



## Full wwPDB EM Validation Report ⓘ

Oct 15, 2024 – 12:53 AM EDT

PDB ID : 8T9D  
EMDB ID : EMD-41107  
Title : CryoEM structure of TR-TRAP  
Authors : Zhao, H.; Asturias, F.  
Deposited on : 2023-06-23  
Resolution : 4.66 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](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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.dev113  
MolProbity : 4.02b-467  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.39

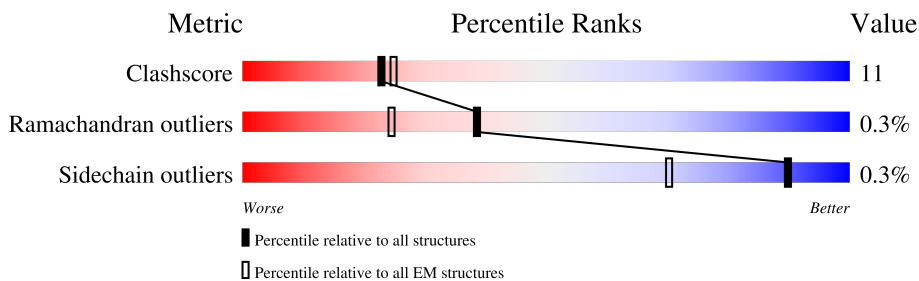
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 4.66 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.









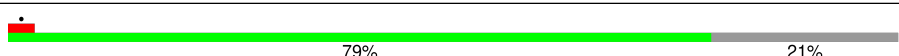









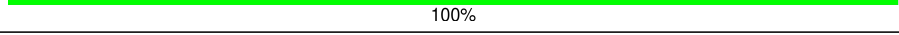
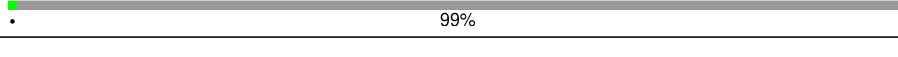
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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

Mol	Chain	Length	Quality of chain
1	A	1581	
2	B	270	
3	C	246	
4	D	233	
5	E	268	
6	F	146	
7	G	135	
8	H	117	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
9	I	1454	
10	J	788	
11	K	877	
12	L	651	
13	M	208	
14	O	212	
15	P	144	
16	Q	200	
17	R	1368	
18	S	989	
19	T	747	
20	V	311	
21	W	178	
22	X	200	
23	Y	178	
24	Z	131	
25	a	20	
26	9	2174	

## 2 Entry composition [i](#)

There are 26 unique types of molecules in this entry. The entry contains 49136 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 Mediator of RNA polymerase II transcription subunit 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
1	A	467	2354	1405	476	473	0	0

- Molecule 2 is a protein called Mediator of RNA polymerase II transcription subunit 4.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
2	B	158	793	475	158	160	0	0

- Molecule 3 is a protein called Mediator of RNA polymerase II transcription subunit 6.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
3	C	178	931	564	185	182	0	0

- Molecule 4 is a protein called Mediator of RNA polymerase II transcription subunit 7.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
4	D	161	801	479	161	161	0	0

- Molecule 5 is a protein called Mediator of RNA polymerase II transcription subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	181	902	537	181	183	1	0	0

- Molecule 6 is a protein called Mediator of RNA polymerase II transcription subunit 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	73	379	228	74	76	1	0	0

- Molecule 7 is a protein called Mediator of RNA polymerase II transcription subunit 10.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
7	G	122	608	362	123	123	0	0

- Molecule 8 is a protein called Mediator of RNA polymerase II transcription subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	H	105	583	354	116	112	1	0	0

- Molecule 9 is a protein called Mediator of RNA polymerase II transcription subunit 14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	I	1102	6855	4319	1271	1245	20	0	0

- Molecule 10 is a protein called Mediator of RNA polymerase II transcription subunit 15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	J	167	1176	753	216	203	4	0	0

- Molecule 11 is a protein called Mediator of RNA polymerase II transcription subunit 16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	K	732	5037	3245	903	866	23	0	0

- Molecule 12 is a protein called Mediator of RNA polymerase II transcription subunit 17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	L	543	3393	2134	632	622	5	0	0

- Molecule 13 is a protein called Mediator of RNA polymerase II transcription subunit 18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	M	180	1146	729	218	197	2	0	0

- Molecule 14 is a protein called Mediator of RNA polymerase II transcription subunit 20.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	O	174	Total	C	N	O	S	0	0
			1022	645	180	193	4		

- Molecule 15 is a protein called Mediator of RNA polymerase II transcription subunit 21.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	P	114	Total	C	N	O	S	0	0
			568	340	114	114			

- Molecule 16 is a protein called Mediator of RNA polymerase II transcription subunit 22.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	Q	131	Total	C	N	O	S	0	0
			759	467	145	147			

- Molecule 17 is a protein called Mediator of RNA polymerase II transcription subunit 23.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	R	1294	Total	C	N	O	S	0	0
			9758	6300	1684	1721	53		

- Molecule 18 is a protein called Mediator of RNA polymerase II transcription subunit 24.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	S	901	Total	C	N	O	S	0	0
			5888	3751	1061	1049	27		

- Molecule 19 is a protein called Mediator of RNA polymerase II transcription subunit 25.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	T	192	Total	C	N	O	S	0	0
			1302	837	223	237	5		

- Molecule 20 is a protein called Mediator of RNA polymerase II transcription subunit 27.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	V	270	Total	C	N	O	S	0	0
			1683	1067	307	306	3		

- Molecule 21 is a protein called Mediator of RNA polymerase II transcription subunit 28.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	W	118	Total	C	N	O	S	0	0
			781	489	146	144	2		

- Molecule 22 is a protein called Mediator of RNA polymerase II transcription subunit 29.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	X	123	Total	C	N	O	S	0	0
			842	530	150	159	3		

- Molecule 23 is a protein called Mediator of RNA polymerase II transcription subunit 30.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	Y	132	Total	C	N	O	S	0	0
			839	523	167	146	3		

- Molecule 24 is a protein called Mediator of RNA polymerase II transcription subunit 31.

Mol	Chain	Residues	Atoms				AltConf	Trace
24	Z	103	Total	C	N	O	0	0
			516	308	103	105		

- Molecule 25 is a protein called Unknown Peptide.

Mol	Chain	Residues	Atoms				AltConf	Trace
25	a	20	Total	C	N	O	0	0
			100	60	20	20		

- Molecule 26 is a protein called Mediator of RNA polymerase II transcription subunit 13.

Mol	Chain	Residues	Atoms				AltConf	Trace
26	9	24	Total	C	N	O	0	0
			120	72	24	24		

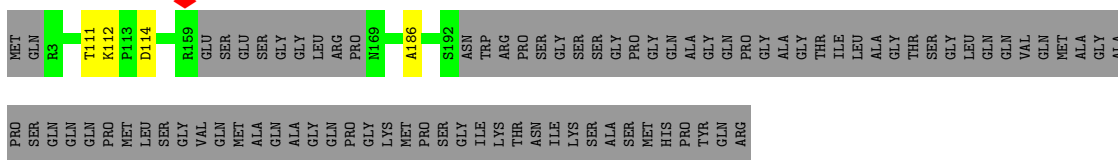




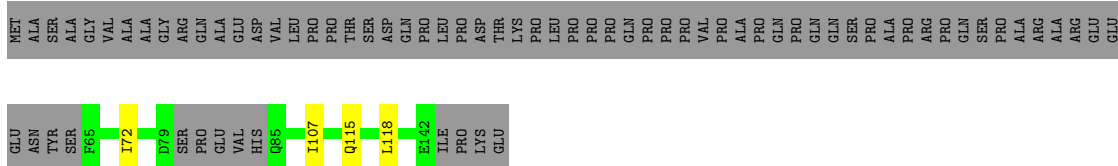


ASP  
ALA  
ALA  
LEU  
CYS  
VAL  
LEU  
ILE  
ASP  
GLU  
MET  
ASN  
GLU  
ARG  
PRO

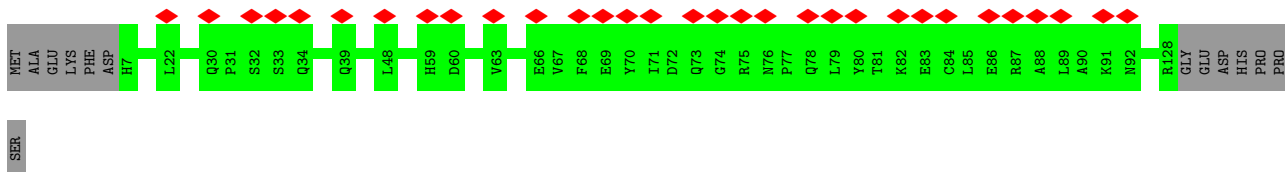
• Molecule 5: Mediator of RNA polymerase II transcription subunit 8



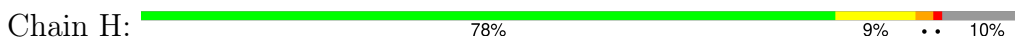
• Molecule 6: Mediator of RNA polymerase II transcription subunit 9



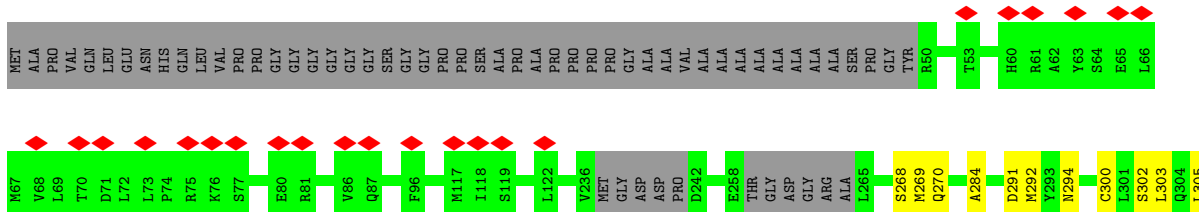
• Molecule 7: Mediator of RNA polymerase II transcription subunit 10

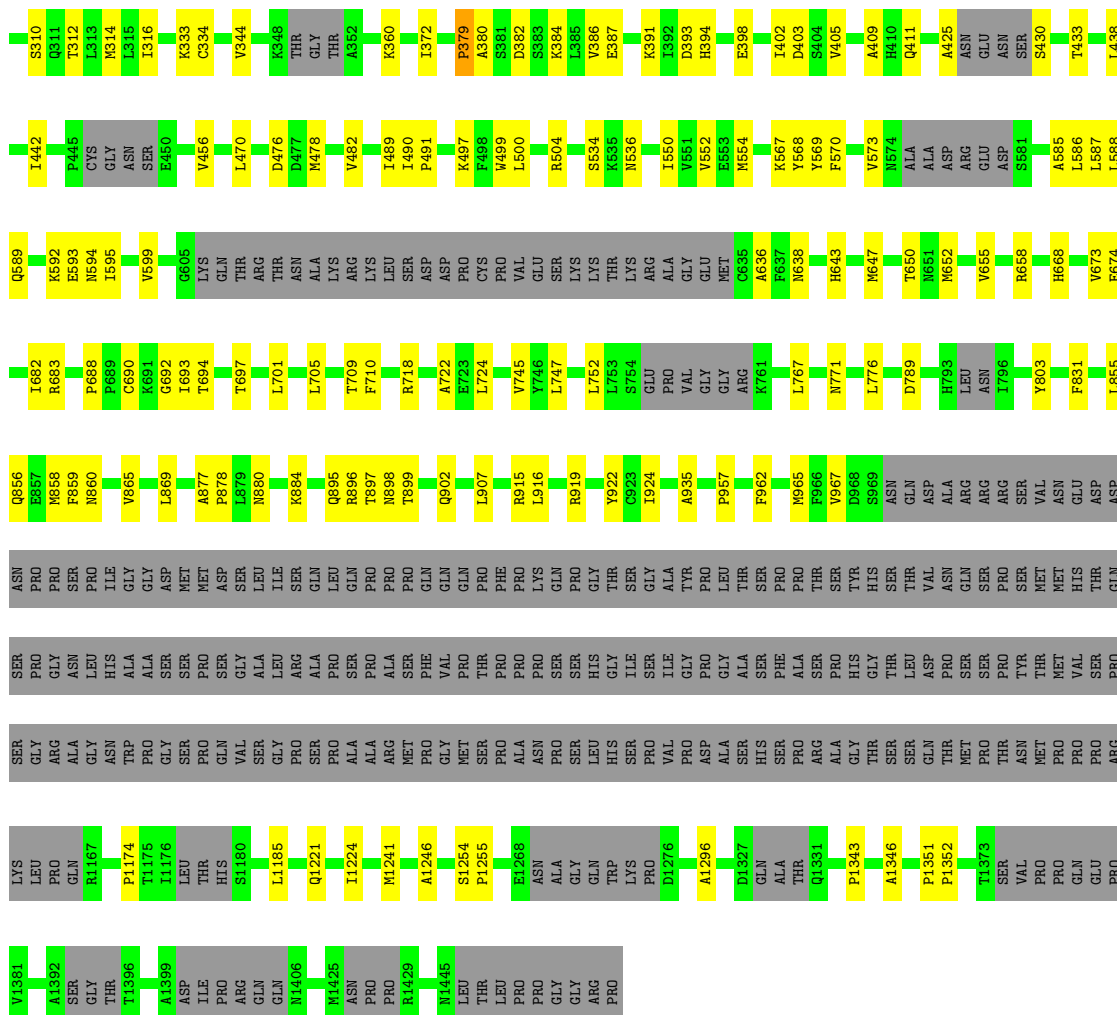


• Molecule 8: Mediator of RNA polymerase II transcription subunit 11

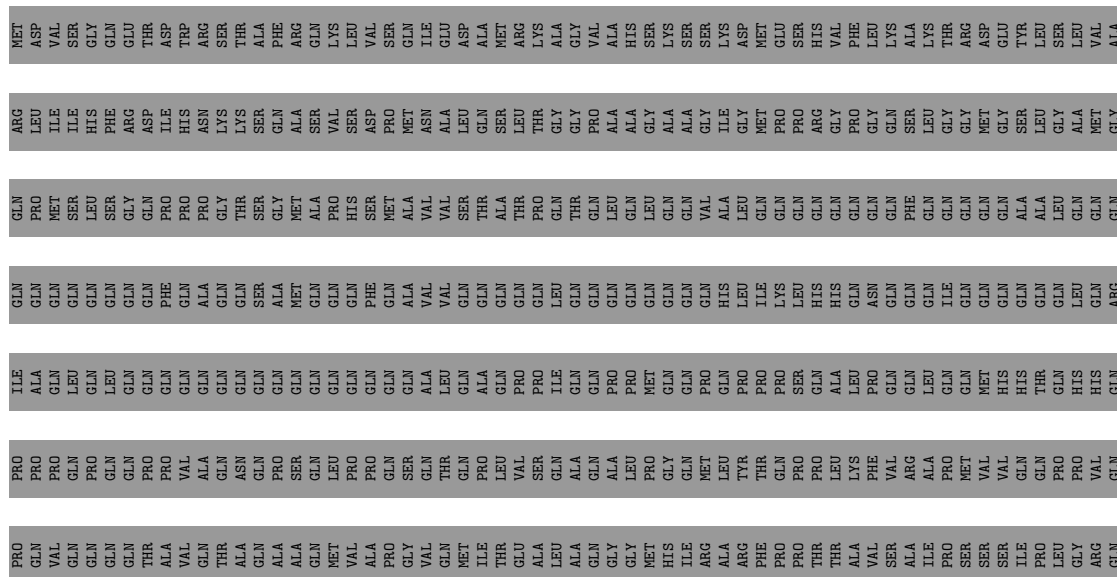


• Molecule 9: Mediator of RNA polymerase II transcription subunit 14





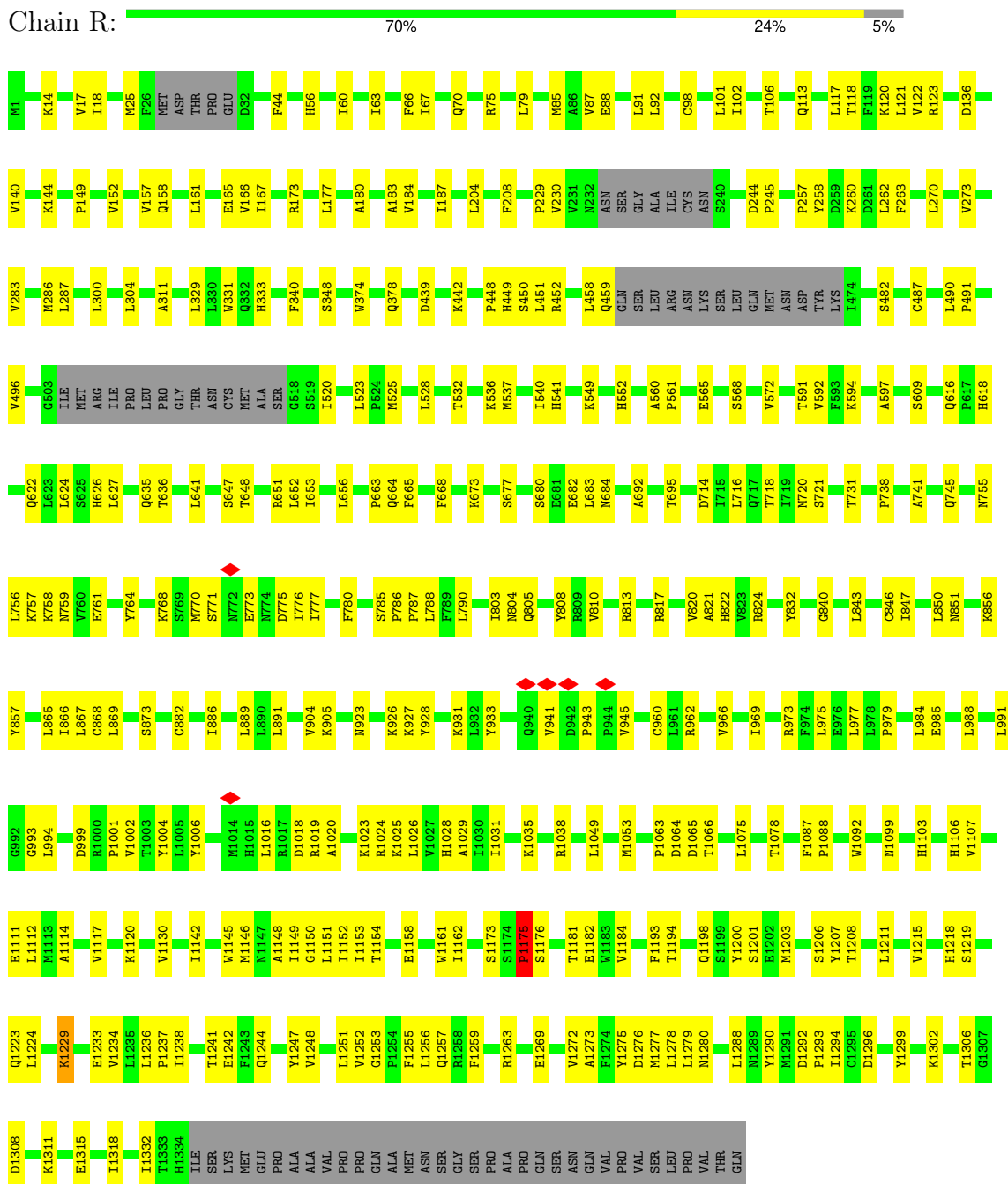
• Molecule 10: Mediator of RNA polymerase II transcription subunit 15



