



Full wwPDB EM Validation Report ⓘ

Feb 5, 2024 – 11:48 PM EST

PDB ID : 7U8R
EMDB ID : EMD-26388
Title : Structure of porcine kidney V-ATPase with SidK, Rotary State 3
Authors : Tan, Y.Z.; Keon, K.A.
Deposited on : 2022-03-09
Resolution : 3.80 Å (reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev70
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

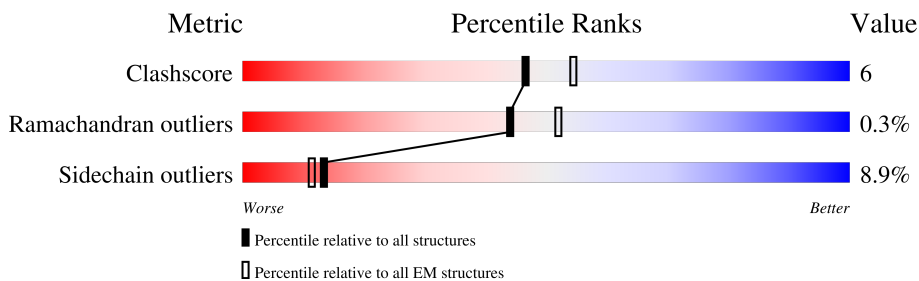
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.80 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.





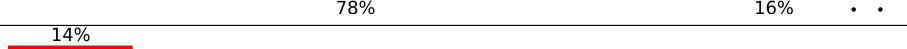
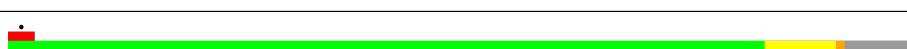



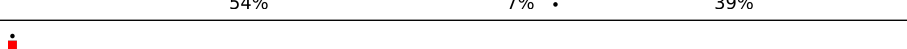


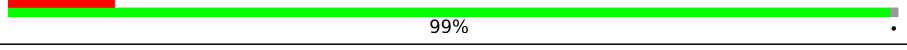
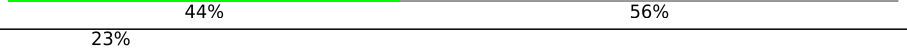
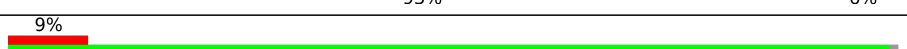
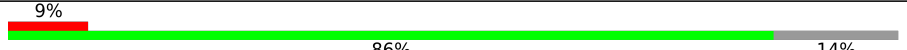
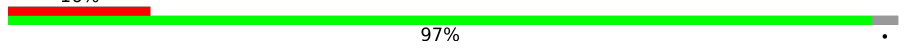
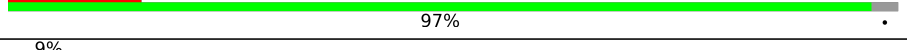
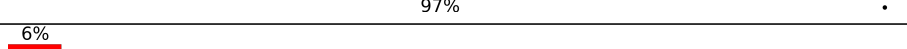

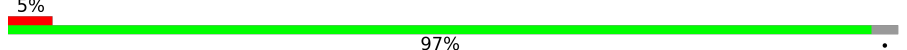
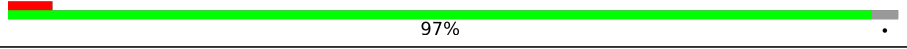
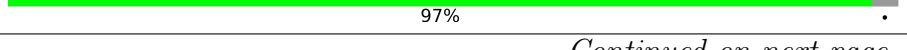



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	A	617	
1	B	617	
1	C	617	
2	D	515	
2	E	515	
2	F	515	
3	G	382	
4	H	247	

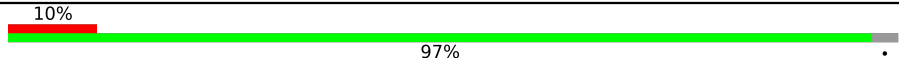

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Mol	Chain	Length	Quality of chain
5	I	226	 79% 16%
5	J	226	 74% 21%
5	K	226	 18% 78% 16%
6	L	119	 14% 63% 26% 8%
7	M	118	 85% 8% 7%
7	N	118	 69% 22% 7%
7	O	118	 36% 55% 31% 6% 8%
8	Q	337	 54% 12% 34%
8	R	337	 54% 7% 39%
8	S	337	 52% 15% 33%
9	T	483	 34% 60% 26% 12%
10	a	838	 7% 89% 11%
11	b	205	 12% 99%
12	c	469	 44% 56%
13	d	351	 23% 93% 6%
14	e	81	 9% 99%
15	f	98	 9% 86% 14%
16	g	155	 16% 97%
16	h	155	 15% 97%
16	i	155	 9% 97%
16	j	155	 6% 97%
16	k	155	 6% 97%
16	l	155	 5% 97%
16	m	155	 5% 97%
16	n	155	7% 97%

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Mol	Chain	Length	Quality of chain
16	o	155	 10% 97%
17	p	351	 15% 85%

2 Entry composition [i](#)

There are 18 unique types of molecules in this entry. The entry contains 62638 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 V-type proton ATPase catalytic subunit A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	600	Total	C	N	O	S	0	0
			4661	2957	790	889	25		
1	B	587	Total	C	N	O	S	0	0
			4577	2904	776	873	24		
1	C	600	Total	C	N	O	S	0	0
			4661	2957	790	889	25		

- Molecule 2 is a protein called Vacuolar proton pump subunit B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	D	456	Total	C	N	O	S	0	0
			3572	2266	611	674	21		
2	E	456	Total	C	N	O	S	0	0
			3572	2266	611	674	21		
2	F	458	Total	C	N	O	S	0	0
			3590	2278	615	676	21		

- Molecule 3 is a protein called V-type proton ATPase subunit C.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	G	360	Total	C	N	O	S	0	0
			2935	1880	496	549	10		

- Molecule 4 is a protein called V-type proton ATPase subunit D.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	H	213	Total	C	N	O	S	0	0
			1717	1089	309	314	5		

- Molecule 5 is a protein called V-type proton ATPase subunit E 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	I	217	Total	C	N	O	S	0	0
			1416	880	263	269	4		
5	J	218	Total	C	N	O	S	0	0
			1773	1118	317	329	9		
5	K	217	Total	C	N	O	S	0	0
			1766	1113	316	328	9		

- Molecule 6 is a protein called V-type proton ATPase subunit F.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	L	109	Total	C	N	O	S	0	0
			865	548	153	162	2		

- Molecule 7 is a protein called V-type proton ATPase subunit G.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	M	110	Total	C	N	O	S	0	0
			673	413	129	130	1		
7	N	110	Total	C	N	O	S	0	0
			906	556	172	175	3		
7	O	108	Total	C	N	O	S	0	0
			894	548	170	173	3		

- Molecule 8 is a protein called Bacterial effector protein SidK.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	Q	224	Total	C	N	O	S	0	0
			1824	1162	306	346	10		
8	R	206	Total	C	N	O	S	0	0
			1685	1073	285	319	8		
8	S	226	Total	C	N	O	S	0	0
			1836	1169	308	348	11		

- Molecule 9 is a protein called V-type proton ATPase subunit H.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	T	427	Total	C	N	O	S	0	0
			3510	2230	606	651	23		

- Molecule 10 is a protein called V-type proton ATPase subunit a.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
10	a	750	3707	2207	750	750	0	0

- Molecule 11 is a protein called V-type proton ATPase 21 kDa proteolipid subunit isoform 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
11	b	203	989	583	203	203	0	0

- Molecule 12 is a protein called ATPase H⁺ transporting accessory protein 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
12	c	206	1016	604	206	206	0	0

- Molecule 13 is a protein called V-type proton ATPase subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	d	350	2835	1829	462	530	14	0	0

- Molecule 14 is a protein called V-type proton ATPase subunit.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
14	e	80	394	234	80	80	0	0

- Molecule 15 is a protein called Ribonuclease kappa.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
15	f	84	412	244	84	84	0	0

- Molecule 16 is a protein called V-type proton ATPase proteolipid subunit.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
16	g	150	729	429	150	150	0	0
16	h	150	729	429	150	150	0	0
16	i	150	729	429	150	150	0	0

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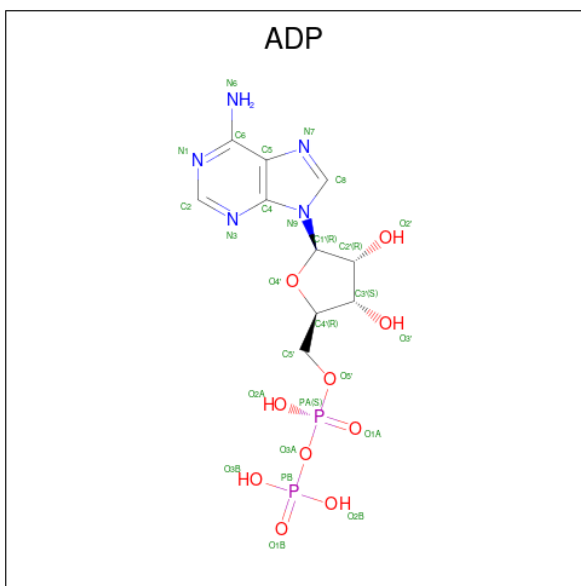
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Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
16	j	150	Total 729	C 429	N 150	O 150	0	0
16	k	150	Total 729	C 429	N 150	O 150	0	0
16	l	150	Total 729	C 429	N 150	O 150	0	0
16	m	150	Total 729	C 429	N 150	O 150	0	0
16	n	150	Total 729	C 429	N 150	O 150	0	0
16	o	150	Total 729	C 429	N 150	O 150	0	0

- Molecule 17 is a protein called ATPase H(+)-transporting lysosomal accessory protein 2.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
17	p	53	Total 264	C 158	N 53	O 53	0	0

- Molecule 18 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).

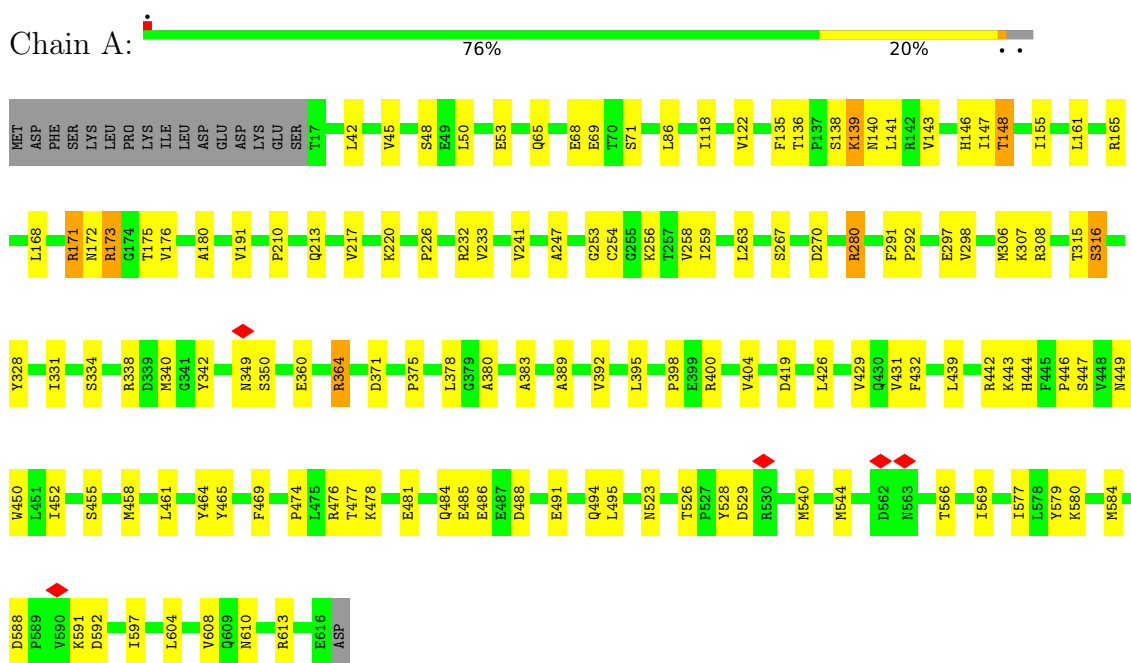


Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
18	A	1	Total 27	C 10	N 5	O 10	P 2	0

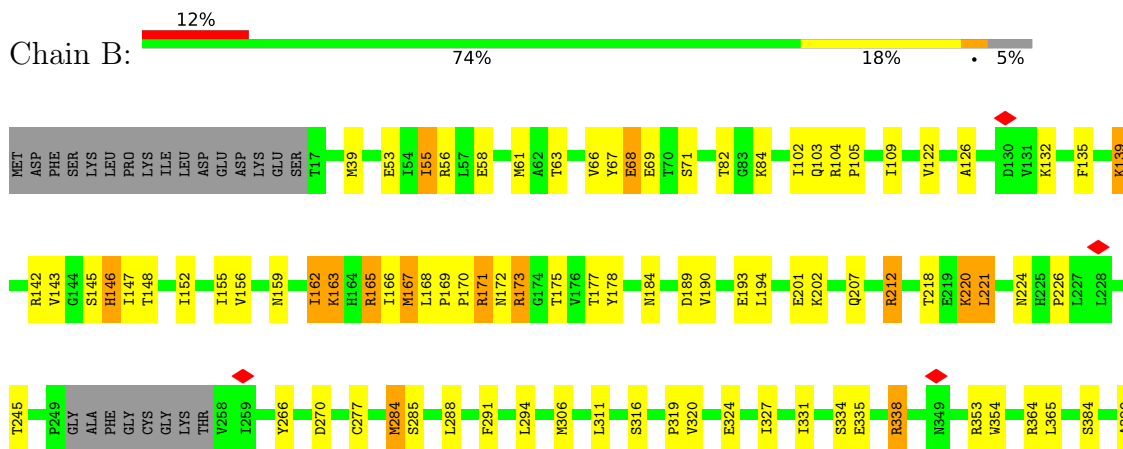
3 Residue-property plots [i](#)

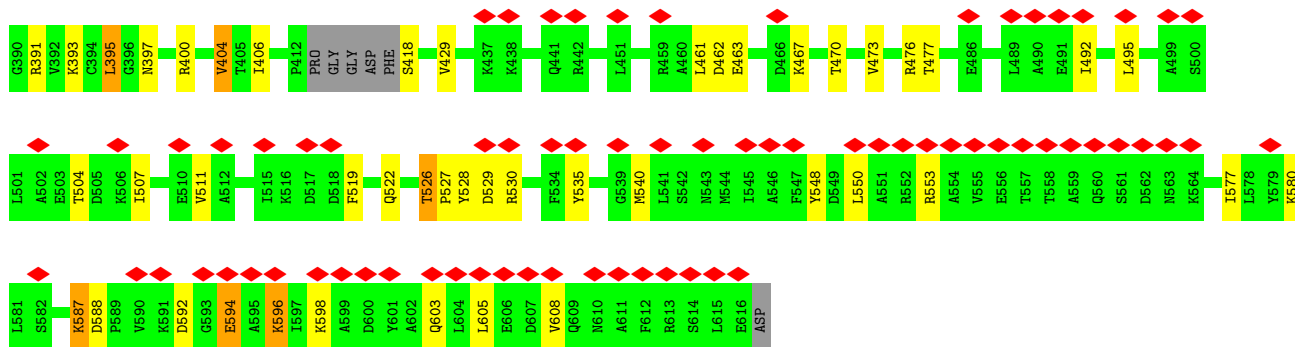
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: V-type proton ATPase catalytic subunit A

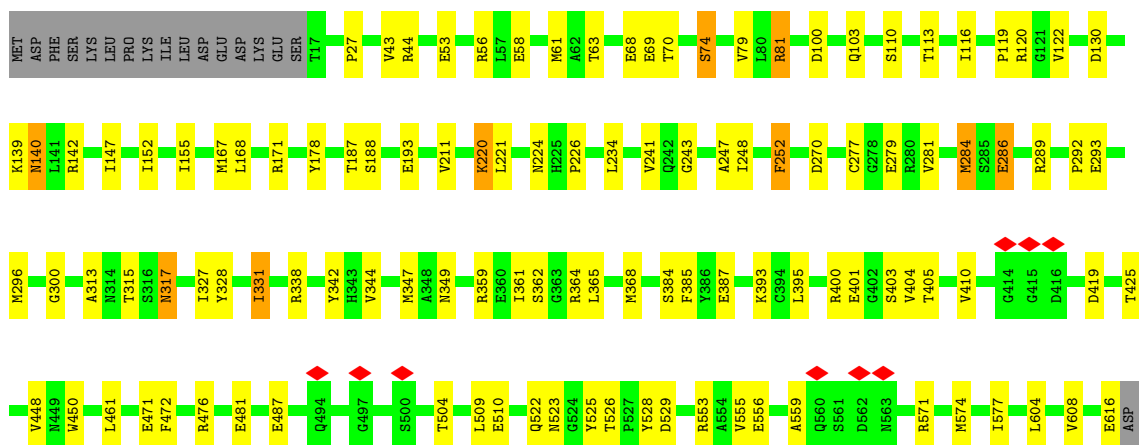
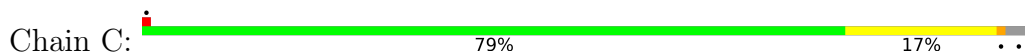


