:HB2	12:Z:130:VAL:HG21	1.83	0.61
3:C:121:CYS:HB3	3:C:160:GLY:O	2.01	0.60
9:W:87:MET:HE1	9:W:115:HIS:CE1	2.36	0.60
6:F:258:MET:HE2	13:M:198:LYS:HG2	1.82	0.60
9:W:200:THR:OG1	16:W:301:HOH:O	2.16	0.60
3:C:34:VAL:HG11	3:C:81:SER:HB2	1.83	0.60
14:N:38:ILE:HG21	14:N:187:ALA:HB2	1.82	0.60
10:J:96:TYR:CE1	10:J:99:ARG:HG3	2.37	0.60
12:Z:131:MET:HE1	12:Z:274:THR:HG21	1.83	0.60
3:C:166:SER:HB3	3:C:185:TRP:CZ2	2.37	0.60
3:Q:166:SER:HB3	3:Q:185:TRP:CZ2	2.37	0.60
8:V:263:THR:HG21	8:V:274:ILE:HG23	1.83	0.59
3:Q:71:MET:SD	3:Q:81:SER:OG	2.60	0.59
4:D:71:LEU:HD13	4:D:131:THR:HG23	1.84	0.59
8:H:88:LEU:HD13	8:H:231:ILE:HG22	1.83	0.59
13:M:192:MET:HB3	13:M:221:MET:HE1	1.85	0.59
11:Y:10:CYS:SG	11:Y:162:LEU:HD12	2.42	0.59
9:I:166:GLN:HE22	14:b:148:GLN:HE22	1.51	0.59
13:M:147:LEU:HD11	13:M:178:ALA:HB2	1.85	0.58
13:M:192:MET:HA	13:M:192:MET:HE3	1.85	0.58
10:J:123:ALA:HB2	10:J:137:VAL:HB	1.84	0.58
5:S:175:ALA:HB2	5:S:327:LEU:HD13	1.86	0.58
13:a:192:MET:HE3	13:a:192:MET:HA	1.85	0.58
5:E:168:MET:SD	5:E:178:MET:HE1	2.43	0.58
1:A:75:CYS:SG	1:A:77:MET:HE2	2.43	0.58
1:O:75:CYS:SG	1:O:77:MET:HE2	2.43	0.58
10:X:158:MET:HE1	10:X:166:ILE:HG21	1.86	0.57
11:Y:24:PHE:HB2	11:Y:29:ILE:HD11	1.86	0.57
5:E:175:ALA:HB2	5:E:327:LEU:HD13	1.86	0.57
7:U:37:ALA:HB2	7:U:50:VAL:HG23	1.87	0.56
14:b:38:ILE:HG21	14:b:187:ALA:HB2	1.88	0.56
1:O:110:VAL:HG21	9:W:99:THR:HG22	1.88	0.56
9:W:142:ILE:N	9:W:142:ILE:HD12	2.21	0.56
10:X:44:VAL:HG21	10:X:188:MET:HE1	1.87	0.56
4:D:70:TYR:CD2	4:D:209:LEU:HD21	2.40	0.56
1:O:74:GLY:HA3	1:O:231:PHE:CD1	2.40	0.56
9:W:185:ALA:HA	9:W:202:VAL:HG11	1.88	0.56
7:G:37:ALA:HB2	7:G:50:VAL:HG23	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:V:88:LEU:HD13	8:V:231:ILE:HG22	1.88	0.55
4:D:71:LEU:C	4:D:71:LEU:HD12	2.32	0.55
10:X:123:ALA:HB2	10:X:137:VAL:HB	1.89	0.55
3:Q:34:VAL:HG11	3:Q:81:SER:CB	2.37	0.55
14:N:148:GLN:HE22	9:W:166:GLN:HE22	1.54	0.55
11:K:16:VAL:CG1	11:K:46:ALA:HB2	2.36	0.55
12:Z:103:LEU:C	12:Z:103:LEU:HD12	2.32	0.55
12:Z:144:LEU:C	12:Z:144:LEU:HD12	2.32	0.55
1:A:49:THR:HG21	1:A:65:ALA:CB	2.37	0.54
6:T:200:VAL:HG22	6:T:325:ALA:HB2	1.88	0.54
10:J:30:GLU:HG2	10:J:35:ILE:HD11	1.88	0.54
4:R:42:VAL:HG13	4:R:206:LEU:HD13	1.90	0.54
7:G:11:SER:OG	7:G:13:ASP:OD2	2.23	0.54
13:a:263:THR:HG21	13:a:271:VAL:HB	1.89	0.54
7:U:88:ILE:HD12	7:U:134:CYS:SG	2.48	0.54
14:b:112:ARG:NH1	16:b:301:HOH:O	2.40	0.54
11:K:43:GLN:OE1	11:K:82:THR:HG21	2.08	0.54
9:I:142:ILE:N	9:I:142:ILE:HD12	2.22	0.54
10:X:96:TYR:CE1	10:X:99:ARG:HG3	2.42	0.54
1:A:67:TYR:CD2	1:A:88:VAL:HG21	2.43	0.53
14:N:16:VAL:HG22	14:N:116:THR:HG23	1.89	0.53
8:H:109:LEU:HD11	8:H:148:ILE:HD13	1.89	0.53
10:J:30:GLU:CG	10:J:35:ILE:HD11	2.38	0.53
2:P:74:TYR:CB	2:P:81:CYS:SG	2.96	0.53
11:Y:129:MET:HA	11:Y:134:THR:O	2.08	0.53
13:M:232:THR:HG23	13:M:234:ASN:ND2	2.23	0.53
9:W:166:GLN:HE21	9:W:190:LYS:HE2	1.73	0.53
9:W:167:LEU:HD13	9:W:187:ALA:HB2	1.89	0.53
3:Q:2:SER:HB2	7:U:127:PHE:CD1	2.44	0.53
11:Y:16:VAL:HG21	11:Y:44:LEU:HD11	1.90	0.53
11:K:16:VAL:HG21	11:K:44:LEU:HD11	1.91	0.53
9:W:81:THR:O	9:W:85:THR:HB	2.07	0.53
13:a:128:PRO:O	14:b:96:ARG:NH2	2.40	0.53
9:I:81:THR:O	9:I:85:THR:HB	2.09	0.53
14:N:24:LEU:HD21	14:N:53:TYR:CG	2.43	0.53
10:X:108:VAL:HG13	10:X:137:VAL:HG23	1.91	0.53
13:M:132:ASN:HB3	13:M:153:LEU:HD12	1.90	0.53
2:P:110:ARG:NH2	3:Q:59:GLU:OE2	2.42	0.53
3:Q:34:VAL:HG11	3:Q:81:SER:HB2	1.91	0.53
1:A:110:VAL:HG21	9:I:99:THR:HG22	1.92	0.52
6:F:231:ILE:HD11	6:F:237:MET:SD	2.50	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:175:VAL:HG21	14:N:32:TRP:CZ3	2.44	0.52
9:I:185:ALA:HA	9:I:202:VAL:HG11	1.90	0.52
13:a:132:ASN:HB3	13:a:153:LEU:HD12	1.90	0.52
13:a:182:MET:HE1	14:b:96:ARG:NH2	2.24	0.52
2:B:34:LEU:C	2:B:34:LEU:HD12	2.35	0.52
4:R:194:LEU:HA	4:R:197:VAL:HG12	1.92	0.52
10:J:158:MET:HE1	10:J:166:ILE:HG21	1.91	0.52
12:L:144:LEU:C	12:L:144:LEU:HD12	2.34	0.52
13:M:263:THR:HG21	13:M:271:VAL:HB	1.92	0.52
3:Q:92:LEU:HD12	3:Q:138:VAL:HG11	1.92	0.52
11:Y:16:VAL:CG1	11:Y:46:ALA:HB2	2.40	0.52
13:a:192:MET:HB3	13:a:221:MET:HE1	1.91	0.52
2:P:34:LEU:C	2:P:34:LEU:HD12	2.34	0.52
7:G:148:LEU:HD21	7:G:163:VAL:HG12	1.92	0.52
10:J:108:VAL:HG13	10:J:137:VAL:HG23	1.92	0.52
13:M:319:VAL:HG22	13:M:336:LEU:HD11	1.92	0.52
13:a:233:PHE:HB3	13:a:264:ARG:HD2	1.92	0.52
14:b:11:LYS:CE	14:b:116:THR:HG22	2.40	0.52
1:O:49:THR:HG21	1:O:65:ALA:CB	2.40	0.52
6:T:379:ILE:HD12	6:T:389:PHE:CE2	2.45	0.52
6:F:274:ALA:HB1	6:F:318:VAL:HG11	1.91	0.51
7:G:88:ILE:HD12	7:G:134:CYS:SG	2.50	0.51
13:M:136:THR:HG21	13:M:178:ALA:HB1	1.92	0.51
13:M:215:ALA:HA	13:M:250:TYR:OH	2.11	0.51
14:b:16:VAL:HG22	14:b:116:THR:HG23	1.92	0.51
6:F:186:ILE:HD11	6:F:285:ILE:HB	1.92	0.51
9:W:71:MET:HG3	9:W:205:CYS:SG	2.50	0.51
14:b:11:LYS:HE2	14:b:116:THR:HG22	1.92	0.51
7:G:48:VAL:HG11	7:G:77:CYS:CB	2.40	0.51
11:K:44:LEU:HD12	11:K:44:LEU:C	2.36	0.51
6:T:372:VAL:HG11	6:T:395:ARG:HG3	1.92	0.51
2:B:228:LEU:HD23	2:B:231:ILE:HD11	1.92	0.51
3:Q:216:VAL:HG23	3:Q:254:LEU:HD21	1.93	0.51
1:A:123:THR:O	2:B:126:ARG:NH1	2.44	0.51
2:P:42:VAL:HG13	2:P:211:VAL:HB	1.93	0.51
10:J:44:VAL:CG2	10:J:188:MET:HE1	2.38	0.51
10:J:58:THR:HG21	11:K:132:LEU:O	2.11	0.51
5:S:188:LEU:HD23	5:S:219:LEU:HD23	1.94	0.51
9:W:238:THR:HG21	10:X:168:ALA:CB	2.40	0.51
5:S:205:GLU:OE2	13:a:200:TYR:OH	2.20	0.50
4:R:71:LEU:HD12	4:R:71:LEU:C	2.35	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:X:107:PRO:HG2	10:X:124:THR:HB	1.94	0.50
13:M:170:GLN:NE2	13:M:176:TYR:OH	2.44	0.50
1:O:67:TYR:CD2	1:O:88:VAL:HG21	2.45	0.50
10:X:58:THR:HG21	11:Y:132:LEU:O	2.11	0.50
2:B:110:ARG:NH2	3:C:59:GLU:OE2	2.44	0.50
8:H:120:TYR:CE2	8:H:124:ILE:HD13	2.47	0.50
10:J:135:ASP:HA	10:J:154:TRP:CZ2	2.47	0.50
12:L:103:LEU:HD12	12:L:103:LEU:C	2.37	0.50
11:K:129:MET:HA	11:K:134:THR:O	2.12	0.50
6:T:186:ILE:HD11	6:T:285:ILE:HB	1.92	0.50
10:X:30:GLU:CG	10:X:35:ILE:HD11	2.42	0.50
11:K:61:ILE:HG13	11:K:86:MET:HG2	1.94	0.50
4:R:115:GLN:HE21	4:R:149:PRO:HA	1.75	0.50
3:C:2:SER:HB2	7:G:127:PHE:CD1	2.47	0.50
6:F:200:VAL:HG22	6:F:325:ALA:HB2	1.93	0.50
4:D:115:GLN:HE21	4:D:149:PRO:HA	1.76	0.50
9:I:112:LEU:HD22	9:I:127:LEU:CD1	2.42	0.50
11:Y:43:GLN:OE1	11:Y:82:THR:HG21	2.11	0.50
13:a:232:THR:HG23	13:a:234:ASN:ND2	2.25	0.49
4:D:42:VAL:HG13	4:D:206:LEU:HD13	1.94	0.49
7:G:88:ILE:CD1	7:G:134:CYS:SG	3.00	0.49
14:N:11:LYS:CE	14:N:116:THR:HG22	2.42	0.49
2:B:74:TYR:CB	2:B:81:CYS:SG	3.00	0.49
13:M:233:PHE:HB3	13:M:264:ARG:HD2	1.93	0.49
3:Q:233:LEU:HD23	10:X:186:VAL:HG11	1.94	0.49
10:X:30:GLU:HG2	10:X:35:ILE:HD11	1.94	0.49
9:I:43:LEU:HB3	9:I:73:CYS:SG	2.53	0.49
14:N:46:ALA:HB2	14:N:194:VAL:HG11	1.94	0.49
7:U:78:ILE:HG21	7:U:85:GLY:HA3	1.93	0.49
5:S:255:GLN:HE21	5:S:270:ILE:HG22	1.77	0.49
5:S:197:GLN:HB3	12:Z:160:MET:HG3	1.93	0.49
6:F:372:VAL:HG11	6:F:395:ARG:HG3	1.95	0.49
3:C:160:GLY:O	4:D:81:ARG:NH2	2.45	0.49
13:a:176:TYR:OH	13:a:329:VAL:HG11	2.13	0.49
9:I:71:MET:HG3	9:I:205:CYS:SG	2.53	0.49
4:R:65:VAL:HG11	4:R:107:LEU:HD21	1.94	0.49
13:M:146:ILE:CG2	13:M:301:LEU:HD12	2.43	0.48
1:O:123:THR:O	2:P:126:ARG:NH1	2.45	0.48
10:X:188:MET:HE2	10:X:195:VAL:HG11	1.95	0.48
4:R:70:TYR:CD2	4:R:209:LEU:HD21	2.48	0.48
10:X:44:VAL:CG2	10:X:188:MET:HE1	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:119:ALA:HB3	1:A:160:GLY:HA2	1.96	0.48
5:E:327:LEU:HD21	5:E:329:MET:HE2	1.95	0.48
7:U:52:LYS:HD2	7:U:212:GLU:HB2	1.95	0.48