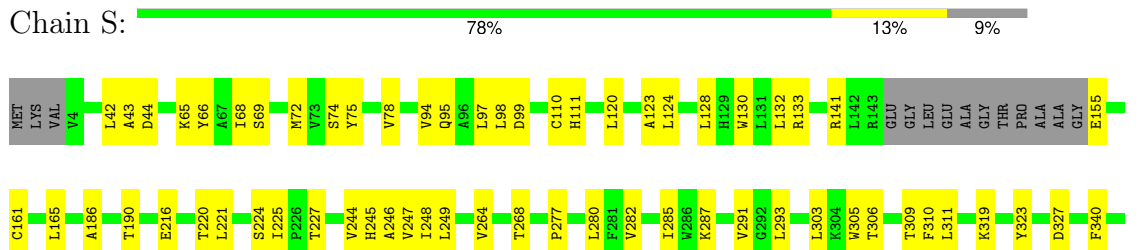




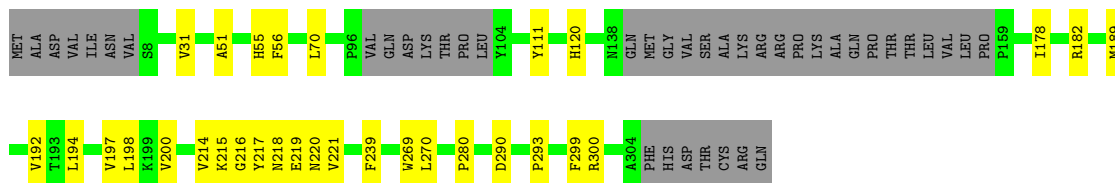
• Molecule 17: Mediator of RNA polymerase II transcription subunit 23



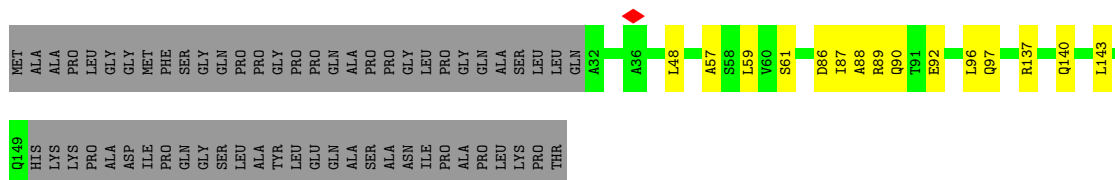
• Molecule 18: Mediator of RNA polymerase II transcription subunit 24



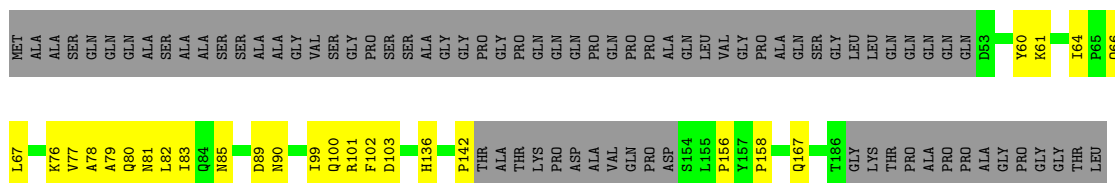




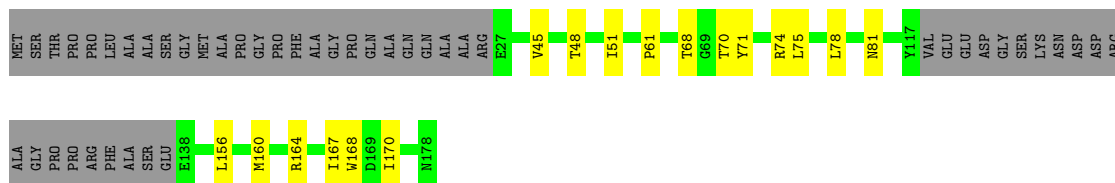
- Molecule 21: Mediator of RNA polymerase II transcription subunit 28



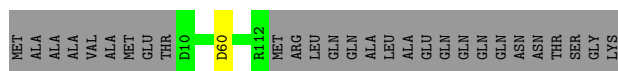
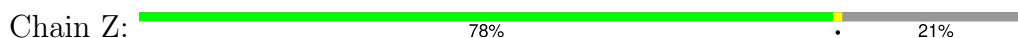
- Molecule 22: Mediator of RNA polymerase II transcription subunit 29



- Molecule 23: Mediator of RNA polymerase II transcription subunit 30



- Molecule 24: Mediator of RNA polymerase II transcription subunit 31



- Molecule 25: Unknown Peptide



There are no outlier residues recorded for this chain.

- Molecule 26: Mediator of RNA polymerase II transcription subunit 13







## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	31505	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TECNAI ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	100	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	35000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.563	Depositor
Minimum map value	-0.198	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.015	Depositor
Recommended contour level	0.04	Depositor
Map size ( $\text{\AA}$ )	621.60004, 621.60004, 621.60004	wwPDB
Map dimensions	560, 560, 560	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.11, 1.11, 1.11	Depositor

## 5 Model quality i

### 5.1 Standard geometry i

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.23	0/2348	0.42	1/3260 (0.0%)
2	B	0.23	0/791	0.34	0/1100
3	C	0.68	2/933 (0.2%)	0.73	3/1289 (0.2%)
4	D	0.23	0/800	0.34	0/1116
5	E	0.23	0/900	0.40	0/1252
6	F	0.22	0/377	0.33	0/521
7	G	0.23	0/607	0.33	0/845
8	H	0.22	0/585	0.43	0/805
9	I	0.24	0/6977	0.43	4/9621 (0.0%)
10	J	0.24	0/1212	0.46	1/1678 (0.1%)
11	K	0.24	0/5145	0.48	4/7058 (0.1%)
12	L	0.25	0/3451	0.44	3/4749 (0.1%)
13	M	0.23	0/1169	0.42	0/1598
14	O	0.25	0/1036	0.40	0/1424
15	P	0.22	0/566	0.31	0/788
16	Q	0.22	0/763	0.38	0/1053
17	R	0.24	0/10006	0.43	5/13665 (0.0%)
18	S	0.24	0/6009	0.42	2/8258 (0.0%)
19	T	0.27	0/1340	0.48	1/1842 (0.1%)
20	V	0.23	0/1721	0.39	0/2377
21	W	0.23	0/793	0.37	0/1086
22	X	0.23	0/855	0.39	0/1172
23	Y	0.22	0/848	0.35	0/1160
24	Z	0.22	0/515	0.46	1/718 (0.1%)
26	9	0.82	0/119	1.02	3/165 (1.8%)
All	All	0.26	2/49866 (0.0%)	0.44	28/68600 (0.0%)

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.

*Continued on next page...*

Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
-----	-------	---------------------	---------------------

Mol	Chain	#Chirality outliers	#Planarity outliers
8	H	0	2

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	189	PRO	N-CA	13.28	1.69	1.47
3	C	188	PHE	C-N	6.00	1.45	1.34

All (28) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	168	PRO	CA-N-CD	-9.16	98.68	111.50
19	T	209	PRO	CA-N-CD	-8.76	99.24	111.50
17	R	1175	PRO	CA-N-CD	-8.64	99.41	111.50
12	L	32	PRO	CA-N-CD	-8.49	99.61	111.50
12	L	364	PRO	CA-N-CD	-8.48	99.62	111.50
11	K	77	PRO	CA-N-CD	-8.43	99.69	111.50
9	I	379	PRO	CA-N-CD	-8.34	99.82	111.50
11	K	835	PRO	CA-N-CD	-8.12	100.13	111.50
3	C	197	PRO	CA-N-CD	-7.60	100.86	111.50
3	C	170	SER	C-N-CA	7.35	140.07	121.70
26	9	634	PRO	N-CA-CB	5.90	110.38	103.30
26	9	631	PRO	N-CA-CB	5.87	110.35	103.30
26	9	621	PRO	N-CA-CB	5.61	110.03	103.30
10	J	668	ASP	CB-CG-OD2	5.26	123.04	118.30
17	R	1064	ASP	CB-CG-OD2	5.24	123.01	118.30
18	S	327	ASP	CB-CG-OD2	5.24	123.01	118.30
9	I	789	ASP	CB-CG-OD2	5.22	123.00	118.30
17	R	1018	ASP	CB-CG-OD2	5.21	122.99	118.30
17	R	775	ASP	CB-CG-OD2	5.21	122.99	118.30
24	Z	60	ASP	CB-CG-OD2	5.20	122.98	118.30
18	S	44	ASP	CB-CG-OD2	5.20	122.98	118.30
12	L	48	ASP	CB-CG-OD2	5.18	122.97	118.30
11	K	72	ASP	CB-CG-OD2	5.18	122.96	118.30
17	R	439	ASP	CB-CG-OD2	5.17	122.96	118.30
9	I	476	ASP	CB-CG-OD2	5.17	122.95	118.30
1	A	148	ASP	CB-CG-OD2	5.17	122.95	118.30
11	K	836	ASP	CB-CG-OD2	5.16	122.95	118.30
9	I	382	ASP	CB-CG-OD2	5.15	122.94	118.30

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
8	H	82	SER	Peptide
8	H	85	SER	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	2354	0	1078	12	0
2	B	793	0	374	7	0
3	C	931	0	479	94	0
4	D	801	0	327	0	0
5	E	902	0	408	15	0
6	F	379	0	182	6	0
7	G	608	0	260	0	0
8	H	583	0	357	15	0
9	I	6855	0	5052	109	0
10	J	1176	0	1036	36	0
11	K	5037	0	4491	183	0
12	L	3393	0	2495	73	0
13	M	1146	0	845	10	0
14	O	1022	0	684	7	0
15	P	568	0	286	0	0
16	Q	759	0	459	30	0
17	R	9758	0	9145	239	0
18	S	5888	0	4727	105	0
19	T	1302	0	1025	20	0
20	V	1683	0	1190	23	0
21	W	781	0	618	10	0
22	X	842	0	710	31	0
23	Y	839	0	637	17	0
24	Z	516	0	227	0	0
25	a	100	0	23	0	0
26	9	120	0	43	8	0
All	All	49136	0	37158	949	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 11.

All (949) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:130:PHE:CE2	16:Q:62:HIS:CB	1.82	1.57
19:T:209:PRO:CD	19:T:210:PRO:HD2	1.19	1.57
3:C:189:PRO:N	3:C:189:PRO:CA	1.69	1.53
19:T:209:PRO:HD2	19:T:210:PRO:CD	1.08	1.53
3:C:118:ARG:HA	5:E:112:LYS:CB	1.03	1.50
3:C:118:ARG:CA	5:E:112:LYS:CB	1.96	1.43
17:R:1233:GLU:OE2	17:R:1234:VAL:HG23	1.26	1.34
16:Q:123:ILE:HG21	23:Y:167:ILE:CB	1.56	1.33
3:C:141:PRO:CB	12:L:170:SER:O	1.77	1.32
3:C:117:SER:CB	5:E:111:THR:CB	2.10	1.29
3:C:130:PHE:CD2	16:Q:62:HIS:CB	2.17	1.25
3:C:140:HIS:CB	12:L:170:SER:CB	2.14	1.24
20:V:215:LYS:CB	20:V:220:ASN:ND2	2.06	1.18
17:R:1233:GLU:CD	17:R:1234:VAL:HG23	1.66	1.15
16:Q:123:ILE:CG2	23:Y:167:ILE:CB	2.24	1.15
3:C:130:PHE:HE2	16:Q:62:HIS:CB	1.31	1.14
8:H:31:VAL:HG11	8:H:48:GLN:CB	1.79	1.13
8:H:31:VAL:CG1	8:H:48:GLN:CB	2.28	1.11
8:H:31:VAL:HG11	8:H:48:GLN:CA	1.79	1.10
3:C:116:ASN:CB	16:Q:52:THR:O	2.01	1.09
9:I:569:TYR:HA	9:I:593:GLU:OE2	1.52	1.08
3:C:130:PHE:CE2	16:Q:62:HIS:CA	2.37	1.06
18:S:363:LEU:HD11	18:S:386:LYS:CE	1.86	1.05
3:C:121:THR:HA	5:E:114:ASP:CB	1.86	1.05
11:K:383:ALA:HA	11:K:393:ILE:HG23	1.37	1.01
2:B:89:ILE:HG23	6:F:118:LEU:CB	1.90	1.00
12:L:168:THR:O	12:L:172:THR:HG21	1.61	1.00
3:C:148:HIS:O	12:L:230:LEU:HD23	1.60	0.99
17:R:1233:GLU:OE2	17:R:1234:VAL:CG2	2.11	0.99
22:X:99:ILE:HG22	22:X:100:GLN:H	1.25	0.99
9:I:270:GLN:CB	26:9:631:PRO:O	2.11	0.98
3:C:175:GLN:O	3:C:178:ASP:N	1.95	0.98
11:K:796:LYS:HA	11:K:812:ARG:NH2	1.79	0.97
3:C:196:LYS:CB	26:9:620:PHE:O	2.11	0.97
17:R:56:HIS:HD1	17:R:60:ILE:HG13	1.27	0.97
18:S:363:LEU:CD1	18:S:386:LYS:HE2	1.94	0.97
9:I:554:MET:CB	9:I:567:LYS:HE3	1.94	0.96
9:I:270:GLN:HB2	26:9:631:PRO:O	1.65	0.96

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:350:ARG:N	11:K:387:HIS:NE2	2.00	0.96
18:S:363:LEU:HD11	18:S:386:LYS:HE2	0.99	0.95
2:B:89:ILE:CG2	6:F:118:LEU:CB	2.44	0.95
18:S:943:VAL:HG22	18:S:949:PHE:HZ	1.30	0.95
17:R:106:THR:OG1	17:R:144:LYS:HE2	1.64	0.95
20:V:215:LYS:CB	20:V:220:ASN:HD21	1.74	0.94
22:X:99:ILE:HG22	22:X:100:GLN:N	1.81	0.94
9:I:569:TYR:CA	9:I:593:GLU:OE2	2.16	0.93
18:S:247:VAL:HG23	18:S:770:SER:OG	1.67	0.91
18:S:370:GLN:HE22	18:S:382:MET:HG2	1.34	0.91
17:R:1088:PRO:HB2	17:R:1092:TRP:HE1	1.34	0.91
13:M:142:LYS:NZ	13:M:144:MET:SD	2.44	0.91
19:T:209:PRO:CD	19:T:210:PRO:CD	2.01	0.90
3:C:191:LYS:CB	9:I:284:ALA:HB2	2.01	0.90
17:R:56:HIS:ND1	17:R:60:ILE:HG13	1.86	0.90
9:I:379:PRO:HG2	9:I:411:GLN:CB	2.02	0.90
12:L:168:THR:O	12:L:172:THR:CG2	2.20	0.90
17:R:17:VAL:HG12	17:R:18:ILE:N	1.88	0.88
18:S:943:VAL:HG12	18:S:943:VAL:O	1.73	0.88
22:X:99:ILE:CG2	22:X:100:GLN:H	1.86	0.88
3:C:167:GLU:OE2	9:I:268:SER:CA	2.19	0.87
18:S:306:THR:OG1	18:S:310:PHE:HE2	1.57	0.87
3:C:148:HIS:O	12:L:230:LEU:CD2	2.23	0.86
3:C:130:PHE:CZ	16:Q:62:HIS:O	2.28	0.86
17:R:520:ILE:HG22	17:R:520:ILE:O	1.76	0.86
22:X:80:GLN:HB3	22:X:99:ILE:CD1	2.05	0.85
11:K:454:VAL:HG12	11:K:455:LEU:N	1.90	0.85
8:H:31:VAL:HG11	8:H:48:GLN:HA	1.55	0.85
11:K:577:GLY:O	11:K:581:THR:HG23	1.77	0.85
11:K:76:ILE:HG23	11:K:77:PRO:HD3	1.58	0.84
17:R:448:PRO:O	17:R:452:ARG:HG3	1.77	0.84
3:C:140:HIS:CA	12:L:170:SER:CB	2.55	0.83
11:K:39:TRP:HB2	11:K:44:LEU:HA	1.57	0.83
8:H:31:VAL:HG12	8:H:48:GLN:CB	2.08	0.83
12:L:17:LYS:CB	12:L:32:PRO:HG2	2.08	0.83
3:C:130:PHE:HZ	16:Q:62:HIS:O	1.61	0.83
11:K:16:ALA:HB3	11:K:456:ARG:HE	1.44	0.81
10:J:633:VAL:CG2	11:K:812:ARG:HD3	2.10	0.81
11:K:383:ALA:CA	11:K:393:ILE:HG23	2.10	0.80
9:I:270:GLN:HB3	26:9:631:PRO:O	1.80	0.80
19:T:209:PRO:HD2	19:T:210:PRO:N	1.97	0.80

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:568:TYR:O	9:I:593:GLU:CD	2.21	0.80
1:A:226:VAL:HG12	1:A:226:VAL:O	1.81	0.79
3:C:116:ASN:CB	16:Q:52:THR:C	2.50	0.79
3:C:46:ASN:N	3:C:66:ILE:O	2.15	0.79
11:K:454:VAL:HG12	11:K:455:LEU:H	1.46	0.79
11:K:76:ILE:CG2	11:K:77:PRO:CD	2.61	0.78
17:R:525:MET:HG2	17:R:565:GLU:HB3	1.65	0.78
22:X:77:VAL:HG23	22:X:99:ILE:HG21	1.65	0.78
1:A:265:VAL:HG22	1:A:300:PRO:HA	1.65	0.78
20:V:221:VAL:HG12	20:V:221:VAL:O	1.83	0.78
17:R:17:VAL:HG12	17:R:18:ILE:H	1.46	0.77
9:I:568:TYR:C	9:I:593:GLU:OE2	2.22	0.77
11:K:234:SER:H	11:K:278:PRO:HD2	1.50	0.77
12:L:395:PRO:HG2	12:L:399:PRO:HD2	1.65	0.77
11:K:796:LYS:HA	11:K:812:ARG:HH22	1.50	0.76
9:I:344:VAL:HG12	9:I:344:VAL:O	1.84	0.76
11:K:471:LEU:HB2	11:K:503:LEU:HD21	1.67	0.76
18:S:306:THR:O	18:S:310:PHE:HD2	1.68	0.76
9:I:333:LYS:O	9:I:334:CYS:SG	2.43	0.76
3:C:171:ILE:HA	26:9:635:SER:CB	2.15	0.76
11:K:42:ARG:HD3	11:K:831:GLU:HG2	1.66	0.76
18:S:224:SER:HA	18:S:227:THR:CG2	2.16	0.75
9:I:907:LEU:HD23	9:I:915:ARG:HB3	1.67	0.75
12:L:363:CYS:HB3	12:L:364:PRO:HD3	1.69	0.75
18:S:943:VAL:HG22	18:S:949:PHE:CZ	2.19	0.75
17:R:840:GLY:HA2	17:R:843:LEU:HD13	1.68	0.74
11:K:454:VAL:CG1	11:K:455:LEU:H	2.00	0.74
20:V:200:VAL:HG22	20:V:214:VAL:HG23	1.69	0.74
9:I:334:CYS:SG	9:I:360:LYS:CB	2.76	0.74
10:J:643:VAL:O	10:J:647:THR:HG23	1.87	0.74
17:R:487:CYS:HB3	17:R:491:PRO:HG2	1.70	0.74
11:K:284:LYS:HE3	11:K:290:MET:HB3	1.70	0.73
18:S:378:VAL:HG12	18:S:378:VAL:O	1.87	0.73
12:L:31:LEU:N	12:L:32:PRO:HD3	2.03	0.73
18:S:370:GLN:HE22	18:S:382:MET:CG	2.01	0.73
22:X:77:VAL:HG23	22:X:99:ILE:CG2	2.18	0.73
17:R:904:VAL:HG13	17:R:905:LYS:HD2	1.70	0.73
3:C:148:HIS:C	12:L:229:ASP:O	2.28	0.72
10:J:633:VAL:HG23	11:K:812:ARG:HD3	1.71	0.72
12:L:257:ILE:HG13	12:L:345:LEU:HB3	1.71	0.72
17:R:17:VAL:CG1	17:R:18:ILE:H	2.02	0.72