- Molecule 1: V-type proton ATPase catalytic subunit A

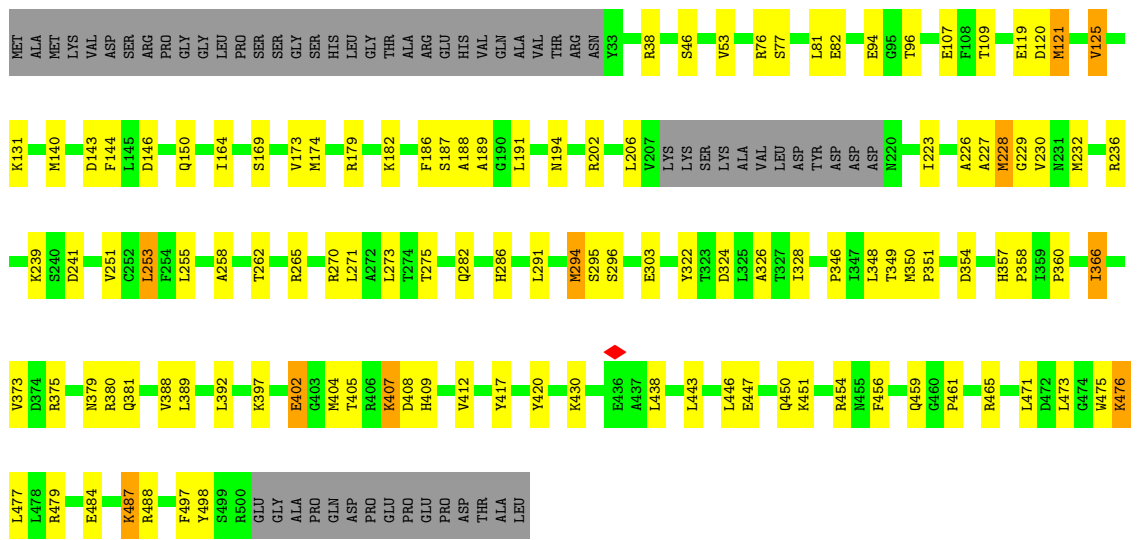




• Molecule 1: V-type proton ATPase catalytic subunit A

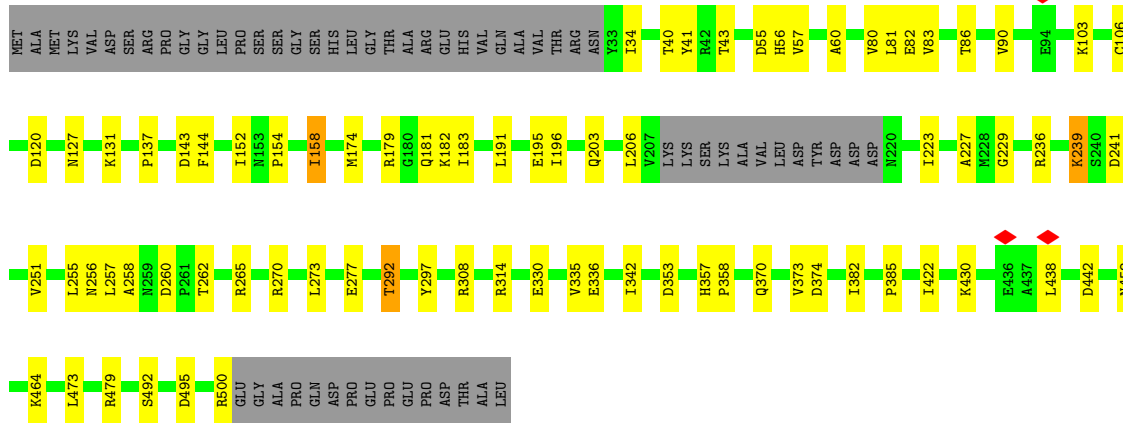


• Molecule 2: Vacuolar proton pump subunit B



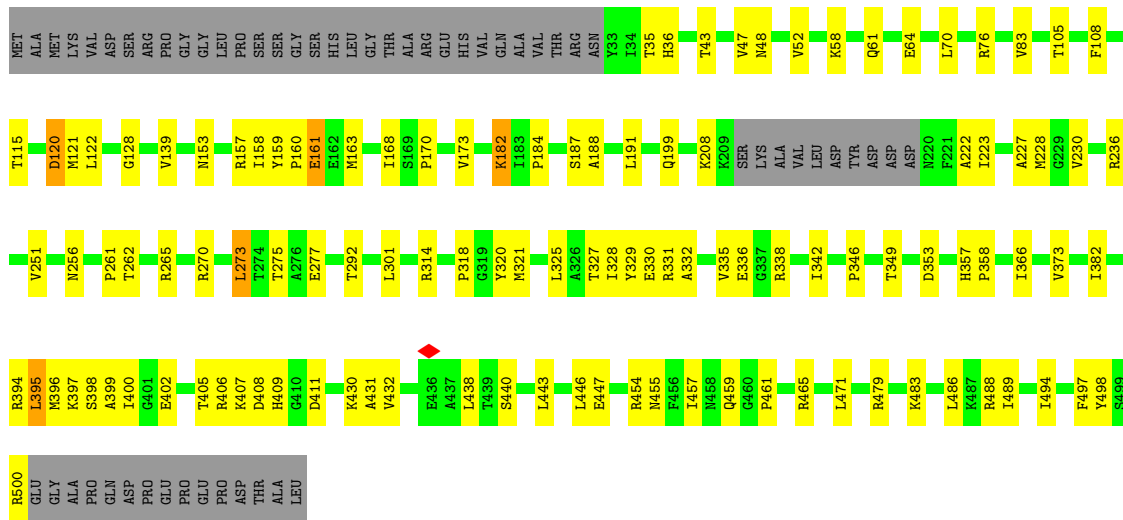
• Molecule 2: Vacuolar proton pump subunit B

Chain E:



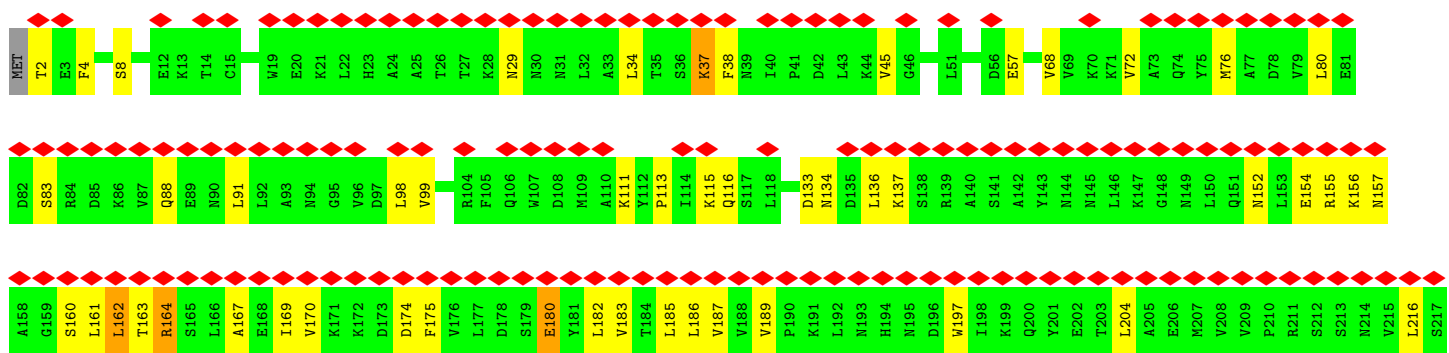
• Molecule 2: Vacuolar proton pump subunit B

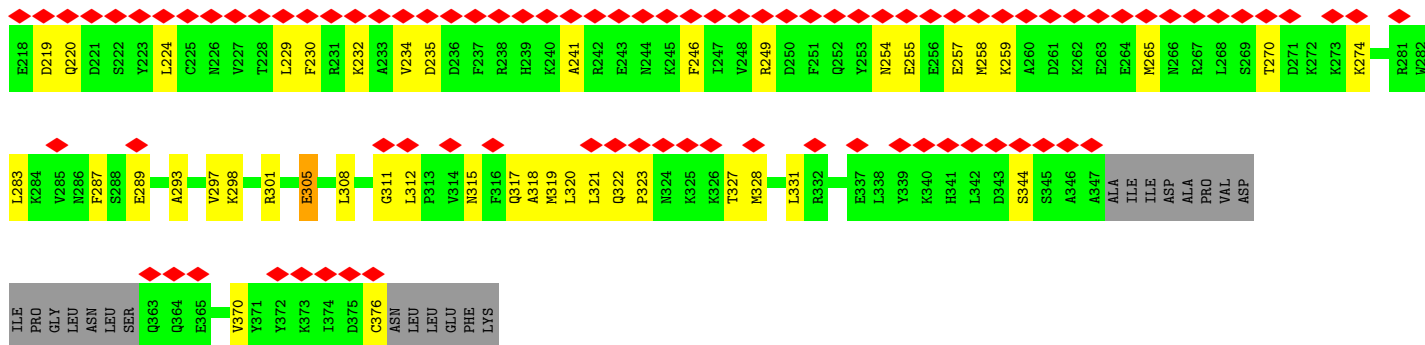
Chain F:



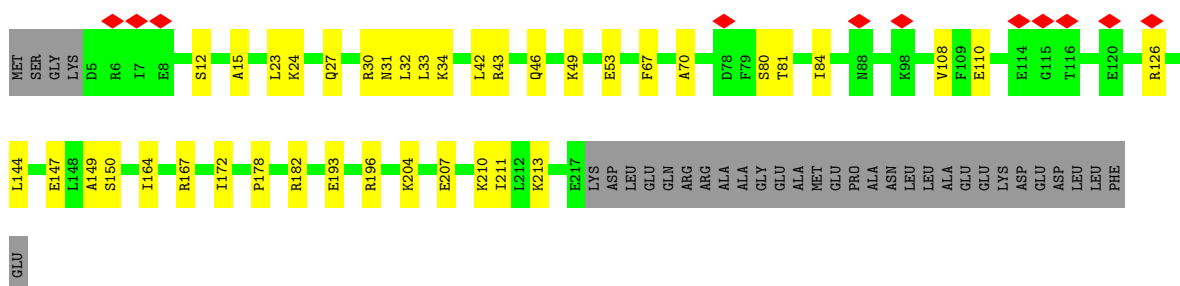
• Molecule 3: V-type proton ATPase subunit C

Chain G:

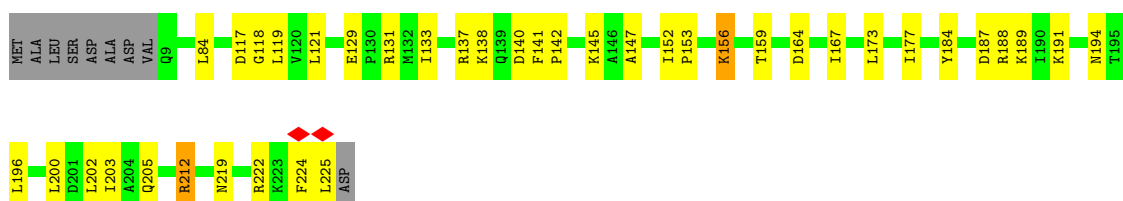




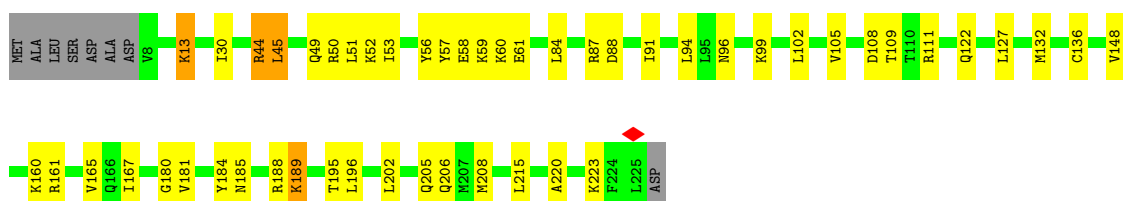
• Molecule 4: V-type proton ATPase subunit D



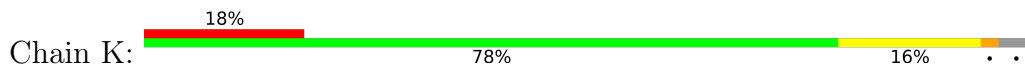
• Molecule 5: V-type proton ATPase subunit E 1

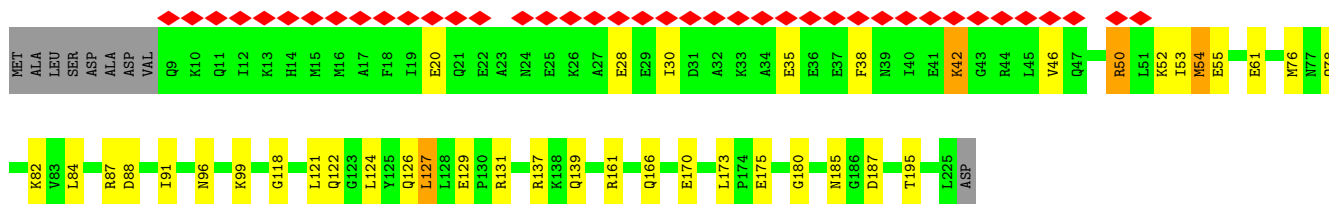


• Molecule 5: V-type proton ATPase subunit E 1

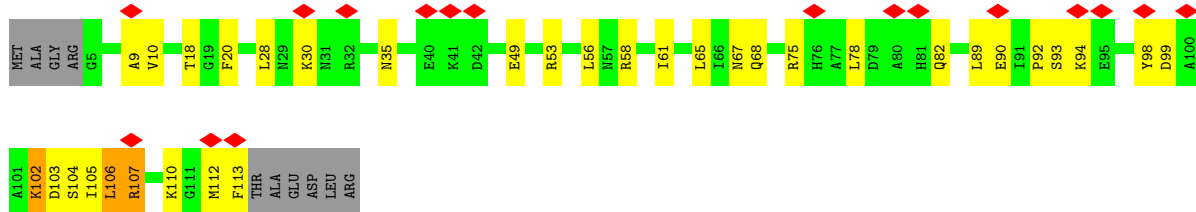


• Molecule 5: V-type proton ATPase subunit E 1

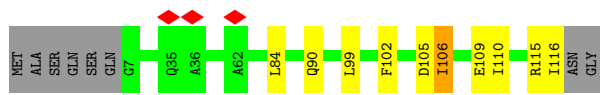
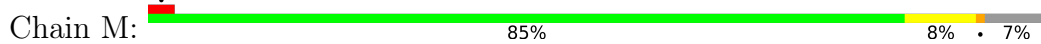




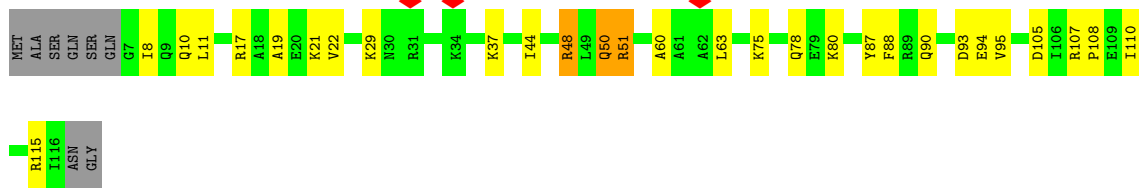
• Molecule 6: V-type proton ATPase subunit F



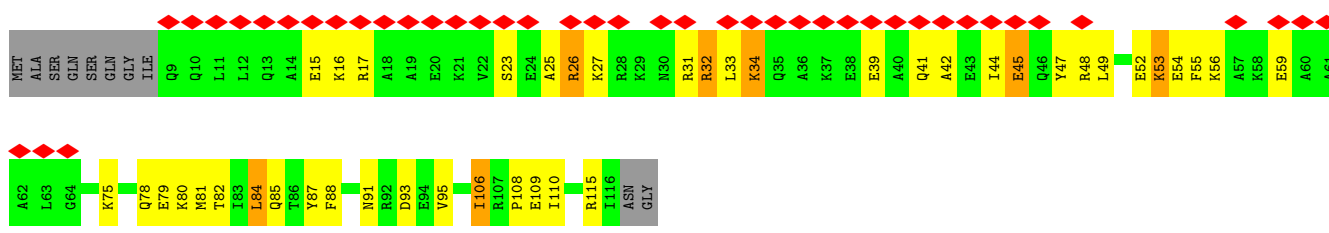
• Molecule 7: V-type proton ATPase subunit G



• Molecule 7: V-type proton ATPase subunit G

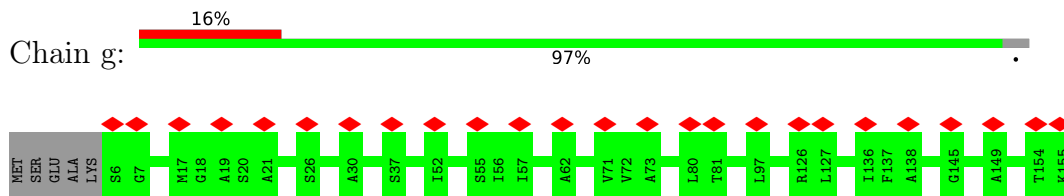


• Molecule 7: V-type proton ATPase subunit G

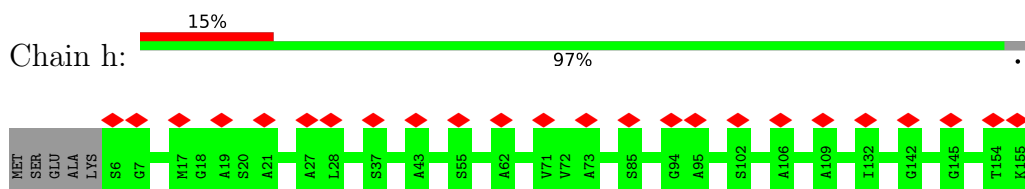


• Molecule 8: Bacterial effector protein SidK

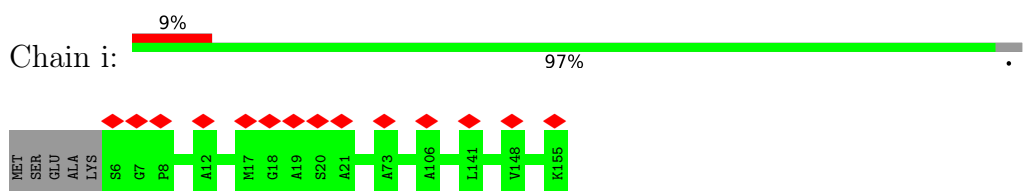
- Molecule 16: V-type proton ATPase proteolipid subunit



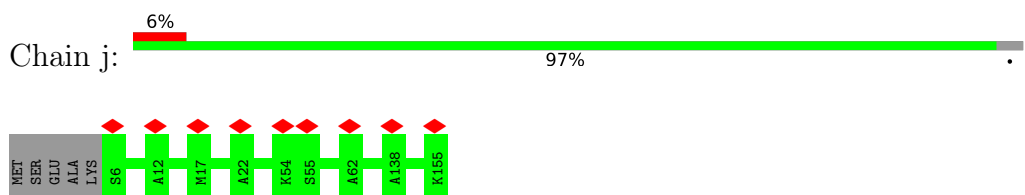
- Molecule 16: V-type proton ATPase proteolipid subunit



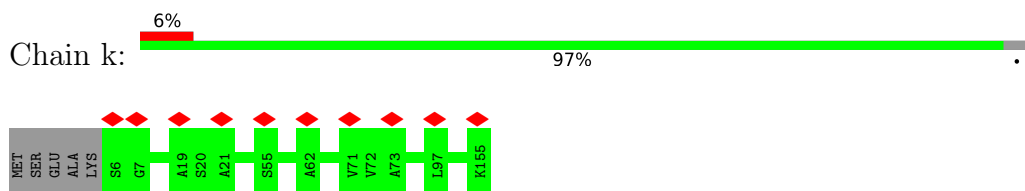
- Molecule 16: V-type proton ATPase proteolipid subunit



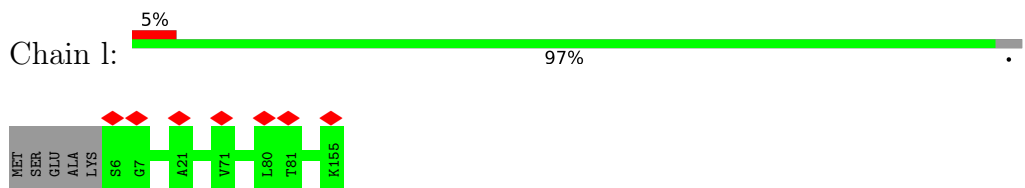
- Molecule 16: V-type proton ATPase proteolipid subunit



- Molecule 16: V-type proton ATPase proteolipid subunit



- Molecule 16: V-type proton ATPase proteolipid subunit



- Molecule 16: V-type proton ATPase proteolipid subunit



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	22866	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	100.00	Depositor
Maximum defocus (nm)	3911.445	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	2.799	Depositor
Minimum map value	-0.389	Depositor
Average map value	0.160	Depositor
Map value standard deviation	0.254	Depositor
Recommended contour level	0.7	Depositor
Map size (\AA)	184.88861, 215.4487, 307.129	wwPDB
Map dimensions	121, 141, 201	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.528005, 1.528005, 1.528005	Depositor