7:G:52:LYS:HD2	7:G:212:GLU:HB2	1.96	0.48
3:Q:221:MET:HE2	3:Q:244:PRO:HB2	1.94	0.48
13:a:147:LEU:HD11	13:a:178:ALA:HB2	1.94	0.48
7:G:48:VAL:HG11	7:G:77:CYS:HB3	1.95	0.48
5:E:336:LYS:HA	5:E:339:MET:HE3	1.95	0.48
11:K:39:LEU:HD22	11:K:61:ILE:HG22	1.96	0.48
6:T:379:ILE:HD12	6:T:389:PHE:HE2	1.77	0.48
9:W:84:VAL:HG22	9:W:115:HIS:CD2	2.49	0.48
13:a:215:ALA:HA	13:a:250:TYR:OH	2.14	0.48
9:I:167:LEU:HD13	9:I:187:ALA:HB2	1.96	0.48
12:L:131:MET:HE1	12:L:274:THR:HG21	1.95	0.48
14:N:137:TYR:HB3	14:N:141:ILE:HD12	1.96	0.48
4:R:98:TYR:O	4:R:99:GLU:C	2.55	0.48
14:b:143:LEU:HD13	14:b:147:ARG:NH2	2.29	0.48
5:E:255:GLN:HE21	5:E:270:ILE:HG22	1.79	0.48
6:F:282:GLN:HA	6:F:285:ILE:HG12	1.94	0.48
6:F:379:ILE:HD12	6:F:389:PHE:HE2	1.77	0.48
6:F:379:ILE:HD12	6:F:389:PHE:CE2	2.49	0.48
11:K:14:VAL:HG22	11:K:124:PRO:HB2	1.96	0.48
7:U:48:VAL:HG11	7:U:77:CYS:CB	2.43	0.48
4:D:194:LEU:HA	4:D:197:VAL:HG12	1.96	0.48
8:H:148:ILE:HD12	8:H:150:ALA:HB3	1.94	0.48
13:M:146:ILE:HG22	13:M:301:LEU:HD12	1.95	0.48
5:S:336:LYS:HA	5:S:339:MET:HE3	1.96	0.48
7:U:50:VAL:HG11	7:U:66:ARG:HB2	1.95	0.48
7:G:72:ARG:NH2	7:G:221:ASP:O	2.47	0.47
12:L:101:THR:HG21	12:L:262:ALA:CB	2.44	0.47
14:N:24:LEU:HD21	14:N:53:TYR:CD2	2.48	0.47
13:a:319:VAL:HG22	13:a:336:LEU:HD11	1.94	0.47
3:C:216:VAL:HG23	3:C:254:LEU:HD21	1.95	0.47
3:C:71:MET:SD	3:C:81:SER:OG	2.72	0.47
6:F:235:VAL:HG11	6:F:273:MET:SD	2.54	0.47
4:R:16:LEU:HG	5:S:181:MET:HE1	1.96	0.47
2:B:80:ASP:OD2	2:B:126:ARG:NH2	2.47	0.47
3:C:221:MET:HE2	3:C:244:PRO:HB2	1.96	0.47
4:R:136:PHE:CE1	4:R:142:PRO:HB3	2.48	0.47
11:Y:61:ILE:HG12	11:Y:86:MET:HG2	1.96	0.47
4:R:186:VAL:HG13	4:R:206:LEU:HD21	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:81:ALA:N	1:A:82:PRO:HD2	2.29	0.47
5:E:188:LEU:HD23	5:E:219:LEU:HD23	1.96	0.47
10:J:14:MET:HE3	10:J:150:CYS:SG	2.54	0.47
12:L:266:ASP:HB3	12:L:269:SER:HB3	1.97	0.47
1:O:29:VAL:HG21	1:O:134:VAL:HG23	1.96	0.47
2:P:80:ASP:OD2	2:P:126:ARG:NH2	2.48	0.47
3:Q:78:ILE:HG21	3:Q:116:LEU:HD22	1.96	0.47
6:T:274:ALA:HB1	6:T:318:VAL:HG11	1.96	0.47
6:T:239:ILE:HG22	6:T:297:LEU:CD2	2.44	0.47
14:b:24:LEU:HD21	14:b:53:TYR:CG	2.50	0.47
9:I:47:THR:OG1	9:I:200:THR:HB	2.16	0.46
9:W:233:LEU:HD13	10:X:169:GLN:HG3	1.97	0.46
2:B:81:CYS:SG	2:B:130:CYS:HB2	2.56	0.46
13:M:182:MET:HE1	14:N:96:ARG:NH2	2.30	0.46
9:W:47:THR:OG1	9:W:200:THR:HB	2.15	0.46
1:A:49:THR:HG21	1:A:65:ALA:HB3	1.96	0.46
6:F:331:GLN:HA	6:F:331:GLN:HE21	1.80	0.46
1:O:41:CYS:SG	1:O:44:ALA:HB3	2.56	0.46
9:W:43:LEU:HB3	9:W:73:CYS:SG	2.56	0.46
3:C:233:LEU:HD23	10:J:186:VAL:HG11	1.98	0.46
8:H:68:LEU:N	8:H:68:LEU:HD12	2.31	0.46
11:Y:104:ASN:HB3	11:Y:143:HIS:CE1	2.51	0.46
14:b:16:VAL:CG2	14:b:116:THR:HG23	2.45	0.46
9:I:233:LEU:HD13	10:J:169:GLN:HG3	1.98	0.46
8:V:175:VAL:HG21	14:b:32:TRP:CZ3	2.49	0.46
10:X:135:ASP:HA	10:X:154:TRP:CZ2	2.50	0.46
5:E:255:GLN:HE21	5:E:270:ILE:CG2	2.28	0.46
14:N:172:VAL:HG11	9:W:165:ALA:HA	1.97	0.46
3:C:34:VAL:HG11	3:C:81:SER:CB	2.45	0.46
14:N:11:LYS:HE2	14:N:116:THR:HG22	1.97	0.46
12:Z:135:GLU:HB3	12:Z:283:TRP:CZ2	2.51	0.46
12:Z:224:LEU:C	12:Z:224:LEU:HD23	2.41	0.46
2:P:228:LEU:HD23	2:P:231:ILE:HD11	1.97	0.46
11:Y:1:MET:HA	11:Y:144:GLY:HA2	1.97	0.46
4:D:90:GLU:HG2	4:D:110:TYR:CG	2.51	0.46
5:S:255:GLN:HE21	5:S:270:ILE:CG2	2.28	0.46
12:Z:143:THR:HG21	12:Z:199:MET:HE3	1.98	0.46
10:J:158:MET:HE1	10:J:166:ILE:HG12	1.98	0.46
8:H:117:LEU:CD1	8:H:136:LEU:HD12	2.45	0.45
9:I:241:LEU:HD21	10:J:201:LYS:HB2	1.98	0.45
7:U:113:ALA:HA	7:U:138:ILE:HD13	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Q:14:PRO:HA	4:R:21:TYR:CE1	2.51	0.45
13:a:182:MET:HE3	13:a:184:ALA:HB3	1.97	0.45
4:D:186:VAL:HG13	4:D:206:LEU:HD21	1.98	0.45
7:G:67:ILE:HD12	7:G:212:GLU:HG2	1.99	0.45
13:M:138:ALA:HB3	13:M:235:MET:HE1	1.97	0.45
3:Q:160:GLY:O	4:R:81:ARG:NH2	2.49	0.45
14:b:24:LEU:HD21	14:b:53:TYR:CD2	2.51	0.45
6:T:277:ILE:HD11	6:T:299:LEU:CD1	2.46	0.45
14:b:24:LEU:HD22	14:b:35:ILE:HG21	1.98	0.45
13:M:319:VAL:CG2	13:M:336:LEU:HD11	2.46	0.45
6:T:331:GLN:HE21	6:T:331:GLN:HA	1.80	0.45
10:J:21:VAL:HG23	10:J:163:LEU:HD13	1.99	0.45
4:D:16:LEU:HG	5:E:181:MET:HE1	1.99	0.45
7:G:50:VAL:HG11	7:G:66:ARG:HB2	1.99	0.45
12:L:224:LEU:C	12:L:224:LEU:HD23	2.42	0.45
4:R:194:LEU:HD13	4:R:204:ILE:HD11	1.99	0.45
10:J:107:PRO:HG2	10:J:124:THR:HB	1.98	0.45
13:M:176:TYR:OH	13:M:329:VAL:HG11	2.16	0.45
13:a:208:VAL:HG22	13:a:209:PRO:HD2	1.99	0.45
3:C:139:SER:OG	3:C:156:THR:O	2.33	0.45
5:E:204:ASN:HB2	13:M:216:GLN:CG	2.43	0.45
8:H:181:LEU:HB3	8:H:186:SER:HB2	1.99	0.45
11:Y:31:ASP:CG	11:Y:187:SER:HG	2.25	0.45
10:J:111:SER:HG	10:J:120:TYR:HB3	1.82	0.44
13:M:128:PRO:O	14:N:96:ARG:NH2	2.46	0.44
12:Z:136:ILE:HG23	12:Z:159:GLY:HA2	1.99	0.44
3:C:146:ASP:OD1	3:C:152:GLN:NE2	2.50	0.44
4:D:136:PHE:CE1	4:D:142:PRO:HB3	2.51	0.44
7:U:48:VAL:HG11	7:U:77:CYS:HB3	1.98	0.44
5:E:268:GLN:NE2	5:E:278:GLN:OE1	2.50	0.44
7:U:95:GLU:CD	7:U:115:ARG:HG2	2.42	0.44
8:V:62:TYR:HB3	8:V:206:CYS:SG	2.57	0.44
8:V:109:LEU:HD11	8:V:148:ILE:HD13	1.99	0.44
3:C:111:MET:HE1	3:C:119:ILE:HD12	1.98	0.44
7:G:137:ILE:HD11	7:G:165:LEU:HD12	1.99	0.44
8:H:190:TYR:CE2	14:N:29:LEU:HD21	2.53	0.44
10:X:14:MET:HE3	10:X:150:CYS:SG	2.58	0.44
10:X:158:MET:HE1	10:X:166:ILE:HG12	2.00	0.44
1:A:165:HIS:ND1	16:A:301:HOH:O	2.28	0.44
2:B:42:VAL:HG13	2:B:211:VAL:HB	1.99	0.44
5:E:150:ALA:HB2	5:E:177:VAL:HG21	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:78:ILE:HG21	7:G:85:GLY:HA3	1.98	0.44
8:H:252:MET:HE3	14:b:33:PRO:HB3	1.99	0.44
12:L:165:TRP:CD1	12:L:169:ASN:HD22	2.35	0.44
7:U:88:ILE:CD1	7:U:134:CYS:SG	3.06	0.44
13:a:170:GLN:NE2	13:a:176:TYR:OH	2.50	0.44
3:Q:191:LEU:HD11	3:Q:220:VAL:HG13	1.99	0.44
3:C:14:PRO:HA	4:D:21:TYR:CE1	2.53	0.44
9:I:84:VAL:HG22	9:I:115:HIS:CD2	2.53	0.44
13:M:148:ALA:HB2	13:M:321:PHE:CD1	2.53	0.44
14:N:16:VAL:CG2	14:N:116:THR:HG23	2.48	0.44
8:V:148:ILE:HD12	8:V:150:ALA:HB3	1.99	0.44
1:A:29:VAL:HG21	1:A:134:VAL:HG23	1.99	0.44
2:B:18:ILE:HD13	2:B:18:ILE:HA	1.92	0.44
3:C:195:MET:HE2	3:C:195:MET:HB3	1.88	0.44
5:S:327:LEU:HD21	5:S:329:MET:HE2	1.99	0.44
8:V:137:PHE:HB3	8:V:168:ILE:HD13	1.99	0.44
11:Y:128:TYR:CE1	11:Y:143:HIS:CE1	3.05	0.44
13:a:146:ILE:CG2	13:a:301:LEU:HD12	2.48	0.44
7:G:152:ASP:OD2	7:G:156:THR:HB	2.18	0.43
2:P:15:GLY:O	3:Q:27:ALA:HB2	2.18	0.43
14:b:137:TYR:HB3	14:b:141:ILE:HD12	1.99	0.43
4:D:98:TYR:O	4:D:99:GLU:C	2.60	0.43
12:L:144:LEU:HB2	12:L:151:CYS:HB3	1.99	0.43
2:B:30:GLY:HA3	2:B:76:GLY:H	1.83	0.43
5:E:205:GLU:OE2	13:M:200:TYR:OH	2.19	0.43
1:O:46:LEU:HD21	1:O:199:ALA:HB2	2.01	0.43
3:Q:111:MET:HE1	3:Q:119:ILE:HD12	1.99	0.43
6:F:239:ILE:HG22	6:F:297:LEU:CD2	2.48	0.43
7:G:73:GLN:HB3	8:V:270:SER:HB3	2.01	0.43
14:N:23:LEU:HD11	14:N:30:ALA:HB1	2.00	0.43
14:N:69:ARG:HG3	14:N:73:TYR:CZ	2.53	0.43
14:N:186:VAL:HG23	14:N:200:PHE:CE2	2.54	0.43
5:S:213:THR:HG21	5:S:254:TRP:HB3	2.01	0.43
8:H:113:VAL:HG12	8:H:117:LEU:HD22	2.00	0.43
12:L:136:ILE:HG23	12:L:159:GLY:HA2	1.99	0.43
10:X:43:HIS:HB2	10:X:51:TYR:CE2	2.54	0.43
13:a:146:ILE:HG22	13:a:301:LEU:HD12	1.99	0.43
13:a:201:LYS:HE2	13:a:208:VAL:HG23	2.00	0.43
14:b:24:LEU:HD22	14:b:35:ILE:HG13	1.99	0.43
1:A:74:GLY:HA3	1:A:231:PHE:CG	2.54	0.43
14:N:168:ASP:O	14:N:172:VAL:HG23	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:13:PRO:HA	3:Q:23:TYR:CD1	2.53	0.43
5:S:283:GLU:HG3	5:S:284:ARG:HG2	2.00	0.43
16:H:303:HOH:O	14:b:183:LYS:HE3	2.17	0.43
9:I:116:LEU:HD12	9:I:142:ILE:CG2	2.49	0.43