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:449:HIS:HA	17:R:452:ARG:NE	2.05	0.72
3:C:121:THR:CA	5:E:114:ASP:CB	2.67	0.71
12:L:363:CYS:HB3	12:L:364:PRO:CD	2.19	0.71
3:C:195:LEU:O	3:C:197:PRO:HD3	1.90	0.71
11:K:383:ALA:HB1	11:K:393:ILE:HG12	1.72	0.71
9:I:568:TYR:O	9:I:593:GLU:OE2	2.08	0.71
17:R:17:VAL:CG1	17:R:18:ILE:N	2.54	0.71
9:I:379:PRO:HD2	9:I:380:ALA:H	1.55	0.71
11:K:76:ILE:HG23	11:K:77:PRO:CD	2.20	0.71
17:R:1175:PRO:HD2	17:R:1176:SER:N	2.06	0.70
18:S:224:SER:HA	18:S:227:THR:HG23	1.72	0.70
18:S:378:VAL:HG13	18:S:381:LEU:HB3	1.72	0.70
3:C:130:PHE:HE2	16:Q:62:HIS:CA	1.91	0.70
3:C:171:ILE:N	26:9:635:SER:CB	2.55	0.70
17:R:230:VAL:O	17:R:1099:ASN:ND2	2.24	0.70
11:K:454:VAL:CG1	11:K:455:LEU:N	2.54	0.70
20:V:197:VAL:HB	20:V:217:TYR:HA	1.74	0.70
3:C:34:SER:HA	3:C:47:ASN:HA	1.74	0.70
11:K:441:LEU:HB2	11:K:459:PRO:HA	1.75	0.69
23:Y:51:ILE:HD11	23:Y:78:LEU:HD23	1.75	0.69
11:K:19:CYS:SG	11:K:20:GLU:N	2.65	0.69
11:K:76:ILE:HG22	11:K:77:PRO:HD2	1.72	0.69
11:K:751:GLN:NE2	11:K:789:ALA:HB3	2.07	0.69
17:R:1175:PRO:HD2	17:R:1176:SER:H	1.57	0.69
2:B:89:ILE:HG21	6:F:118:LEU:CB	2.21	0.69
9:I:379:PRO:HD2	9:I:380:ALA:N	2.07	0.69
10:J:626:LEU:HD21	22:X:83:ILE:HB	1.74	0.69
11:K:827:CYS:H	11:K:830:VAL:CB	2.06	0.69
17:R:56:HIS:CE1	17:R:60:ILE:HG13	2.27	0.69
3:C:167:GLU:OE2	9:I:269:MET:N	2.25	0.69
8:H:101:ARG:NH2	21:W:143:LEU:O	2.26	0.68
11:K:35:LEU:HD11	11:K:49:MET:SD	2.34	0.68
11:K:444:VAL:HA	11:K:454:VAL:HG13	1.76	0.68
22:X:99:ILE:HG23	22:X:100:GLN:OE1	1.93	0.68
9:I:569:TYR:N	9:I:593:GLU:OE2	2.26	0.68
11:K:248:VAL:HG11	11:K:254:ARG:HB2	1.73	0.68
17:R:770:MET:HA	17:R:773:GLU:HG2	1.74	0.68
18:S:306:THR:OG1	18:S:310:PHE:CE2	2.41	0.68
9:I:393:ASP:O	9:I:394:HIS:ND1	2.27	0.68
17:R:1302:LYS:HA	17:R:1306:THR:HG22	1.76	0.68
3:C:140:HIS:HA	12:L:170:SER:CB	2.23	0.68

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:827:CYS:SG	11:K:830:VAL:CB	2.82	0.68
11:K:620:TRP:HZ3	11:K:751:GLN:OE1	1.77	0.68
12:L:311:LEU:HD13	12:L:331:ILE:HD13	1.75	0.68
3:C:114:VAL:O	5:E:111:THR:HA	1.94	0.67
3:C:189:PRO:N	3:C:189:PRO:CB	2.55	0.67
11:K:385:ALA:HA	11:K:391:VAL:HG23	1.75	0.67
17:R:458:LEU:HG	17:R:459:GLN:HG2	1.74	0.67
11:K:75:SER:O	11:K:76:ILE:HG13	1.95	0.67
3:C:141:PRO:N	12:L:170:SER:O	2.27	0.67
3:C:176:ARG:O	3:C:179:ALA:N	2.26	0.67
18:S:311:LEU:HD11	18:S:457:ALA:HA	1.77	0.67
9:I:880:ASN:OD1	9:I:884:LYS:NZ	2.28	0.67
11:K:29:HIS:ND1	18:S:907:LEU:CD1	2.58	0.67
17:R:1224:LEU:HD11	17:R:1263:ARG:HG3	1.75	0.67
3:C:140:HIS:H	3:C:143:LYS:HA	1.59	0.67
11:K:796:LYS:CA	11:K:812:ARG:NH2	2.56	0.67
3:C:130:PHE:HD2	16:Q:62:HIS:CB	2.02	0.67
11:K:751:GLN:NE2	11:K:788:GLY:O	2.26	0.67
11:K:743:GLN:O	11:K:746:GLN:NE2	2.27	0.67
19:T:209:PRO:CG	19:T:210:PRO:CD	2.72	0.67
3:C:141:PRO:CA	12:L:170:SER:O	2.43	0.67
3:C:148:HIS:C	12:L:230:LEU:HD23	2.14	0.66
3:C:191:LYS:CB	9:I:284:ALA:CB	2.72	0.66
11:K:48:THR:O	11:K:49:MET:HG2	1.95	0.66
3:C:181:LEU:O	3:C:183:ASP:N	2.27	0.66
9:I:442:ILE:HG12	9:I:500:LEU:HD21	1.78	0.66
11:K:614:LEU:HA	11:K:618:LEU:HB2	1.76	0.66
16:Q:103:GLN:O	16:Q:107:THR:HG23	1.96	0.66
19:T:192:ARG:HG3	19:T:193:LEU:HD12	1.78	0.66
18:S:306:THR:O	18:S:310:PHE:CD2	2.49	0.66
22:X:80:GLN:HB3	22:X:99:ILE:HD12	1.76	0.66
11:K:835:PRO:O	11:K:836:ASP:OD1	2.13	0.65
17:R:1275:TYR:HA	17:R:1278:LEU:HD12	1.78	0.65
20:V:198:LEU:HA	20:V:216:GLY:HA2	1.78	0.65
11:K:304:SER:O	11:K:305:ILE:HG13	1.95	0.65
3:C:171:ILE:CA	26:9:635:SER:CB	2.75	0.65
17:R:283:VAL:HA	17:R:286:MET:HG2	1.78	0.65
20:V:182:ARG:HG2	20:V:189:MET:H	1.62	0.65
17:R:482:SER:HA	17:R:487:CYS:HB2	1.79	0.65
20:V:290:ASP:HB3	20:V:300:ARG:HA	1.77	0.65
10:J:630:ARG:HH12	10:J:637:SER:HB3	1.61	0.65

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:S:740:GLY:H	18:S:743:TRP:HE1	1.44	0.65
11:K:29:HIS:ND1	18:S:907:LEU:HD11	2.11	0.65
11:K:76:ILE:HG22	11:K:77:PRO:CD	2.25	0.65
16:Q:61:MET:O	16:Q:66:ALA:N	2.30	0.65
19:T:164:CYS:SG	19:T:165:THR:N	2.69	0.65
17:R:549:LYS:HA	17:R:552:HIS:HD2	1.62	0.65
11:K:65:LEU:HD22	11:K:73:LEU:CD2	2.27	0.65
11:K:535:LYS:HE2	11:K:757:THR:HB	1.78	0.65
17:R:1103:HIS:O	17:R:1106:HIS:ND1	2.30	0.65
17:R:1112:LEU:HD13	17:R:1117:VAL:HG21	1.79	0.64
20:V:218:ASN:O	20:V:221:VAL:HG23	1.97	0.64
3:C:118:ARG:N	5:E:112:LYS:CB	2.59	0.64
11:K:94:SER:HB3	11:K:105:ILE:HG13	1.80	0.64
11:K:141:VAL:HG12	11:K:161:ARG:HB3	1.77	0.64
17:R:790:LEU:HD22	17:R:822:HIS:HB3	1.77	0.64
11:K:32:SER:O	11:K:33:VAL:HG23	1.96	0.64
17:R:1001:PRO:HA	17:R:1004:TYR:HB3	1.80	0.64
20:V:215:LYS:CB	20:V:220:ASN:CG	2.65	0.64
18:S:247:VAL:HG23	18:S:770:SER:HG	1.62	0.64
12:L:206:ASP:HA	12:L:222:PHE:HE2	1.62	0.64
9:I:504:ARG:HE	9:I:636:ALA:HB2	1.61	0.64
11:K:65:LEU:HD22	11:K:73:LEU:HD22	1.78	0.64
11:K:795:CYS:O	11:K:812:ARG:NH1	2.30	0.64
22:X:81:ASN:O	22:X:85:ASN:ND2	2.31	0.63
8:H:86:SER:O	8:H:90:CYS:N	2.31	0.63
11:K:77:PRO:HD2	11:K:77:PRO:O	1.99	0.63
17:R:1233:GLU:CD	17:R:1234:VAL:CG2	2.57	0.63
9:I:718:ARG:NH1	9:I:752:LEU:O	2.31	0.63
3:C:116:ASN:CB	16:Q:52:THR:CB	2.77	0.63
12:L:393:PRO:HB2	12:L:395:PRO:HD3	1.79	0.63
17:R:1219:SER:HB2	17:R:1223:GLN:HE21	1.64	0.63
11:K:180:ILE:HD11	11:K:193:LEU:HB2	1.81	0.63
17:R:158:GLN:HA	17:R:161:LEU:HD12	1.81	0.63
17:R:448:PRO:O	17:R:452:ARG:CG	2.46	0.63
17:R:869:LEU:HD11	17:R:886:ILE:HG12	1.82	0.62
17:R:1087:PHE:HB2	17:R:1088:PRO:HD3	1.81	0.62
10:J:739:ARG:O	10:J:743:TYR:HB2	1.98	0.62
11:K:827:CYS:N	11:K:830:VAL:CB	2.62	0.62
3:C:167:GLU:OE2	9:I:268:SER:HA	1.97	0.62
17:R:1238:ILE:O	17:R:1238:ILE:HG22	1.99	0.62
3:C:130:PHE:CE2	16:Q:62:HIS:C	2.72	0.62

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:376:PHE:H	11:K:473:HIS:HE1	1.48	0.62
11:K:193:LEU:O	11:K:201:THR:OG1	2.17	0.62
19:T:188:LEU:HD12	19:T:192:ARG:HD3	1.81	0.62
10:J:633:VAL:HB	11:K:812:ARG:NH1	2.15	0.61
10:J:677:VAL:HG23	10:J:678:LEU:HD12	1.82	0.61
10:J:736:TRP:HB3	10:J:739:ARG:HB2	1.82	0.61
17:R:609:SER:HB2	17:R:651:ARG:HD2	1.82	0.61
5:E:186:ALA:O	13:M:71:ARG:NH1	2.33	0.61
18:S:415:PRO:O	18:S:419:ASN:ND2	2.34	0.61
12:L:223:GLU:H	12:L:237:PRO:HD2	1.66	0.61
10:J:630:ARG:HH22	10:J:637:SER:H	1.47	0.61
17:R:520:ILE:O	17:R:520:ILE:CG2	2.47	0.61
3:C:142:SER:O	3:C:145:TYR:N	2.34	0.61
11:K:137:LEU:HD23	11:K:138:HIS:HD2	1.65	0.61
10:J:776:TRP:O	10:J:780:VAL:HG23	2.00	0.60
14:O:73:LEU:HA	14:O:87:ALA:HA	1.83	0.60
17:R:270:LEU:HA	17:R:273:VAL:HG12	1.83	0.60
17:R:682:GLU:HG3	17:R:867:LEU:HD23	1.81	0.60
17:R:173:ARG:O	17:R:177:LEU:N	2.31	0.60
18:S:737:HIS:O	18:S:834:LYS:NZ	2.34	0.60
1:A:364:TYR:HA	1:A:373:CYS:HA	1.84	0.60
17:R:1020:ALA:HA	17:R:1023:LYS:HB3	1.84	0.60
9:I:690:CYS:CB	9:I:771:ASN:OD1	2.49	0.60
18:S:72:MET:HB3	18:S:75:TYR:HD2	1.66	0.60
19:T:209:PRO:HD3	19:T:210:PRO:HD2	1.62	0.60
11:K:168:LEU:HD13	11:K:246:VAL:HG23	1.82	0.60
17:R:1016:LEU:O	17:R:1020:ALA:N	2.26	0.60
18:S:712:THR:O	18:S:717:LYS:NZ	2.35	0.60
3:C:140:HIS:N	3:C:144:GLY:H	2.00	0.60
3:C:175:GLN:O	3:C:177:VAL:N	2.35	0.60
18:S:733:ASP:OD1	18:S:830:THR:HG21	2.02	0.59
11:K:664:ILE:HD12	11:K:667:LEU:HD12	1.83	0.59
12:L:198:LYS:HE3	12:L:205:GLY:H	1.67	0.59
18:S:943:VAL:O	18:S:943:VAL:CG1	2.45	0.59
3:C:180:LEU:O	3:C:183:ASP:N	2.34	0.59
16:Q:130:LEU:HD11	23:Y:156:LEU:HD11	1.84	0.59
1:A:265:VAL:HG11	1:A:298:ASP:CB	2.32	0.59
9:I:386:VAL:HG12	9:I:386:VAL:O	2.02	0.59
9:I:916:LEU:O	9:I:924:ILE:N	2.34	0.59
17:R:975:LEU:HD21	17:R:1019:ARG:HG3	1.84	0.59
17:R:977:LEU:HG	17:R:979:PRO:HD2	1.84	0.59

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:1149:ILE:O	17:R:1153:ILE:HG12	2.02	0.59
17:R:1256:LEU:HA	17:R:1259:PHE:HD2	1.68	0.59
8:H:82:SER:O	8:H:84:TYR:N	2.36	0.59
17:R:647:SER:HB2	17:R:651:ARG:HH21	1.68	0.59
12:L:197:ARG:HH21	16:Q:89:ASN:HA	1.68	0.59
9:I:344:VAL:O	9:I:344:VAL:CG1	2.50	0.59
18:S:782:VAL:O	18:S:786:HIS:ND1	2.33	0.59
3:C:148:HIS:CA	12:L:229:ASP:O	2.51	0.58
18:S:370:GLN:NE2	18:S:378:VAL:HG12	2.18	0.58
10:J:633:VAL:HG21	11:K:812:ARG:HD3	1.82	0.58
11:K:835:PRO:O	11:K:835:PRO:HD2	2.02	0.58
12:L:364:PRO:HD2	12:L:364:PRO:O	2.04	0.58
10:J:673:SER:OG	10:J:674:ILE:N	2.36	0.58
18:S:72:MET:SD	18:S:75:TYR:CE2	2.96	0.58
2:B:26:THR:N	6:F:107:ILE:O	2.37	0.58
12:L:572:ALA:HA	12:L:581:SER:HA	1.86	0.58
23:Y:164:ARG:HH21	23:Y:168:TRP:HE1	1.52	0.58
9:I:831:PHE:H	9:I:860:ASN:HD21	1.51	0.58
9:I:897:THR:HG23	9:I:899:THR:H	1.69	0.58
11:K:48:THR:O	11:K:49:MET:CG	2.51	0.58
11:K:305:ILE:HG12	11:K:346:ASN:HA	1.86	0.58
17:R:161:LEU:O	17:R:165:GLU:N	2.32	0.58
17:R:1276:ASP:O	17:R:1280:ASN:ND2	2.37	0.58
9:I:935:ALA:HA	9:I:1174:PRO:HA	1.86	0.58
17:R:1173:SER:O	17:R:1244:GLN:NE2	2.37	0.58
22:X:80:GLN:HB3	22:X:99:ILE:HD13	1.84	0.58
22:X:80:GLN:CB	22:X:99:ILE:HD13	2.34	0.58
17:R:123:ARG:O	17:R:123:ARG:NH2	2.37	0.57
17:R:770:MET:HG3	17:R:777:ILE:HD12	1.86	0.57
11:K:459:PRO:HB2	11:K:493:LEU:HD13	1.85	0.57
17:R:1233:GLU:OE1	17:R:1234:VAL:HG23	2.03	0.57
17:R:1302:LYS:NZ	17:R:1332:ILE:O	2.34	0.57
3:C:181:LEU:C	3:C:183:ASP:H	2.07	0.57
9:I:1343:PRO:HG2	9:I:1346:ALA:HB2	1.87	0.57
11:K:35:LEU:CD1	11:K:49:MET:SD	2.92	0.57
10:J:725:VAL:HG22	10:J:731:ALA:HB2	1.85	0.57
11:K:600:LYS:NZ	11:K:603:GLU:O	2.26	0.57
17:R:1203:MET:O	17:R:1206:SER:OG	2.22	0.57
10:J:767:HIS:H	10:J:771:ALA:HB3	1.70	0.57
17:R:1288:LEU:HD21	17:R:1294:ILE:HD11	1.87	0.57
18:S:946:PHE:HB3	18:S:948:PRO:HD2	1.86	0.57

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:991:LEU:HD23	17:R:994:LEU:HD22	1.87	0.57
11:K:102:ASP:OD1	11:K:102:ASP:N	2.37	0.57
17:R:123:ARG:HB2	17:R:166:VAL:HG12	1.87	0.57
17:R:718:THR:O	17:R:721:SER:OG	2.18	0.57
11:K:288:ARG:NH2	11:K:311:LEU:O	2.35	0.56
3:C:140:HIS:CB	3:C:145:TYR:H	2.18	0.56
17:R:592:VAL:HA	17:R:597:ALA:HB2	1.87	0.56
18:S:378:VAL:O	18:S:378:VAL:CG1	2.52	0.56
23:Y:51:ILE:HD13	23:Y:81:ASN:HD22	1.69	0.56
11:K:32:SER:O	11:K:33:VAL:CG2	2.53	0.56
17:R:1023:LYS:HD3	17:R:1026:LEU:HB2	1.87	0.56
18:S:277:PRO:HG2	18:S:280:LEU:HB2	1.86	0.56
20:V:51:ALA:O	20:V:55:HIS:CD2	2.58	0.56
23:Y:51:ILE:CD1	23:Y:81:ASN:HD22	2.18	0.56
12:L:477:VAL:HG13	12:L:492:GLN:HE21	1.71	0.56
13:M:142:LYS:NZ	13:M:143:ILE:O	2.35	0.56
11:K:212:ARG:HE	18:S:738:MET:HA	1.68	0.56
12:L:322:VAL:HG12	12:L:322:VAL:O	2.05	0.56
11:K:76:ILE:CG2	11:K:77:PRO:HD2	2.30	0.56
17:R:85:MET:HA	17:R:88:GLU:HG2	1.88	0.56
17:R:1075:LEU:O	17:R:1078:THR:OG1	2.22	0.56
17:R:1175:PRO:CD	17:R:1176:SER:N	2.69	0.56
17:R:1181:THR:HG23	17:R:1182:GLU:H	1.69	0.56
18:S:917:ALA:HA	18:S:920:HIS:CE1	2.40	0.56
10:J:682:VAL:HA	10:J:685:LEU:HD23	1.86	0.56
9:I:569:TYR:HA	9:I:593:GLU:CD	2.24	0.56
9:I:470:LEU:H	9:I:499:TRP:H22	1.54	0.56
11:K:132:VAL:HB	11:K:181:ALA:HB1	1.88	0.56
12:L:168:THR:O	12:L:172:THR:HG23	2.04	0.56
17:R:442:LYS:HG2	19:T:57:PHE:CZ	2.41	0.56
18:S:504:ALA:O	18:S:508:GLY:N	2.36	0.56
22:X:82:LEU:HA	22:X:85:ASN:HD21	1.70	0.56
2:B:89:ILE:HD13	6:F:115:GLN:HA	1.88	0.56
11:K:16:ALA:HB2	11:K:764:THR:HA	1.87	0.56
11:K:114:LEU:HD22	11:K:835:PRO:CD	2.35	0.56
11:K:789:ALA:O	11:K:790:CYS:SG	2.63	0.56
12:L:605:PRO:O	12:L:609:VAL:N	2.38	0.56
17:R:67:ILE:HD12	17:R:79:LEU:HD13	1.88	0.56
9:I:379:PRO:CD	9:I:380:ALA:H	2.18	0.55
11:K:468:GLY:O	11:K:472:ARG:HG3	2.06	0.55
12:L:31:LEU:N	12:L:32:PRO:CD	2.68	0.55