5 Model quality

5.1 Standard geometry

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

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	0.57	0/4757	0.83	0/6446
1	B	0.56	0/4668	0.82	0/6324
1	C	0.57	0/4757	0.80	0/6446
2	D	0.55	0/3644	0.77	0/4939
2	E	0.54	0/3644	0.76	0/4939
2	F	0.55	0/3662	0.79	0/4961
3	G	0.46	0/2989	0.70	0/4038
4	H	0.46	0/1735	0.77	0/2321
5	I	0.40	0/1427	0.58	0/1948
5	J	0.40	0/1790	0.62	0/2396
5	K	0.53	0/1783	0.77	0/2386
6	L	0.51	0/879	0.82	0/1186
7	M	0.45	0/678	0.57	0/933
7	N	0.41	0/914	0.65	0/1218
7	O	0.55	0/902	0.75	0/1202
8	Q	0.48	0/1858	0.76	0/2505
8	R	0.59	0/1717	0.83	0/2315
8	S	0.49	0/1870	0.71	0/2520
9	T	0.45	0/3576	0.67	0/4818
10	a	0.28	0/3704	0.41	0/5155
11	b	0.24	0/988	0.38	0/1366
12	c	0.26	0/1015	0.49	0/1411
13	d	0.48	0/2901	0.75	0/3930
14	e	0.24	0/393	0.37	0/545
15	f	0.26	0/411	0.35	0/569
16	g	0.25	0/728	0.38	0/1005
16	h	0.26	0/728	0.38	0/1005
16	i	0.25	0/728	0.38	0/1005
16	j	0.25	0/728	0.37	0/1005
16	k	0.26	0/728	0.38	0/1005
16	l	0.25	0/728	0.38	0/1005
16	m	0.26	0/728	0.38	0/1005

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
16	n	0.25	0/728	0.38	0/1005
16	o	0.25	0/728	0.38	0/1005
17	p	0.23	0/263	0.37	0/366
All	All	0.48	0/63477	0.70	0/86228