12:L:135:GLU:HB3	12:L:283:TRP:CZ2	2.53	0.43
14:b:69:ARG:HG3	14:b:73:TYR:CZ	2.54	0.43
11:K:61:ILE:CG1	11:K:86:MET:HG2	2.48	0.43
1:O:11:THR:HG23	1:O:11:THR:O	2.19	0.43
4:D:194:LEU:HD13	4:D:204:ILE:HD11	2.01	0.43
11:K:39:LEU:HB3	11:K:65:LEU:HD12	2.00	0.43
1:O:111:LEU:O	1:O:115:MET:HG2	2.19	0.43
5:S:131:ILE:HD13	5:S:240:SER:HB2	2.00	0.43
11:Y:14:VAL:HG22	11:Y:124:PRO:HB2	2.01	0.43
11:Y:104:ASN:HB3	11:Y:143:HIS:ND1	2.33	0.43
3:Q:221:MET:CE	3:Q:244:PRO:HB2	2.49	0.42
8:H:59:ALA:HA	8:H:67:VAL:O	2.20	0.42
3:Q:166:SER:HB3	3:Q:185:TRP:CH2	2.54	0.42
8:V:227:LEU:HD23	8:V:244:PRO:HA	2.01	0.42
10:X:111:SER:OG	10:X:120:TYR:HB3	2.19	0.42
9:I:238:THR:HG21	10:J:168:ALA:CB	2.44	0.42
14:N:56:PHE:HD1	14:N:106:MET:HE3	1.84	0.42
14:N:184:PHE:O	14:N:199:PRO:HA	2.19	0.42
1:O:81:ALA:N	1:O:82:PRO:HD2	2.35	0.42
12:Z:187:TYR:O	12:Z:190:ARG:HB3	2.20	0.42
2:B:112:ILE:HG21	2:B:132:LEU:HD12	2.00	0.42
5:E:197:GLN:HB3	12:L:160:MET:HG3	2.01	0.42
13:M:146:ILE:HG22	13:M:301:LEU:CD1	2.50	0.42
3:C:92:LEU:HD12	3:C:138:VAL:HG11	2.02	0.42
8:V:59:ALA:HA	8:V:67:VAL:O	2.19	0.42
8:V:120:TYR:CE2	8:V:124:ILE:HD13	2.55	0.42
6:F:239:ILE:HG22	6:F:297:LEU:HD22	2.01	0.42
7:G:216:VAL:O	7:G:216:VAL:HG13	2.20	0.42
9:I:92:LEU:HD11	9:I:108:ALA:HB2	2.01	0.42
10:J:96:TYR:CZ	10:J:99:ARG:HG3	2.55	0.42
13:M:136:THR:OG1	13:M:180:ASN:ND2	2.52	0.42
5:S:150:ALA:HB2	5:S:177:VAL:HG21	2.01	0.42
6:T:231:ILE:HD11	6:T:237:MET:SD	2.60	0.42
5:E:138:LEU:HD11	5:E:149:ALA:HB3	2.02	0.42
9:I:112:LEU:HD22	9:I:127:LEU:HD13	2.00	0.42
10:J:14:MET:HE1	10:J:166:ILE:HD12	2.02	0.42
5:S:178:MET:HE2	5:S:178:MET:HB3	1.99	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:S:268:GLN:NE2	5:S:278:GLN:OE1	2.53	0.42
10:X:188:MET:HE2	10:X:195:VAL:CG1	2.50	0.42
12:Z:196:MET:HE3	12:Z:196:MET:HB2	1.94	0.42
14:b:46:ALA:HB2	14:b:194:VAL:HG11	2.00	0.42
3:C:221:MET:CE	3:C:244:PRO:HB2	2.50	0.42
8:H:227:LEU:HD23	8:H:244:PRO:HA	2.01	0.42
11:K:45:VAL:O	11:K:45:VAL:HG13	2.20	0.42
10:X:136:TYR:CD1	10:X:136:TYR:C	2.98	0.42
1:A:11:THR:HG23	1:A:11:THR:O	2.19	0.42
2:B:109:VAL:HG21	2:B:145:TYR:CG	2.54	0.42
6:F:273:MET:HE3	6:F:273:MET:HB2	1.91	0.42
3:Q:14:PRO:HA	4:R:21:TYR:CD1	2.55	0.42
4:R:65:VAL:HG11	4:R:107:LEU:CD2	2.49	0.42
8:V:117:LEU:CD1	8:V:136:LEU:HD12	2.46	0.42
9:W:31:THR:HG22	9:W:198:SER:HB3	2.02	0.42
11:Y:39:LEU:HD22	11:Y:61:ILE:HG22	2.00	0.42
11:Y:44:LEU:HD12	11:Y:44:LEU:C	2.45	0.42
2:B:15:GLY:O	3:C:27:ALA:HB2	2.20	0.42
7:G:95:GLU:CG	7:G:115:ARG:HG2	2.49	0.42
8:H:109:LEU:HD11	8:H:148:ILE:CD1	2.50	0.42
4:R:90:GLU:HG2	4:R:110:TYR:CG	2.54	0.42
5:S:204:ASN:HB2	13:a:216:GLN:CG	2.47	0.42
6:T:299:LEU:HD23	6:T:299:LEU:HA	1.87	0.42
12:Z:164:LEU:O	12:Z:168:ARG:HG3	2.20	0.42
13:a:138:ALA:HB3	13:a:235:MET:HE1	2.01	0.42
6:T:235:VAL:HG11	6:T:273:MET:SD	2.60	0.41
4:D:65:VAL:HG11	4:D:107:LEU:HD21	2.02	0.41
8:H:179:TYR:OH	8:V:258:TYR:OH	2.33	0.41
14:N:143:LEU:HD13	14:N:147:ARG:NH2	2.34	0.41
6:T:239:ILE:HG22	6:T:297:LEU:HD22	2.02	0.41
7:U:152:ASP:OD2	7:U:156:THR:HB	2.20	0.41
6:F:257:CYS:SG	6:F:273:MET:HE2	2.61	0.41
2:P:109:VAL:HG21	2:P:145:TYR:CG	2.55	0.41
4:R:108:VAL:HG21	4:R:145:TRP:CG	2.55	0.41
6:T:282:GLN:HA	6:T:285:ILE:HG12	2.02	0.41
10:X:92:THR:HB	10:X:128:GLY:O	2.20	0.41
14:b:56:PHE:HD1	14:b:106:MET:HE3	1.84	0.41
14:N:206:TRP:CH2	8:V:226:GLY:HA2	2.55	0.41
1:O:70:THR:O	1:O:71:PRO:C	2.63	0.41
7:U:216:VAL:O	7:U:216:VAL:HG13	2.20	0.41
10:X:22:ILE:HG21	10:X:50:VAL:CG1	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:26:ASN:HD21	10:J:186:VAL:HG23	1.86	0.41
3:C:166:SER:HB3	3:C:185:TRP:CH2	2.56	0.41
3:C:255:LYS:N	3:C:256:PRO:HD2	2.35	0.41
7:G:82:LEU:HB3	7:G:83:PRO:HD3	2.01	0.41
10:J:88:ALA:O	10:J:92:THR:HG23	2.20	0.41
10:J:204:LYS:C	12:Z:291:GLN:HE22	2.29	0.41
11:Y:44:LEU:HD23	11:Y:199:VAL:HG22	2.02	0.41
1:A:147:GLY:HA2	9:I:134:VAL:HG21	2.03	0.41
14:N:148:GLN:HE22	9:W:166:GLN:NE2	2.17	0.41
3:Q:80:CYS:HA	3:Q:141:LEU:O	2.19	0.41
4:R:64:LYS:HB2	4:R:70:TYR:CE1	2.55	0.41
6:T:326:MET:O	6:T:330:SER:OG	2.39	0.41
6:F:398:LEU:HD12	6:F:398:LEU:HA	1.93	0.41
5:S:278:GLN:HE21	5:S:278:GLN:HB2	1.64	0.41
5:S:280:VAL:HG11	5:S:301:ILE:HG12	2.02	0.41
10:X:14:MET:HE1	10:X:166:ILE:HD12	2.03	0.41
10:X:58:THR:CG2	11:Y:132:LEU:O	2.69	0.41
11:Y:12:ASP:OD1	11:Y:12:ASP:N	2.53	0.41
5:E:113:ASN:HB3	6:F:291:ARG:HB3	2.02	0.41
11:K:47:CYS:SG	11:K:103:VAL:HB	2.61	0.41
12:L:143:THR:O	12:L:198:THR:HG23	2.20	0.41
13:M:185:ASP:OD1	14:N:96:ARG:NH1	2.53	0.41
14:N:8:ILE:HG21	14:N:142:ALA:CB	2.50	0.41
14:N:33:PRO:HB3	8:V:252:MET:HE3	2.02	0.41
1:O:74:GLY:HA3	1:O:231:PHE:CG	2.56	0.41
2:P:30:GLY:HA3	2:P:76:GLY:H	1.85	0.41
8:V:190:TYR:CE2	14:b:29:LEU:HD21	2.56	0.41
12:Z:144:LEU:HB2	12:Z:151:CYS:HB3	2.03	0.41
5:E:121:ILE:HD11	6:F:291:ARG:CZ	2.51	0.41
12:L:196:MET:HE3	12:L:196:MET:HB2	1.95	0.41
7:U:72:ARG:NH2	7:U:221:ASP:O	2.54	0.41
7:U:91:ARG:HA	7:U:91:ARG:HD3	1.93	0.41
9:W:116:LEU:HD12	9:W:142:ILE:CG2	2.51	0.41
7:G:82:LEU:N	7:G:83:PRO:CD	2.84	0.40
13:M:166:SER:O	13:M:190:GLN:NE2	2.46	0.40
2:P:17:LEU:HD13	2:P:20:ILE:HD12	2.01	0.40
13:a:319:VAL:CG2	13:a:336:LEU:HD11	2.50	0.40
6:F:193:VAL:HG22	6:F:296:GLY:N	2.35	0.40
9:I:167:LEU:HD12	9:I:167:LEU:HA	1.92	0.40
11:K:12:ASP:OD1	11:K:12:ASP:N	2.54	0.40
6:F:277:ILE:HD11	6:F:299:LEU:CD1	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:62:TYR:HB3	8:H:206:CYS:SG	2.61	0.40
13:M:144:PHE:CD1	13:M:146:ILE:HD12	2.57	0.40
1:O:87:LEU:HD12	1:O:133:VAL:CG1	2.51	0.40
6:T:193:VAL:HG22	6:T:296:GLY:N	2.36	0.40
5:E:280:VAL:HG11	5:E:301:ILE:HG12	2.03	0.40
3:Q:12:PHE:N	4:R:18:GLN:OE1	2.54	0.40
10:X:96:TYR:CZ	10:X:99:ARG:HG3	2.56	0.40
12:Z:199:MET:SD	12:Z:225:PHE:HB2	2.61	0.40
12:L:239:ASP:OD1	11:Y:181:ARG:NH2	2.55	0.40
14:N:186:VAL:HG23	14:N:200:PHE:HE2	1.85	0.40
3:Q:97:ARG:HD2	10:X:76:LEU:HD13	2.03	0.40
5:S:148:LEU:HD21	5:S:244:ALA:HB2	2.04	0.40
9:W:67:ALA:HB1	9:W:68:PRO:HD2	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	242/250 (97%)	233 (96%)	9 (4%)	0	100	100
1	O	242/250 (97%)	233 (96%)	9 (4%)	0	100	100
2	B	227/231 (98%)	216 (95%)	11 (5%)	0	100	100
2	P	227/231 (98%)	218 (96%)	9 (4%)	0	100	100
3	C	274/285 (96%)	266 (97%)	8 (3%)	0	100	100
3	Q	274/285 (96%)	265 (97%)	9 (3%)	0	100	100
4	D	237/248 (96%)	228 (96%)	7 (3%)	2 (1%)	16	44
4	R	237/248 (96%)	226 (95%)	9 (4%)	2 (1%)	16	44
5	E	225/344 (65%)	222 (99%)	3 (1%)	0	100	100
5	S	225/344 (65%)	221 (98%)	4 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
6	F	236/428 (55%)	230 (98%)	5 (2%)	1 (0%)	30 60
6	T	236/428 (55%)	229 (97%)	6 (2%)	1 (0%)	30 60
7	G	226/238 (95%)	218 (96%)	8 (4%)	0	100 100
7	U	226/238 (95%)	219 (97%)	7 (3%)	0	100 100
8	H	227/283 (80%)	212 (93%)	14 (6%)	1 (0%)	30 60
8	V	227/283 (80%)	213 (94%)	13 (6%)	1 (0%)	30 60
9	I	217/254 (85%)	204 (94%)	10 (5%)	3 (1%)	9 30
9	W	217/254 (85%)	205 (94%)	9 (4%)	3 (1%)	9 30
10	J	202/205 (98%)	192 (95%)	9 (4%)	1 (0%)	24 55
10	X	202/205 (98%)	191 (95%)	10 (5%)	1 (0%)	24 55
11	K	204/206 (99%)	194 (95%)	10 (5%)	0	100 100
11	Y	204/206 (99%)	195 (96%)	9 (4%)	0	100 100
12	L	200/302 (66%)	188 (94%)	12 (6%)	0	100 100
12	Z	200/302 (66%)	188 (94%)	12 (6%)	0	100 100
13	M	212/339 (62%)	204 (96%)	5 (2%)	3 (1%)	9 30
13	a	212/339 (62%)	204 (96%)	5 (2%)	3 (1%)	9 30
14	N	216/220 (98%)	202 (94%)	14 (6%)	0	100 100
14	b	216/220 (98%)	204 (94%)	12 (6%)	0	100 100
All	All	6290/7666 (82%)	6020 (96%)	248 (4%)	22 (0%)	37 66