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:449:HIS:N	17:R:452:ARG:HE	2.04	0.55
18:S:366:GLU:HB3	18:S:382:MET:SD	2.45	0.55
21:W:137:ARG:HD3	21:W:140:GLN:HE21	1.71	0.55
18:S:224:SER:HA	18:S:227:THR:HG21	1.88	0.55
18:S:378:VAL:HG13	18:S:381:LEU:HD23	1.89	0.55
19:T:75:ASP:OD1	19:T:76:CYS:N	2.39	0.55
22:X:61:LYS:HA	22:X:64:ILE:HD12	1.88	0.55
13:M:58:PHE:HA	13:M:125:MET:HA	1.87	0.55
17:R:865:LEU:HD12	17:R:889:LEU:HD11	1.88	0.55
17:R:1088:PRO:HB2	17:R:1092:TRP:NE1	2.13	0.55
18:S:730:HIS:O	18:S:734:THR:HG23	2.06	0.55
11:K:305:ILE:HG23	11:K:345:THR:O	2.07	0.55
11:K:796:LYS:CB	11:K:812:ARG:CZ	2.85	0.55
12:L:540:LEU:O	21:W:89:ARG:NH2	2.37	0.55
13:M:131:ALA:HB2	13:M:148:ILE:HD13	1.88	0.55
3:C:142:SER:H	3:C:145:TYR:CB	2.20	0.55
12:L:530:SER:O	12:L:534:VAL:HG23	2.07	0.55
18:S:768:LEU:HA	18:S:771:ILE:HG22	1.88	0.55
8:H:92:MET:O	8:H:96:ARG:HG3	2.06	0.55
17:R:44:PHE:HE2	17:R:92:LEU:HD21	1.71	0.55
3:C:130:PHE:CE2	16:Q:62:HIS:HA	2.35	0.55
11:K:443:LEU:HB2	11:K:457:LEU:HD12	1.88	0.55
17:R:113:GLN:O	17:R:117:LEU:HG	2.08	0.54
17:R:1063:PRO:O	17:R:1066:THR:OG1	2.22	0.54
13:M:53:ASP:HA	13:M:75:SER:HA	1.88	0.54
16:Q:123:ILE:HG21	23:Y:167:ILE:CA	2.32	0.54
17:R:624:LEU:HD12	17:R:652:LEU:HD11	1.88	0.54
20:V:216:GLY:O	20:V:219:GLU:HG3	2.08	0.54
23:Y:160:MET:O	23:Y:164:ARG:HG2	2.08	0.54
11:K:383:ALA:CB	11:K:393:ILE:HG23	2.37	0.54
17:R:984:LEU:HD11	17:R:1026:LEU:HD22	1.90	0.54
9:I:692:GLY:O	9:I:694:THR:HG23	2.08	0.54
9:I:722:ALA:HB3	9:I:747:LEU:HB2	1.90	0.54
11:K:16:ALA:HB1	11:K:765:LEU:H	1.71	0.54
17:R:1023:LYS:HA	17:R:1026:LEU:HB2	1.90	0.54
17:R:635:GLN:OE1	17:R:817:ARG:NH2	2.41	0.53
9:I:776:LEU:HD21	9:I:803:TYR:HE1	1.73	0.53
12:L:331:ILE:N	12:L:342:SER:OG	2.37	0.53
17:R:847:ILE:HA	17:R:851:ASN:HD21	1.74	0.53
18:S:293:LEU:HB3	18:S:305:TRP:HB3	1.90	0.53
18:S:757:ARG:HD2	18:S:760:HIS:HD2	1.74	0.53

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:56:HIS:CE1	17:R:60:ILE:CG1	2.92	0.53
17:R:91:LEU:HG	17:R:92:LEU:HD12	1.91	0.53
9:I:895:GLN:HG2	9:I:1296:ALA:H	1.73	0.53
9:I:312:THR:O	9:I:316:ILE:HG12	2.09	0.53
11:K:391:VAL:HG11	11:K:457:LEU:CD1	2.39	0.53
18:S:95:GLN:O	18:S:98:LEU:HG	2.09	0.53
18:S:216:GLU:O	18:S:220:THR:HG23	2.09	0.53
22:X:60:TYR:CZ	22:X:64:ILE:HD11	2.44	0.53
9:I:379:PRO:CD	9:I:380:ALA:N	2.68	0.52
11:K:736:ASP:O	11:K:740:SER:OG	2.22	0.52
11:K:796:LYS:CB	11:K:812:ARG:NH2	2.72	0.52
18:S:310:PHE:HE1	18:S:365:GLN:HB2	1.74	0.52
9:I:592:LYS:O	9:I:595:ILE:N	2.38	0.52
11:K:63:HIS:HA	11:K:75:SER:HA	1.91	0.52
11:K:134:LEU:HB3	11:K:219:ALA:HB2	1.91	0.52
11:K:244:VAL:HB	11:K:255:ILE:HG23	1.92	0.52
17:R:1175:PRO:CD	17:R:1176:SER:H	2.22	0.52
11:K:349:ASP:C	11:K:387:HIS:NE2	2.61	0.52
11:K:659:MET:HA	11:K:662:ILE:HG12	1.92	0.52
9:I:402:ILE:HG21	12:L:327:VAL:HG12	1.92	0.52
11:K:284:LYS:NZ	11:K:286:LEU:O	2.42	0.52
17:R:244:ASP:OD1	17:R:244:ASP:N	2.43	0.52
20:V:269:TRP:HE3	20:V:270:LEU:HD22	1.75	0.52
11:K:19:CYS:SG	11:K:769:GLY:N	2.82	0.52
17:R:449:HIS:HA	17:R:452:ARG:CD	2.39	0.52
21:W:92:GLU:O	21:W:96:LEU:HG	2.10	0.52
3:C:163:LYS:O	3:C:164:ARG:HG3	2.10	0.52
11:K:313:LYS:HG3	11:K:337:LEU:HD13	1.92	0.52
11:K:478:LEU:HD22	11:K:507:LEU:HD11	1.91	0.52
18:S:310:PHE:HE1	18:S:365:GLN:CB	2.23	0.52
9:I:573:VAL:HA	9:I:585:ALA:HB3	1.91	0.52
17:R:14:LYS:HA	17:R:75:ARG:HH22	1.75	0.52
17:R:449:HIS:CA	17:R:452:ARG:NE	2.72	0.52
18:S:370:GLN:NE2	18:S:382:MET:HG2	2.15	0.52
22:X:156:PRO:HB2	22:X:158:PRO:HD2	1.91	0.52
3:C:113:SER:HA	16:Q:52:THR:CB	2.39	0.52
11:K:692:LEU:O	11:K:696:LEU:HG	2.10	0.52
17:R:757:LYS:O	17:R:761:GLU:HG2	2.09	0.52
17:R:824:ARG:HA	17:R:868:CYS:SG	2.49	0.52
9:I:855:LEU:O	9:I:858:MET:HG3	2.10	0.51
11:K:38:ALA:HB3	11:K:87:LEU:HD11	1.91	0.51

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:104:GLN:HB2	11:K:122:VAL:HA	1.91	0.51
11:K:114:LEU:HD22	11:K:835:PRO:HD2	1.92	0.51
22:X:101:ARG:HG3	22:X:103:ASP:HB3	1.92	0.51
1:A:511:ILE:HA	1:A:515:ALA:HB3	1.93	0.51
3:C:166:GLU:O	3:C:167:GLU:HG3	2.10	0.51
11:K:218:ILE:HD12	11:K:283:LEU:HB3	1.91	0.51
12:L:168:THR:C	12:L:172:THR:HG23	2.31	0.51
17:R:1049:LEU:HG	17:R:1053:MET:HE3	1.91	0.51
11:K:48:THR:O	11:K:49:MET:SD	2.69	0.51
17:R:1215:VAL:O	17:R:1219:SER:OG	2.17	0.51
17:R:1236:LEU:HB2	17:R:1237:PRO:HD3	1.91	0.51
11:K:229:ALA:HB1	11:K:239:VAL:HB	1.93	0.51
17:R:565:GLU:O	17:R:568:SER:OG	2.27	0.51
1:A:265:VAL:CG1	1:A:298:ASP:CB	2.89	0.51
11:K:656:ARG:O	11:K:660:VAL:HG13	2.11	0.51
9:I:1241:MET:HA	9:I:1246:ALA:HB3	1.92	0.51
18:S:247:VAL:CG2	18:S:770:SER:OG	2.50	0.51
18:S:370:GLN:NE2	18:S:382:MET:CG	2.72	0.51
22:X:99:ILE:CG2	22:X:100:GLN:OE1	2.59	0.51
10:J:635:ASN:HD21	10:J:638:LEU:HD12	1.76	0.51
11:K:396:ARG:HG3	11:K:397:LEU:HG	1.92	0.51
17:R:591:THR:HA	17:R:594:LYS:HB3	1.92	0.51
3:C:82:ARG:O	3:C:84:GLN:N	2.44	0.50
11:K:455:LEU:HD12	11:K:456:ARG:H	1.75	0.50
11:K:570:ASN:HD21	11:K:577:GLY:HA3	1.75	0.50
11:K:697:TRP:CE2	11:K:701:ARG:HD2	2.46	0.50
23:Y:75:LEU:HA	23:Y:78:LEU:HD12	1.92	0.50
9:I:724:LEU:O	9:I:745:VAL:N	2.43	0.50
17:R:999:ASP:N	17:R:999:ASP:OD1	2.45	0.50
22:X:64:ILE:O	22:X:67:LEU:HG	2.12	0.50
11:K:76:ILE:CG2	11:K:77:PRO:HD3	2.27	0.50
11:K:132:VAL:HG21	11:K:182:VAL:HB	1.93	0.50
11:K:248:VAL:HG21	11:K:254:ARG:HG2	1.94	0.50
3:C:81:ILE:CB	3:C:98:TYR:H	2.24	0.50
3:C:130:PHE:HE2	16:Q:62:HIS:C	2.11	0.50
9:I:402:ILE:HD13	12:L:327:VAL:HG11	1.93	0.50
9:I:589:GLN:CB	9:I:593:GLU:OE1	2.59	0.50
11:K:553:LEU:HD13	11:K:624:PHE:CE1	2.47	0.50
17:R:118:THR:O	17:R:121:LEU:HG	2.11	0.50
11:K:507:LEU:HD21	11:K:526:ILE:HD11	1.93	0.50
17:R:374:TRP:O	17:R:378:GLN:HG2	2.10	0.50

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:1247:TYR:O	17:R:1251:LEU:HG	2.12	0.50
11:K:16:ALA:HA	11:K:766:GLN:HG2	1.93	0.50
16:Q:62:HIS:HA	16:Q:66:ALA:HB3	1.94	0.50
1:A:226:VAL:O	1:A:226:VAL:CG1	2.55	0.50
9:I:592:LYS:HA	17:R:25:MET:H	1.77	0.50
9:I:433:THR:HA	9:I:438:LEU:HA	1.93	0.49
17:R:1024:ARG:HG3	17:R:1114:ALA:HB1	1.93	0.49
3:C:175:GLN:C	3:C:177:VAL:N	2.64	0.49
20:V:178:ILE:HG22	20:V:192:VAL:HG23	1.93	0.49
22:X:89:ASP:OD1	22:X:90:ASN:N	2.44	0.49
1:A:221:ASN:O	1:A:222:LEU:HG	2.13	0.49
11:K:383:ALA:HB1	11:K:393:ILE:CG1	2.42	0.49
17:R:1198:GLN:HG3	17:R:1200:TYR:H	1.77	0.49
18:S:385:ARG:NH1	18:S:385:ARG:O	2.45	0.49
22:X:80:GLN:CB	22:X:99:ILE:CD1	2.84	0.49
8:H:85:SER:O	8:H:87:ARG:N	2.44	0.49
12:L:259:VAL:HB	12:L:367:HIS:CD2	2.47	0.49
17:R:988:LEU:HD21	17:R:1029:ALA:HB1	1.94	0.49
18:S:783:LEU:O	18:S:787:ILE:HG12	2.12	0.49
18:S:814:VAL:HG21	18:S:931:CYS:HA	1.94	0.49
3:C:181:LEU:C	3:C:183:ASP:N	2.66	0.49
9:I:387:GLU:HB2	9:I:391:LYS:HA	1.94	0.49
14:O:127:GLY:N	14:O:137:GLY:O	2.45	0.49
17:R:808:TYR:OH	17:R:933:TYR:O	2.30	0.49
18:S:490:ALA:HB1	18:S:574:TRP:HE1	1.77	0.49
3:C:197:PRO:HD2	3:C:197:PRO:O	2.12	0.49
9:I:291:ASP:HA	9:I:294:ASN:ND2	2.27	0.49
9:I:372:ILE:HD12	9:I:387:GLU:OE2	2.13	0.49
9:I:831:PHE:O	9:I:856:GLN:NE2	2.45	0.49
17:R:731:THR:HB	17:R:973:ARG:HH22	1.77	0.49
18:S:74:SER:HA	18:S:120:LEU:HD12	1.95	0.49
1:A:265:VAL:HG12	1:A:265:VAL:O	2.13	0.49
9:I:310:SER:O	9:I:314:MET:HG2	2.13	0.49
17:R:622:GLN:O	17:R:626:HIS:ND1	2.31	0.49
17:R:755:ASN:HA	17:R:758:LYS:HD3	1.94	0.49
20:V:70:LEU:O	22:X:61:LYS:NZ	2.33	0.49
3:C:175:GLN:O	3:C:176:ARG:C	2.50	0.48
10:J:637:SER:O	10:J:641:THR:HG23	2.13	0.48
17:R:1028:HIS:HA	17:R:1031:ILE:HG12	1.94	0.48
18:S:78:VAL:HG12	18:S:123:ALA:HB2	1.95	0.48
3:C:139:TYR:HA	3:C:144:GLY:N	2.28	0.48

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:195:LEU:C	3:C:197:PRO:HD3	2.33	0.48
9:I:478:MET:O	9:I:482:VAL:HG23	2.13	0.48
11:K:750:LEU:HB3	11:K:752:PHE:CE2	2.48	0.48
12:L:569:ILE:O	12:L:584:ASN:N	2.44	0.48
18:S:264:VAL:O	18:S:268:THR:HG23	2.13	0.48
19:T:127:ASP:OD1	19:T:128:PHE:N	2.47	0.48
10:J:717:SER:OG	10:J:718:VAL:N	2.46	0.48
12:L:374:ASN:HA	12:L:377:LEU:HD12	1.94	0.48
17:R:496:VAL:HG23	17:R:523:LEU:HD21	1.94	0.48
18:S:65:LYS:HA	18:S:68:ILE:HG12	1.94	0.48
18:S:699:ASN:ND2	18:S:701:LEU:H	2.10	0.48
10:J:674:ILE:HD11	10:J:679:GLN:HB3	1.95	0.48
10:J:625:VAL:O	10:J:629:ILE:HG12	2.14	0.48
11:K:685:SER:O	11:K:689:LEU:HG	2.14	0.48
17:R:149:PRO:HG2	17:R:152:VAL:HB	1.94	0.48
17:R:653:ILE:HD12	17:R:656:LEU:HD21	1.96	0.48
10:J:645:ALA:O	10:J:649:ILE:HG22	2.13	0.48
10:J:722:GLU:HA	10:J:733:SER:HB3	1.94	0.48
11:K:129:ASP:N	11:K:185:SER:OG	2.46	0.48
11:K:160:SER:OG	11:K:161:ARG:N	2.47	0.48
17:R:1130:VAL:HG12	17:R:1207:TYR:HB3	1.96	0.48
17:R:1238:ILE:O	17:R:1238:ILE:CG2	2.61	0.48
17:R:1248:VAL:O	17:R:1252:VAL:HG22	2.13	0.48
9:I:534:SER:OG	9:I:552:VAL:HB	2.13	0.48
17:R:117:LEU:HA	17:R:120:LYS:HD2	1.95	0.48
17:R:636:THR:H	17:R:817:ARG:HH22	1.60	0.48
11:K:288:ARG:HA	11:K:311:LEU:HD12	1.96	0.48
11:K:310:SER:HB3	11:K:342:LEU:HD11	1.94	0.48
12:L:201:ASP:OD1	12:L:202:LYS:N	2.42	0.48
12:L:308:PHE:HA	12:L:311:LEU:HG	1.95	0.48
17:R:180:ALA:O	17:R:184:VAL:HG23	2.13	0.48
11:K:219:ALA:HA	11:K:226:ILE:HG23	1.96	0.48
17:R:641:LEU:HD23	17:R:641:LEU:H	1.79	0.48
9:I:570:PHE:O	9:I:587:LEU:HB2	2.13	0.47
9:I:701:LEU:O	9:I:705:LEU:N	2.47	0.47
9:I:859:PHE:HE1	9:I:865:VAL:HG12	1.79	0.47
14:O:158:LEU:O	14:O:162:GLN:HG2	2.13	0.47
16:Q:97:ALA:O	16:Q:101:ARG:NE	2.46	0.47
18:S:757:ARG:HD2	18:S:760:HIS:CD2	2.49	0.47
1:A:372:HIS:HA	1:A:437:LEU:H	1.78	0.47
11:K:210:ARG:CZ	11:K:211:GLY:H	2.27	0.47