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [\(i\)](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4661	0	4653	71	0
1	B	4577	0	4577	61	0
1	C	4661	0	4653	54	0
2	D	3572	0	3555	69	0
2	E	3572	0	3555	40	0
2	F	3590	0	3581	56	0
3	G	2935	0	2970	50	0
4	H	1717	0	1822	30	0
5	I	1416	0	1167	20	0
5	J	1773	0	1855	32	0
5	K	1766	0	1846	20	0
6	L	865	0	872	15	0
7	M	673	0	476	1	0
7	N	906	0	913	22	0
7	O	894	0	899	24	0
8	Q	1824	0	1835	27	0
8	R	1685	0	1691	9	0
8	S	1836	0	1847	21	0
9	T	3510	0	3493	73	0
10	a	3707	0	1627	0	0
11	b	989	0	489	0	0
12	c	1016	0	457	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
13	d	2835	0	2770	0	0
14	e	394	0	167	0	0
15	f	412	0	190	0	0
16	g	729	0	388	0	0
16	h	729	0	388	0	0
16	i	729	0	388	0	0
16	j	729	0	388	0	0
16	k	729	0	388	0	0
16	l	729	0	388	0	0
16	m	729	0	388	0	0
16	n	729	0	388	0	0
16	o	729	0	388	0	0
17	p	264	0	116	0	0
18	A	27	0	12	3	0
All	All	62638	0	55580	638	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 (638) 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)
7:O:45:GLU:N	7:O:45:GLU:OE1	2.00	0.95
7:O:45:GLU:H	7:O:45:GLU:CD	1.66	0.95
7:O:45:GLU:N	7:O:45:GLU:CD	2.21	0.93
4:H:149:ALA:HB2	6:L:89:LEU:HD11	1.51	0.92
2:E:34:ILE:HD12	5:J:202:LEU:HG	1.62	0.81
1:B:511:VAL:HG11	1:B:548:TYR:HB2	1.64	0.79
9:T:198:VAL:HA	9:T:201:VAL:HG12	1.65	0.78
2:F:70:LEU:HD11	2:F:76:ARG:HE	1.51	0.73
5:J:49:GLN:HB2	7:N:44:ILE:HG13	1.71	0.71
2:D:179:ARG:HE	2:D:206:LEU:HD21	1.54	0.71
2:F:409:HIS:HA	2:F:471:LEU:HD21	1.72	0.71
5:K:118:GLY:HA3	7:O:106:ILE:HD13	1.71	0.71
5:I:138:LYS:O	5:I:141:PHE:HB3	1.91	0.71
2:E:227:ALA:HB3	2:E:255:LEU:HA	1.71	0.70
1:A:161:LEU:HD13	1:A:308:ARG:HB3	1.71	0.70
1:B:66:VAL:HG12	1:B:68:GLU:H	1.57	0.70
2:E:120:ASP:OD2	5:J:87:ARG:NH2	2.25	0.69
8:Q:106:ASP:OD1	8:Q:107:LEU:N	2.26	0.68
2:E:34:ILE:HD11	5:J:206:GLN:HB2	1.74	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:S:218:PRO:HB2	8:S:222:GLN:HB2	1.75	0.67
2:F:321:MET:O	2:F:325:LEU:HB2	1.95	0.67
8:Q:93:ARG:NH2	8:Q:134:ASN:OD1	2.27	0.67
9:T:273:LEU:HB2	9:T:285:ILE:HG21	1.76	0.67
1:B:190:VAL:HG11	1:B:202:LYS:HD2	1.77	0.67
1:A:481:GLU:O	1:A:484:GLN:HG3	1.95	0.66
9:T:85:SER:O	9:T:132:ARG:NH1	2.28	0.66
3:G:167:ALA:HA	3:G:258:MET:HG3	1.77	0.66
1:A:495:LEU:O	4:H:167:ARG:NH2	2.28	0.66
2:E:373:VAL:HG13	2:E:385:PRO:HG2	1.79	0.65
1:A:220:LYS:NZ	1:A:389:ALA:O	2.29	0.65
2:F:227:ALA:HB1	2:F:230:VAL:HG21	1.78	0.65
2:D:189:ALA:O	2:D:375:ARG:NH1	2.31	0.64
1:A:220:LYS:HD2	1:A:392:VAL:HG12	1.80	0.64
8:S:177:GLN:HA	8:S:180:LYS:HD2	1.81	0.63
1:B:220:LYS:HB3	2:F:236:ARG:HH11	1.63	0.63
1:A:431:VAL:HG13	1:A:455:SER:HB2	1.81	0.63
9:T:254:PRO:HB3	9:T:295:LYS:HB3	1.81	0.62
2:E:257:LEU:N	2:E:260:ASP:OD2	2.31	0.62
9:T:415:GLY:O	9:T:458:LYS:HE3	1.99	0.62
1:A:146:HIS:HB3	8:Q:62:PHE:HD2	1.64	0.62
2:D:188:ALA:H	2:D:191:LEU:HD12	1.65	0.62
2:E:203:GLN:HB3	2:E:464:LYS:HG3	1.80	0.62
6:L:58:ARG:HB3	6:L:61:ILE:HG12	1.81	0.62
8:S:42:LEU:HB3	8:S:45:ILE:HG13	1.81	0.62
9:T:139:HIS:HD2	9:T:201:VAL:HB	1.65	0.62
1:C:119:PRO:HG2	1:C:122:VAL:HB	1.81	0.61
2:D:188:ALA:HB3	2:D:191:LEU:HG	1.82	0.61
7:O:81:MET:HA	7:O:84:LEU:HB2	1.82	0.61
4:H:30:ARG:HB3	4:H:172:ILE:HG21	1.83	0.61
2:F:432:VAL:HG13	4:H:32:LEU:HD12	1.83	0.61
9:T:52:ARG:NH2	9:T:64:GLU:OE2	2.34	0.61
3:G:164:ARG:HG2	3:G:169:ILE:HD11	1.81	0.61
5:K:42:LYS:HD3	7:O:39:GLU:HB3	1.83	0.61
8:Q:49:TYR:HA	8:Q:84:ARG:HH11	1.65	0.61
1:B:592:ASP:HB3	1:B:596:LYS:HG2	1.81	0.61
2:D:354:ASP:HB3	2:D:357:HIS:HB2	1.83	0.60
6:L:68:GLN:HA	6:L:90:GLU:OE2	2.01	0.60
5:I:173:LEU:HB3	5:I:177:ILE:HD13	1.83	0.60
8:S:194:ASP:OD1	8:S:195:GLU:N	2.34	0.60
2:F:262:THR:HA	2:F:265:ARG:HG3	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:127:LEU:HD23	5:J:132:MET:HG3	1.84	0.60
1:C:74:SER:HB3	2:F:61:GLN:HA	1.84	0.60
1:A:491:GLU:O	1:A:494:GLN:NE2	2.35	0.59
3:G:270:THR:HG22	3:G:274:LYS:HE2	1.83	0.59
9:T:37:LEU:HD21	9:T:47:CYS:HB2	1.83	0.59
1:C:243:GLY:H	1:C:405:THR:CG2	2.16	0.59
4:H:30:ARG:NH2	4:H:31:ASN:OD1	2.34	0.59
2:D:430:LYS:HB3	2:D:438:LEU:HD11	1.83	0.59
9:T:425:LYS:NZ	9:T:462:HIS:O	2.35	0.59
5:J:108:ASP:OD1	5:J:109:THR:N	2.36	0.59
2:D:46:SER:HB3	2:D:53:VAL:HB	1.84	0.59
2:E:55:ASP:OD1	2:E:56:HIS:N	2.36	0.59
8:Q:61:ARG:HG2	8:Q:64:GLU:HB2	1.85	0.59
9:T:69:GLU:HG2	9:T:112:PHE:HE2	1.67	0.59
5:I:137:ARG:NH2	5:I:140:ASP:OD2	2.33	0.59
5:J:215:LEU:HG	7:N:95:VAL:HG11	1.84	0.59
4:H:193:GLU:OE2	4:H:196:ARG:NH2	2.36	0.58
8:R:49:TYR:HA	8:R:84:ARG:HH12	1.69	0.58
9:T:269:LEU:HG	9:T:285:ILE:HG23	1.86	0.58
4:H:27:GLN:HA	4:H:30:ARG:HG3	1.84	0.58
1:B:528:TYR:HB3	1:B:588:ASP:HA	1.86	0.58
2:F:273:LEU:HD22	2:F:331:ARG:HB2	1.84	0.58
5:J:94:LEU:HD22	5:J:215:LEU:HD11	1.85	0.58
2:F:163:MET:HB3	2:F:399:ALA:HB1	1.83	0.58
7:N:50:GLN:HE21	7:N:51:ARG:HH11	1.51	0.57
5:I:219:ASN:OD1	5:I:222:ARG:N	2.34	0.57
7:N:10:GLN:OE1	7:N:10:GLN:N	2.34	0.57
7:N:17:ARG:HB3	7:N:21:LYS:NZ	2.20	0.57
1:C:300:GLY:HA2	8:S:189:ALA:HA	1.86	0.57
2:F:223:ILE:HB	2:F:251:VAL:HG22	1.85	0.57
8:Q:36:ILE:HG13	8:Q:95:VAL:HG21	1.87	0.57
8:Q:98:ILE:HG12	8:Q:160:GLN:HG2	1.86	0.57
1:B:335:GLU:O	1:B:338:ARG:HG3	2.04	0.57
2:D:173:VAL:HA	2:D:409:HIS:CE1	2.40	0.57
5:J:148:VAL:HG21	5:J:167:ILE:HD11	1.85	0.57
5:J:220:ALA:O	5:J:223:LYS:NZ	2.30	0.57
9:T:219:VAL:HG21	9:T:256:MET:SD	2.45	0.57
1:A:217:VAL:HG11	1:A:392:VAL:HG11	1.86	0.57
2:E:80:VAL:HG22	2:E:90:VAL:HG22	1.87	0.57
5:I:118:GLY:HA3	7:M:106:ILE:HD13	1.87	0.56
1:A:165:ARG:HB2	1:A:340:MET:HG3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:488:ASP:O	1:A:491:GLU:HG3	2.06	0.56
3:G:91:LEU:HB2	3:G:287:PHE:CE2	2.40	0.56
3:G:216:LEU:HD11	3:G:224:LEU:HD23	1.88	0.56
5:J:180:GLY:HA3	5:J:195:THR:HA	1.87	0.56
1:C:43:VAL:HG22	1:C:81:ARG:HA	1.88	0.56
2:F:332:ALA:HA	2:F:342:ILE:HB	1.87	0.56
3:G:72:VAL:HG11	3:G:287:PHE:HB2	1.86	0.56
3:G:305:GLU:HB3	3:G:370:VAL:HG22	1.87	0.56
9:T:218:TRP:HE1	9:T:227:ILE:HD11	1.71	0.56
2:D:402:GLU:HG2	2:D:407:LYS:HB3	1.86	0.56
4:H:31:ASN:HA	4:H:34:LYS:HE3	1.88	0.56
2:D:273:LEU:HD11	2:D:291:LEU:HD11	1.87	0.56
8:S:14:THR:HG23	8:S:17:GLN:H	1.70	0.56
5:K:180:GLY:HA3	5:K:195:THR:HA	1.88	0.56
2:D:169:SER:N	2:D:459:GLN:OE1	2.35	0.55
2:D:223:ILE:HB	2:D:251:VAL:HG22	1.87	0.55
3:G:152:ASN:O	3:G:156:LYS:HG3	2.05	0.55
1:B:324:GLU:HA	1:B:354:TRP:CD1	2.42	0.55
5:J:53:ILE:HD11	7:N:44:ILE:HG23	1.89	0.55
1:B:504:THR:HA	1:B:507:ILE:HD12	1.88	0.55
3:G:185:LEU:HD11	3:G:234:VAL:HG22	1.87	0.55
2:D:447:GLU:O	2:D:451:LYS:HG2	2.06	0.55
2:F:47:VAL:HG13	2:F:52:VAL:HG22	1.89	0.55
2:E:82:GLU:HB2	2:E:308:ARG:HH22	1.71	0.55
5:I:137:ARG:NE	5:I:177:ILE:O	2.40	0.55
8:Q:192:LYS:HG3	8:Q:195:GLU:HB2	1.89	0.55
1:B:462:ASP:OD1	1:B:463:GLU:N	2.40	0.55
1:C:58:GLU:HG2	1:C:61:MET:HB2	1.89	0.55
2:D:227:ALA:HB3	2:D:255:LEU:HA	1.88	0.55
5:J:30:ILE:HG23	7:N:29:LYS:HE2	1.89	0.55
1:A:523:ASN:HB3	1:A:526:THR:HG22	1.89	0.54
2:F:173:VAL:HA	2:F:409:HIS:HE2	1.71	0.54
8:S:110:SER:O	8:S:114:LYS:HE2	2.08	0.54
2:F:486:LEU:HD12	2:F:494:ILE:HD11	1.90	0.54
2:D:187:SER:O	2:D:349:THR:HA	2.07	0.54
2:E:223:ILE:HB	2:E:251:VAL:HG22	1.89	0.54
9:T:258:GLU:OE2	9:T:302:ARG:NH1	2.40	0.54
1:C:387:GLU:HG3	2:D:258:ALA:HB3	1.88	0.54
2:D:179:ARG:HD3	2:D:286:HIS:ND1	2.23	0.54
6:L:102:LYS:H	6:L:106:LEU:HD22	1.73	0.54
9:T:18:ILE:HD13	9:T:197:TYR:HE1	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:G:187:VAL:HG21	3:G:197:TRP:CZ2	2.42	0.54
7:O:75:LYS:O	7:O:78:GLN:HG3	2.08	0.54
3:G:241:ALA:HB1	3:G:246:PHE:HB2	1.90	0.54
1:B:495:LEU:HD21	4:H:33:LEU:HG	1.90	0.54
1:C:317:ASN:HB3	2:F:330:GLU:HB2	1.89	0.54
9:T:273:LEU:HD12	9:T:282:THR:HG22	1.89	0.54
2:E:479:ARG:NH2	2:E:500:ARG:O	2.40	0.53
8:S:26:ILE:HG13	8:S:81:LEU:HD21	1.89	0.53
3:G:68:VAL:O	3:G:72:VAL:HG23	2.07	0.53
1:C:328:TYR:HA	1:C:331:ILE:HG22	1.91	0.53
9:T:355:TYR:HB2	9:T:369:VAL:HG21	1.90	0.53
1:A:253:GLY:HA2	18:A:701:ADP:H5'2	1.90	0.53
1:A:292:PRO:HD3	1:A:306:MET:HE2	1.90	0.53
1:C:220:LYS:HD3	2:D:236:ARG:HH12	1.72	0.53
2:F:158:ILE:HD11	2:F:336:GLU:HB2	1.90	0.53
9:T:325:LYS:NZ	9:T:327:ASP:OD1	2.42	0.53
5:J:136:CYS:HB3	5:J:181:VAL:HG12	1.90	0.53
5:K:96:ASN:HA	5:K:99:LYS:HD2	1.91	0.53
1:B:82:THR:HG22	1:B:84:LYS:H	1.74	0.52
2:F:199:GLN:HE22	2:F:459:GLN:HG2	1.74	0.52
2:E:382:ILE:HG23	2:E:458:ASN:HB2	1.90	0.52
4:H:210:LYS:HA	4:H:213:LYS:HD2	1.92	0.52
8:S:107:LEU:HD12	8:S:110:SER:HB3	1.90	0.52
9:T:199:GLN:HA	9:T:239:LEU:HD13	1.91	0.52
1:A:380:ALA:HB1	2:E:262:THR:HG21	1.90	0.52
2:D:143:ASP:OD1	2:D:144:PHE:N	2.41	0.52
9:T:379:ASN:O	9:T:383:LEU:HG	2.08	0.52
9:T:266:ILE:HG22	9:T:312:CYS:SG	2.50	0.52
1:C:27:PRO:HA	1:C:70:THR:HG21	1.90	0.52
2:F:170:PRO:HG3	2:F:457:ILE:HA	1.90	0.52
2:D:408:ASP:O	2:D:412:VAL:HG23	2.10	0.52
1:A:247:ALA:HB2	1:A:429:VAL:HG21	1.92	0.52
3:G:183:VAL:HG11	3:G:234:VAL:HG21	1.92	0.52
3:G:293:ALA:O	3:G:297:VAL:HG23	2.10	0.52
5:J:132:MET:HB2	5:J:165:VAL:HG22	1.91	0.52
8:S:188:MET:HB3	8:S:192:LYS:HD2	1.92	0.52
1:A:148:THR:HA	1:A:173:ARG:HB3	1.91	0.52
1:B:55:ILE:HD13	1:B:365:LEU:HD11	1.91	0.52
4:H:164:ILE:HD12	4:H:167:ARG:HE	1.75	0.52
8:Q:103:MET:HG3	8:Q:164:ALA:HA	1.91	0.52
1:B:473:VAL:O	1:B:477:THR:HG23	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:577:ILE:HA	1:B:580:LYS:HE3	1.92	0.52
1:B:220:LYS:HB3	2:F:236:ARG:NH1	2.24	0.51
1:B:334:SER:HB3	1:B:404:VAL:HG12	1.93	0.51
9:T:269:LEU:HD23	9:T:289:PHE:CE1	2.46	0.51
1:A:580:LYS:O	1:A:584:MET:HB2	2.10	0.51
1:C:359:ARG:HD2	2:F:314:ARG:HH21	1.75	0.51
2:F:227:ALA:HA	2:F:292:THR:HB	1.92	0.51
9:T:455:ALA:O	9:T:458:LYS:HG2	2.10	0.51
1:C:243:GLY:H	1:C:405:THR:HG23	1.76	0.51
2:D:202:ARG:NH1	2:D:461:PRO:O	2.44	0.51
3:G:83:SER:N	3:G:88:GLN:OE1	2.44	0.51
9:T:296:SER:HA	9:T:302:ARG:HD2	1.92	0.51
1:A:258:VAL:HG21	18:A:701:ADP:H2'	1.93	0.51
2:E:438:LEU:HD12	2:E:442:ASP:HB3	1.93	0.51
3:G:34:LEU:HB3	3:G:322:GLN:HB3	1.93	0.51
9:T:79:ASN:O	9:T:83:HIS:ND1	2.43	0.51
2:D:76:ARG:HD3	2:D:94:GLU:HB2	1.93	0.50
4:H:24:LYS:HA	4:H:24:LYS:HE2	1.93	0.50
2:D:473:LEU:O	2:D:476:LYS:HG3	2.12	0.50
8:S:198:HIS:HA	8:S:201:LYS:HE3	1.93	0.50
9:T:290:ARG:NH2	9:T:291:ASN:OD1	2.44	0.50
1:A:455:SER:HB3	1:A:458:MET:HE3	1.92	0.50
2:F:184:PRO:HB3	2:F:346:PRO:HG2	1.94	0.50
8:Q:163:ILE:O	8:Q:167:GLY:N	2.34	0.50
1:A:147:ILE:HG12	1:A:148:THR:H	1.76	0.50
1:B:226:PRO:HB3	1:B:461:LEU:HD13	1.93	0.50
1:C:410:VAL:HG21	1:C:425:THR:HG21	1.93	0.50
4:H:24:LYS:HA	4:H:27:GLN:OE1	2.11	0.50
2:D:121:MET:HE3	2:D:275:THR:HG23	1.92	0.50
5:J:105:VAL:HA	5:J:111:ARG:NH2	2.27	0.50
1:A:610:ASN:OD1	1:A:613:ARG:NH1	2.34	0.50
1:C:110:SER:OG	2:F:153:ASN:ND2	2.44	0.50
1:C:317:ASN:HB2	2:F:327:THR:HA	1.92	0.50
2:E:127:ASN:OD1	2:E:131:LYS:N	2.45	0.50
2:D:379:ASN:O	2:D:381:GLN:NE2	2.45	0.50
2:F:497:PHE:HA	2:F:500:ARG:HH21	1.75	0.50
6:L:53:ARG:HA	6:L:56:LEU:HD12	1.93	0.50
9:T:443:HIS:O	9:T:449:ARG:NH2	2.38	0.50
5:I:142:PRO:HA	5:I:145:LYS:NZ	2.27	0.49
6:L:10:VAL:HG21	6:L:20:PHE:HD2	1.76	0.49
1:A:375:PRO:HD2	1:A:378:LEU:HD13	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:186:PHE:CD1	2:D:348:LEU:HD21	2.47	0.49
2:D:446:LEU:O	2:D:450:GLN:OE1	2.30	0.49
2:D:408:ASP:HB2	2:D:412:VAL:HG23	1.95	0.49
9:T:418:VAL:HG22	9:T:424:GLY:HA3	1.93	0.49
1:B:69:GLU:OE2	1:B:71:SER:N	2.46	0.49
2:D:119:GLU:OE1	5:I:219:ASN:ND2	2.43	0.49
1:B:147:ILE:HD11	1:B:194:LEU:HD21	1.93	0.49
8:Q:161:MET:HG3	8:Q:216:ILE:HG12	1.93	0.49
8:Q:195:GLU:OE1	8:Q:195:GLU:N	2.45	0.49
8:R:91:LEU:HD22	8:R:112:TYR:HB2	1.94	0.49
8:S:177:GLN:HE21	8:S:181:LEU:HD11	1.77	0.49
1:B:245:THR:HG22	1:B:429:VAL:HG22	1.94	0.49
1:A:168:LEU:HD21	1:A:172:ASN:O	2.13	0.49
5:J:205:GLN:HA	5:J:208:MET:HG2	1.95	0.49
8:Q:87:ILE:HD13	8:Q:116:LYS:HG2	1.94	0.49
2:D:479:ARG:NH1	2:D:497:PHE:O	2.46	0.49
2:E:127:ASN:ND2	2:E:131:LYS:HB3	2.27	0.49
2:F:188:ALA:H	2:F:191:LEU:HD12	1.78	0.49
7:N:105:ASP:OD2	7:N:107:ARG:NH2	2.45	0.49
2:D:294:MET:HG2	2:D:346:PRO:HB3	1.94	0.48
2:D:450:GLN:HB3	2:D:454:ARG:NH2	2.29	0.48
4:H:80:SER:HB2	6:L:18:THR:HG21	1.94	0.48
2:D:194:ASN:N	2:D:194:ASN:OD1	2.46	0.48
9:T:231:LEU:HD13	9:T:243:MET:HB2	1.96	0.48
2:E:143:ASP:OD1	2:E:144:PHE:N	2.46	0.48
8:S:201:LYS:HA	8:S:204:VAL:HG22	1.95	0.48
9:T:235:CYS:HB2	9:T:239:LEU:HD23	1.95	0.48
1:B:291:PHE:HA	1:B:294:LEU:HD12	1.94	0.48
2:D:389:LEU:HB2	2:D:420:TYR:HE2	1.78	0.48
3:G:152:ASN:HA	3:G:155:ARG:HG2	1.95	0.48
4:H:23:LEU:HG	4:H:27:GLN:NE2	2.28	0.48
8:Q:98:ILE:HA	8:Q:160:GLN:HE21	1.79	0.48
1:B:67:TYR:O	1:B:319:PRO:HG2	2.14	0.48
2:F:301:LEU:HD22	2:F:320:TYR:HE1	1.78	0.48
3:G:133:ASP:HA	3:G:136:LEU:HD12	1.95	0.48
7:O:75:LYS:HA	7:O:78:GLN:HG3	1.95	0.48
1:B:105:PRO:HD3	1:B:126:ALA:HA	1.95	0.48
2:D:262:THR:O	2:D:265:ARG:HB2	2.13	0.48
9:T:199:GLN:O	9:T:199:GLN:NE2	2.45	0.48
2:D:191:LEU:HD13	2:D:373:VAL:HG22	1.95	0.48
2:D:443:LEU:O	2:D:446:LEU:N	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:T:346:VAL:CG2	9:T:368:PRO:HB3	2.43	0.48
1:B:306:MET:SD	1:B:306:MET:N	2.86	0.48
2:F:382:ILE:HG12	2:F:454:ARG:NH1	2.29	0.48
3:G:162:LEU:H	3:G:162:LEU:HG	1.43	0.48
3:G:167:ALA:HA	3:G:258:MET:CG	2.43	0.48
8:Q:159:LEU:HD21	8:Q:179:PHE:HE1	1.78	0.48
9:T:269:LEU:HD11	9:T:285:ILE:HG12	1.95	0.48
1:A:592:ASP:HB3	1:A:597:ILE:HD11	1.96	0.47
1:B:550:LEU:HD12	1:B:608:VAL:HG12	1.94	0.47
1:A:210:PRO:HB2	1:A:213:GLN:HB2	1.96	0.47
1:A:258:VAL:HG21	18:A:701:ADP:C8	2.49	0.47
1:B:171:ARG:HE	1:B:171:ARG:HB3	1.63	0.47
1:B:492:ILE:HG12	2:F:431:ALA:HB1	1.97	0.47
1:C:178:TYR:HB3	1:C:193:GLU:HB2	1.96	0.47
1:C:252:PHE:HB3	2:F:394:ARG:CZ	2.44	0.47
2:D:294:MET:HB2	2:D:348:LEU:HB3	1.96	0.47
5:I:184:TYR:HB3	5:I:188:ARG:HA	1.96	0.47
7:O:82:THR:HA	7:O:85:GLN:NE2	2.29	0.47
2:E:229:GLY:N	2:E:256:ASN:O	2.47	0.47
2:F:430:LYS:HB2	2:F:438:LEU:HD11	1.96	0.47
3:G:38:PHE:HB3	3:G:318:ALA:CB	2.44	0.47
3:G:189:VAL:HG13	3:G:246:PHE:CE1	2.49	0.47
9:T:19:ILE:HD13	9:T:136:PHE:CE2	2.49	0.47
5:I:156:LYS:HB2	5:I:156:LYS:HE2	1.48	0.47
2:D:476:LYS:HA	2:D:479:ARG:HD2	1.97	0.47
5:K:88:ASP:HA	5:K:91:ILE:HD12	1.97	0.47
9:T:299:ARG:NH2	9:T:302:ARG:HB2	2.28	0.47
1:A:316:SER:HB2	2:D:326:ALA:CB	2.45	0.47
1:A:566:THR:H	1:A:569:ILE:HG22	1.79	0.47
1:B:522:GLN:HG3	1:B:529:ASP:HB3	1.97	0.47
1:C:44:ARG:HA	1:C:44:ARG:HD3	1.59	0.47
1:C:58:GLU:N	1:C:58:GLU:OE1	2.48	0.47
2:D:146:ASP:N	2:D:146:ASP:OD1	2.48	0.47
2:D:227:ALA:HB1	2:D:230:VAL:HG11	1.97	0.47
2:E:277:GLU:HA	2:E:342:ILE:HD11	1.97	0.47
5:K:30:ILE:HG21	7:O:25:ALA:HB1	1.95	0.47
6:L:9:ALA:HA	6:L:35:ASN:O	2.15	0.47
6:L:10:VAL:HG23	6:L:65:LEU:HB2	1.95	0.47
7:N:87:TYR:HA	7:N:90:GLN:CD	2.35	0.47
1:C:56:ARG:HB3	1:C:63:THR:HB	1.95	0.47
4:H:207:GLU:O	4:H:211:ILE:HG12	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:Q:28:TYR:CE1	8:Q:32:CYS:SG	3.08	0.47
9:T:421:TYR:CE2	9:T:423:ARG:HB2	2.50	0.47
2:D:164:ILE:HD11	2:D:179:ARG:HA	1.97	0.47
5:I:119:LEU:HB3	5:I:194:ASN:HB3	1.97	0.47
2:D:459:GLN:HG2	2:D:465:ARG:CZ	2.44	0.47
5:J:59:LYS:HE2	5:J:59:LYS:HB2	1.61	0.47
7:O:26:ARG:HA	7:O:26:ARG:HD3	1.50	0.47
8:Q:177:GLN:HA	8:Q:180:LYS:HE3	1.96	0.47
9:T:386:LYS:HB2	9:T:386:LYS:HE2	1.52	0.47
1:A:138:SER:C	1:A:140:ASN:H	2.18	0.46
1:A:297:GLU:OE2	1:A:298:VAL:N	2.47	0.46
1:B:473:VAL:HG13	1:B:476:ARG:HH11	1.81	0.46
9:T:212:ASN:HA	9:T:215:ARG:HG2	1.96	0.46
1:A:474:PRO:O	1:A:477:THR:HB	2.15	0.46
1:A:604:LEU:O	1:A:608:VAL:HG23	2.15	0.46
1:B:159:ASN:H	1:B:162:ILE:HG22	1.79	0.46
1:C:69:GLU:HB3	1:C:120:ARG:HE	1.80	0.46
1:C:284:MET:SD	1:C:313:ALA:HB1	2.55	0.46
2:F:318:PRO:O	2:F:321:MET:HG2	2.15	0.46
6:L:107:ARG:HE	6:L:107:ARG:HB3	1.26	0.46
8:Q:98:ILE:HA	8:Q:160:GLN:NE2	2.30	0.46
1:A:398:PRO:HD2	1:A:400:ARG:NH2	2.30	0.46