All (22) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	D	49	SER
4	R	49	SER
9	W	200	THR
9	I	200	THR
9	I	223	GLU
13	M	317	ASP
9	W	223	GLU
13	a	317	ASP
6	F	366	GLU
10	J	156	PRO
13	M	291	GLU
6	T	366	GLU
10	X	156	PRO

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Mol	Chain	Res	Type
13	a	291	GLU
4	D	50	ALA
8	H	266	GLN
9	I	226	TYR
13	M	292	MET
4	R	50	ALA
8	V	266	GLN
9	W	226	TYR
13	a	292	MET

5.3.2 Protein sidechains

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	193/197 (98%)	174 (90%)	19 (10%)	7 25
1	O	193/197 (98%)	176 (91%)	17 (9%)	9 29
2	B	188/190 (99%)	163 (87%)	25 (13%)	4 14
2	P	188/190 (99%)	165 (88%)	23 (12%)	5 16
3	C	233/241 (97%)	204 (88%)	29 (12%)	4 16
3	Q	233/241 (97%)	203 (87%)	30 (13%)	4 14
4	D	200/208 (96%)	168 (84%)	32 (16%)	2 9
4	R	200/208 (96%)	169 (84%)	31 (16%)	2 9
5	E	193/301 (64%)	175 (91%)	18 (9%)	8 27
5	S	193/301 (64%)	175 (91%)	18 (9%)	8 27
6	F	200/363 (55%)	179 (90%)	21 (10%)	6 22
6	T	200/363 (55%)	181 (90%)	19 (10%)	8 26
7	G	184/190 (97%)	170 (92%)	14 (8%)	12 36
7	U	184/190 (97%)	167 (91%)	17 (9%)	8 27
8	H	184/229 (80%)	165 (90%)	19 (10%)	7 23
8	V	184/229 (80%)	163 (89%)	21 (11%)	5 19
9	I	180/209 (86%)	157 (87%)	23 (13%)	4 15

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	W	180/209 (86%)	157 (87%)	23 (13%)	4	15
10	J	167/168 (99%)	152 (91%)	15 (9%)	9	28
10	X	167/168 (99%)	151 (90%)	16 (10%)	8	26
11	K	172/172 (100%)	149 (87%)	23 (13%)	4	13
11	Y	172/172 (100%)	152 (88%)	20 (12%)	5	18
12	L	163/253 (64%)	151 (93%)	12 (7%)	13	37
12	Z	163/253 (64%)	150 (92%)	13 (8%)	11	34
13	M	181/288 (63%)	157 (87%)	24 (13%)	4	14
13	a	181/288 (63%)	156 (86%)	25 (14%)	3	12
14	N	181/183 (99%)	163 (90%)	18 (10%)	7	24
14	b	181/183 (99%)	163 (90%)	18 (10%)	7	24
All	All	5238/6384 (82%)	4655 (89%)	583 (11%)	8	20

All (583) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	11	THR
1	A	16	GLU
1	A	27	LYS
1	A	36	THR
1	A	42	LYS
1	A	45	VAL
1	A	122	ARG
1	A	135	SER
1	A	138	ILE
1	A	140	MET
1	A	150	LYS
1	A	184	ARG
1	A	190	LEU
1	A	193	LEU
1	A	196	LYS
1	A	206	LEU
1	A	215	LYS
1	A	232	GLN
1	A	233	ARG
2	B	3	GLU
2	B	8	LEU
2	B	18	ILE

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Mol	Chain	Res	Type
2	B	29	LYS
2	B	42	VAL
2	B	47	LYS
2	B	62	LYS
2	B	84	LEU
2	B	87	SER
2	B	90	LYS
2	B	98	MET
2	B	101	GLU
2	B	106	SER
2	B	110	ARG
2	B	117	GLN
2	B	126	ARG
2	B	133	LEU
2	B	149	PRO
2	B	163	THR
2	B	175	ARG
2	B	182	LEU
2	B	197	PHE
2	B	198	ASP
2	B	202	THR
2	B	224	LEU
3	C	2	SER
3	C	15	GLU
3	C	17	ARG
3	C	20	GLN
3	C	50	MET
3	C	58	SER
3	C	59	GLU
3	C	66	THR
3	C	70	LYS
3	C	73	LYS
3	C	97	ARG
3	C	119	ILE
3	C	124	LYS
3	C	156	THR
3	C	157	GLU
3	C	161	ASP
3	C	163	SER
3	C	172	GLN
3	C	175	GLN
3	C	182	LYS

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Mol	Chain	Res	Type
3	C	195	MET
3	C	202	LEU
3	C	214	ASP
3	C	237	LYS
3	C	247	GLN
3	C	250	THR
3	C	253	GLU
3	C	266	GLU
3	C	270	LYS
4	D	5	ARG
4	D	12	PRO
4	D	18	GLN
4	D	23	GLN
4	D	24	GLU
4	D	28	LYS
4	D	33	VAL
4	D	59	ILE
4	D	60	ARG
4	D	61	LYS
4	D	71	LEU
4	D	86	LYS
4	D	92	GLN
4	D	99	GLU
4	D	102	MET
4	D	103	ASP
4	D	117	LYS
4	D	124	SER
4	D	148	ASP
4	D	152	MET
4	D	175	SER
4	D	177	LYS
4	D	178	ASP
4	D	193	LEU
4	D	194	LEU
4	D	202	ARG
4	D	203	ASN
4	D	205	GLU
4	D	206	LEU
4	D	218	THR
4	D	231	LYS
4	D	235	GLU
5	E	107	GLU

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Mol	Chain	Res	Type
5	E	109	ASP
5	E	118	GLU
5	E	140	ILE
5	E	186	ARG
5	E	220	SER
5	E	221	ILE
5	E	241	LEU
5	E	259	SER
5	E	263	THR
5	E	268	GLN
5	E	278	GLN
5	E	305	VAL
5	E	307	GLU
5	E	311	SER
5	E	319	VAL
5	E	326	LYS
5	E	342	MET
6	F	172	SER
6	F	190	ASN
6	F	199	THR
6	F	203	LYS
6	F	220	GLU
6	F	230	GLU
6	F	235	VAL
6	F	237	MET
6	F	277	ILE
6	F	280	LYS
6	F	290	LYS
6	F	313	VAL
6	F	331	GLN
6	F	358	LYS
6	F	362	SER
6	F	368	ILE
6	F	387	THR
6	F	396	LYS
6	F	398	LEU
6	F	403	MET
6	F	404	ARG
7	G	29	LYS
7	G	38	VAL
7	G	42	CYS
7	G	46	VAL