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:31:LEU:H	12:L:32:PRO:HD3	1.78	0.47
17:R:340:PHE:CZ	17:R:572:VAL:HB	2.50	0.47
11:K:237:SER:N	11:K:238:PRO:HD3	2.28	0.47
12:L:327:VAL:HG23	12:L:328:LYS:H	1.78	0.47
17:R:764:TYR:O	17:R:768:LYS:HG2	2.14	0.47
18:S:161:CYS:O	18:S:165:LEU:HG	2.15	0.47
3:C:21:ILE:HA	3:C:32:TYR:CB	2.44	0.47
9:I:442:ILE:HD11	9:I:497:LYS:HD3	1.97	0.47
11:K:206:LEU:HD12	11:K:208:ARG:H	1.80	0.47
13:M:53:ASP:OD1	13:M:53:ASP:N	2.43	0.47
17:R:1145:TRP:O	17:R:1149:ILE:HG13	2.14	0.47
23:Y:168:TRP:O	23:Y:170:ILE:N	2.48	0.47
9:I:409:ALA:HB1	9:I:456:VAL:HG11	1.97	0.47
12:L:371:LEU:HA	12:L:374:ASN:HD21	1.80	0.47
12:L:384:LYS:HG3	12:L:385:GLN:HG2	1.95	0.47
17:R:616:GLN:HE22	17:R:618:HIS:HB3	1.79	0.47
17:R:969:ILE:O	17:R:973:ARG:HB3	2.15	0.47
20:V:280:PRO:HG2	20:V:299:PHE:HA	1.97	0.47
17:R:63:ILE:O	17:R:67:ILE:HG12	2.15	0.47
17:R:184:VAL:HG22	17:R:208:PHE:HE2	1.79	0.47
17:R:1035:LYS:O	17:R:1038:ARG:NH2	2.47	0.47
3:C:130:PHE:CE2	16:Q:62:HIS:O	2.64	0.47
3:C:184:LEU:C	3:C:186:GLN:N	2.66	0.47
8:H:31:VAL:CG1	8:H:48:GLN:CA	2.69	0.47
11:K:75:SER:C	11:K:76:ILE:HG13	2.34	0.47
17:R:136:ASP:O	17:R:140:VAL:HG23	2.15	0.47
17:R:184:VAL:HG22	17:R:208:PHE:CE2	2.49	0.47
17:R:618:HIS:O	17:R:622:GLN:HG2	2.14	0.47
17:R:1229:LYS:O	17:R:1233:GLU:HG3	2.15	0.47
9:I:831:PHE:N	9:I:860:ASN:HD21	2.13	0.47
17:R:311:ALA:HB1	17:R:331:TRP:CD1	2.50	0.47
17:R:1224:LEU:HD13	17:R:1259:PHE:CE1	2.49	0.47
3:C:121:THR:CB	5:E:114:ASP:CB	2.93	0.47
11:K:155:PHE:HE1	11:K:479:GLU:HB3	1.79	0.47
11:K:304:SER:C	11:K:305:ILE:HG13	2.35	0.47
18:S:42:LEU:HD12	18:S:43:ALA:N	2.30	0.47
17:R:329:LEU:O	17:R:333:HIS:ND1	2.32	0.47
17:R:804:ASN:O	17:R:805:GLN:HG3	2.15	0.47
18:S:835:ARG:HD3	18:S:835:ARG:O	2.15	0.47
1:A:258:THR:H	1:A:305:LEU:HA	1.80	0.46
9:I:655:VAL:HG23	9:I:658:ARG:HH11	1.79	0.46

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:661:VAL:O	11:K:664:ILE:HG22	2.15	0.46
17:R:1024:ARG:HD3	17:R:1025:LYS:HE2	1.98	0.46
23:Y:70:THR:O	23:Y:74:ARG:HG2	2.15	0.46
11:K:787:LEU:HD23	11:K:787:LEU:H	1.79	0.46
17:R:528:LEU:HA	17:R:532:THR:HB	1.98	0.46
18:S:541:ASN:O	18:S:545:PRO:HD2	2.15	0.46
3:C:139:TYR:HA	3:C:144:GLY:H	1.81	0.46
17:R:1158:GLU:O	17:R:1162:ILE:HG12	2.16	0.46
23:Y:45:VAL:O	23:Y:48:THR:OG1	2.29	0.46
10:J:743:TYR:CE1	10:J:753:HIS:HB2	2.51	0.46
11:K:206:LEU:HB2	11:K:209:LEU:HD23	1.97	0.46
17:R:56:HIS:ND1	17:R:60:ILE:CG1	2.70	0.46
17:R:300:LEU:HD23	17:R:304:LEU:HD23	1.97	0.46
17:R:1016:LEU:HD11	17:R:1019:ARG:CZ	2.45	0.46
18:S:282:VAL:HA	18:S:285:ILE:HG22	1.97	0.46
18:S:287:LYS:O	18:S:291:VAL:HG13	2.15	0.46
3:C:118:ARG:N	5:E:111:THR:O	2.30	0.46
11:K:685:SER:O	11:K:688:LEU:HG	2.16	0.46
17:R:923:ASN:O	17:R:927:LYS:HG2	2.16	0.46
17:R:1130:VAL:HG11	17:R:1211:LEU:HD23	1.97	0.46
17:R:1273:ALA:O	17:R:1277:MET:HG2	2.16	0.46
19:T:94:PHE:O	19:T:98:LEU:HG	2.16	0.46
9:I:595:ILE:O	9:I:599:VAL:HG23	2.16	0.46
11:K:563:LEU:HD22	11:K:822:ARG:HD2	1.96	0.46
18:S:141:ARG:HA	18:S:141:ARG:HD3	1.65	0.46
9:I:425:ALA:HA	9:I:430:SER:HA	1.68	0.46
18:S:980:GLN:O	18:S:984:LYS:HG2	2.15	0.46
3:C:168:PRO:HD2	3:C:169:SER:N	2.31	0.46
9:I:490:ILE:N	9:I:491:PRO:HD2	2.31	0.46
16:Q:123:ILE:HD13	23:Y:167:ILE:HA	1.97	0.46
17:R:1002:VAL:O	17:R:1006:TYR:HB2	2.16	0.46
18:S:95:GLN:NE2	18:S:99:ASP:OD2	2.48	0.46
11:K:391:VAL:CG1	11:K:457:LEU:HD13	2.46	0.46
16:Q:117:ILE:HD12	16:Q:120:ARG:HH21	1.80	0.46
17:R:1308:ASP:HB2	17:R:1311:LYS:HD2	1.96	0.46
22:X:142:PRO:HG3	22:X:156:PRO:HA	1.98	0.46
11:K:99:ALA:HA	11:K:129:ASP:HA	1.97	0.46
11:K:211:GLY:HA2	11:K:240:GLN:HE22	1.81	0.46
12:L:436:LYS:HE3	12:L:471:TYR:O	2.16	0.46
16:Q:98:ILE:HA	16:Q:101:ARG:HH11	1.80	0.46
17:R:1107:VAL:O	17:R:1111:GLU:HG3	2.15	0.46

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:1208:THR:O	17:R:1211:LEU:HG	2.16	0.46
19:T:71:PHE:CZ	19:T:82:VAL:HG23	2.51	0.46
3:C:180:LEU:O	3:C:181:LEU:C	2.52	0.45
12:L:190:LEU:HD12	12:L:291:TRP:HD1	1.80	0.45
12:L:301:VAL:HA	12:L:304:CYS:SG	2.55	0.45
17:R:677:SER:HA	17:R:684:ASN:HD21	1.81	0.45
17:R:1296:ASP:HA	17:R:1299:TYR:HB2	1.98	0.45
12:L:398:ALA:N	12:L:399:PRO:HD3	2.31	0.45
17:R:810:VAL:HA	17:R:813:ARG:HH21	1.81	0.45
17:R:1193:PHE:O	17:R:1194:THR:OG1	2.31	0.45
3:C:194:GLN:O	3:C:195:LEU:HG	2.16	0.45
8:H:84:TYR:CZ	13:M:45:ASN:HA	2.52	0.45
9:I:379:PRO:CG	9:I:411:GLN:CB	2.83	0.45
17:R:229:PRO:HG3	17:R:1218:HIS:NE2	2.32	0.45
18:S:186:ALA:O	18:S:190:THR:HG23	2.15	0.45
3:C:81:ILE:O	3:C:97:ASP:HA	2.16	0.45
10:J:667:GLU:O	10:J:668:ASP:OD1	2.35	0.45
10:J:756:MET:O	10:J:760:LEU:HG	2.16	0.45
12:L:466:ASN:HD22	16:Q:124:SER:HB2	1.81	0.45
12:L:551:PHE:HE1	12:L:572:ALA:HB3	1.80	0.45
17:R:98:CYS:O	17:R:102:ILE:HB	2.17	0.45
18:S:74:SER:O	18:S:78:VAL:HG13	2.16	0.45
9:I:647:MET:HA	9:I:650:THR:HG22	1.98	0.45
11:K:29:HIS:ND1	18:S:907:LEU:HD13	2.29	0.45
11:K:580:LEU:O	11:K:583:ILE:HG12	2.16	0.45
12:L:259:VAL:O	12:L:367:HIS:NE2	2.50	0.45
16:Q:123:ILE:HG22	23:Y:167:ILE:CB	2.37	0.45
17:R:904:VAL:HG23	17:R:993:GLY:HA3	1.98	0.45
18:S:110:CYS:SG	18:S:111:HIS:N	2.90	0.45
23:Y:68:THR:HA	23:Y:71:TYR:HE1	1.82	0.45
9:I:291:ASP:OD1	9:I:292:MET:N	2.49	0.45
9:I:402:ILE:HA	9:I:405:VAL:HG22	1.98	0.45
11:K:491:ILE:HA	11:K:494:HIS:CD2	2.52	0.45
17:R:716:LEU:O	17:R:720:MET:HG2	2.17	0.45
18:S:130:TRP:HA	18:S:133:ARG:HE	1.82	0.45
20:V:31:VAL:HG22	20:V:55:HIS:HB3	1.99	0.45
2:B:71:HIS:O	2:B:75:GLU:HG3	2.17	0.45
9:I:683:ARG:HH12	10:J:684:ARG:NH1	2.15	0.45
14:O:114:GLY:O	14:O:125:LYS:NZ	2.38	0.45
18:S:984:LYS:HA	18:S:984:LYS:HD3	1.84	0.45
19:T:209:PRO:CG	19:T:210:PRO:HD3	2.47	0.45

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:865:VAL:O	9:I:869:LEU:HG	2.17	0.45
9:I:922:TYR:HB3	9:I:957:PRO:HG3	1.98	0.45
11:K:835:PRO:O	11:K:835:PRO:CD	2.65	0.45
17:R:663:PRO:HB2	17:R:664:GLN:HE21	1.81	0.45
17:R:985:GLU:O	17:R:988:LEU:HG	2.17	0.45
17:R:1198:GLN:NE2	17:R:1201:SER:OG	2.35	0.45
1:A:265:VAL:HG13	1:A:298:ASP:C	2.38	0.45
3:C:141:PRO:N	12:L:170:SER:CB	2.80	0.45
9:I:291:ASP:HA	9:I:294:ASN:HD21	1.81	0.45
11:K:795:CYS:O	11:K:812:ARG:NH2	2.49	0.45
18:S:246:ALA:O	18:S:249:LEU:HG	2.16	0.45
3:C:184:LEU:C	3:C:186:GLN:H	2.20	0.45
9:I:693:ILE:O	9:I:697:THR:OG1	2.35	0.45
10:J:620:PRO:HG2	20:V:56:PHE:HE1	1.81	0.45
11:K:65:LEU:CD2	11:K:73:LEU:HD22	2.44	0.44
11:K:383:ALA:CB	11:K:393:ILE:CG2	2.96	0.44
17:R:560:ALA:N	17:R:561:PRO:HD2	2.32	0.44
17:R:962:ARG:O	17:R:966:VAL:HG23	2.17	0.44
17:R:1031:ILE:O	17:R:1035:LYS:HG3	2.17	0.44
12:L:209:TYR:O	12:L:213:GLY:N	2.51	0.44
18:S:245:HIS:NE2	18:S:291:VAL:HG21	2.32	0.44
22:X:78:ALA:HB2	22:X:102:PHE:CE1	2.52	0.44
9:I:504:ARG:HG2	9:I:638:ASN:HD21	1.83	0.44
11:K:276:LYS:O	11:K:296:LEU:N	2.31	0.44
19:T:16:ALA:HB1	19:T:47:PHE:HE1	1.82	0.44
9:I:490:ILE:HG13	9:I:491:PRO:HD3	2.00	0.44
11:K:246:VAL:HG12	11:K:255:ILE:HG13	1.99	0.44
17:R:183:ALA:O	17:R:187:ILE:HG12	2.18	0.44
17:R:258:TYR:CE1	17:R:262:LEU:HD22	2.52	0.44
17:R:1149:ILE:HA	17:R:1152:ILE:HD12	1.99	0.44
3:C:114:VAL:HA	5:E:111:THR:HA	2.00	0.44
11:K:77:PRO:CD	11:K:77:PRO:O	2.64	0.44
12:L:32:PRO:HD2	12:L:32:PRO:O	2.18	0.44
12:L:496:ASN:HA	12:L:502:ILE:HG12	1.99	0.44
17:R:846:CYS:HA	17:R:850:LEU:HB2	1.99	0.44
18:S:674:CYS:O	18:S:679:GLN:NE2	2.50	0.44
18:S:901:LEU:O	18:S:904:LEU:HG	2.17	0.44
8:H:31:VAL:HG11	8:H:48:GLN:N	2.28	0.44
8:H:100:ALA:O	8:H:104:LEU:HG	2.18	0.44
9:I:1254:SER:N	9:I:1255:PRO:HD2	2.33	0.44
11:K:188:VAL:HG23	11:K:189:THR:H	1.81	0.44

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:648:THR:O	17:R:651:ARG:HG2	2.17	0.44
17:R:773:GLU:HB2	17:R:776:ILE:HB	2.00	0.44
17:R:1241:THR:OG1	17:R:1242:GLU:N	2.50	0.44
22:X:99:ILE:CG2	22:X:100:GLN:N	2.48	0.44
3:C:170:SER:C	26:9:635:SER:CB	2.86	0.44
11:K:672:CYS:O	11:K:674:PRO:HD3	2.18	0.44
17:R:540:ILE:HG13	17:R:541:HIS:H	1.83	0.44
9:I:643:HIS:CE1	12:L:558:GLY:HA2	2.53	0.44
11:K:37:CYS:HB2	11:K:46:ALA:HB3	1.99	0.44
17:R:785:SER:HB2	17:R:788:LEU:HB3	1.99	0.44
17:R:856:LYS:HA	17:R:857:TYR:HA	1.60	0.44
17:R:941:VAL:HG22	17:R:943:PRO:HD3	2.00	0.44
17:R:1234:VAL:O	17:R:1238:ILE:HD12	2.18	0.44
17:R:1276:ASP:O	17:R:1279:LEU:HG	2.18	0.44
18:S:788:LEU:HB2	18:S:789:PRO:HD3	2.00	0.44
3:C:176:ARG:O	3:C:179:ALA:HB3	2.18	0.44
9:I:402:ILE:HG13	9:I:403:ASP:N	2.33	0.44
9:I:652:MET:HA	9:I:655:VAL:HG12	2.00	0.44
9:I:877:ALA:HB3	9:I:878:PRO:HD3	2.00	0.44
10:J:623:ASP:OD1	10:J:623:ASP:N	2.50	0.44
11:K:193:LEU:HG	11:K:195:PRO:HD3	2.00	0.44
17:R:257:PRO:HD2	17:R:263:PHE:HZ	1.83	0.44
18:S:221:LEU:O	18:S:225:ILE:HG12	2.18	0.44
18:S:305:TRP:O	18:S:309:THR:HG23	2.18	0.44
11:K:391:VAL:HG22	11:K:393:ILE:HG13	2.00	0.43
17:R:102:ILE:HG13	17:R:140:VAL:HG11	2.00	0.43
17:R:738:PRO:HB2	17:R:741:ALA:HB2	1.98	0.43
17:R:745:GLN:CD	17:R:745:GLN:H	2.21	0.43
17:R:803:ILE:HG13	17:R:804:ASN:H	1.82	0.43
18:S:416:THR:HA	18:S:419:ASN:HD21	1.83	0.43
14:O:38:THR:HA	14:O:115:THR:HA	2.00	0.43
17:R:118:THR:O	17:R:122:VAL:HG23	2.18	0.43
9:I:302:SER:O	9:I:305:LEU:HG	2.18	0.43
9:I:683:ARG:HA	9:I:709:THR:HA	2.00	0.43
9:I:1351:PRO:HA	9:I:1352:PRO:HD3	1.89	0.43
10:J:626:LEU:HD23	22:X:79:ALA:HB1	1.99	0.43
11:K:187:LEU:HD12	11:K:188:VAL:HG13	2.00	0.43
17:R:66:PHE:O	17:R:70:GLN:NE2	2.46	0.43
18:S:362:PHE:O	18:S:365:GLN:HG3	2.17	0.43
9:I:489:ILE:HG13	9:I:490:ILE:N	2.34	0.43
9:I:668:HIS:H	9:I:668:HIS:HD1	1.66	0.43

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:673:VAL:O	9:I:674:GLU:HG2	2.18	0.43
10:J:643:VAL:HG22	10:J:644:PRO:HD3	2.01	0.43
11:K:32:SER:C	11:K:33:VAL:HG23	2.37	0.43
11:K:231:ALA:HB3	11:K:238:PRO:HG2	2.00	0.43
18:S:768:LEU:HD22	18:S:812:LEU:HD11	1.99	0.43
20:V:111:TYR:CE2	22:X:136:HIS:HB2	2.52	0.43
3:C:74:GLN:CB	3:C:79:PHE:HA	2.49	0.43
9:I:682:ILE:O	9:I:710:PHE:N	2.46	0.43
11:K:765:LEU:HD12	11:K:765:LEU:HA	1.89	0.43
17:R:490:LEU:HB3	17:R:491:PRO:HD3	2.00	0.43
17:R:1233:GLU:OE1	17:R:1234:VAL:CG2	2.63	0.43
20:V:111:TYR:HE2	22:X:136:HIS:HB2	1.83	0.43
11:K:192:LEU:HD13	11:K:202:SER:HA	1.99	0.43
11:K:569:LEU:HD11	19:T:31:TYR:HE2	1.84	0.43
17:R:866:ILE:HG12	17:R:966:VAL:HG22	2.00	0.43
11:K:74:HIS:CD2	11:K:114:LEU:HD23	2.53	0.43
11:K:530:LYS:O	11:K:533:LEU:HG	2.19	0.43
11:K:550:LYS:O	11:K:553:LEU:HG	2.19	0.43
17:R:540:ILE:HG13	17:R:541:HIS:N	2.34	0.43
20:V:120:HIS:CE1	21:W:59:LEU:HD11	2.53	0.43
21:W:57:ALA:O	21:W:61:SER:OG	2.35	0.43
2:B:45:ILE:CB	6:F:72:ILE:CG2	2.97	0.43
8:H:84:TYR:HB3	8:H:85:SER:H	1.51	0.43
12:L:341:LEU:HD23	12:L:341:LEU:HA	1.90	0.43
17:R:260:LYS:HA	17:R:263:PHE:HD2	1.82	0.43
17:R:348:SER:O	17:R:348:SER:OG	2.37	0.43
17:R:1184:VAL:HG13	18:S:340:PHE:HB3	2.00	0.43
17:R:1255:PHE:HA	17:R:1257:GLN:HE22	1.83	0.43
18:S:734:THR:HA	18:S:737:HIS:ND1	2.33	0.43
20:V:194:LEU:HD23	20:V:194:LEU:HA	1.93	0.43
3:C:121:THR:CB	5:E:112:LYS:O	2.67	0.43
12:L:417:GLU:O	12:L:421:LEU:HG	2.19	0.43
14:O:161:LEU:CB	14:O:169:THR:HG21	2.49	0.43
17:R:1150:GLY:O	17:R:1154:THR:HG23	2.19	0.43
18:S:576:GLU:O	18:S:580:SER:N	2.51	0.43
21:W:86:ASP:O	21:W:90:GLN:HG2	2.18	0.43
11:K:468:GLY:O	11:K:471:LEU:HG	2.18	0.43
12:L:168:THR:C	12:L:172:THR:CG2	2.85	0.43
12:L:364:PRO:CD	12:L:364:PRO:O	2.67	0.43
17:R:1292:ASP:HB3	17:R:1293:PRO:HD3	2.00	0.43
11:K:48:THR:C	11:K:49:MET:HG2	2.39	0.42