2:E:191:LEU:HD13	2:E:373:VAL:HG12	1.97	0.46
3:G:38:PHE:HB3	3:G:318:ALA:HB3	1.98	0.46
3:G:113:PRO:HB2	3:G:116:GLN:HG2	1.96	0.46
1:C:211:VAL:CG1	1:C:328:TYR:HB3	2.45	0.46
8:S:68:ALA:HB1	8:S:73:LYS:HB2	1.98	0.46
9:T:103:GLU:HB3	9:T:107:ARG:HG3	1.97	0.46
1:A:526:THR:HG21	1:A:528:TYR:CE2	2.50	0.46
2:F:191:LEU:HD13	2:F:373:VAL:HG12	1.98	0.46
8:Q:98:ILE:HG23	8:Q:160:GLN:HB3	1.98	0.46
9:T:258:GLU:HA	9:T:261:ARG:HD2	1.97	0.46
1:B:162:ILE:O	1:B:163:LYS:C	2.54	0.46
2:F:228:MET:N	2:F:228:MET:SD	2.89	0.46
4:H:42:LEU:HD12	4:H:43:ARG:N	2.31	0.46
5:J:102:LEU:HD21	5:J:196:LEU:HB3	1.96	0.46
7:O:34:LYS:HD2	7:O:34:LYS:HA	1.47	0.46
9:T:100:THR:HG23	9:T:107:ARG:HB3	1.98	0.46
2:F:160:PRO:HD2	2:F:395:LEU:HD21	1.98	0.46
2:F:408:ASP:HB3	2:F:497:PHE:CE2	2.51	0.46
5:I:222:ARG:NH2	5:I:225:LEU:HD13	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:T:141:ALA:O	9:T:145:ILE:HG23	2.16	0.46
1:C:139:LYS:O	1:C:142:ARG:NH1	2.49	0.46
7:O:79:GLU:O	7:O:82:THR:HB	2.15	0.46
8:Q:212:PRO:O	8:Q:216:ILE:HD12	2.15	0.46
1:B:389:ALA:HB2	1:B:406:ILE:HG13	1.98	0.45
1:C:284:MET:C	1:C:286:GLU:N	2.69	0.45
4:H:80:SER:O	4:H:84:ILE:HG13	2.16	0.45
5:J:88:ASP:HA	5:J:91:ILE:HG22	1.97	0.45
7:N:87:TYR:HA	7:N:90:GLN:NE2	2.32	0.45
8:S:126:TYR:CE1	8:S:169:THR:HA	2.51	0.45
9:T:329:GLU:OE1	9:T:329:GLU:N	2.39	0.45
1:A:45:VAL:HB	1:A:50:LEU:HB2	1.98	0.45
1:B:288:LEU:HD23	1:B:311:LEU:HD12	1.98	0.45
1:C:234:LEU:HD13	1:C:448:VAL:HG21	1.98	0.45
1:C:338:ARG:HB2	1:C:404:VAL:HG23	1.98	0.45
2:D:282:GLN:HA	5:I:224:PHE:HB3	1.98	0.45
4:H:81:THR:HA	4:H:84:ILE:HD12	1.96	0.45
5:K:127:LEU:HD22	5:K:127:LEU:HA	1.71	0.45
6:L:68:GLN:HE21	6:L:102:LYS:HD2	1.82	0.45
8:Q:172:ASN:HB3	8:Q:175:ILE:HD12	1.98	0.45
9:T:75:LYS:NZ	9:T:117:ARG:HB3	2.31	0.45
1:C:472:PHE:CZ	1:C:476:ARG:HD2	2.51	0.45
2:D:450:GLN:HB2	2:D:451:LYS:HZ2	1.81	0.45
6:L:102:LYS:HE3	6:L:102:LYS:HB3	1.57	0.45
9:T:315:LEU:HD12	9:T:316:LYS:N	2.32	0.45
1:A:478:LYS:HD2	1:A:481:GLU:OE2	2.17	0.45
3:G:174:ASP:HB3	3:G:216:LEU:HD22	1.98	0.45
9:T:428:ILE:O	9:T:432:GLY:N	2.50	0.45
1:C:395:LEU:HD23	1:C:395:LEU:HA	1.85	0.45
2:D:487:LYS:HE3	2:D:487:LYS:HB3	1.65	0.45
3:G:37:LYS:HE3	3:G:317:GLN:HE21	1.80	0.45
6:L:67:ASN:HD21	6:L:93:SER:HB2	1.82	0.45
8:Q:81:LEU:HD12	8:Q:81:LEU:HA	1.80	0.45
1:A:540:MET:HB3	1:A:544:MET:HE1	1.98	0.45
3:G:98:LEU:HD21	3:G:287:PHE:HE2	1.82	0.45
5:J:49:GLN:CB	7:N:44:ILE:HG13	2.46	0.45
5:K:38:PHE:HD2	7:O:32:ARG:HB3	1.82	0.45
8:Q:163:ILE:HG23	8:Q:168:ILE:HG13	1.99	0.45
9:T:350:SER:HA	9:T:369:VAL:HB	1.98	0.45
1:A:171:ARG:HE	1:A:171:ARG:HB2	1.48	0.45
1:A:494:GLN:NE2	1:A:495:LEU:HG	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:456:PHE:CE1	2:D:477:LEU:HD22	2.50	0.45
1:B:142:ARG:O	1:B:145:SER:OG	2.26	0.45
2:F:277:GLU:HA	2:F:342:ILE:HD11	1.99	0.45
4:H:67:PHE:O	4:H:70:ALA:HB3	2.17	0.45
7:N:51:ARG:HA	7:N:51:ARG:HD3	1.72	0.45
1:A:449:ASN:OD1	1:A:452:ILE:HG12	2.17	0.44
1:C:342:TYR:O	1:C:344:VAL:HG23	2.17	0.44
2:D:191:LEU:HD21	2:D:375:ARG:HG2	1.99	0.44
2:D:351:PRO:HG2	2:D:357:HIS:CE1	2.52	0.44
2:D:450:GLN:O	2:D:454:ARG:HG2	2.18	0.44
2:F:120:ASP:HB2	2:F:139:VAL:CG1	2.47	0.44
3:G:311:GLY:HA2	5:J:13:LYS:HE2	1.99	0.44
9:T:19:ILE:HG13	9:T:200:CYS:HB2	1.98	0.44
1:B:587:LYS:HA	1:B:587:LYS:HD3	1.65	0.44
2:D:366:ILE:H	2:D:366:ILE:HG13	1.48	0.44
9:T:218:TRP:HA	9:T:218:TRP:CE3	2.53	0.44
4:H:204:LYS:HD3	4:H:204:LYS:HA	1.85	0.44
5:K:42:LYS:HD3	7:O:39:GLU:CB	2.45	0.44
2:D:226:ALA:O	2:D:228:MET:HG2	2.18	0.44
5:J:160:LYS:HD3	5:J:160:LYS:HA	1.64	0.44
5:J:184:TYR:HB3	5:J:188:ARG:HA	1.99	0.44
9:T:52:ARG:HD2	9:T:64:GLU:HG2	1.99	0.44
9:T:458:LYS:HZ3	9:T:459:LEU:HB3	1.81	0.44
2:F:182:LYS:HZ2	2:F:329:TYR:HB3	1.83	0.44
5:K:137:ARG:HB3	5:K:175:GLU:HG3	2.00	0.44
6:L:112:MET:O	6:L:113:PHE:C	2.56	0.44
9:T:49:PHE:HA	9:T:51:GLN:NE2	2.32	0.44
9:T:329:GLU:HG2	9:T:330:ASP:N	2.32	0.44
9:T:341:LYS:HA	9:T:341:LYS:HD3	1.82	0.44
1:A:42:LEU:HD21	1:A:86:LEU:HD13	2.00	0.44
2:D:255:LEU:HA	2:D:255:LEU:HD23	2.80	0.44
2:E:56:HIS:HA	2:E:86:THR:HB	2.00	0.44
2:E:158:ILE:HG12	2:E:336:GLU:HG3	1.98	0.44
2:F:121:MET:HG3	2:F:275:THR:HG23	2.00	0.44
5:K:46:VAL:O	5:K:50:ARG:HB3	2.18	0.44
1:B:135:PHE:HA	1:B:156:VAL:HG22	1.99	0.44
1:B:148:THR:HG21	8:R:20:SER:O	2.18	0.44
1:C:281:VAL:HG21	2:F:157:ARG:NE	2.33	0.44
3:G:4:PHE:HE1	3:G:99:VAL:HG12	1.83	0.44
3:G:76:MET:HG2	3:G:283:LEU:HD13	1.98	0.44
3:G:175:PHE:CZ	3:G:186:LEU:HD11	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:152:ILE:HG21	2:E:335:VAL:HG11	2.00	0.44
2:E:430:LYS:O	2:E:430:LYS:HD3	2.18	0.44
2:F:173:VAL:HA	2:F:409:HIS:NE2	2.31	0.44
2:F:187:SER:O	2:F:349:THR:HA	2.17	0.44
3:G:111:LYS:NZ	3:G:289:GLU:OE2	2.50	0.44
4:H:178:PRO:HB2	4:H:182:ARG:HH22	1.82	0.44
5:K:35:GLU:HA	7:O:32:ARG:HG2	2.00	0.44
2:F:122:LEU:HD11	2:F:222:ALA:HB1	1.99	0.44
3:G:2:THR:N	3:G:376:CYS:HB2	2.32	0.44
7:N:8:ILE:HA	7:N:11:LEU:HD12	1.99	0.44
1:B:167:MET:HG2	1:B:207:GLN:NE2	2.33	0.43
1:C:393:LYS:HD3	1:C:393:LYS:HA	1.66	0.43
2:D:409:HIS:HA	2:D:471:LEU:HD21	2.00	0.43
2:D:479:ARG:HA	2:D:498:TYR:CE2	2.53	0.43
5:J:202:LEU:O	5:J:205:GLN:HG3	2.18	0.43
9:T:225:ASN:HA	9:T:228:MET:HG3	1.99	0.43
1:B:353:ARG:HD3	1:B:353:ARG:HA	1.80	0.43
2:D:450:GLN:HB3	2:D:454:ARG:CZ	2.48	0.43
2:F:64:GLU:OE2	2:F:108:PHE:HB3	2.18	0.43
2:F:440:SER:O	2:F:443:LEU:HG	2.19	0.43
3:G:113:PRO:HB3	3:G:115:LYS:HZ3	1.83	0.43
3:G:160:SER:O	3:G:161:LEU:C	2.55	0.43
3:G:186:LEU:HD22	3:G:216:LEU:HD21	2.00	0.43
1:A:270:ASP:HB3	1:A:342:TYR:HD2	1.81	0.43
1:B:212:ARG:H	1:B:212:ARG:HG2	1.73	0.43
1:C:113:THR:HG21	1:C:119:PRO:HG3	2.00	0.43
2:D:407:LYS:H	2:D:407:LYS:HZ2	1.65	0.43
4:H:12:SER:H	4:H:15:ALA:HB3	1.83	0.43
9:T:272:ILE:O	9:T:276:SER:N	2.50	0.43
9:T:373:GLU:HA	9:T:376:TRP:HD1	1.83	0.43
1:B:535:TYR:CZ	1:B:594:GLU:HA	2.53	0.43
3:G:8:SER:HB2	3:G:370:VAL:HB	1.99	0.43
9:T:359:LEU:H	9:T:359:LEU:HG	1.57	0.43
1:A:465:TYR:O	1:A:469:PHE:N	2.49	0.43
1:A:478:LYS:HD2	1:A:478:LYS:HA	1.84	0.43
1:C:152:ILE:HD13	1:C:167:MET:HB3	2.01	0.43
1:C:604:LEU:O	1:C:608:VAL:HG23	2.18	0.43
3:G:134:ASN:O	3:G:137:LYS:HG2	2.19	0.43
7:N:93:ASP:OD1	7:N:94:GLU:N	2.51	0.43
8:S:217:LEU:HD22	8:S:217:LEU:HA	1.67	0.43
9:T:337:PHE:O	9:T:341:LYS:HG2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:395:LEU:HD23	1:B:395:LEU:HA	1.81	0.43
1:C:361:ILE:HD13	1:C:361:ILE:HA	1.92	0.43
2:E:262:THR:HB	2:E:265:ARG:HH11	1.84	0.43
9:T:213:GLU:H	9:T:213:GLU:HG3	1.57	0.43
9:T:290:ARG:HG2	9:T:337:PHE:CE2	2.54	0.43
9:T:373:GLU:HG2	9:T:420:HIS:CE1	2.54	0.43
1:C:522:GLN:HG3	1:C:529:ASP:HB3	2.01	0.43
5:K:173:LEU:HD23	5:K:173:LEU:HA	1.85	0.43
7:N:19:ALA:HA	7:N:22:VAL:HG22	2.01	0.43
8:S:193:ILE:O	8:S:196:GLN:HG2	2.19	0.43
1:A:478:LYS:HA	1:A:481:GLU:OE2	2.18	0.43
1:C:327:ILE:HD11	1:C:385:PHE:CE2	2.53	0.43
7:O:84:LEU:HD12	7:O:84:LEU:HA	1.74	0.43
1:A:254:CYS:SG	1:A:256:LYS:HE3	2.59	0.43
1:B:148:THR:HA	1:B:173:ARG:HB2	2.01	0.43
2:E:227:ALA:HA	2:E:292:THR:HG22	2.01	0.43
3:G:180:GLU:H	3:G:180:GLU:HG2	1.33	0.43
5:I:117:ASP:HA	5:I:147:ALA:HB1	2.00	0.43
9:T:126:PHE:CZ	9:T:145:ILE:HG22	2.53	0.43
1:A:259:ILE:HD11	1:A:446:PRO:HB3	2.00	0.43
3:G:197:TRP:CZ3	3:G:204:LEU:HD11	2.53	0.43
9:T:346:VAL:HG22	9:T:368:PRO:HB3	2.01	0.43
1:C:279:GLU:HB3	1:C:349:ASN:ND2	2.34	0.42
2:E:181:GLN:NE2	2:E:183:ILE:HD11	2.34	0.42
2:E:270:ARG:HA	2:E:273:LEU:HD12	2.00	0.42
2:E:357:HIS:CG	2:E:358:PRO:HD2	2.54	0.42
4:H:108:VAL:HG13	4:H:150:SER:HB3	2.00	0.42
5:J:96:ASN:HA	5:J:99:LYS:HD2	2.00	0.42
5:J:122:GLN:HG2	7:N:108:PRO:HA	2.00	0.42
8:Q:163:ILE:HD13	8:Q:168:ILE:HD11	2.01	0.42
1:A:241:VAL:HG12	1:A:461:LEU:HD21	2.00	0.42
1:B:178:TYR:HD2	1:B:193:GLU:HG3	1.83	0.42
1:C:211:VAL:HG12	1:C:328:TYR:HB3	2.01	0.42
2:D:357:HIS:CG	2:D:358:PRO:HD2	2.54	0.42
2:E:492:SER:O	2:E:495:ASP:HB2	2.19	0.42
5:I:196:LEU:HD23	5:I:196:LEU:HA	1.77	0.42
8:Q:100:PRO:HG2	8:Q:101:PHE:HD2	1.84	0.42
1:B:218:THR:OG1	1:B:395:LEU:HA	2.20	0.42
1:A:139:LYS:HB2	1:A:139:LYS:HE2	1.72	0.42
1:A:328:TYR:HA	1:A:331:ILE:HG22	2.01	0.42
1:B:152:ILE:HD13	1:B:165:ARG:HG2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:43:VAL:CG1	1:C:79:VAL:HG13	2.50	0.42
1:C:526:THR:HB	1:C:528:TYR:CE1	2.55	0.42
2:E:270:ARG:NH1	2:E:297:TYR:OH	2.52	0.42
2:F:120:ASP:O	2:F:121:MET:C	2.54	0.42
9:T:107:ARG:H	9:T:107:ARG:HG2	1.61	0.42
1:A:426:LEU:HD11	1:A:432:PHE:CG	2.55	0.42
1:A:579:TYR:HE2	2:D:484:GLU:HA	1.84	0.42
1:B:284:MET:HE3	2:E:154:PRO:HB2	2.01	0.42
2:E:236:ARG:O	2:E:239:LYS:HG3	2.20	0.42
1:A:50:LEU:HD23	1:A:68:GLU:HB3	2.01	0.42
1:A:291:PHE:N	1:A:292:PRO:HD2	2.35	0.42
1:A:439:LEU:HB2	1:A:447:SER:HB3	2.01	0.42
1:B:146:HIS:HB2	8:R:62:PHE:CZ	2.54	0.42
1:B:170:PRO:O	1:B:171:ARG:HB3	2.18	0.42
3:G:219:ASP:OD1	3:G:220:GLN:N	2.47	0.42
8:S:170:GLU:OE2	8:S:172:ASN:HB2	2.20	0.42
8:S:185:LEU:HA	8:S:188:MET:HE2	2.00	0.42
1:C:270:ASP:HB2	1:C:342:TYR:HB3	2.01	0.42
1:C:577:ILE:HG23	1:C:608:VAL:HG22	2.01	0.42
2:F:36:HIS:HB3	5:K:126:GLN:HE22	1.84	0.42
5:K:122:GLN:HG3	7:O:108:PRO:HA	2.01	0.42
7:N:17:ARG:HB3	7:N:21:LYS:HZ3	1.83	0.42
1:A:383:ALA:HB1	2:E:258:ALA:HB1	2.01	0.42
1:A:442:ARG:HG3	1:A:444:HIS:HB2	2.01	0.42
1:A:577:ILE:HG23	1:A:608:VAL:HG22	2.02	0.42
1:C:292:PRO:HG2	1:C:293:GLU:OE1	2.20	0.42
1:B:143:VAL:HG13	1:B:177:THR:HA	2.02	0.42
2:D:487:LYS:H	2:D:487:LYS:HG2	1.57	0.42
3:G:328:MET:SD	3:G:331:LEU:HD12	2.60	0.42
4:H:30:ARG:HH21	4:H:34:LYS:NZ	2.18	0.42
8:Q:159:LEU:HD21	8:Q:179:PHE:CE1	2.54	0.42
8:S:155:MET:HE3	8:S:155:MET:HB3	1.84	0.42
1:C:284:MET:C	1:C:286:GLU:H	2.24	0.42
2:D:140:MET:HB3	5:I:212:ARG:HH21	1.85	0.42
1:A:263:LEU:HD12	1:A:267:SER:HB3	2.01	0.41
1:A:280:ARG:H	1:A:280:ARG:HG2	1.51	0.41
1:B:132:LYS:HB3	1:B:184:ASN:HB3	2.01	0.41
1:B:519:PHE:HD2	1:B:540:MET:HG3	1.85	0.41
2:F:128:GLY:HA3	2:F:256:ASN:HD22	1.85	0.41
4:H:42:LEU:O	4:H:46:GLN:OE1	2.39	0.41
7:N:44:ILE:HD13	7:N:44:ILE:HA	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:N:48:ARG:HE	7:N:48:ARG:HB3	1.75	0.41
8:R:81:LEU:HD12	8:R:81:LEU:HA	1.83	0.41
8:R:88:LEU:HD12	8:R:88:LEU:HA	1.89	0.41
2:F:182:LYS:HZ1	2:F:366:ILE:HG22	1.84	0.41
2:F:357:HIS:CG	2:F:358:PRO:HD2	2.55	0.41
2:F:443:LEU:O	2:F:446:LEU:N	2.53	0.41
3:G:170:VAL:HG11	3:G:186:LEU:HD13	2.01	0.41
9:T:392:LYS:HB3	9:T:396:LYS:NZ	2.35	0.41
1:A:338:ARG:HB2	1:A:404:VAL:HG23	2.03	0.41
1:B:221:LEU:HD21	1:B:393:LYS:HB2	2.01	0.41
1:C:140:ASN:HD22	1:C:140:ASN:HA	1.61	0.41
2:D:125:VAL:HG13	2:D:253:LEU:HB2	2.02	0.41
3:G:323:PRO:HB3	3:G:331:LEU:HD11	2.02	0.41
4:H:144:LEU:HD12	4:H:147:GLU:OE2	2.20	0.41
5:J:44:ARG:HG3	5:J:45:LEU:N	2.36	0.41
1:A:443:LYS:HD2	1:A:443:LYS:HA	1.79	0.41
1:B:168:LEU:HD12	1:B:169:PRO:HD2	2.01	0.41
1:B:189:ASP:OD1	1:B:190:VAL:N	2.53	0.41
1:C:410:VAL:CG2	1:C:425:THR:HG21	2.51	0.41
2:E:137:PRO:HG3	5:J:84:LEU:C	2.41	0.41
2:F:168:ILE:CG2	2:F:170:PRO:HD2	2.51	0.41
3:G:157:ASN:O	3:G:164:ARG:HG3	2.21	0.41
5:K:54:MET:HB2	7:O:47:TYR:HE2	1.85	0.41
9:T:251:ALA:HB1	9:T:291:ASN:HB3	2.01	0.41
9:T:388:TYR:HB3	9:T:391:LEU:HB2	2.01	0.41
5:K:46:VAL:HA	7:O:44:ILE:CG1	2.50	0.41
7:O:84:LEU:O	7:O:88:PHE:HB3	2.20	0.41
8:S:147:PRO:HB3	8:S:228:THR:HG21	2.03	0.41
1:A:364:ARG:HA	1:A:364:ARG:HD2	1.80	0.41
1:B:526:THR:HA	1:B:527:PRO:HD3	1.97	0.41
2:D:179:ARG:NH2	2:D:286:HIS:HB3	2.36	0.41
3:G:76:MET:O	3:G:80:LEU:N	2.52	0.41
9:T:325:LYS:C	9:T:325:LYS:HD3	2.41	0.41
1:A:146:HIS:HB3	8:Q:62:PHE:CD2	2.51	0.41
1:A:316:SER:HB3	2:D:322:TYR:HE1	1.85	0.41
1:A:474:PRO:O	1:A:478:LYS:N	2.37	0.41
1:C:43:VAL:HG11	1:C:79:VAL:HG13	2.02	0.41
1:C:226:PRO:HB3	1:C:461:LEU:HD21	2.03	0.41
1:C:247:ALA:C	1:C:248:ILE:HD12	2.41	0.41
2:D:173:VAL:HA	2:D:409:HIS:HE1	1.84	0.41
2:E:179:ARG:NH2	2:E:206:LEU:HD11	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:443:LEU:O	2:F:447:GLU:OE1	2.37	0.41
5:I:141:PHE:N	5:I:142:PRO:HD2	2.36	0.41
5:I:145:LYS:HG2	5:I:167:ILE:HD12	2.03	0.41
6:L:92:PRO:HG3	6:L:98:TYR:HA	2.02	0.41
7:N:60:ALA:O	7:N:63:LEU:HG	2.21	0.41
7:O:55:PHE:O	7:O:59:GLU:HG3	2.20	0.41
9:T:160:ASP:HA	9:T:164:TYR:CD2	2.56	0.41
9:T:194:SER:OG	9:T:195:SER:N	2.51	0.41
1:A:161:LEU:HD12	1:A:307:LYS:HB2	2.03	0.41
2:E:60:ALA:HB3	2:E:83:VAL:HG13	2.03	0.41
3:G:29:ASN:OD1	3:G:327:THR:HB	2.21	0.41
5:J:215:LEU:HD23	5:J:215:LEU:HA	1.93	0.41
1:B:397:ASN:HB3	8:R:28:TYR:CG	2.56	0.40
4:H:49:LYS:O	4:H:53:GLU:OE1	2.39	0.40
5:I:203:ILE:HD13	5:I:203:ILE:HA	1.88	0.40
7:O:53:LYS:HA	7:O:53:LYS:HD3	1.77	0.40
1:B:146:HIS:HB2	8:R:62:PHE:CE1	2.56	0.40
5:K:35:GLU:HA	7:O:32:ARG:CG	2.51	0.40
9:T:422:PRO:HG2	9:T:423:ARG:NH2	2.36	0.40
1:C:281:VAL:HG23	1:C:315:THR:HG22	2.03	0.40
2:D:408:ASP:HB2	2:D:412:VAL:CG2	2.51	0.40
4:H:178:PRO:HB2	4:H:182:ARG:NH2	2.36	0.40
4:H:204:LYS:O	4:H:207:GLU:HG3	2.21	0.40
5:J:185:ASN:OD1	5:J:189:LYS:N	2.52	0.40
5:J:215:LEU:HD22	7:N:88:PHE:CD1	2.55	0.40
8:R:94:LEU:HA	8:R:130:LEU:HD11	2.02	0.40
9:T:396:LYS:O	9:T:400:VAL:HG22	2.21	0.40
1:A:135:PHE:CE2	1:A:180:ALA:HB3	2.57	0.40
1:A:143:VAL:HA	1:A:176:VAL:HG12	2.04	0.40
1:B:155:ILE:HG23	1:B:165:ARG:HG3	2.03	0.40
1:B:212:ARG:HE	1:B:212:ARG:HB3	1.53	0.40
2:D:350:MET:HG3	2:D:360:PRO:HG3	2.03	0.40
2:D:475:TRP:HB3	2:D:479:ARG:NH2	2.36	0.40
2:E:41:TYR:CE1	2:E:57:VAL:HG13	2.55	0.40
2:E:127:ASN:HD21	2:E:131:LYS:HB3	1.87	0.40
5:K:42:LYS:HE2	5:K:42:LYS:HB3	1.63	0.40
5:K:121:LEU:HD12	5:K:121:LEU:HA	1.89	0.40
1:A:226:PRO:HG3	1:A:464:TYR:CE2	2.56	0.40
1:C:147:ILE:HG12	1:C:168:LEU:HD22	2.03	0.40
2:F:483:LYS:HB3	2:F:498:TYR:CE2	2.56	0.40
3:G:154:GLU:HA	3:G:265:MET:HE1	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:G:254:ASN:O	3:G:257:GLU:HG2	2.20	0.40
3:G:255:GLU:HG2	3:G:259:LYS:HE2	2.02	0.40
5:I:152:ILE:N	5:I:153:PRO:HD2	2.36	0.40
7:N:115:ARG:HA	7:N:115:ARG:HD3	1.85	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	598/617 (97%)	554 (93%)	41 (7%)	3 (0%)	29	66
1	B	581/617 (94%)	547 (94%)	31 (5%)	3 (0%)	29	66
1	C	598/617 (97%)	554 (93%)	41 (7%)	3 (0%)	29	66
2	D	452/515 (88%)	431 (95%)	19 (4%)	2 (0%)	34	70
2	E	452/515 (88%)	430 (95%)	22 (5%)	0	100	100
2	F	454/515 (88%)	431 (95%)	17 (4%)	6 (1%)	12	48
3	G	356/382 (93%)	342 (96%)	13 (4%)	1 (0%)	41	74
4	H	211/247 (85%)	203 (96%)	8 (4%)	0	100	100
5	I	215/226 (95%)	208 (97%)	7 (3%)	0	100	100
5	J	216/226 (96%)	209 (97%)	7 (3%)	0	100	100
5	K	215/226 (95%)	212 (99%)	3 (1%)	0	100	100
6	L	107/119 (90%)	95 (89%)	12 (11%)	0	100	100
7	M	108/118 (92%)	107 (99%)	1 (1%)	0	100	100
7	N	108/118 (92%)	107 (99%)	1 (1%)	0	100	100
7	O	106/118 (90%)	102 (96%)	3 (3%)	1 (1%)	17	54
8	Q	222/337 (66%)	214 (96%)	8 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	R	204/337 (60%)	195 (96%)	7 (3%)	2 (1%)	15	52
8	S	224/337 (66%)	214 (96%)	9 (4%)	1 (0%)	34	70
9	T	423/483 (88%)	399 (94%)	24 (6%)	0	100	100
10	a	744/838 (89%)	717 (96%)	25 (3%)	2 (0%)	41	74
11	b	201/205 (98%)	197 (98%)	4 (2%)	0	100	100
12	c	204/469 (44%)	184 (90%)	20 (10%)	0	100	100
13	d	348/351 (99%)	330 (95%)	17 (5%)	1 (0%)	41	74
14	e	78/81 (96%)	76 (97%)	2 (3%)	0	100	100
15	f	82/98 (84%)	82 (100%)	0	0	100	100
16	g	148/155 (96%)	147 (99%)	1 (1%)	0	100	100
16	h	148/155 (96%)	146 (99%)	2 (1%)	0	100	100
16	i	148/155 (96%)	147 (99%)	1 (1%)	0	100	100
16	j	148/155 (96%)	147 (99%)	1 (1%)	0	100	100
16	k	148/155 (96%)	145 (98%)	3 (2%)	0	100	100
16	l	148/155 (96%)	146 (99%)	2 (1%)	0	100	100
16	m	148/155 (96%)	147 (99%)	1 (1%)	0	100	100
16	n	148/155 (96%)	145 (98%)	3 (2%)	0	100	100
16	o	148/155 (96%)	144 (97%)	4 (3%)	0	100	100
17	p	51/351 (14%)	49 (96%)	2 (4%)	0	100	100
All	All	8890/10458 (85%)	8503 (96%)	362 (4%)	25 (0%)	44	74