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Mol	Chain	Res	Type
7	G	48	VAL
7	G	65	ASN
7	G	73	GLN
7	G	115	ARG
7	G	152	ASP
7	G	184	LEU
7	G	192	LYS
7	G	207	LYS
7	G	223	LYS
7	G	231	MET
8	H	60	VAL
8	H	74	THR
8	H	81	VAL
8	H	100	SER
8	H	117	LEU
8	H	123	ASP
8	H	137	PHE
8	H	143	MET
8	H	170	SER
8	H	173	SER
8	H	191	SER
8	H	203	LYS
8	H	204	SER
8	H	212	ARG
8	H	218	TYR
8	H	223	SER
8	H	237	GLU
8	H	257	LYS
8	H	274	ILE
9	I	33	VAL
9	I	60	CYS
9	I	66	MET
9	I	81	THR
9	I	85	THR
9	I	94	LEU
9	I	102	GLN
9	I	103	SER
9	I	106	LEU
9	I	135	GLU
9	I	142	ILE
9	I	156	MET
9	I	158	SER

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Mol	Chain	Res	Type
9	I	167	LEU
9	I	172	LYS
9	I	204	VAL
9	I	208	THR
9	I	213	GLU
9	I	220	LYS
9	I	225	MET
9	I	230	GLU
9	I	232	LEU
9	I	237	THR
10	J	30	GLU
10	J	41	LYS
10	J	48	SER
10	J	58	THR
10	J	73	MET
10	J	79	GLU
10	J	91	ILE
10	J	92	THR
10	J	93	SER
10	J	99	ARG
10	J	118	GLU
10	J	134	GLU
10	J	163	LEU
10	J	166	ILE
10	J	180	LEU
11	K	3	GLU
11	K	14	VAL
11	K	15	MET
11	K	37	THR
11	K	50	GLU
11	K	59	GLU
11	K	61	ILE
11	K	70	MET
11	K	80	GLU
11	K	82	THR
11	K	87	ARG
11	K	88	ASN
11	K	97	ARG
11	K	121	VAL
11	K	129	MET
11	K	162	LEU
11	K	163	SER

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Mol	Chain	Res	Type
11	K	181	ARG
11	K	187	SER
11	K	192	LYS
11	K	194	VAL
11	K	202	ILE
11	K	203	THR
12	L	102	THR
12	L	121	THR
12	L	129	THR
12	L	131	MET
12	L	134	LEU
12	L	144	LEU
12	L	155	GLU
12	L	191	ASN
12	L	194	LEU
12	L	218	SER
12	L	244	LYS
12	L	245	ASP
13	M	142	LYS
13	M	143	ASP
13	M	145	VAL
13	M	152	ARG
13	M	154	ASN
13	M	157	PHE
13	M	159	LEU
13	M	167	LYS
13	M	170	GLN
13	M	186	ARG
13	M	192	MET
13	M	198	LYS
13	M	216	GLN
13	M	219	SER
13	M	222	LEU
13	M	226	ARG
13	M	232	THR
13	M	239	LEU
13	M	241	GLU
13	M	263	THR
13	M	292	MET
13	M	310	GLU
13	M	337	ARG
13	M	338	LYS

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Mol	Chain	Res	Type
14	N	3	SER
14	N	13	LYS
14	N	16	VAL
14	N	24	LEU
14	N	45	SER
14	N	68	GLU
14	N	69	ARG
14	N	77	ASP
14	N	82	SER
14	N	96	ARG
14	N	116	THR
14	N	123	ASP
14	N	151	GLU
14	N	152	LYS
14	N	155	ASP
14	N	179	ARG
14	N	183	LYS
14	N	192	ASP
1	O	11	THR
1	O	16	GLU
1	O	27	LYS
1	O	36	THR
1	O	42	LYS
1	O	45	VAL
1	O	122	ARG
1	O	135	SER
1	O	150	LYS
1	O	184	ARG
1	O	190	LEU
1	O	193	LEU
1	O	196	LYS
1	O	206	LEU
1	O	215	LYS
1	O	232	GLN
1	O	233	ARG
2	P	3	GLU
2	P	8	LEU
2	P	18	ILE
2	P	29	LYS
2	P	42	VAL
2	P	47	LYS
2	P	62	LYS

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Mol	Chain	Res	Type
2	P	84	LEU
2	P	87	SER
2	P	90	LYS
2	P	98	MET
2	P	101	GLU
2	P	106	SER
2	P	110	ARG
2	P	117	GLN
2	P	126	ARG
2	P	133	LEU
2	P	163	THR
2	P	182	LEU
2	P	197	PHE
2	P	198	ASP
2	P	202	THR
2	P	224	LEU
3	Q	2	SER
3	Q	17	ARG
3	Q	20	GLN
3	Q	50	MET
3	Q	51	VAL
3	Q	58	SER
3	Q	59	GLU
3	Q	66	THR
3	Q	70	LYS
3	Q	73	LYS
3	Q	97	ARG
3	Q	119	ILE
3	Q	124	LYS
3	Q	156	THR
3	Q	157	GLU
3	Q	161	ASP
3	Q	163	SER
3	Q	172	GLN
3	Q	175	GLN
3	Q	182	LYS
3	Q	195	MET
3	Q	200	ARG
3	Q	202	LEU
3	Q	214	ASP
3	Q	237	LYS
3	Q	247	GLN

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Mol	Chain	Res	Type
3	Q	250	THR
3	Q	253	GLU
3	Q	266	GLU
3	Q	270	LYS
4	R	5	ARG
4	R	12	PRO
4	R	18	GLN
4	R	24	GLU
4	R	28	LYS
4	R	33	VAL
4	R	58	THR
4	R	59	ILE
4	R	60	ARG
4	R	61	LYS
4	R	71	LEU
4	R	86	LYS
4	R	92	GLN
4	R	102	MET
4	R	117	LYS
4	R	124	SER
4	R	148	ASP
4	R	152	MET
4	R	154	SER
4	R	175	SER
4	R	177	LYS
4	R	178	ASP
4	R	193	LEU
4	R	194	LEU
4	R	202	ARG
4	R	203	ASN
4	R	205	GLU
4	R	206	LEU
4	R	218	THR
4	R	231	LYS
4	R	235	GLU
5	S	107	GLU
5	S	109	ASP
5	S	118	GLU
5	S	140	ILE
5	S	186	ARG
5	S	220	SER
5	S	221	ILE

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Mol	Chain	Res	Type
5	S	241	LEU
5	S	259	SER
5	S	263	THR
5	S	268	GLN
5	S	278	GLN
5	S	305	VAL
5	S	307	GLU
5	S	311	SER
5	S	319	VAL
5	S	326	LYS
5	S	342	MET
6	T	172	SER
6	T	190	ASN
6	T	199	THR
6	T	203	LYS
6	T	220	GLU
6	T	230	GLU
6	T	235	VAL
6	T	277	ILE
6	T	280	LYS
6	T	290	LYS
6	T	313	VAL
6	T	331	GLN
6	T	358	LYS
6	T	362	SER
6	T	368	ILE
6	T	396	LYS
6	T	398	LEU
6	T	403	MET
6	T	404	ARG
7	U	24	VAL
7	U	29	LYS
7	U	38	VAL
7	U	42	CYS
7	U	43	LYS
7	U	46	VAL
7	U	48	VAL
7	U	65	ASN
7	U	72	ARG
7	U	73	GLN
7	U	115	ARG
7	U	152	ASP

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Mol	Chain	Res	Type
7	U	184	LEU
7	U	192	LYS
7	U	207	LYS
7	U	223	LYS
7	U	231	MET
8	V	60	VAL
8	V	74	THR
8	V	81	VAL
8	V	100	SER
8	V	117	LEU
8	V	123	ASP
8	V	137	PHE
8	V	140	MET
8	V	143	MET
8	V	170	SER
8	V	173	SER
8	V	181	LEU
8	V	191	SER
8	V	203	LYS
8	V	204	SER
8	V	212	ARG
8	V	218	TYR
8	V	223	SER
8	V	237	GLU
8	V	257	LYS
8	V	274	ILE
9	W	33	VAL
9	W	60	CYS
9	W	66	MET
9	W	81	THR
9	W	85	THR
9	W	94	LEU
9	W	102	GLN
9	W	103	SER
9	W	106	LEU
9	W	135	GLU
9	W	142	ILE
9	W	156	MET
9	W	158	SER
9	W	167	LEU
9	W	172	LYS
9	W	204	VAL

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Mol	Chain	Res	Type
9	W	208	THR
9	W	213	GLU
9	W	220	LYS
9	W	225	MET
9	W	230	GLU
9	W	232	LEU
9	W	237	THR
10	X	30	GLU
10	X	41	LYS
10	X	48	SER
10	X	58	THR
10	X	73	MET
10	X	75	LYS
10	X	79	GLU
10	X	91	ILE
10	X	92	THR
10	X	93	SER
10	X	99	ARG
10	X	118	GLU
10	X	134	GLU
10	X	163	LEU
10	X	166	ILE
10	X	180	LEU
11	Y	3	GLU
11	Y	15	MET
11	Y	37	THR
11	Y	50	GLU
11	Y	59	GLU
11	Y	61	ILE
11	Y	70	MET
11	Y	80	GLU
11	Y	82	THR
11	Y	88	ASN
11	Y	97	ARG
11	Y	121	VAL
11	Y	129	MET
11	Y	163	SER
11	Y	181	ARG
11	Y	187	SER
11	Y	192	LYS
11	Y	194	VAL
11	Y	202	ILE

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Mol	Chain	Res	Type
11	Y	203	THR
12	Z	102	THR
12	Z	121	THR
12	Z	129	THR
12	Z	131	MET
12	Z	134	LEU
12	Z	144	LEU
12	Z	155	GLU
12	Z	191	ASN
12	Z	194	LEU
12	Z	218	SER
12	Z	244	LYS
12	Z	245	ASP
12	Z	284	THR
13	a	142	LYS
13	a	143	ASP
13	a	145	VAL
13	a	146	ILE
13	a	152	ARG
13	a	154	ASN
13	a	157	PHE
13	a	159	LEU
13	a	167	LYS
13	a	170	GLN
13	a	182	MET
13	a	186	ARG
13	a	192	MET
13	a	193	LEU
13	a	198	LYS
13	a	216	GLN
13	a	222	LEU
13	a	226	ARG
13	a	232	THR
13	a	239	LEU
13	a	241	GLU
13	a	263	THR
13	a	292	MET
13	a	310	GLU
13	a	338	LYS
14	b	3	SER
14	b	13	LYS
14	b	24	LEU

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Mol	Chain	Res	Type
14	b	45	SER
14	b	52	SER
14	b	68	GLU
14	b	69	ARG
14	b	77	ASP
14	b	82	SER
14	b	96	ARG
14	b	116	THR
14	b	123	ASP
14	b	151	GLU
14	b	152	LYS
14	b	155	ASP
14	b	167	THR
14	b	179	ARG
14	b	192	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (112) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	72	ASN
1	A	152	GLN
1	A	207	GLN
1	A	228	ASN
1	A	236	ASN
2	B	94	GLN
2	B	100	ASN
2	B	117	GLN
2	B	121	GLN
2	B	223	GLN
2	B	230	GLN
3	C	152	GLN
3	C	172	GLN
3	C	175	GLN
3	C	263	GLN
4	D	23	GLN
4	D	115	GLN
5	E	191	HIS
5	E	255	GLN
5	E	268	GLN
5	E	278	GLN
5	E	314	ASN
5	E	328	HIS