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:189:THR:HG21	11:K:205:SER:HB2	2.01	0.42
19:T:209:PRO:HG2	19:T:210:PRO:HD3	2.00	0.42
11:K:391:VAL:HG11	11:K:457:LEU:HD13	2.01	0.42
11:K:481:CYS:HA	11:K:484:THR:HG22	2.00	0.42
17:R:245:PRO:HG2	17:R:287:LEU:HD11	2.00	0.42
17:R:927:LYS:HG3	17:R:928:TYR:N	2.33	0.42
17:R:1142:ILE:O	17:R:1146:MET:HG2	2.19	0.42
18:S:247:VAL:HG22	18:S:770:SER:HA	2.02	0.42
11:K:262:SER:N	18:S:629:ARG:O	2.50	0.42
17:R:1106:HIS:CE1	17:R:1107:VAL:HG12	2.54	0.42
18:S:128:LEU:O	18:S:132:LEU:HG	2.18	0.42
9:I:593:GLU:HA	9:I:594:ASN:HA	1.52	0.42
17:R:260:LYS:HA	17:R:263:PHE:HB2	2.02	0.42
17:R:873:SER:HA	17:R:882:CYS:SG	2.60	0.42
18:S:319:LYS:O	18:S:323:TYR:N	2.42	0.42
9:I:398:GLU:O	9:I:402:ILE:HG23	2.19	0.42
10:J:630:ARG:NH2	10:J:637:SER:H	2.14	0.42
12:L:626:GLN:O	12:L:628:ASN:N	2.51	0.42
13:M:194:LYS:N	13:M:195:PRO:HD2	2.34	0.42
20:V:214:VAL:HG13	20:V:239:PHE:HB3	2.02	0.42
21:W:88:ALA:O	21:W:92:GLU:HG2	2.19	0.42
12:L:198:LYS:HB3	12:L:204:LEU:HA	2.00	0.42
17:R:756:LEU:HA	17:R:759:ASN:ND2	2.35	0.42
17:R:960:CYS:HB2	17:R:994:LEU:HG	2.02	0.42
17:R:1158:GLU:HA	17:R:1161:TRP:NE1	2.35	0.42
9:I:962:PHE:O	9:I:965:MET:HG2	2.19	0.42
11:K:618:LEU:HD23	11:K:618:LEU:HA	1.88	0.42
13:M:52:LEU:HA	13:M:132:LYS:HB2	2.02	0.42
17:R:768:LYS:O	17:R:771:SER:OG	2.30	0.42
19:T:199:ALA:HB3	19:T:200:PRO:HD3	2.00	0.42
9:I:384:LYS:O	9:I:386:VAL:HG23	2.19	0.42
9:I:897:THR:OG1	9:I:898:ASN:N	2.52	0.42
18:S:66:TYR:O	18:S:69:SER:OG	2.38	0.42
18:S:141:ARG:HG3	18:S:155:GLU:N	2.35	0.42
18:S:244:VAL:O	18:S:248:ILE:HG12	2.20	0.42
3:C:140:HIS:O	3:C:141:PRO:C	2.58	0.42
17:R:1065:ASP:OD1	17:R:1066:THR:N	2.53	0.42
17:R:1120:LYS:HE2	17:R:1120:LYS:HB2	1.95	0.42
9:I:831:PHE:HD2	9:I:859:PHE:HE2	1.68	0.41
11:K:42:ARG:CD	11:K:831:GLU:HG2	2.43	0.41
11:K:458:SER:HA	11:K:459:PRO:HD3	1.87	0.41

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:553:LEU:HA	11:K:556:ILE:HG22	2.01	0.41
17:R:977:LEU:HD12	17:R:977:LEU:HA	1.81	0.41
18:S:378:VAL:CG1	18:S:381:LEU:HD23	2.49	0.41
3:C:114:VAL:HA	5:E:111:THR:CB	2.50	0.41
11:K:393:ILE:CD1	11:K:443:LEU:HD21	2.50	0.41
12:L:644:SER:HA	21:W:97:GLN:HE21	1.84	0.41
17:R:673:LYS:HD2	17:R:673:LYS:HA	1.76	0.41
17:R:1253:GLY:O	17:R:1256:LEU:HD13	2.20	0.41
17:R:1315:GLU:HA	17:R:1318:ILE:HG22	2.01	0.41
18:S:282:VAL:O	18:S:285:ILE:HG22	2.20	0.41
3:C:178:ASP:O	3:C:179:ALA:C	2.57	0.41
9:I:300:CYS:O	9:I:303:LEU:HG	2.20	0.41
9:I:688:PRO:HG2	9:I:767:LEU:HD11	2.01	0.41
11:K:500:VAL:HA	11:K:503:LEU:HD12	2.02	0.41
11:K:502:SER:O	11:K:505:GLU:HG2	2.20	0.41
12:L:293:THR:O	12:L:296:GLU:HG3	2.20	0.41
11:K:130:PRO:HA	11:K:184:VAL:H	1.86	0.41
12:L:460:ILE:HD13	12:L:460:ILE:HA	1.96	0.41
17:R:624:LEU:O	17:R:627:LEU:HG	2.19	0.41
17:R:891:LEU:HD23	17:R:891:LEU:HA	1.91	0.41
18:S:676:ASP:OD1	18:S:677:VAL:N	2.53	0.41
3:C:140:HIS:H	3:C:144:GLY:H	1.66	0.41
11:K:134:LEU:HD12	11:K:217:ASP:HB3	2.00	0.41
12:L:522:GLN:O	12:L:526:LEU:HG	2.20	0.41
17:R:167:ILE:HG23	17:R:204:LEU:HD11	2.02	0.41
9:I:1221:GLN:HA	9:I:1224:ILE:HG22	2.03	0.41
11:K:134:LEU:HB3	11:K:135:SER:H	1.72	0.41
17:R:101:LEU:HD23	17:R:121:LEU:HD11	2.01	0.41
17:R:680:SER:HB2	17:R:683:LEU:HD13	2.03	0.41
22:X:66:GLN:OE1	22:X:66:GLN:N	2.52	0.41
12:L:298:ALA:HA	12:L:301:VAL:HG12	2.03	0.41
17:R:665:PHE:HA	17:R:668:PHE:CE1	2.56	0.41
17:R:756:LEU:HD21	17:R:832:TYR:CZ	2.55	0.41
18:S:378:VAL:CG1	18:S:381:LEU:HB3	2.45	0.41
3:C:117:SER:O	5:E:112:LYS:O	2.39	0.41
3:C:180:LEU:C	3:C:182:LEU:N	2.72	0.41
11:K:474:LEU:HD21	11:K:493:LEU:HG	2.02	0.41
12:L:495:LEU:HD21	12:L:503:ARG:HD3	2.02	0.41
17:R:692:ALA:O	17:R:695:THR:OG1	2.39	0.41
17:R:926:LYS:HA	17:R:926:LYS:HD2	1.81	0.41
17:R:1142:ILE:H	17:R:1142:ILE:HD12	1.85	0.41

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:S:94:VAL:HA	18:S:97:LEU:HD12	2.02	0.41
19:T:73:THR:HG23	19:T:75:ASP:OD1	2.20	0.41
9:I:668:HIS:HB3	10:J:767:HIS:HD2	1.85	0.41
17:R:450:SER:OG	17:R:451:LEU:N	2.54	0.41
17:R:537:MET:SD	17:R:537:MET:N	2.92	0.41
17:R:680:SER:HB2	17:R:683:LEU:HB2	2.03	0.41
17:R:714:ASP:N	17:R:714:ASP:OD1	2.53	0.41
17:R:786:PRO:HB2	17:R:787:PRO:HD3	2.01	0.41
17:R:847:ILE:HD13	17:R:851:ASN:HD21	1.86	0.41
17:R:1269:GLU:HA	17:R:1272:VAL:HG22	2.03	0.41
17:R:1290:TYR:O	17:R:1293:PRO:HD2	2.21	0.41
17:R:1308:ASP:OD1	17:R:1308:ASP:N	2.53	0.41
10:J:639:TYR:O	10:J:643:VAL:HG22	2.20	0.41
11:K:621:VAL:O	11:K:625:VAL:HG13	2.21	0.41
11:K:654:MET:O	11:K:658:LEU:HG	2.21	0.41
17:R:229:PRO:HG3	17:R:1218:HIS:HE2	1.86	0.41
18:S:225:ILE:HD13	18:S:225:ILE:HA	1.92	0.41
9:I:536:ASN:HA	9:I:550:ILE:HA	2.03	0.40
9:I:586:LEU:HG	9:I:588:LEU:HG	2.03	0.40
9:I:902:GLN:O	9:I:919:ARG:HA	2.21	0.40
17:R:777:ILE:HA	17:R:780:PHE:HB3	2.02	0.40
17:R:927:LYS:HG3	17:R:928:TYR:H	1.86	0.40
17:R:931:LYS:HD2	17:R:931:LYS:HA	1.76	0.40
18:S:120:LEU:HD23	18:S:124:LEU:HD23	2.02	0.40
21:W:48:LEU:HD22	21:W:87:ILE:HD12	2.02	0.40
11:K:221:THR:OG1	11:K:222:GLY:N	2.53	0.40
14:O:22:GLU:O	14:O:26:ARG:HG3	2.20	0.40
17:R:820:VAL:HG13	17:R:821:ALA:H	1.86	0.40
17:R:1148:ALA:HA	17:R:1151:LEU:HD12	2.02	0.40
3:C:167:GLU:OE2	9:I:268:SER:C	2.59	0.40
9:I:967:VAL:HG21	9:I:1185:LEU:HD13	2.04	0.40
11:K:166:PRO:HG2	11:K:169:THR:HB	2.03	0.40
11:K:479:GLU:O	11:K:483:VAL:HG13	2.21	0.40
17:R:87:VAL:HA	17:R:91:LEU:O	2.22	0.40
17:R:157:VAL:O	17:R:161:LEU:HG	2.21	0.40
3:C:118:ARG:N	5:E:111:THR:C	2.74	0.40
3:C:176:ARG:C	3:C:179:ALA:H	2.25	0.40
11:K:750:LEU:HD22	11:K:752:PHE:CE1	2.56	0.40
12:L:303:LEU:HD21	12:L:375:LEU:HD21	2.03	0.40
12:L:477:VAL:HG13	12:L:492:GLN:NE2	2.35	0.40
17:R:448:PRO:C	17:R:452:ARG:HG3	2.38	0.40

*Continued on next page...*

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:1162:ILE:HD13	17:R:1162:ILE:HA	1.90	0.40
18:S:502:HIS:HA	18:S:670:LEU:HD21	2.02	0.40
22:X:167:GLN:HG3	23:Y:61:PRO:HD2	2.02	0.40
10:J:639:TYR:CE1	10:J:643:VAL:HG21	2.56	0.40
10:J:736:TRP:HD1	10:J:743:TYR:HE2	1.69	0.40
11:K:383:ALA:HB2	11:K:393:ILE:CG2	2.52	0.40
11:K:546:ASP:N	11:K:546:ASP:OD1	2.54	0.40
18:S:303:LEU:H	18:S:303:LEU:HD12	1.87	0.40
22:X:76:LYS:O	22:X:80:GLN:HG2	2.22	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	455/1581 (29%)	430 (94%)	25 (6%)	0	100	100
2	B	154/270 (57%)	151 (98%)	3 (2%)	0	100	100
3	C	174/246 (71%)	118 (68%)	51 (29%)	5 (3%)	3	23
4	D	159/233 (68%)	153 (96%)	6 (4%)	0	100	100
5	E	177/268 (66%)	161 (91%)	16 (9%)	0	100	100
6	F	69/146 (47%)	67 (97%)	2 (3%)	0	100	100
7	G	120/135 (89%)	119 (99%)	1 (1%)	0	100	100
8	H	101/117 (86%)	92 (91%)	6 (6%)	3 (3%)	3	22
9	I	1068/1454 (74%)	958 (90%)	110 (10%)	0	100	100
10	J	165/788 (21%)	144 (87%)	21 (13%)	0	100	100
11	K	710/877 (81%)	598 (84%)	109 (15%)	3 (0%)	30	68
12	L	527/651 (81%)	460 (87%)	66 (12%)	1 (0%)	44	78
13	M	176/208 (85%)	162 (92%)	14 (8%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	O	164/212 (77%)	145 (88%)	19 (12%)	0	100	100
15	P	110/144 (76%)	108 (98%)	2 (2%)	0	100	100
16	Q	129/200 (64%)	123 (95%)	6 (5%)	0	100	100
17	R	1284/1368 (94%)	1127 (88%)	155 (12%)	2 (0%)	44	78
18	S	889/989 (90%)	802 (90%)	86 (10%)	1 (0%)	48	83
19	T	184/747 (25%)	171 (93%)	13 (7%)	0	100	100
20	V	264/311 (85%)	226 (86%)	37 (14%)	1 (0%)	30	68
21	W	116/178 (65%)	113 (97%)	3 (3%)	0	100	100
22	X	119/200 (60%)	115 (97%)	4 (3%)	0	100	100
23	Y	128/178 (72%)	120 (94%)	8 (6%)	0	100	100
24	Z	101/131 (77%)	100 (99%)	1 (1%)	0	100	100
26	9	22/2174 (1%)	6 (27%)	7 (32%)	9 (41%)	0	0
All	All	7565/13806 (55%)	6769 (90%)	771 (10%)	25 (0%)	38	72

All (25) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	168	PRO
3	C	176	ARG
8	H	86	SER
11	K	835	PRO
26	9	621	PRO
26	9	626	VAL
26	9	629	LEU
26	9	630	PRO
26	9	631	PRO
26	9	634	PRO
3	C	145	TYR
26	9	636	ASP
3	C	173	GLN
8	H	83	SER
8	H	85	SER
26	9	627	GLU
3	C	172	PHE
12	L	31	LEU
11	K	830	VAL
17	R	1175	PRO
26	9	620	PHE

Continued on next page...

*Continued from previous page...*

Mol	Chain	Res	Type
20	V	293	PRO
17	R	945	VAL
18	S	919	PRO
11	K	305	ILE

### 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	13/1391 (1%)	13 (100%)	0	100	100
2	B	3/230 (1%)	3 (100%)	0	100	100
3	C	12/223 (5%)	11 (92%)	1 (8%)	9	28
5	E	3/225 (1%)	3 (100%)	0	100	100
6	F	6/133 (4%)	6 (100%)	0	100	100
7	G	1/124 (1%)	1 (100%)	0	100	100
8	H	14/98 (14%)	14 (100%)	0	100	100
9	I	401/1271 (32%)	400 (100%)	1 (0%)	92	93
10	J	104/697 (15%)	103 (99%)	1 (1%)	73	82
11	K	418/766 (55%)	417 (100%)	1 (0%)	92	93
12	L	199/577 (34%)	199 (100%)	0	100	100
13	M	62/183 (34%)	62 (100%)	0	100	100
14	O	47/178 (26%)	47 (100%)	0	100	100
16	Q	25/173 (14%)	25 (100%)	0	100	100
17	R	956/1232 (78%)	954 (100%)	2 (0%)	92	93
18	S	402/864 (46%)	399 (99%)	3 (1%)	81	87
19	T	96/601 (16%)	96 (100%)	0	100	100
20	V	95/280 (34%)	95 (100%)	0	100	100
21	W	55/152 (36%)	55 (100%)	0	100	100
22	X	67/163 (41%)	67 (100%)	0	100	100

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
23	Y	47/155 (30%)	47 (100%)	0	100	100
24	Z	1/115 (1%)	1 (100%)	0	100	100
All	All	3027/9831 (31%)	3018 (100%)	9 (0%)	90	92

All (9) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	C	192	PHE
9	I	896	ARG
10	J	739	ARG
11	K	754	ARG
17	R	536	LYS
17	R	1229	LYS
18	S	385	ARG
18	S	489	ARG
18	S	835	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (41) such sidechains are listed below:

Mol	Chain	Res	Type
9	I	638	ASN
9	I	663	ASN
9	I	860	ASN
10	J	628	ASN
10	J	635	ASN
11	K	473	HIS
11	K	598	ASN
12	L	367	HIS
12	L	466	ASN
13	M	134	HIS
16	Q	102	ASN
17	R	103	ASN
17	R	276	GLN
17	R	552	HIS
17	R	664	GLN
17	R	684	ASN
17	R	696	HIS
17	R	726	ASN
17	R	874	HIS
17	R	918	HIS

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type
17	R	1028	HIS
17	R	1054	ASN
17	R	1165	HIS
17	R	1223	GLN
17	R	1300	HIS
18	S	370	GLN
18	S	419	ASN
18	S	699	ASN
18	S	747	ASN
18	S	760	HIS
18	S	836	HIS
18	S	920	HIS
20	V	55	HIS
20	V	106	GLN
20	V	220	ASN
20	V	252	HIS
21	W	97	GLN
21	W	140	GLN
22	X	84	GLN
22	X	85	ASN
23	Y	81	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 oligosaccharides in this entry.

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

There are no ligands in this entry.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

There are no chain breaks in this entry.

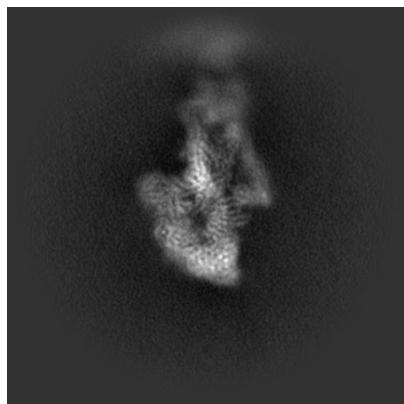
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-41107. These allow visual inspection of the internal detail of the map and identification of artifacts.