All (25) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	315	THR
1	A	450	TRP
1	B	470	THR
10	a	90	PHE
10	a	361	PRO
8	S	98	ILE
1	B	139	LYS
1	B	266	TYR
2	F	161	GLU
7	O	42	ALA
1	C	252	PHE

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Mol	Chain	Res	Type
1	C	559	ALA
2	D	405	THR
2	F	35	THR
2	F	208	LYS
2	F	353	ASP
2	F	461	PRO
2	F	479	ARG
3	G	344	SER
1	C	277	CYS
13	d	135	PHE
1	A	588	ASP
8	R	98	ILE
8	R	168	ILE
2	D	229	GLY

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	A	508/525 (97%)	475 (94%)	33 (6%)	17 48
1	B	501/525 (95%)	446 (89%)	55 (11%)	6 29
1	C	508/525 (97%)	460 (91%)	48 (9%)	8 35
2	D	390/438 (89%)	351 (90%)	39 (10%)	7 32
2	E	390/438 (89%)	370 (95%)	20 (5%)	24 54
2	F	392/438 (90%)	362 (92%)	30 (8%)	13 43
3	G	325/344 (94%)	303 (93%)	22 (7%)	16 47
4	H	184/211 (87%)	182 (99%)	2 (1%)	73 85
5	I	96/197 (49%)	81 (84%)	15 (16%)	2 17
5	J	191/197 (97%)	178 (93%)	13 (7%)	16 47
5	K	190/197 (96%)	166 (87%)	24 (13%)	4 24
6	L	93/100 (93%)	78 (84%)	15 (16%)	2 16
7	M	33/101 (33%)	23 (70%)	10 (30%)	0 2

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	N	95/101 (94%)	87 (92%)	8 (8%)	11	40
7	O	94/101 (93%)	66 (70%)	28 (30%)	0	2
8	Q	203/305 (67%)	195 (96%)	8 (4%)	32	60
8	R	188/305 (62%)	175 (93%)	13 (7%)	15	46
8	S	204/305 (67%)	185 (91%)	19 (9%)	9	35
9	T	385/429 (90%)	336 (87%)	49 (13%)	4	23
13	d	305/306 (100%)	284 (93%)	21 (7%)	15	46
All	All	5275/6088 (87%)	4803 (91%)	472 (9%)	13	38

All (472) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	48	SER
1	A	53	GLU
1	A	65	GLN
1	A	69	GLU
1	A	71	SER
1	A	118	ILE
1	A	122	VAL
1	A	136	THR
1	A	139	LYS
1	A	141	LEU
1	A	148	THR
1	A	155	ILE
1	A	171	ARG
1	A	173	ARG
1	A	175	THR
1	A	191	VAL
1	A	232	ARG
1	A	233	VAL
1	A	280	ARG
1	A	316	SER
1	A	334	SER
1	A	349	ASN
1	A	350	SER
1	A	360	GLU
1	A	364	ARG
1	A	371	ASP
1	A	395	LEU
1	A	419	ASP

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Mol	Chain	Res	Type
1	A	476	ARG
1	A	485	GLU
1	A	486	GLU
1	A	529	ASP
1	A	591	LYS
1	B	39	MET
1	B	53	GLU
1	B	55	ILE
1	B	56	ARG
1	B	58	GLU
1	B	61	MET
1	B	63	THR
1	B	68	GLU
1	B	102	ILE
1	B	103	GLN
1	B	104	ARG
1	B	109	ILE
1	B	122	VAL
1	B	139	LYS
1	B	146	HIS
1	B	162	ILE
1	B	163	LYS
1	B	165	ARG
1	B	166	ILE
1	B	167	MET
1	B	171	ARG
1	B	172	ASN
1	B	173	ARG
1	B	175	THR
1	B	201	GLU
1	B	212	ARG
1	B	220	LYS
1	B	221	LEU
1	B	224	ASN
1	B	270	ASP
1	B	277	CYS
1	B	284	MET
1	B	285	SER
1	B	316	SER
1	B	320	VAL
1	B	327	ILE
1	B	331	ILE

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Mol	Chain	Res	Type
1	B	338	ARG
1	B	364	ARG
1	B	384	SER
1	B	391	ARG
1	B	395	LEU
1	B	400	ARG
1	B	404	VAL
1	B	418	SER
1	B	467	LYS
1	B	526	THR
1	B	530	ARG
1	B	553	ARG
1	B	587	LYS
1	B	594	GLU
1	B	596	LYS
1	B	598	LYS
1	B	603	GLN
1	B	605	LEU
1	C	53	GLU
1	C	68	GLU
1	C	74	SER
1	C	81	ARG
1	C	100	ASP
1	C	103	GLN
1	C	116	ILE
1	C	130	ASP
1	C	140	ASN
1	C	155	ILE
1	C	171	ARG
1	C	187	THR
1	C	188	SER
1	C	220	LYS
1	C	221	LEU
1	C	224	ASN
1	C	241	VAL
1	C	284	MET
1	C	286	GLU
1	C	289	ARG
1	C	296	MET
1	C	317	ASN
1	C	331	ILE
1	C	347	MET

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Mol	Chain	Res	Type
1	C	362	SER
1	C	364	ARG
1	C	365	LEU
1	C	368	MET
1	C	384	SER
1	C	400	ARG
1	C	401	GLU
1	C	403	SER
1	C	419	ASP
1	C	450	TRP
1	C	471	GLU
1	C	481	GLU
1	C	487	GLU
1	C	504	THR
1	C	509	LEU
1	C	510	GLU
1	C	523	ASN
1	C	525	TYR
1	C	553	ARG
1	C	555	VAL
1	C	556	GLU
1	C	571	ARG
1	C	574	MET
1	C	616	GLU
2	D	38	ARG
2	D	77	SER
2	D	81	LEU
2	D	82	GLU
2	D	96	THR
2	D	107	GLU
2	D	109	THR
2	D	120	ASP
2	D	121	MET
2	D	125	VAL
2	D	131	LYS
2	D	150	GLN
2	D	174	MET
2	D	182	LYS
2	D	228	MET
2	D	232	MET
2	D	239	LYS
2	D	241	ASP

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Mol	Chain	Res	Type
2	D	253	LEU
2	D	270	ARG
2	D	271	LEU
2	D	294	MET
2	D	295	SER
2	D	296	SER
2	D	303	GLU
2	D	324	ASP
2	D	328	ILE
2	D	366	ILE
2	D	380	ARG
2	D	388	VAL
2	D	392	LEU
2	D	397	LYS
2	D	402	GLU
2	D	404	MET
2	D	407	LYS
2	D	417	TYR
2	D	476	LYS
2	D	487	LYS
2	D	488	ARG
2	E	40	THR
2	E	43	THR
2	E	81	LEU
2	E	103	LYS
2	E	106	CYS
2	E	158	ILE
2	E	174	MET
2	E	182	LYS
2	E	195	GLU
2	E	196	ILE
2	E	239	LYS
2	E	241	ASP
2	E	292	THR
2	E	314	ARG
2	E	330	GLU
2	E	353	ASP
2	E	370	GLN
2	E	374	ASP
2	E	422	ILE
2	E	473	LEU
2	F	43	THR

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Mol	Chain	Res	Type
2	F	48	ASN
2	F	58	LYS
2	F	83	VAL
2	F	105	THR
2	F	115	THR
2	F	120	ASP
2	F	159	TYR
2	F	161	GLU
2	F	182	LYS
2	F	261	PRO
2	F	270	ARG
2	F	273	LEU
2	F	328	ILE
2	F	335	VAL
2	F	338	ARG
2	F	395	LEU
2	F	396	MET
2	F	397	LYS
2	F	398	SER
2	F	400	ILE
2	F	402	GLU
2	F	405	THR
2	F	406	ARG
2	F	407	LYS
2	F	411	ASP
2	F	455	ASN
2	F	465	ARG
2	F	488	ARG
2	F	489	ILE
3	G	37	LYS
3	G	45	VAL
3	G	57	GLU
3	G	162	LEU
3	G	163	THR
3	G	164	ARG
3	G	180	GLU
3	G	182	LEU
3	G	229	LEU
3	G	230	PHE
3	G	232	LYS
3	G	235	ASP
3	G	249	ARG

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Mol	Chain	Res	Type
3	G	298	LYS
3	G	301	ARG
3	G	305	GLU
3	G	308	LEU
3	G	312	LEU
3	G	315	ASN
3	G	319	MET
3	G	320	LEU
3	G	321	LEU
4	H	110	GLU
4	H	126	ARG
5	I	84	LEU
5	I	121	LEU
5	I	129	GLU
5	I	131	ARG
5	I	133	ILE
5	I	156	LYS
5	I	159	THR
5	I	164	ASP
5	I	187	ASP
5	I	189	LYS
5	I	191	LYS
5	I	200	LEU
5	I	202	LEU
5	I	205	GLN
5	I	212	ARG
5	J	13	LYS
5	J	44	ARG
5	J	45	LEU
5	J	50	ARG
5	J	51	LEU
5	J	52	LYS
5	J	56	TYR
5	J	57	TYR
5	J	58	GLU
5	J	60	LYS
5	J	61	GLU
5	J	161	ARG
5	J	189	LYS
5	K	20	GLU
5	K	28	GLU
5	K	42	LYS

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Mol	Chain	Res	Type
5	K	50	ARG
5	K	52	LYS
5	K	53	ILE
5	K	54	MET
5	K	55	GLU
5	K	61	GLU
5	K	76	MET
5	K	78	GLN
5	K	82	LYS
5	K	84	LEU
5	K	87	ARG
5	K	124	LEU
5	K	127	LEU
5	K	129	GLU
5	K	131	ARG
5	K	139	GLN
5	K	161	ARG
5	K	166	GLN
5	K	170	GLU
5	K	185	ASN
5	K	187	ASP
6	L	28	LEU
6	L	30	LYS
6	L	49	GLU
6	L	75	ARG
6	L	78	LEU
6	L	82	GLN
6	L	94	LYS
6	L	99	ASP
6	L	102	LYS
6	L	103	ASP
6	L	104	SER
6	L	105	ILE
6	L	106	LEU
6	L	107	ARG
6	L	110	LYS
7	M	84	LEU
7	M	90	GLN
7	M	99	LEU
7	M	102	PHE
7	M	105	ASP
7	M	106	ILE

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Mol	Chain	Res	Type
7	M	109	GLU
7	M	110	ILE
7	M	115	ARG
7	M	116	ILE
7	N	37	LYS
7	N	48	ARG
7	N	50	GLN
7	N	51	ARG
7	N	75	LYS
7	N	78	GLN
7	N	80	LYS
7	N	110	ILE
7	O	15	GLU
7	O	16	LYS
7	O	17	ARG
7	O	23	SER
7	O	26	ARG
7	O	27	LYS
7	O	31	ARG
7	O	32	ARG
7	O	33	LEU
7	O	34	LYS
7	O	41	GLN
7	O	45	GLU
7	O	48	ARG
7	O	49	LEU
7	O	52	GLU
7	O	53	LYS
7	O	54	GLU
7	O	56	LYS
7	O	80	LYS
7	O	84	LEU
7	O	87	TYR
7	O	91	ASN
7	O	93	ASP
7	O	95	VAL
7	O	106	ILE
7	O	109	GLU
7	O	110	ILE
7	O	115	ARG
8	Q	47	GLU
8	Q	61	ARG

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Mol	Chain	Res	Type
8	Q	63	GLU
8	Q	65	ILE
8	Q	67	GLU
8	Q	79	ASP
8	Q	81	LEU
8	Q	194	ASP
8	R	20	SER
8	R	47	GLU
8	R	59	ASN
8	R	61	ARG
8	R	63	GLU
8	R	70	LYS
8	R	79	ASP
8	R	122	TRP
8	R	128	VAL
8	R	130	LEU
8	R	132	GLN
8	R	134	ASN
8	R	197	TYR
8	S	36	ILE
8	S	44	LYS
8	S	45	ILE
8	S	50	GLN
8	S	52	VAL
8	S	79	ASP
8	S	82	SER
8	S	85	SER
8	S	87	ILE
8	S	92	LEU
8	S	94	LEU
8	S	152	LEU
8	S	155	MET
8	S	211	SER
8	S	217	LEU
8	S	220	GLU
8	S	221	ASP
8	S	223	LYS
8	S	227	LYS
9	T	25	GLU
9	T	56	LYS
9	T	81	MET
9	T	101	LEU

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Mol	Chain	Res	Type
9	T	103	GLU
9	T	105	HIS
9	T	106	GLN
9	T	107	ARG
9	T	108	VAL
9	T	109	SER
9	T	110	ILE
9	T	112	PHE
9	T	114	TYR
9	T	116	LYS
9	T	117	ARG
9	T	124	SER
9	T	145	ILE
9	T	147	LYS
9	T	151	TRP
9	T	154	GLU
9	T	200	CYS
9	T	206	GLN
9	T	207	LEU
9	T	208	MET
9	T	213	GLU
9	T	215	ARG
9	T	216	PHE
9	T	218	TRP
9	T	219	VAL
9	T	220	GLU
9	T	234	LYS
9	T	252	PHE
9	T	253	SER
9	T	256	MET
9	T	336	LYS
9	T	346	VAL
9	T	353	ASP
9	T	357	SER
9	T	359	LEU
9	T	360	LYS
9	T	363	ARG
9	T	365	GLU
9	T	369	VAL
9	T	374	LYS
9	T	375	PHE
9	T	381	VAL

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Mol	Chain	Res	Type
9	T	384	ASN
9	T	386	LYS
9	T	389	GLU
13	d	24	LYS
13	d	57	PHE
13	d	58	LEU
13	d	61	GLU
13	d	73	ARG
13	d	75	LYS
13	d	77	LYS
13	d	105	MET
13	d	132	LEU
13	d	165	GLN
13	d	172	ASP
13	d	189	TYR
13	d	218	ARG
13	d	219	ARG
13	d	232	LEU
13	d	235	GLU
13	d	237	ARG
13	d	239	LYS
13	d	240	LEU
13	d	259	ASP
13	d	295	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (14) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	65	GLN
1	B	164	HIS
1	B	603	GLN
1	C	140	ASN
2	D	409	HIS
2	E	199	GLN
2	E	357	HIS
2	F	199	GLN
5	K	47	GLN
5	K	126	GLN
7	O	91	ASN
8	S	149	ASN
9	T	206	GLN
9	T	384	ASN

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](#)

1 ligand is 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
18	ADP	A	701	-	24,29,29	0.69	0	29,45,45	0.83	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
18	ADP	A	701	-	-	5/12/32/32	0/3/3/3

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (5) torsion outliers are listed below:

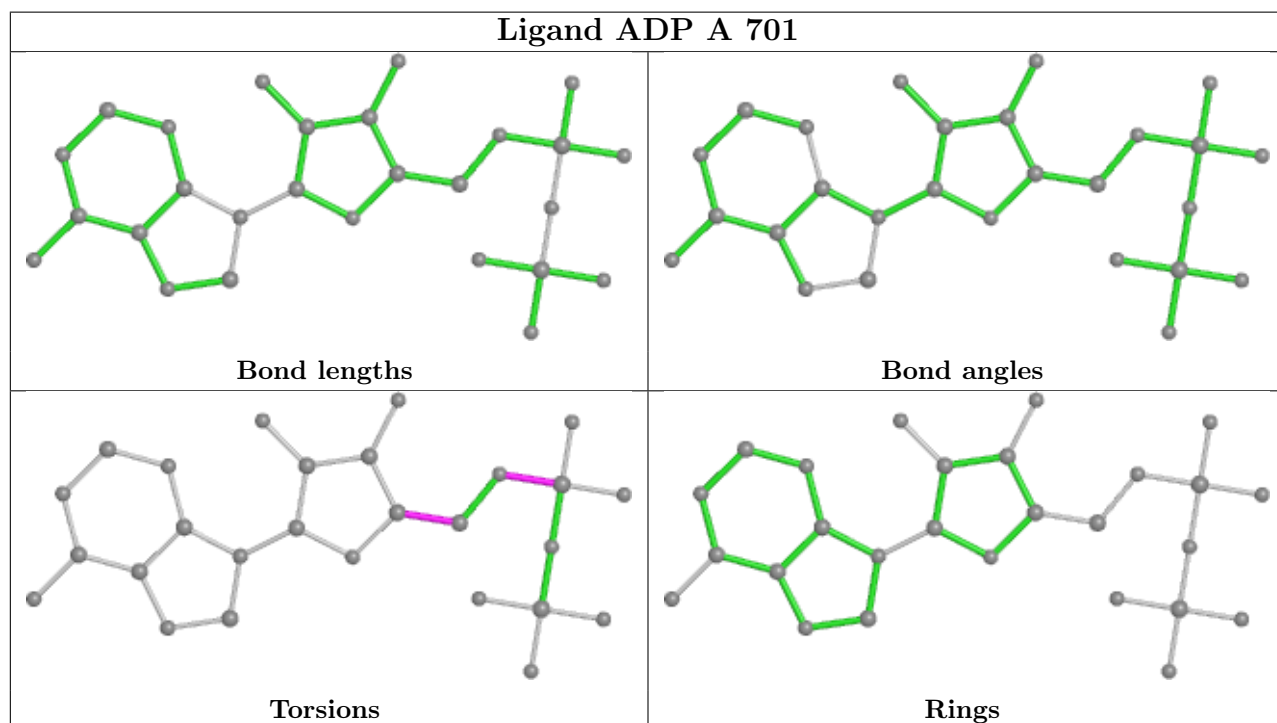
Mol	Chain	Res	Type	Atoms
18	A	701	ADP	C5'-O5'-PA-O1A
18	A	701	ADP	C5'-O5'-PA-O2A
18	A	701	ADP	O4'-C4'-C5'-O5'
18	A	701	ADP	C3'-C4'-C5'-O5'
18	A	701	ADP	C5'-O5'-PA-O3A

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
18	A	701	ADP	3	0

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 than 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.