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Mol	Chain	Res	Type
6	F	331	GLN
6	F	340	HIS
7	G	65	ASN
7	G	201	HIS
8	H	115	ASN
8	H	241	GLN
8	H	246	ASN
9	I	115	HIS
9	I	166	GLN
9	I	201	GLN
10	J	26	ASN
10	J	65	ASN
10	J	147	HIS
11	K	104	ASN
11	K	143	HIS
11	K	164	GLN
11	K	186	ASN
12	L	152	GLN
12	L	184	ASN
12	L	291	GLN
13	M	154	ASN
13	M	170	GLN
13	M	180	ASN
13	M	188	GLN
13	M	191	GLN
13	M	330	GLN
14	N	44	HIS
14	N	62	GLN
14	N	70	GLN
14	N	75	ASN
1	O	72	ASN
1	O	152	GLN
1	O	207	GLN
1	O	228	ASN
1	O	236	ASN
2	P	19	GLN
2	P	94	GLN
2	P	100	ASN
2	P	117	GLN
2	P	121	GLN
2	P	223	GLN
2	P	230	GLN

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Mol	Chain	Res	Type
3	Q	103	HIS
3	Q	104	GLN
3	Q	108	GLN
3	Q	172	GLN
3	Q	175	GLN
3	Q	263	GLN
4	R	23	GLN
4	R	115	GLN
4	R	203	ASN
5	S	197	GLN
5	S	255	GLN
5	S	268	GLN
5	S	278	GLN
5	S	314	ASN
5	S	328	HIS
6	T	206	ASN
6	T	331	GLN
6	T	340	HIS
7	U	65	ASN
7	U	201	HIS
8	V	115	ASN
8	V	241	GLN
8	V	246	ASN
9	W	102	GLN
9	W	115	HIS
9	W	166	GLN
9	W	201	GLN
10	X	26	ASN
10	X	65	ASN
10	X	147	HIS
11	Y	104	ASN
11	Y	143	HIS
11	Y	164	GLN
11	Y	186	ASN
12	Z	152	GLN
12	Z	184	ASN
12	Z	291	GLN
13	a	154	ASN
13	a	170	GLN
13	a	180	ASN
13	a	188	GLN
13	a	191	GLN

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Mol	Chain	Res	Type
13	a	234	ASN
13	a	330	GLN
14	b	44	HIS
14	b	75	ASN
14	b	205	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

2 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
15	J6E	L	4000	-	34,34,34	0.39	0	44,48,48	0.79	2 (4%)
15	J6E	Z	4000	-	34,34,34	0.36	0	44,48,48	0.73	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
15	J6E	L	4000	-	-	3/14/31/31	0/5/5/5
15	J6E	Z	4000	-	-	4/14/31/31	0/5/5/5

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
15	L	4000	J6E	C15-N3-C16	2.32	106.16	104.91
15	L	4000	J6E	C17-N5-C14	-2.09	110.27	116.95

There are no chirality outliers.

All (7) torsion outliers are listed below:

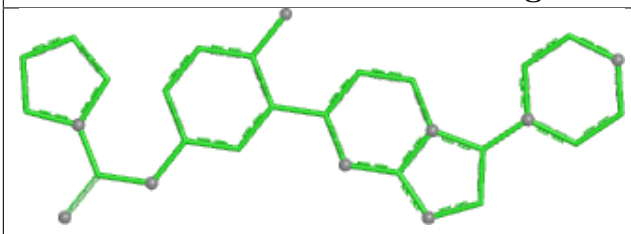
Mol	Chain	Res	Type	Atoms
15	L	4000	J6E	C-C10-C11-C12
15	Z	4000	J6E	C-C10-C11-C12
15	Z	4000	J6E	N2-C14-N5-C20
15	L	4000	J6E	N2-C14-N5-C20
15	Z	4000	J6E	N2-C14-N5-C17
15	L	4000	J6E	C9-C10-C11-C12
15	Z	4000	J6E	C9-C10-C11-C12

There are no ring outliers.

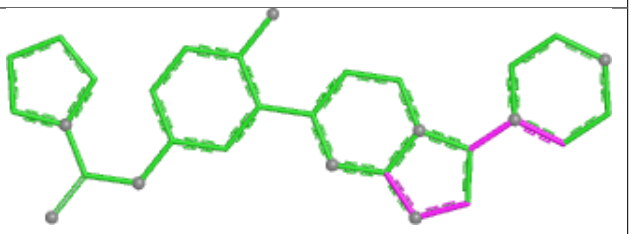
No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

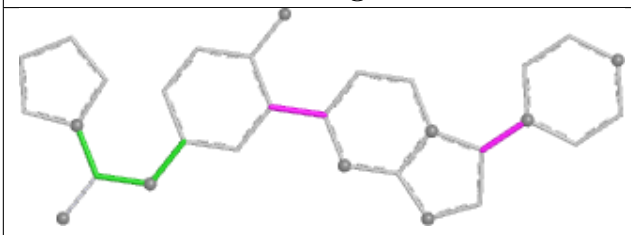
Ligand J6E L 4000



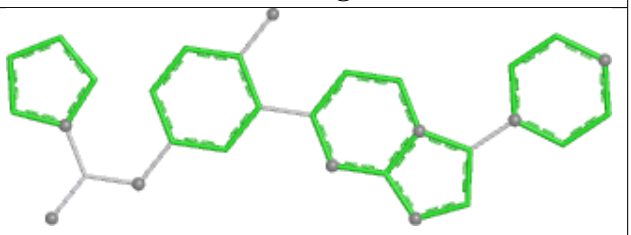
Bond lengths



Bond angles

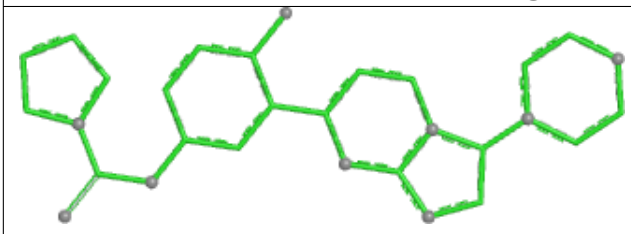


Torsions

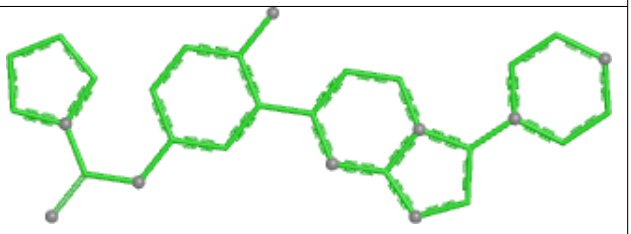


Rings

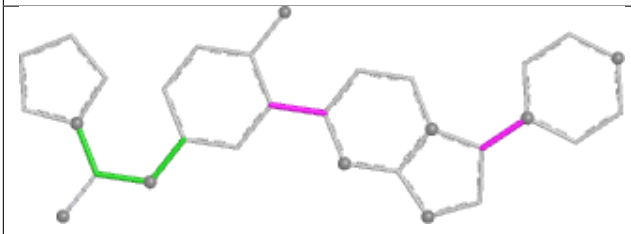
Ligand J6E Z 4000



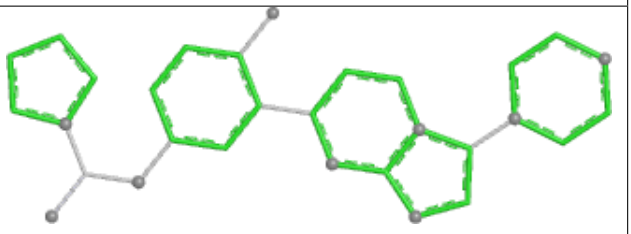
Bond lengths



Bond angles



Torsions



Rings

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.

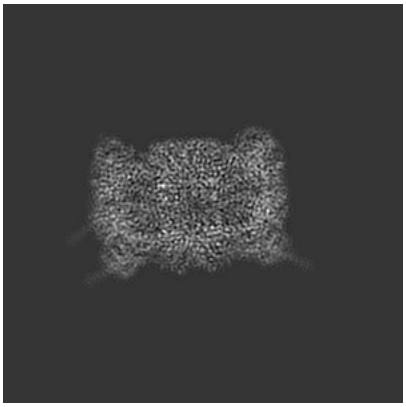
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-4590. These allow visual inspection of the internal detail of the map and identification of artifacts.

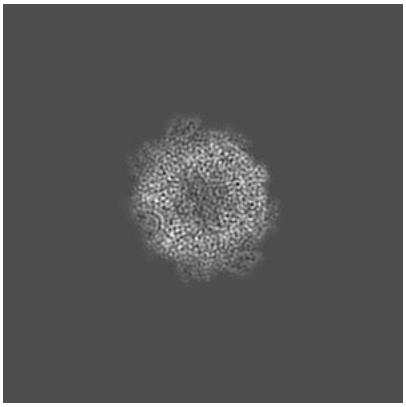
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

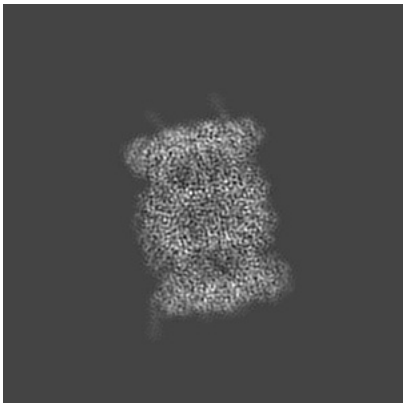
6.1.1 Primary map



X



Y



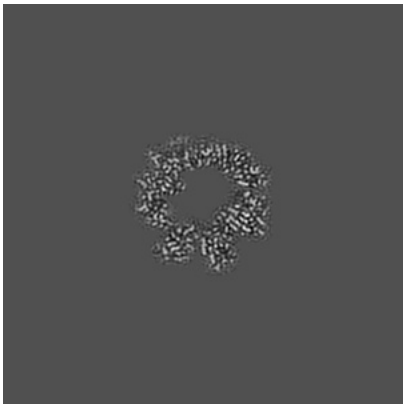
Z

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

6.2 Central slices

6.2.1 Primary map

X Index: 150



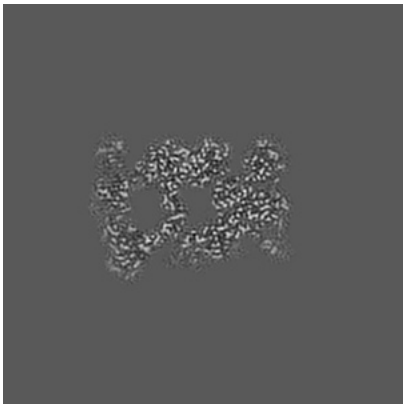
Y Index: 150

Z Index: 150

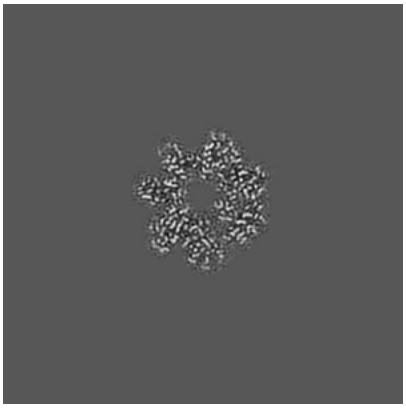
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

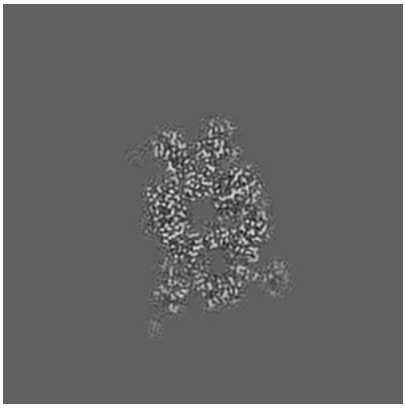
6.3.1 Primary map



X Index: 174



Y Index: 121

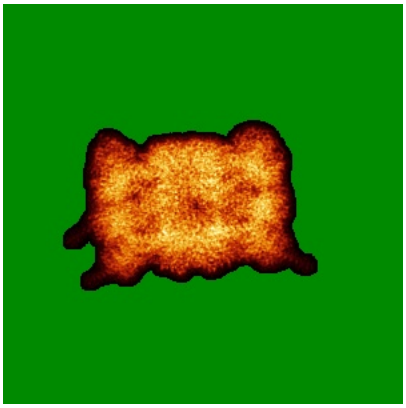


Z Index: 127

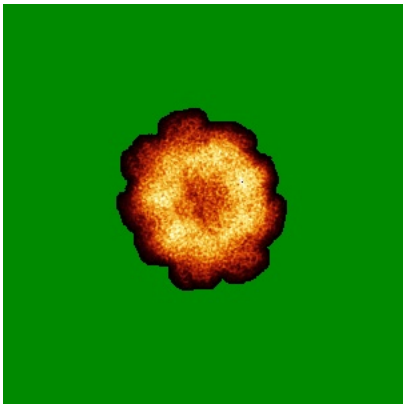
The images above show the largest variance slices of the map in three orthogonal directions.