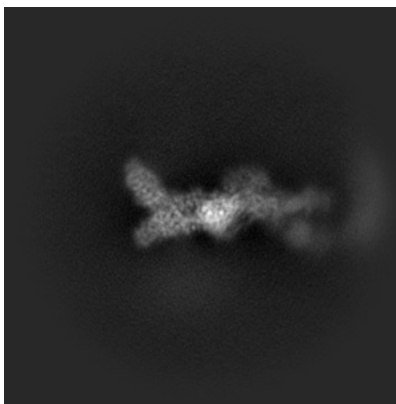
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

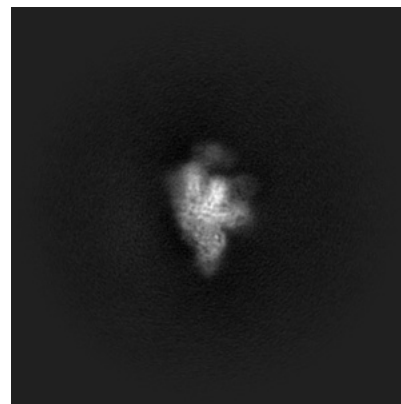
#### 6.1.1 Primary map



X

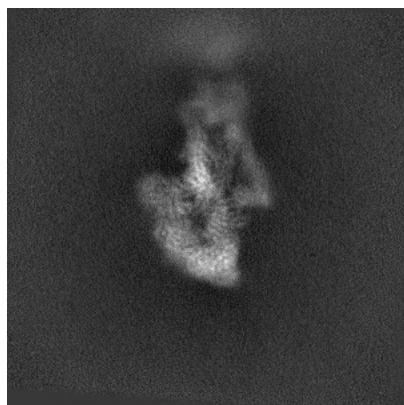


Y

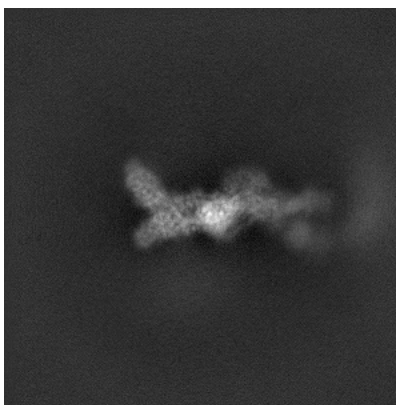


Z

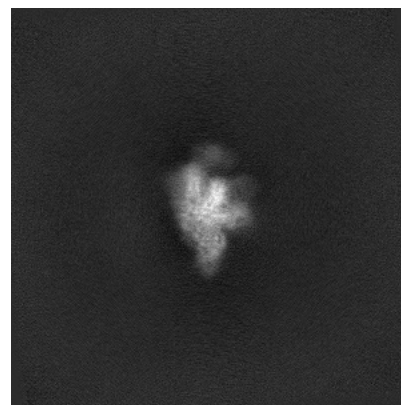
#### 6.1.2 Raw map



X



Y

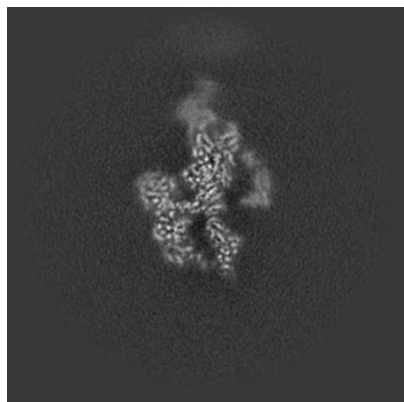


Z

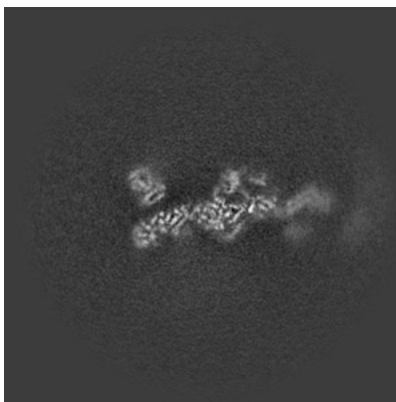
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

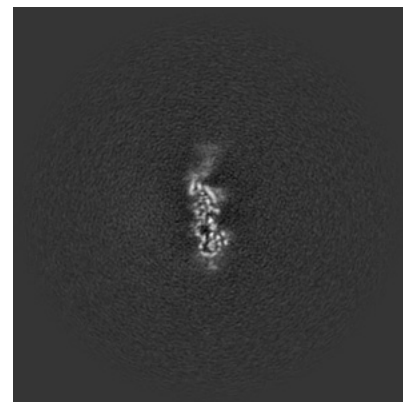
### 6.2.1 Primary map



X Index: 280

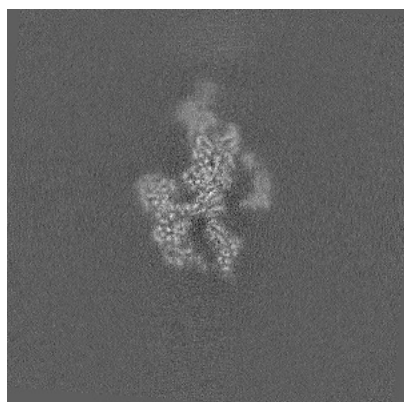


Y Index: 280



Z Index: 280

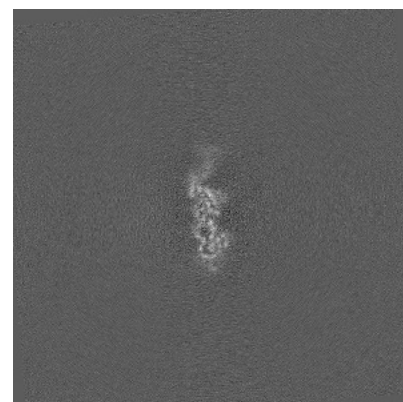
### 6.2.2 Raw map



X Index: 280



Y Index: 280

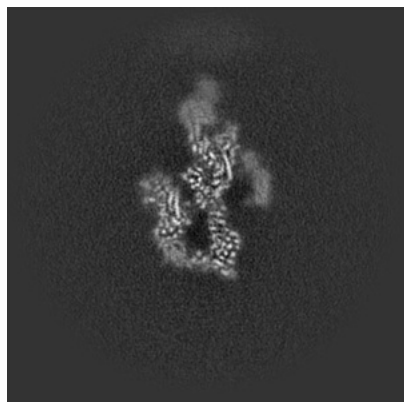


Z Index: 280

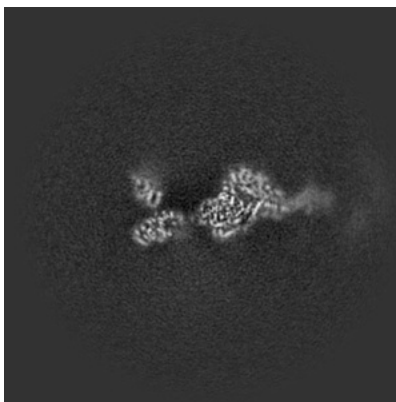
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

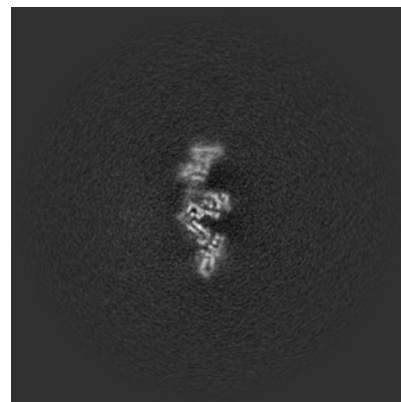
### 6.3.1 Primary map



X Index: 286

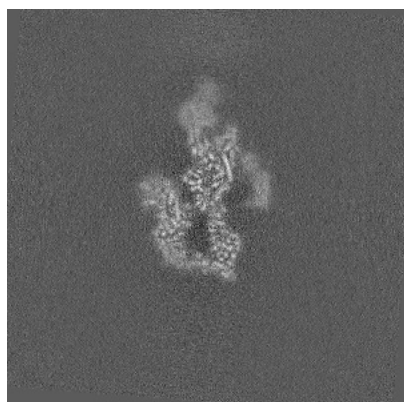


Y Index: 270

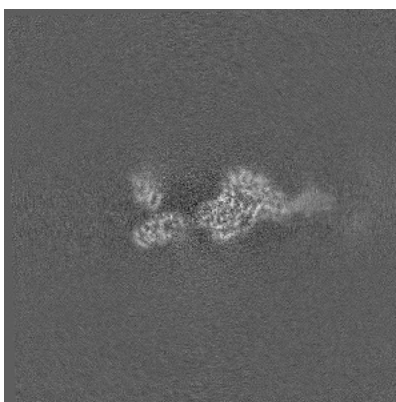


Z Index: 297

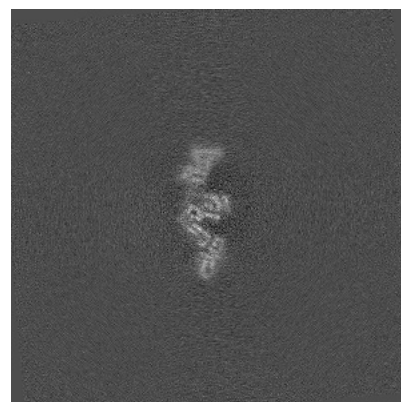
### 6.3.2 Raw map



X Index: 285



Y Index: 270

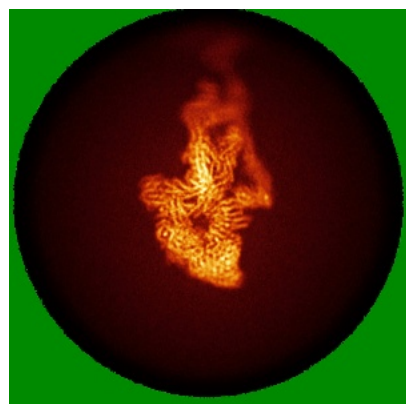


Z Index: 297

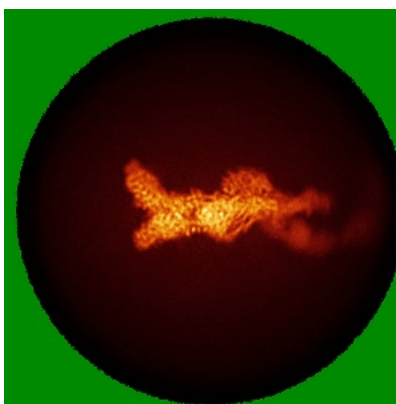
The images above show the largest variance slices of the map in three orthogonal directions.

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

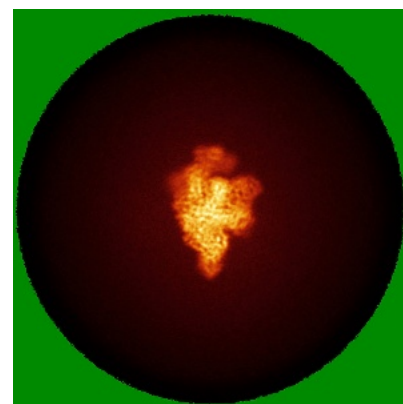
### 6.4.1 Primary map



X

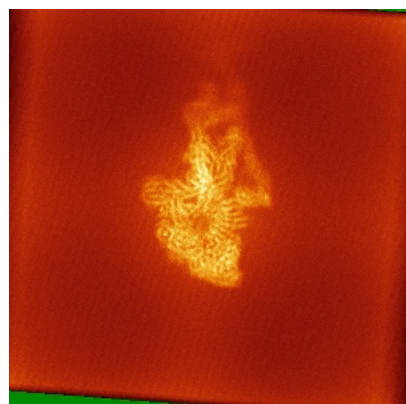


Y

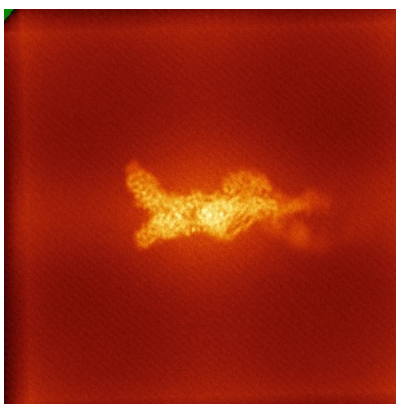


Z

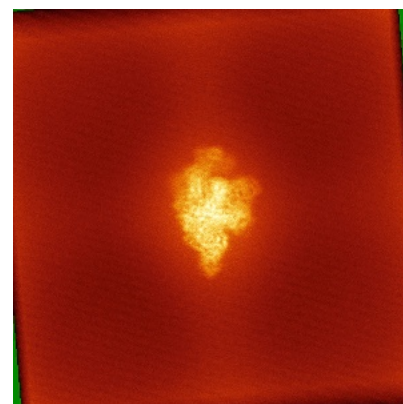
### 6.4.2 Raw map



X



Y

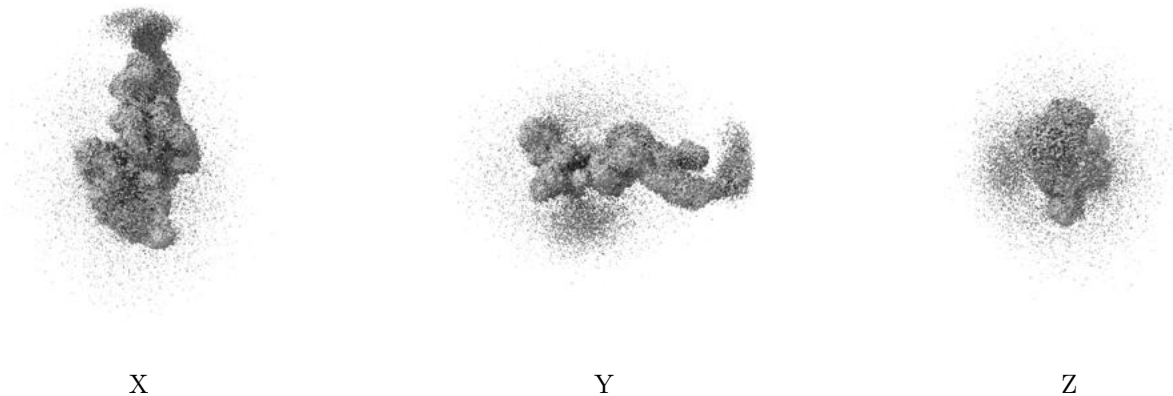


Z

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.

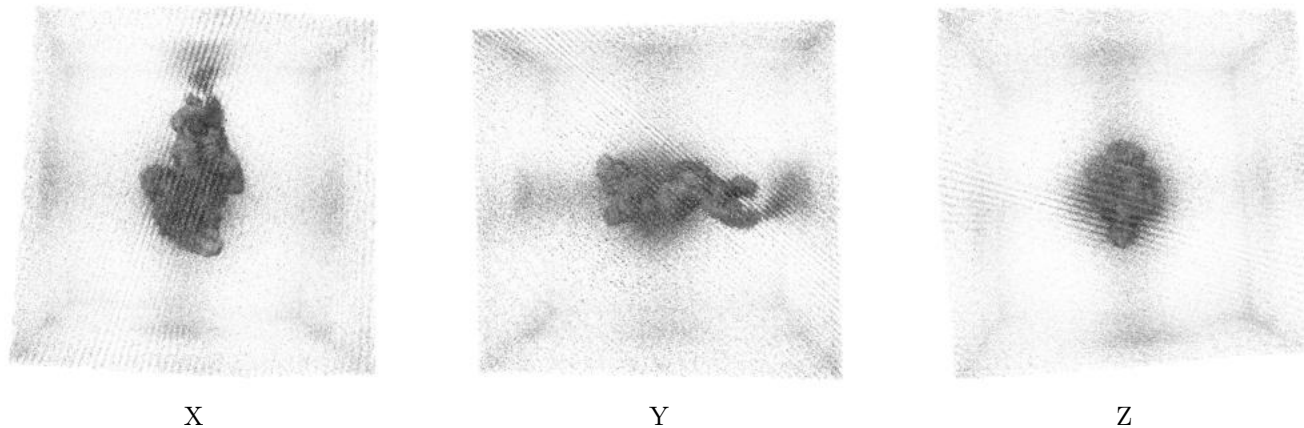
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.04. 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](#)

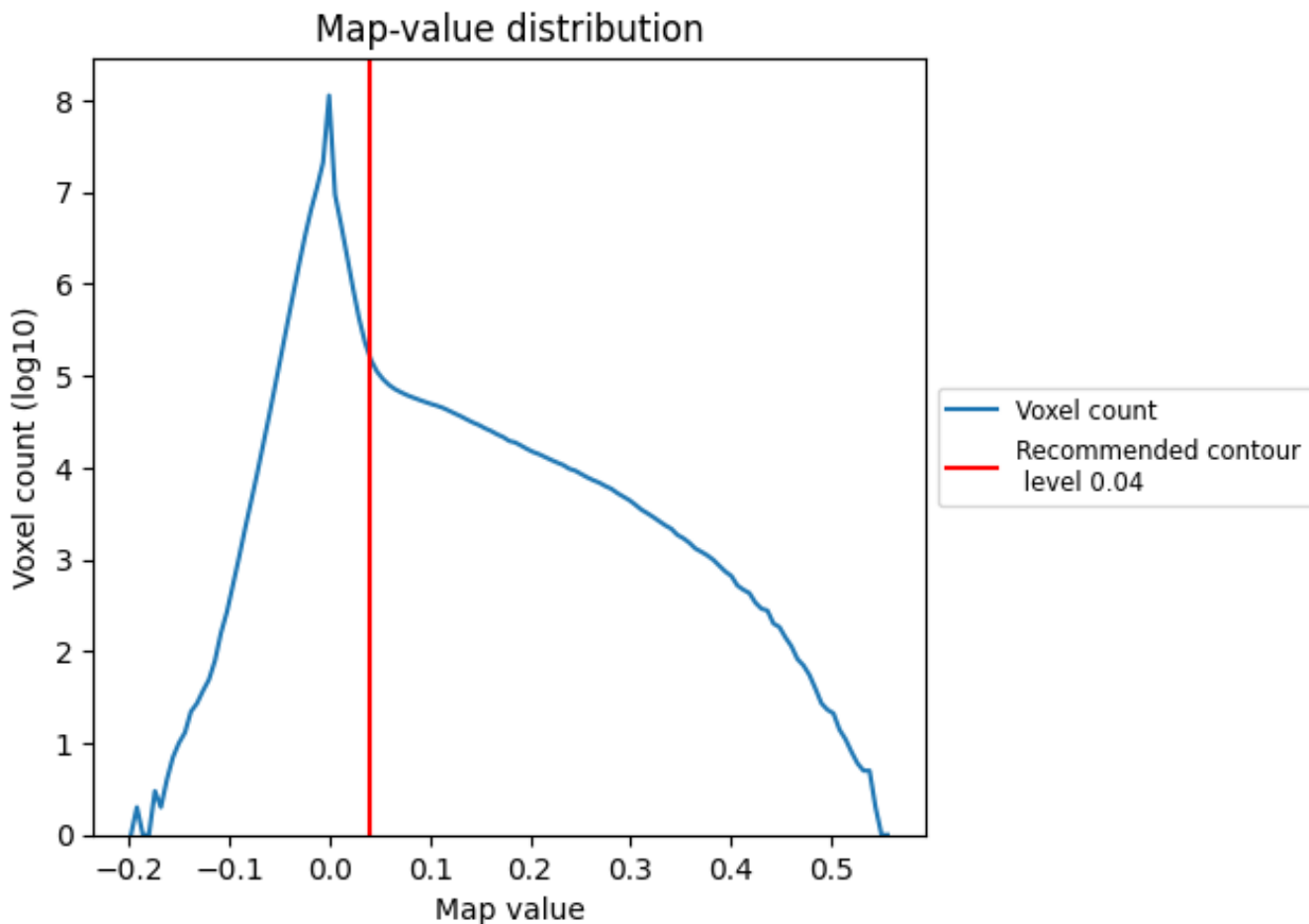
This section was not generated. No masks/segmentation were deposited.