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.

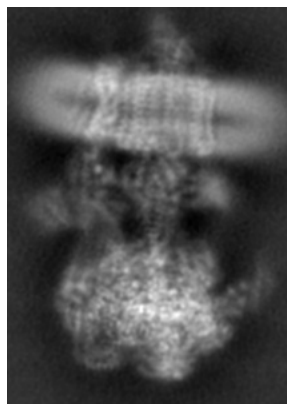
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-26388. These allow visual inspection of the internal detail of the map and identification of artifacts.

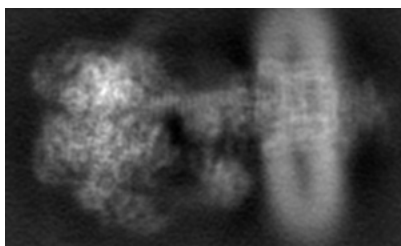
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

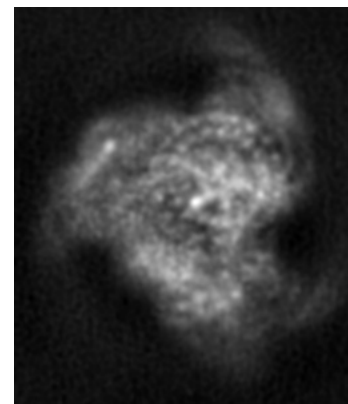
6.1.1 Primary map



X

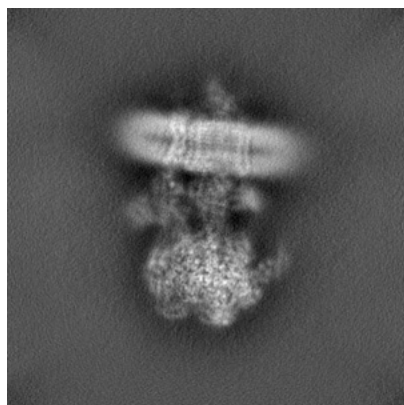


Y

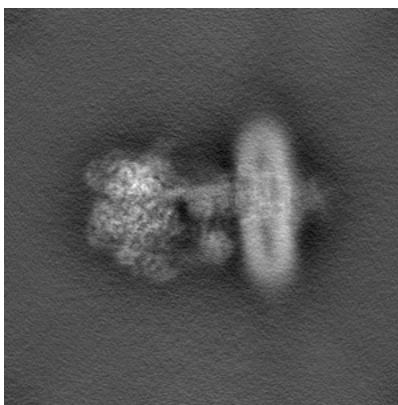


Z

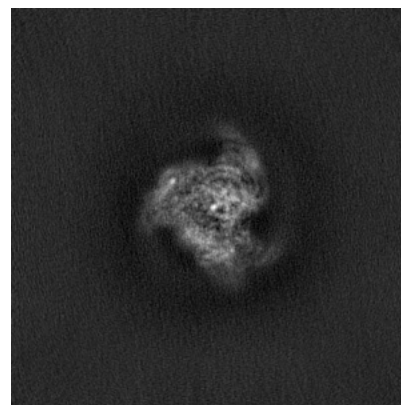
6.1.2 Raw map



X



Y



Z

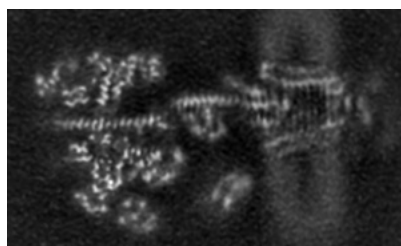
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

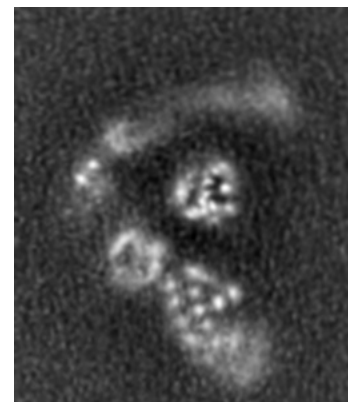
6.2.1 Primary map



X Index: 60

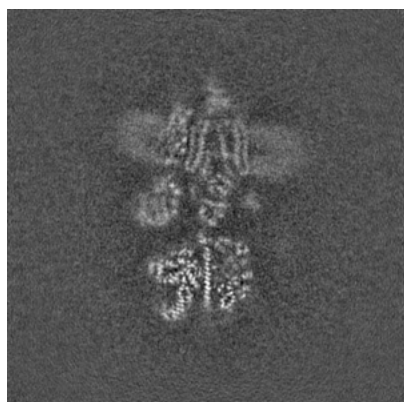


Y Index: 70

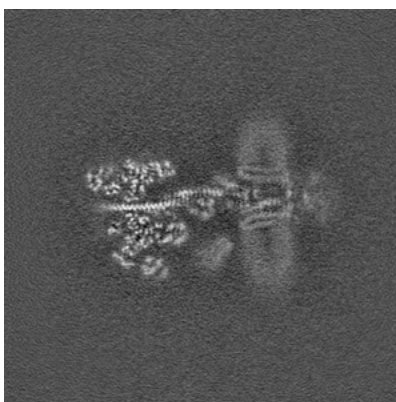


Z Index: 100

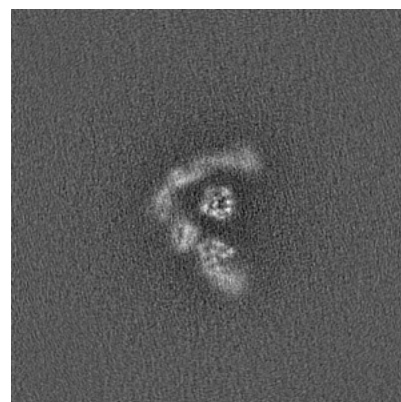
6.2.2 Raw map



X Index: 150



Y Index: 150

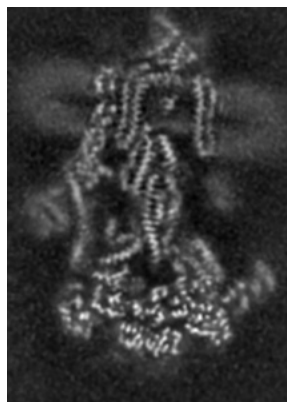


Z Index: 150

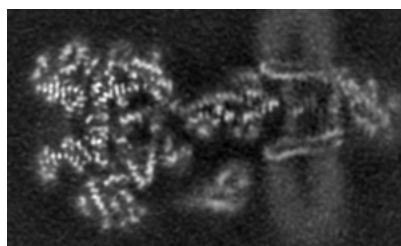
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

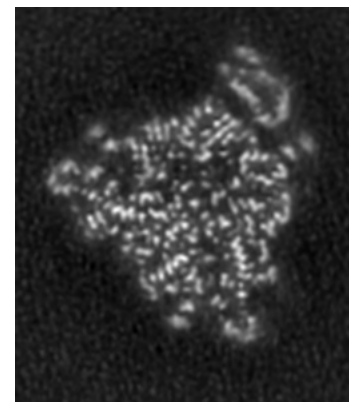
6.3.1 Primary map



X Index: 73

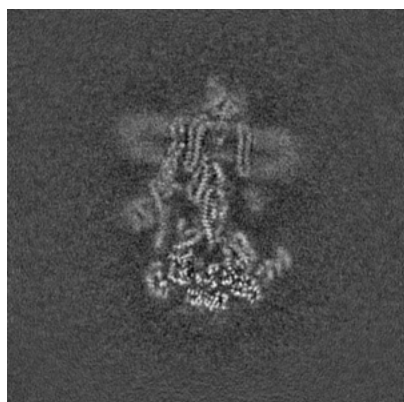


Y Index: 78

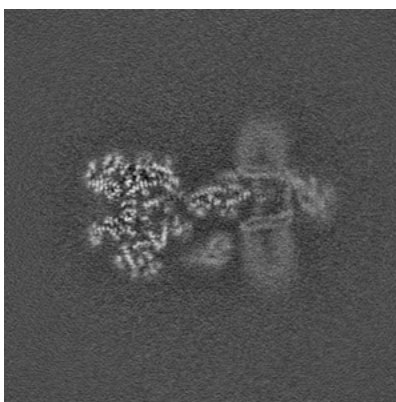


Z Index: 50

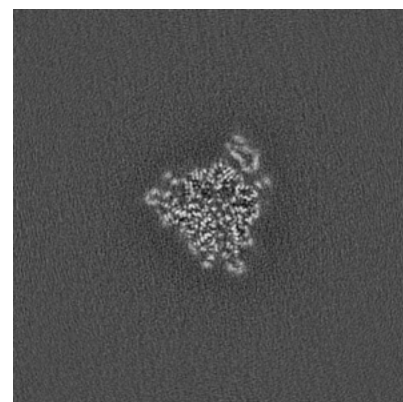
6.3.2 Raw map



X Index: 161



Y Index: 156

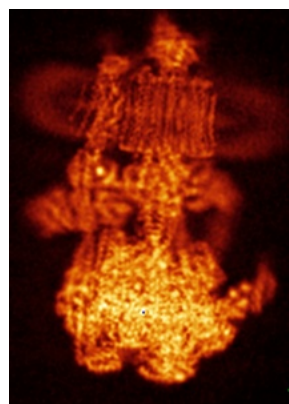


Z Index: 98

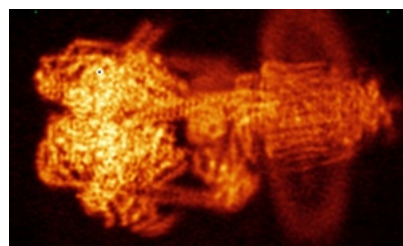
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

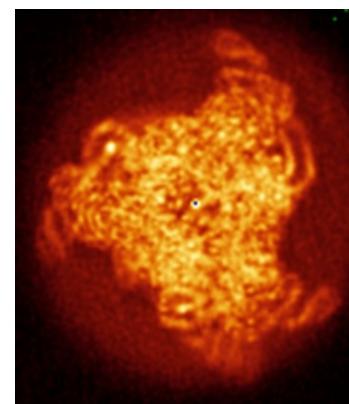
6.4.1 Primary map



X

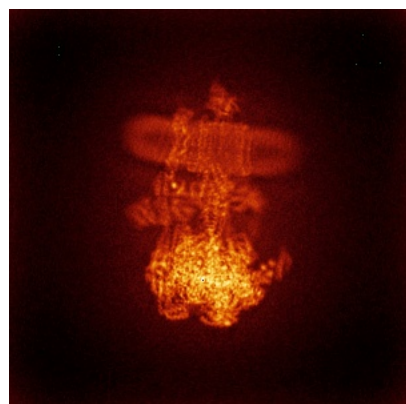


Y

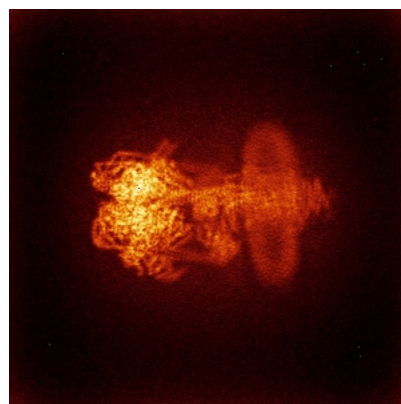


Z

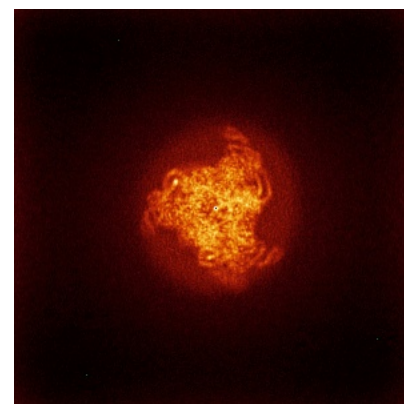
6.4.2 Raw map



X



Y

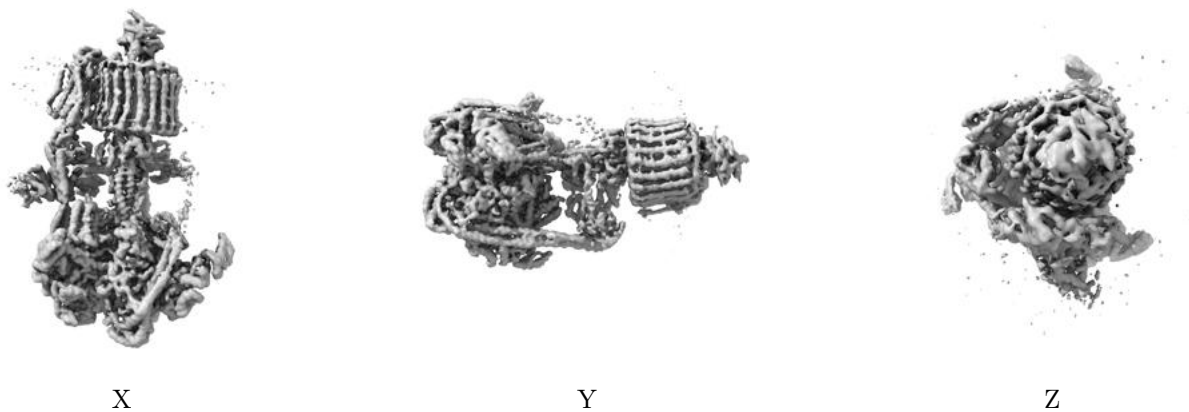


Z

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

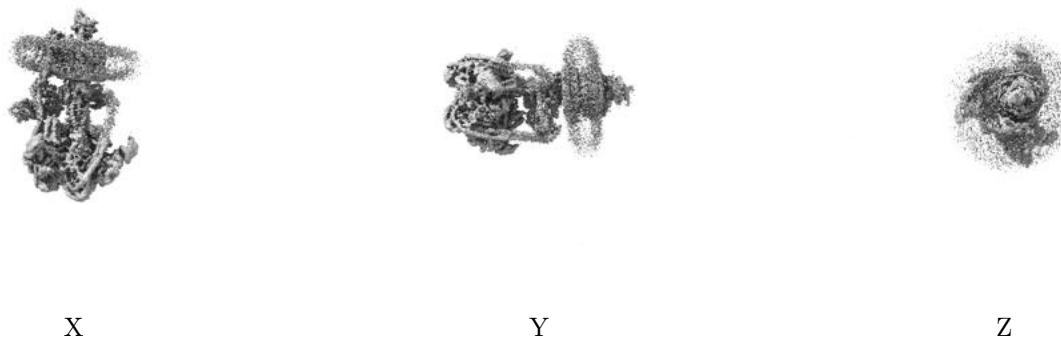
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.7. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

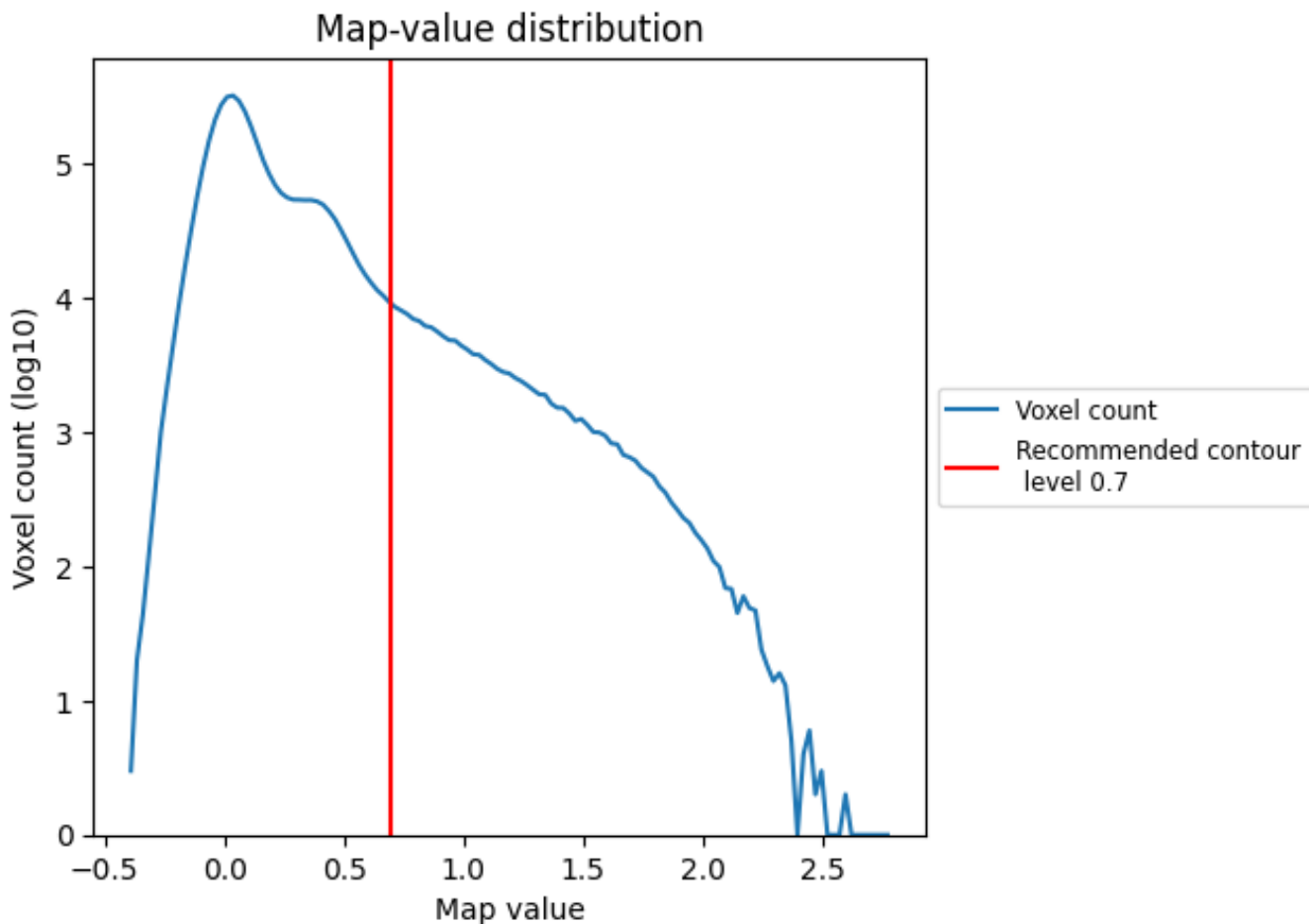
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