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

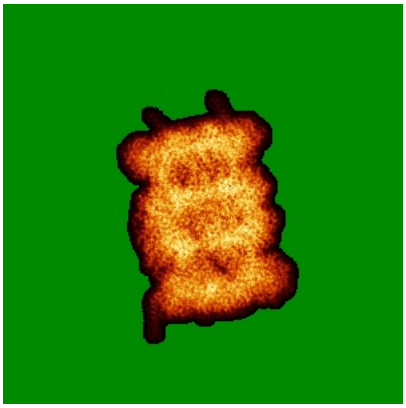
6.4.1 Primary map



X



Y

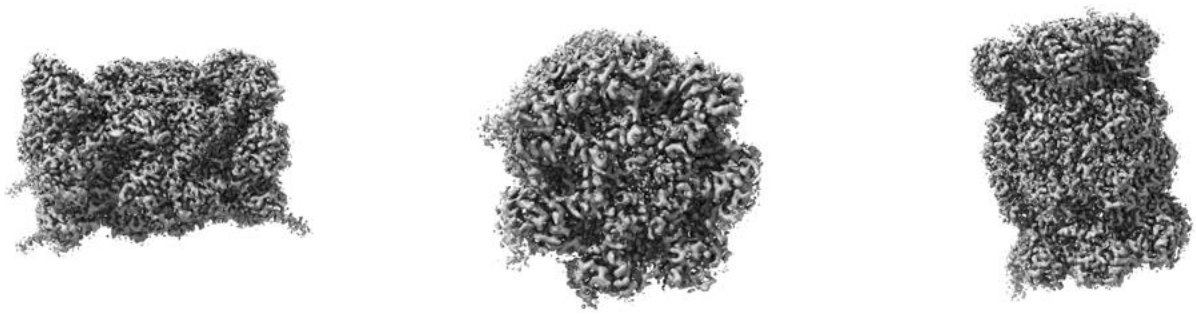


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0667. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

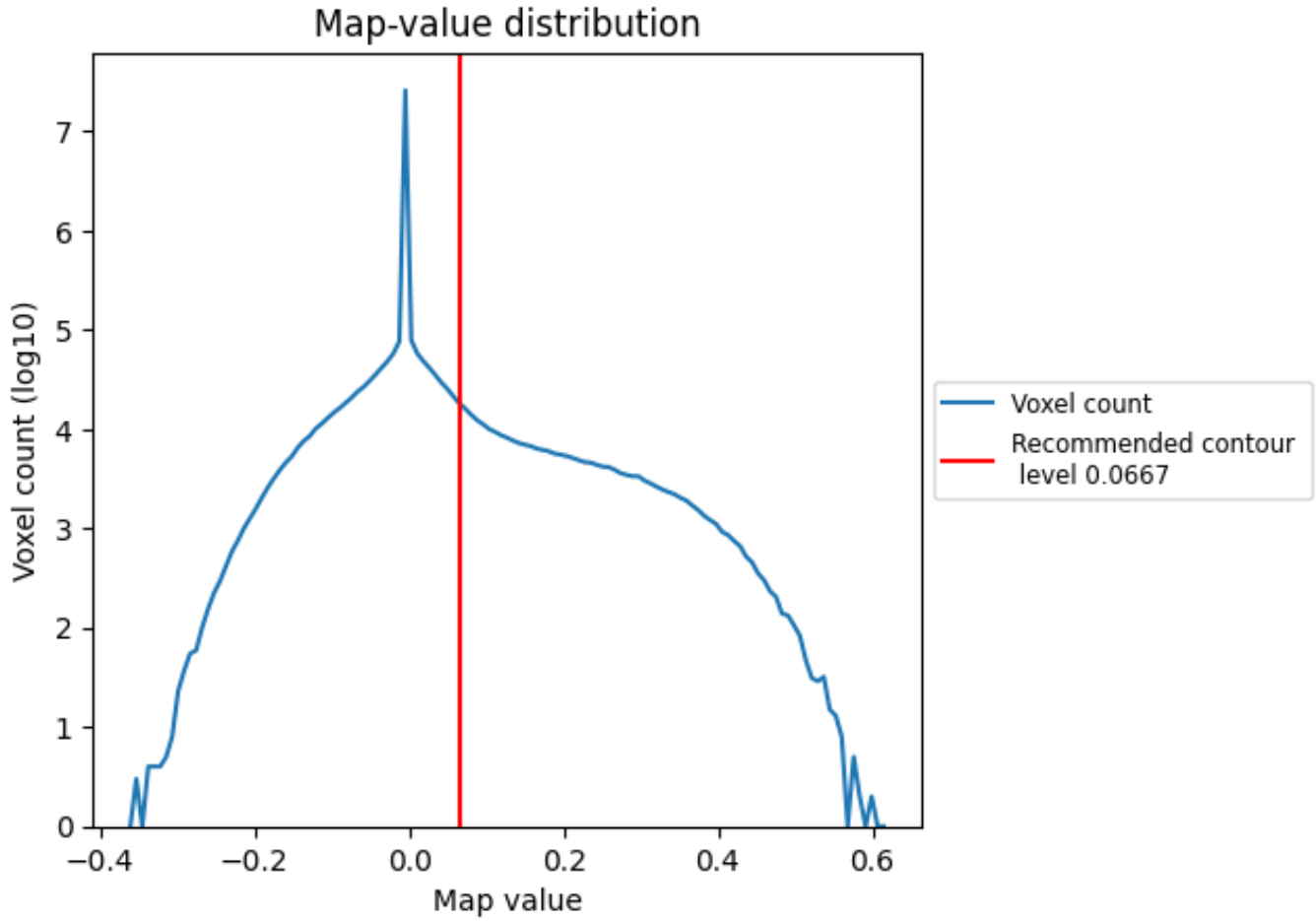
6.6 Mask visualisation (i)

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

7 Map analysis

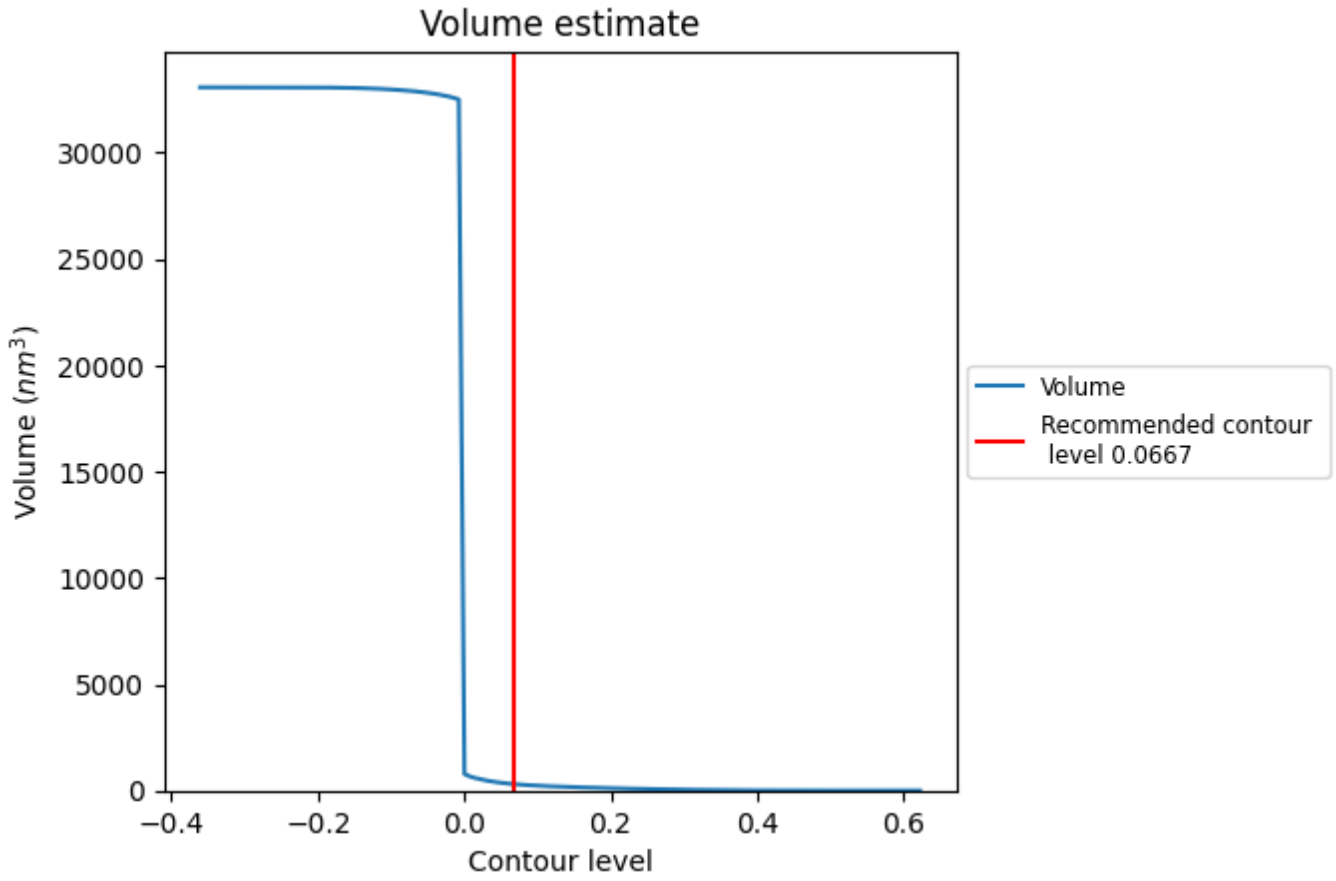
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

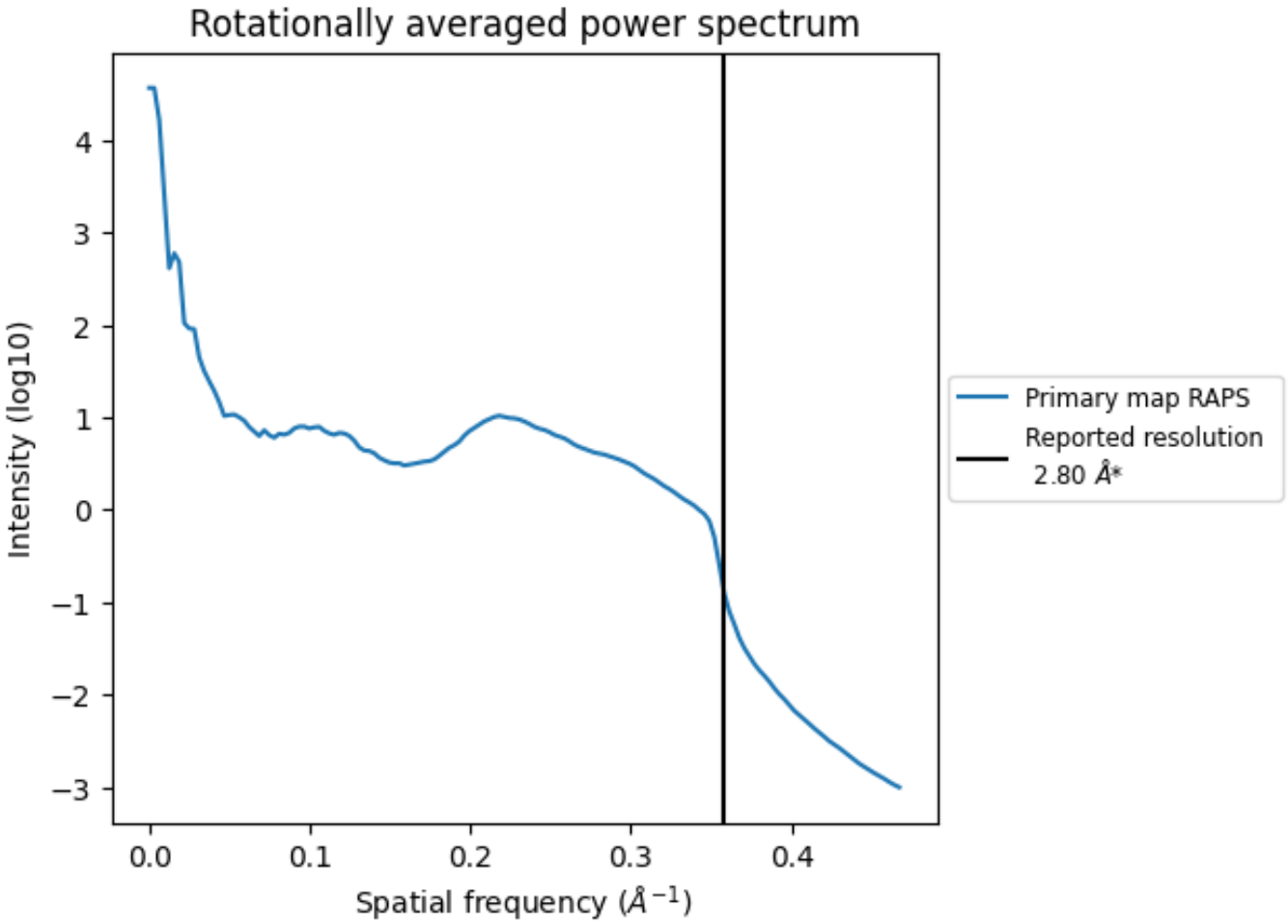
7.2 Volume estimate



The volume at the recommended contour level is 306 nm^3; this corresponds to an approximate mass of 276 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 0.357 Å^{-1}

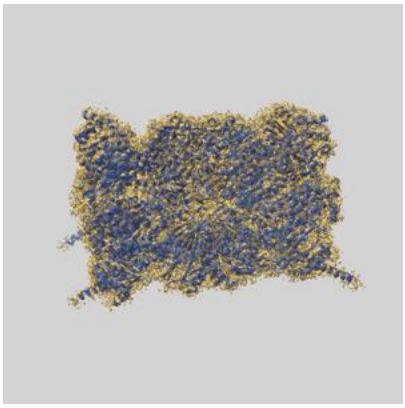
8 Fourier-Shell correlation

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

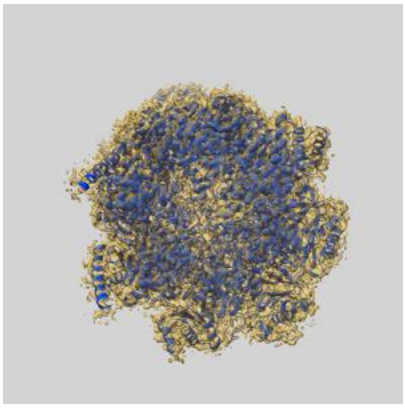
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-4590 and PDB model 6QM7. Per-residue inclusion information can be found in section 3 on page 9.

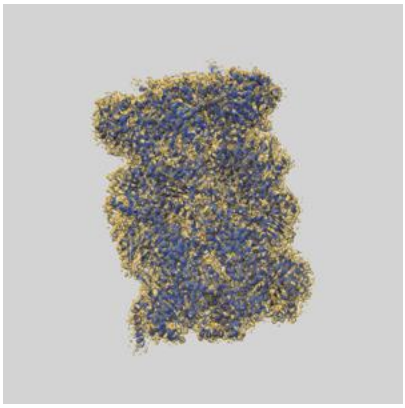
9.1 Map-model overlay



X



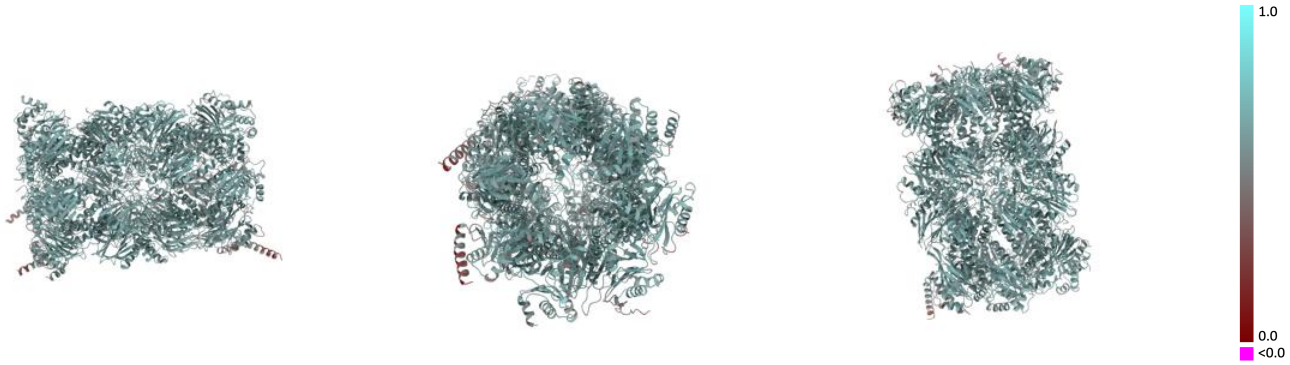
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0667 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

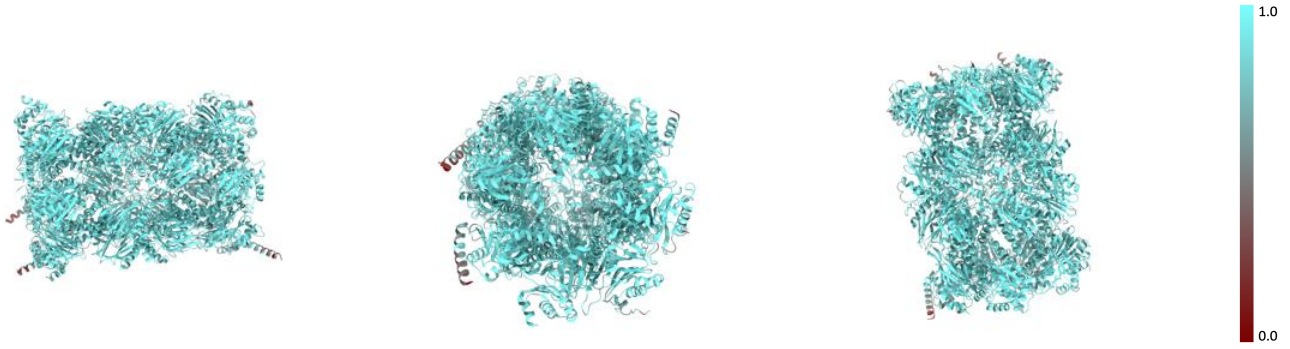
9.2 Q-score mapped to coordinate model



X Y Z

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

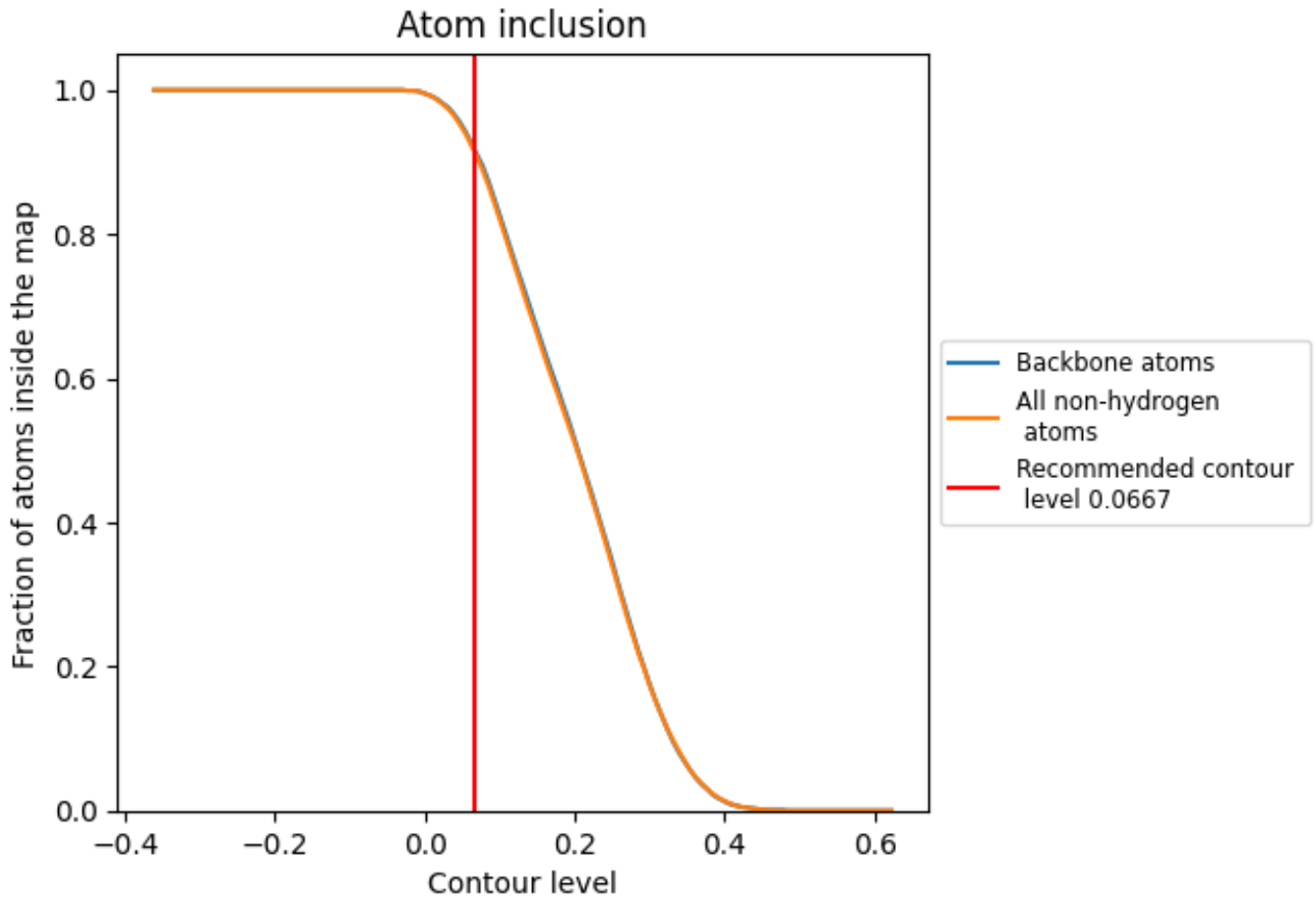
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0667).

9.4 Atom inclusion (i)



At the recommended contour level, 92% of all backbone atoms, 91% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.0667) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9140	0.6070
A	0.9100	0.6080
B	0.9070	0.6070
C	0.8770	0.5890
D	0.8670	0.5780
E	0.8930	0.5980
F	0.9040	0.6040
G	0.9150	0.6100
H	0.9610	0.6310
I	0.9270	0.6180
J	0.9430	0.6280
K	0.9350	0.6140
L	0.9500	0.6310
M	0.9440	0.6180
N	0.9400	0.6280
O	0.9150	0.6040
P	0.9120	0.6030
Q	0.8860	0.5750
R	0.8670	0.5680
S	0.9060	0.5930
T	0.9040	0.5980
U	0.9140	0.6050
V	0.9500	0.6270
W	0.9270	0.6080
X	0.9290	0.6200
Y	0.9380	0.6110
Z	0.9410	0.6250
a	0.9320	0.6110
b	0.9300	0.6220