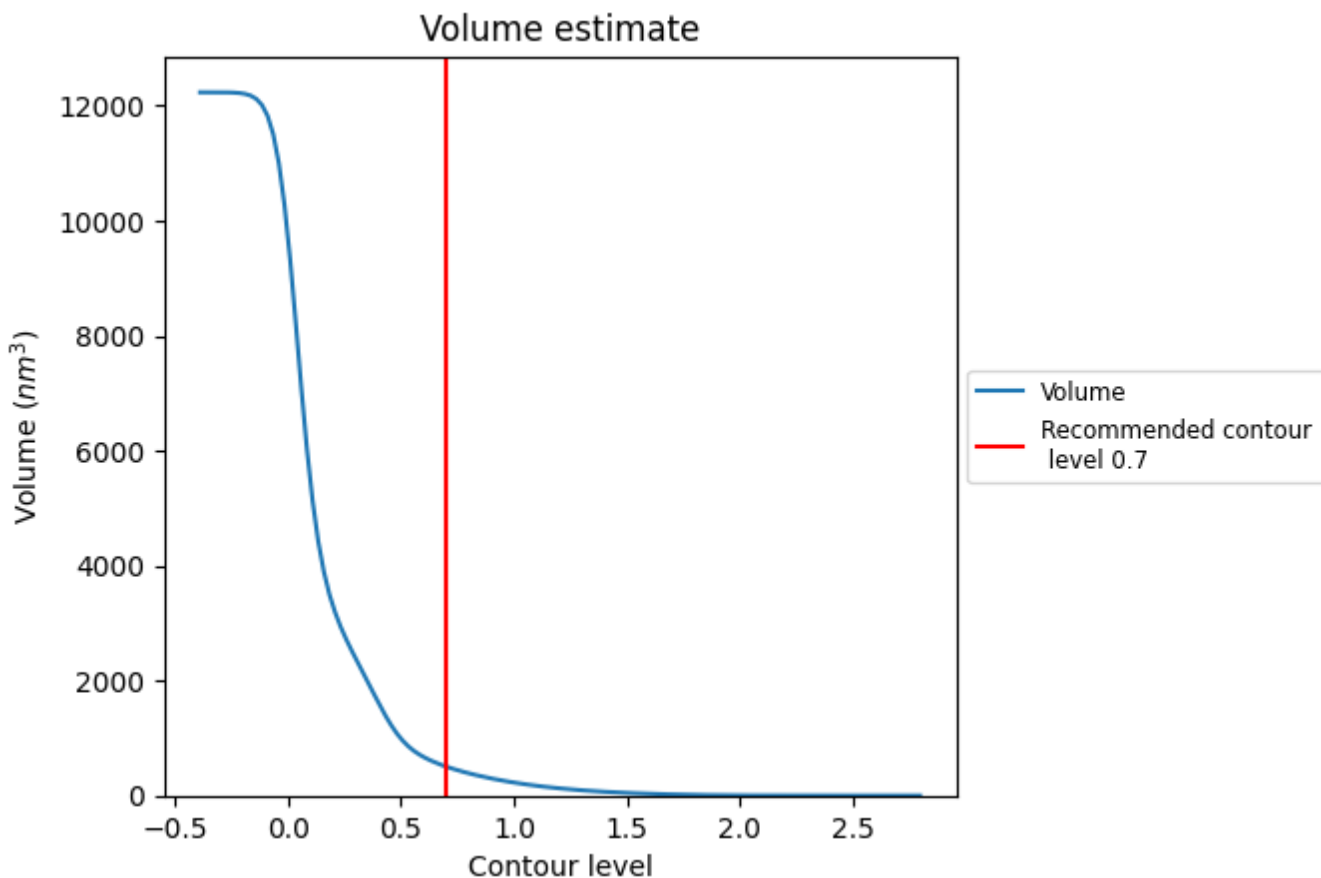
This section contains the results of statistical analysis of the map.

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 504 nm³; this corresponds to an approximate mass of 456 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.

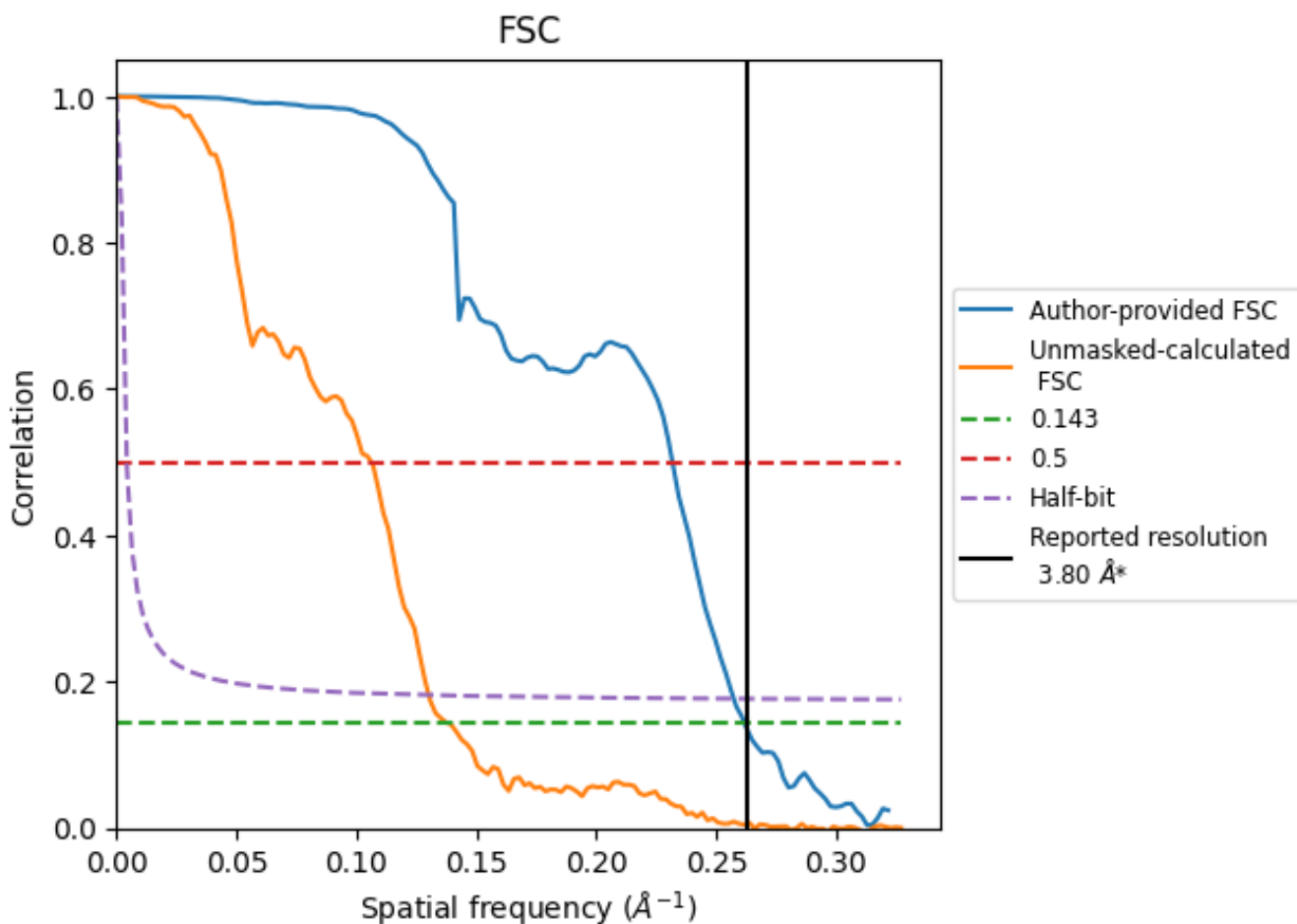
7.3 Rotationally averaged power spectrum [i](#)

This section was not generated. The rotationally averaged power spectrum is only generated for cubic maps.

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.263 Å⁻¹

8.2 Resolution estimates [i](#)

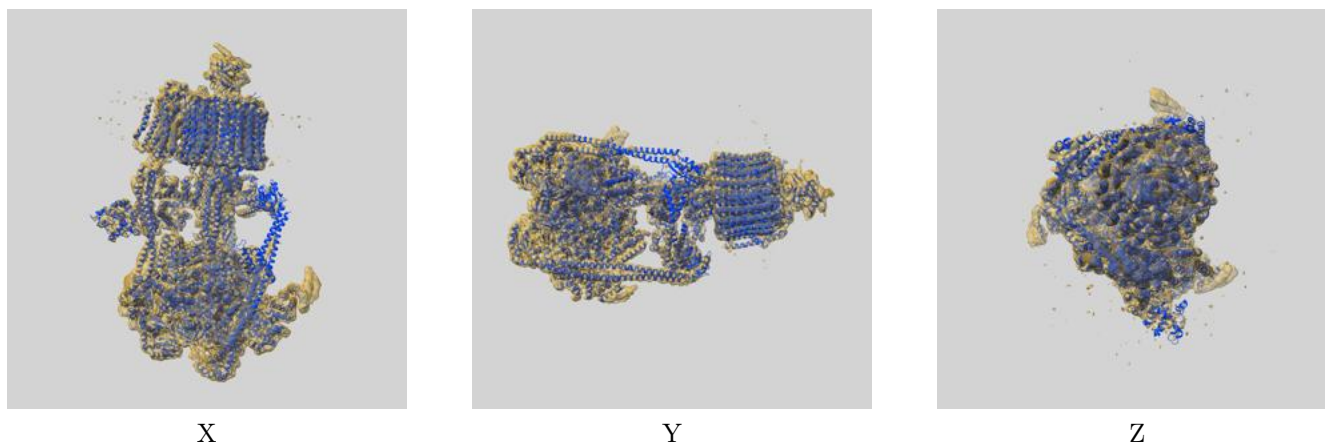
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	3.82	4.31	3.89
Unmasked-calculated*	7.24	9.41	7.67

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 7.24 differs from the reported value 3.8 by more than 10 %

9 Map-model fit [i](#)

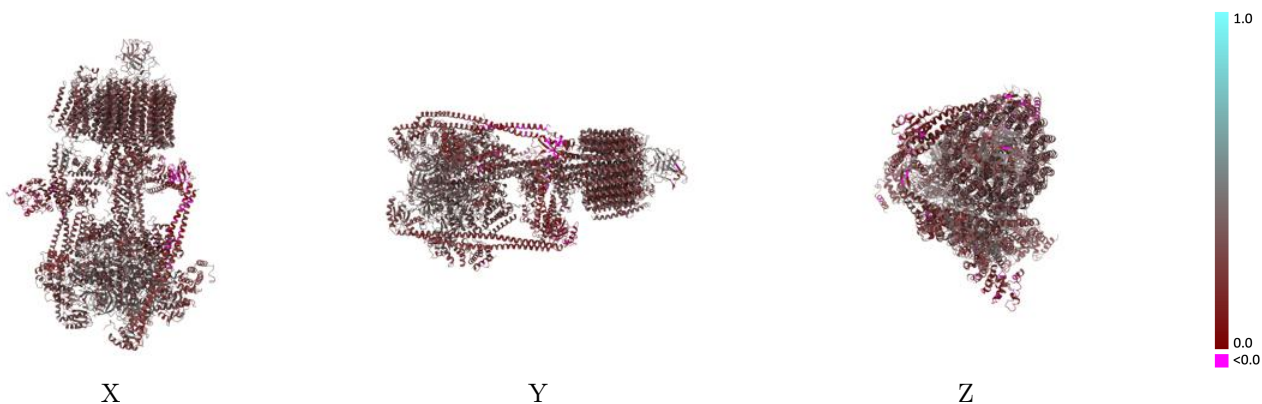
This section contains information regarding the fit between EMDB map EMD-26388 and PDB model 7U8R. Per-residue inclusion information can be found in section 3 on page 9.

9.1 Map-model overlay [i](#)



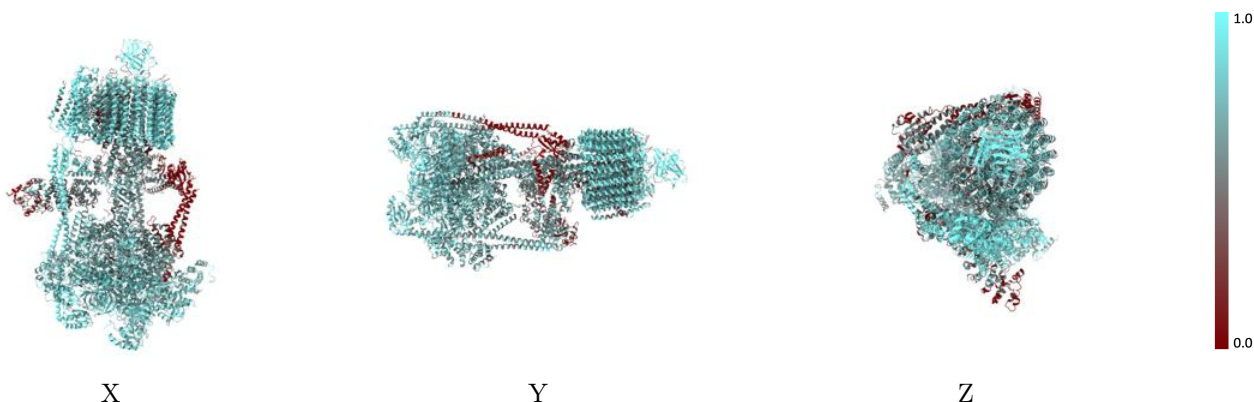
The images above show the 3D surface view of the map at the recommended contour level 0.7 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



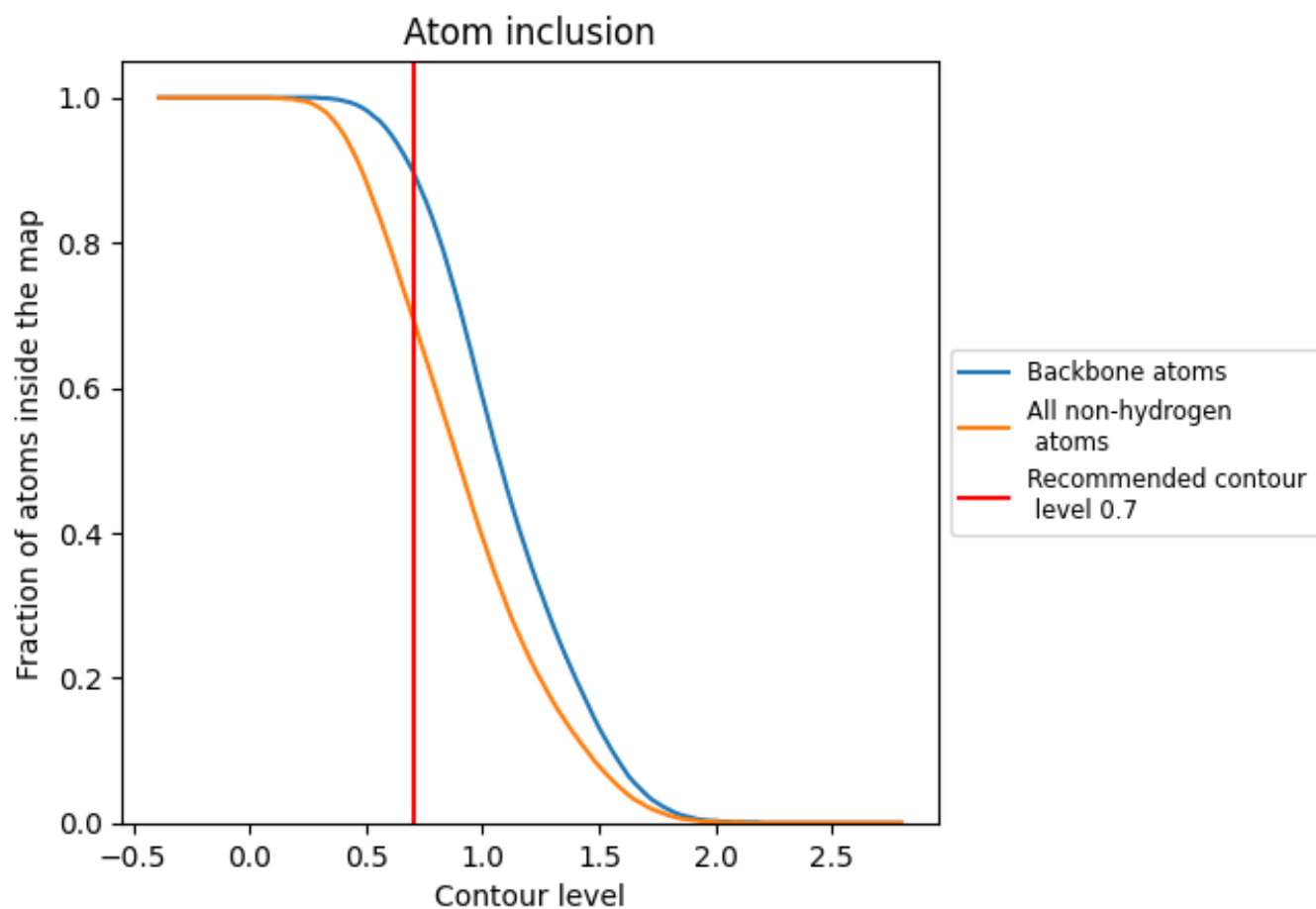
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [i](#)



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 (0.7).









































































9.4 Atom inclusion [i](#)



At the recommended contour level, 90% of all backbone atoms, 70% 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 (0.7) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6970	 0.3010
A	 0.7720	 0.3550
B	 0.7030	 0.3240
C	 0.7570	 0.3440
D	 0.7740	 0.3630
E	 0.7880	 0.3670
F	 0.7810	 0.3570
G	 0.2490	 0.1410
H	 0.6690	 0.3070
I	 0.8500	 0.3250
J	 0.7430	 0.2780
K	 0.6150	 0.2530
L	 0.5840	 0.2890
M	 0.8310	 0.2890
N	 0.6950	 0.2400
O	 0.4580	 0.2210
Q	 0.6780	 0.2700
R	 0.7320	 0.2620
S	 0.7210	 0.2660
T	 0.4410	 0.1660
a	 0.8340	 0.3220
b	 0.7510	 0.3320
c	 0.8460	 0.3620
d	 0.5250	 0.2740
e	 0.8200	 0.3300
f	 0.7720	 0.2870
g	 0.7010	 0.3140
h	 0.6840	 0.2910
i	 0.7310	 0.2910
j	 0.7750	 0.2980
k	 0.7910	 0.3020
l	 0.8200	 0.3040
m	 0.7970	 0.3020
n	 0.7590	 0.2990
o	 0.7350	 0.3190
p	 0.6820	 0.3460