## 7 Map analysis [i](#)

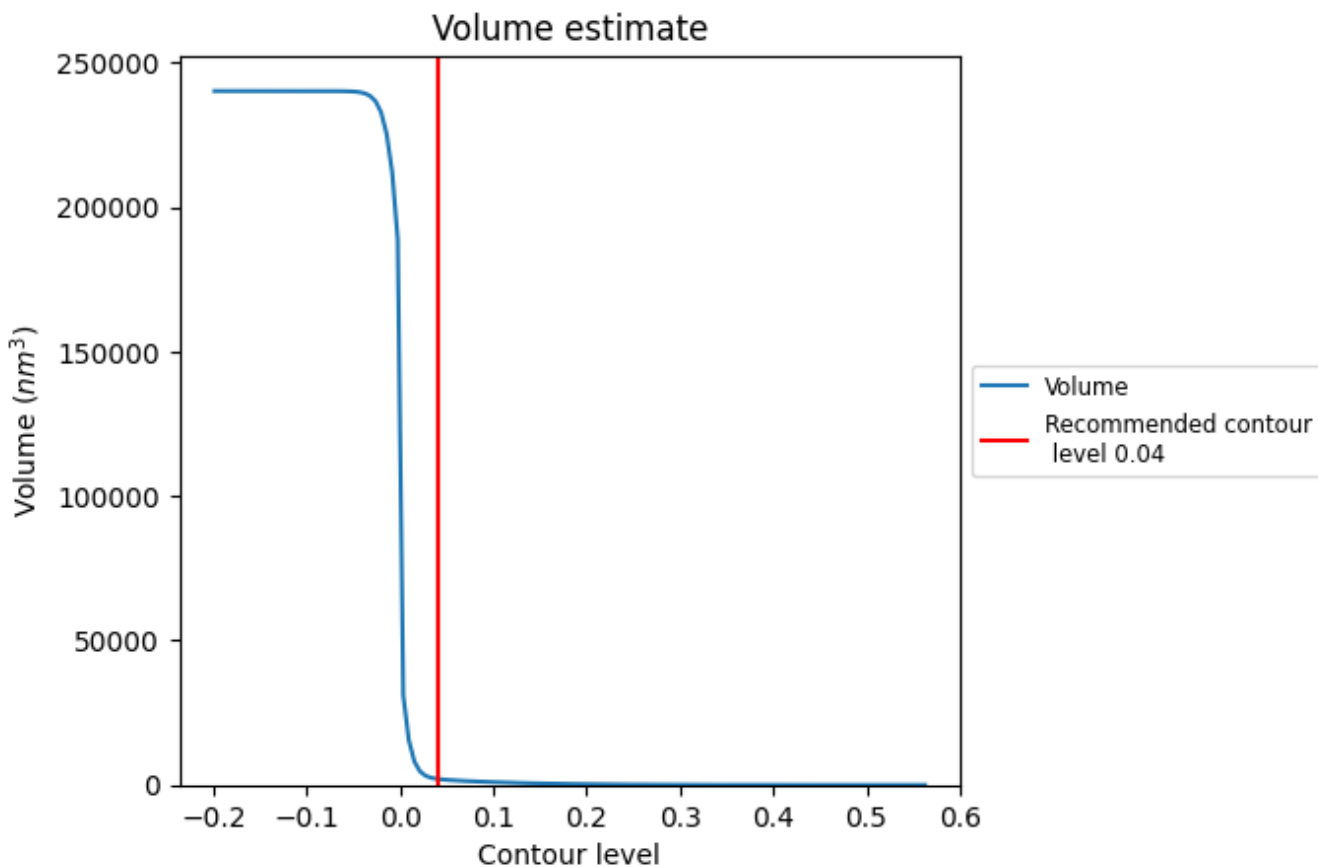
This section contains the results of statistical analysis of the map.

### 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.

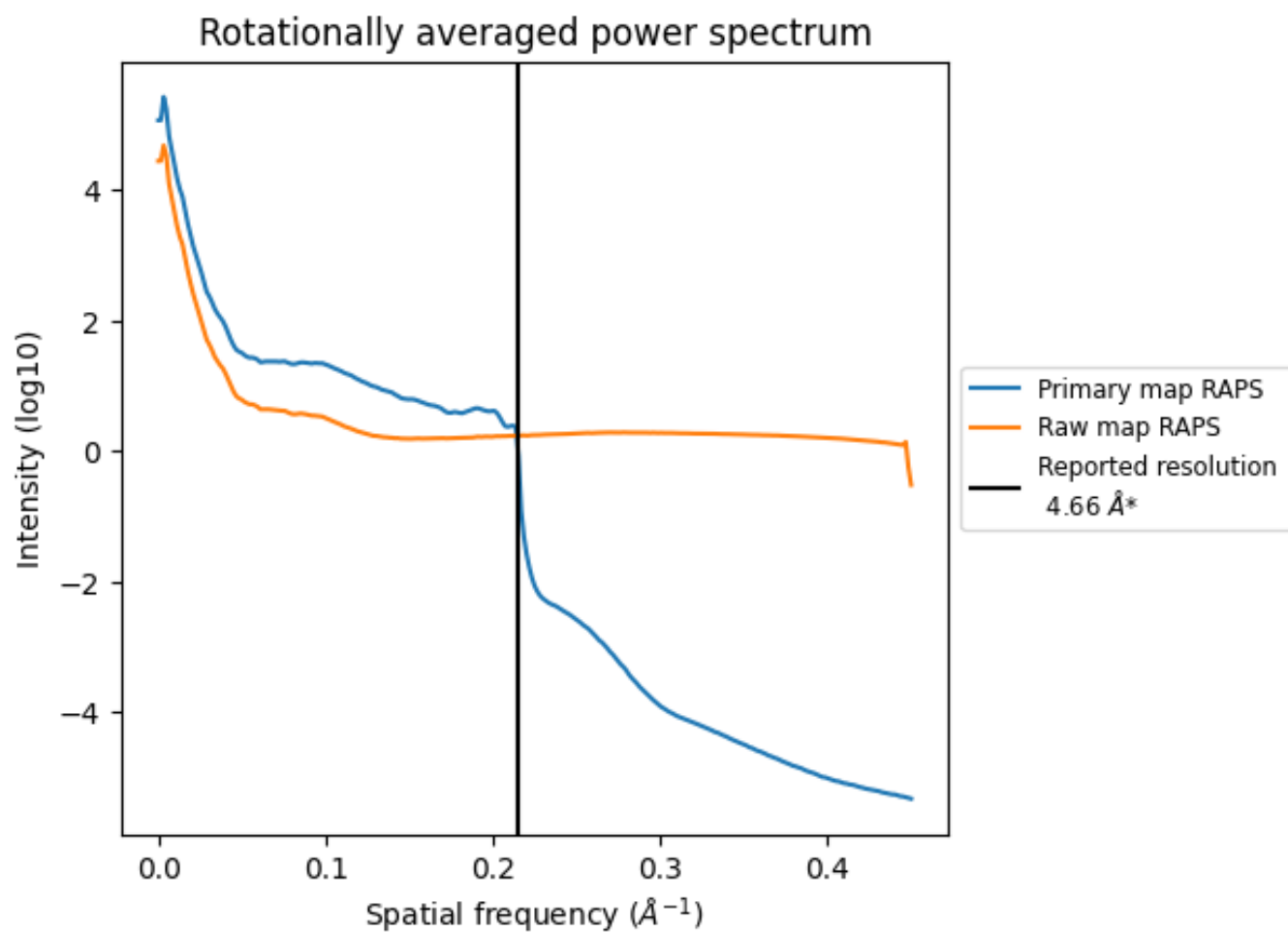
## 7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 21011  $\text{nm}^3$ ; this corresponds to an approximate mass of 1898 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](#)

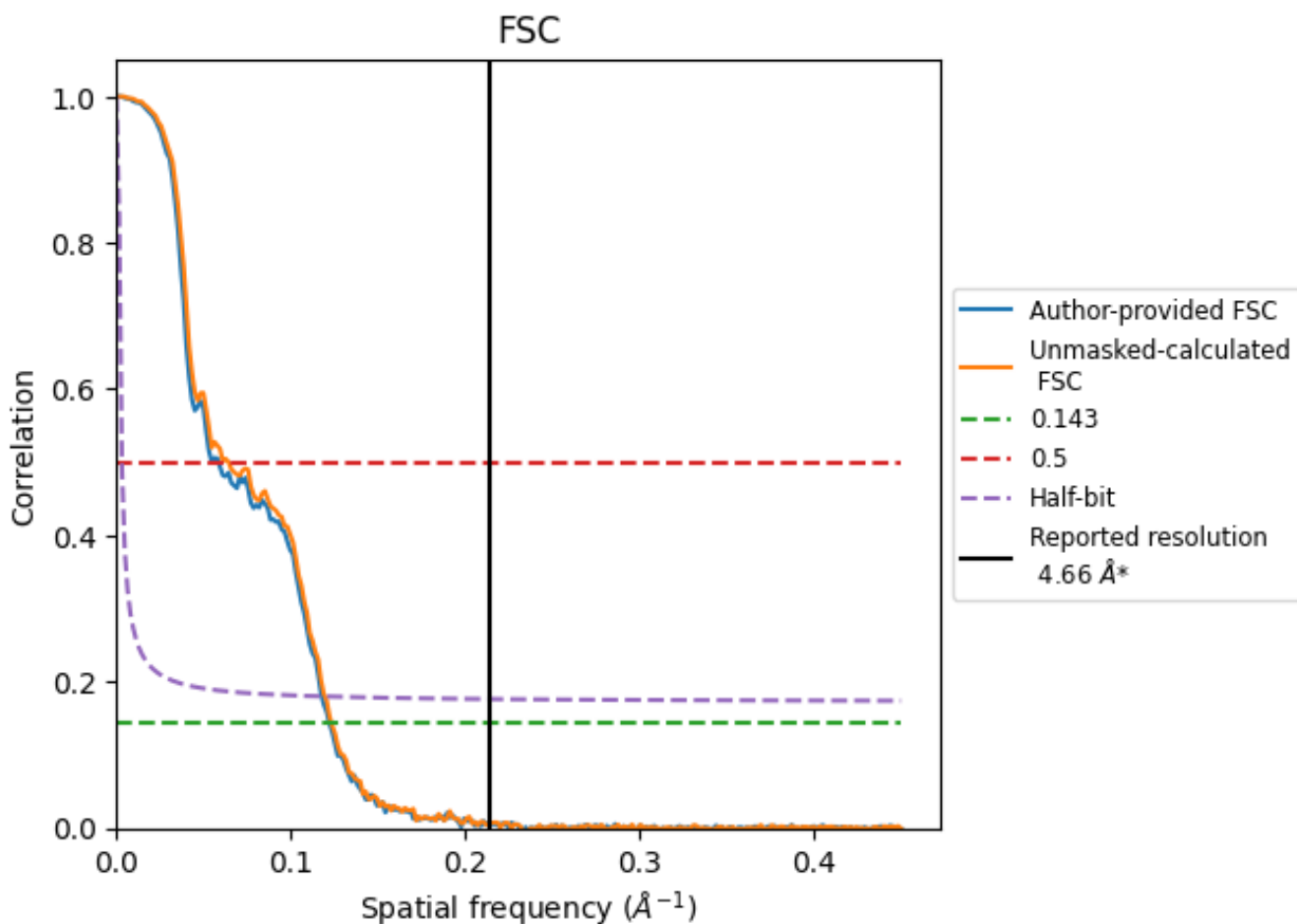


\*Reported resolution corresponds to spatial frequency of 0.215 Å<sup>-1</sup>

## 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 0.215 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.66	-	-
Author-provided FSC curve	8.18	17.06	8.47
Unmasked-calculated*	8.10	15.55	8.35

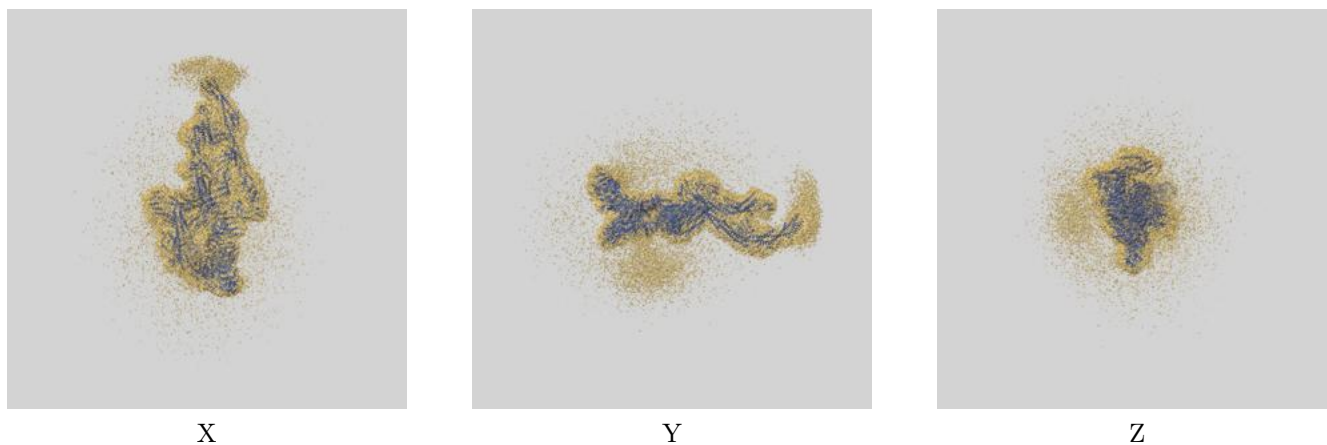
\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from author-provided FSC intersecting FSC 0.143 CUT-OFF 8.18 differs from the reported value 4.66 by more than 10 %

The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 8.10 differs from the reported value 4.66 by more than 10 %

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

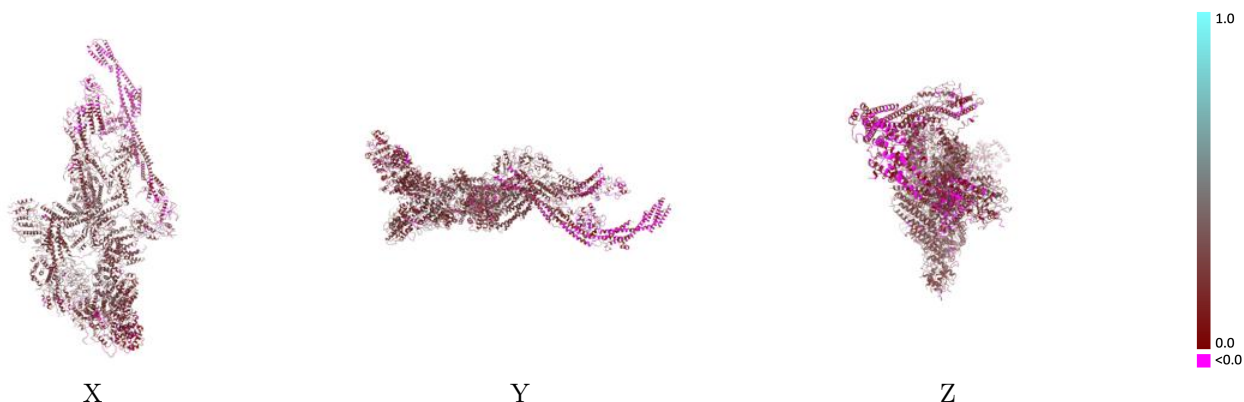
This section contains information regarding the fit between EMDB map EMD-41107 and PDB model 8T9D. Per-residue inclusion information can be found in section [3](#) on page [8](#).

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



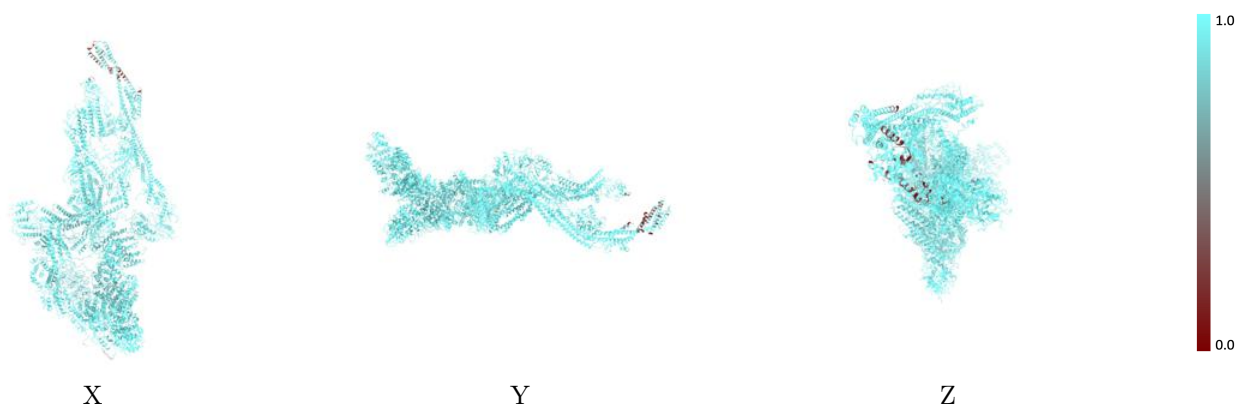
The images above show the 3D surface view of the map at the recommended contour level 0.04 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



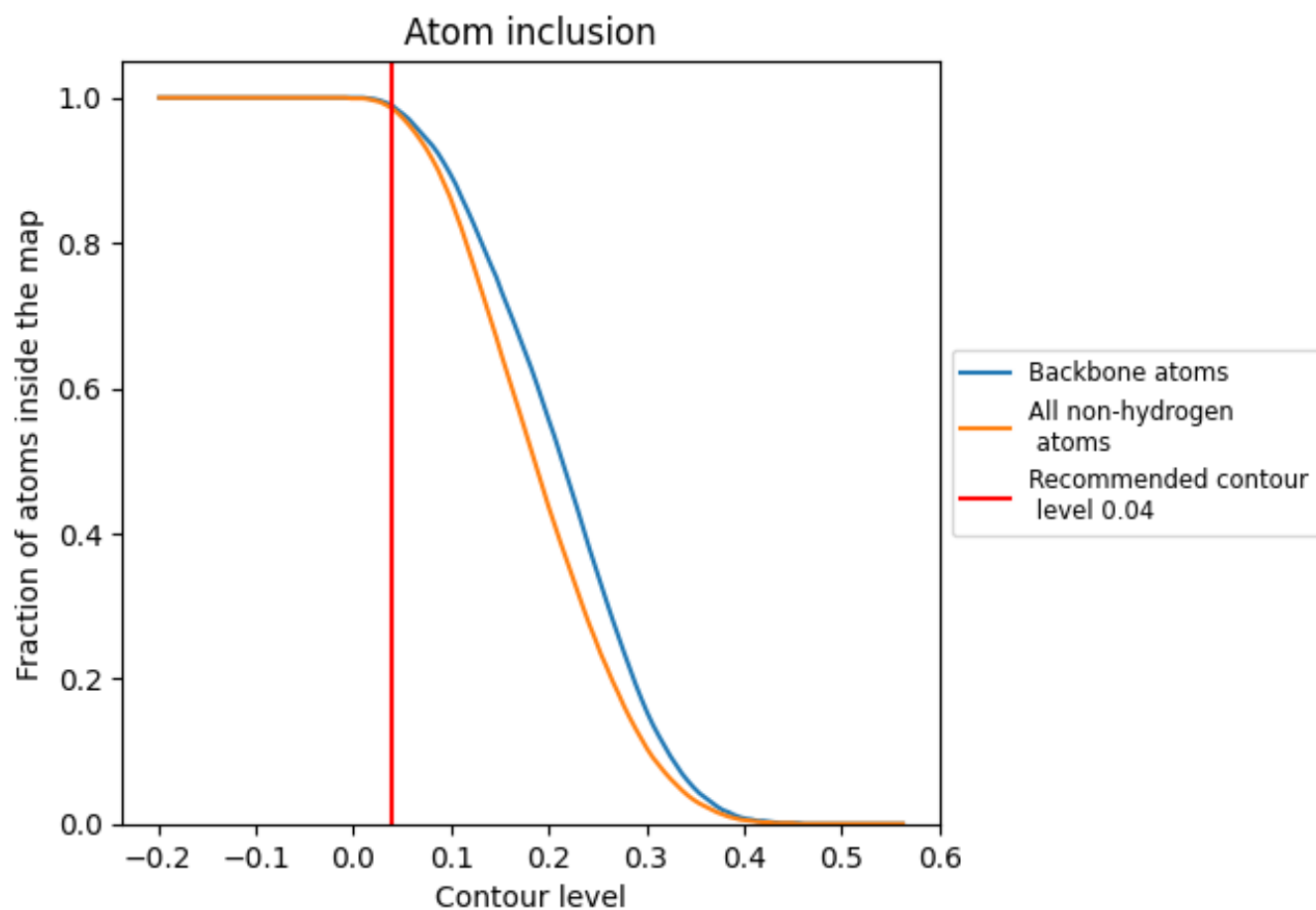
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.04).

## 9.4 Atom inclusion [i](#)

























































At the recommended contour level, 99% of all backbone atoms, 98% 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 (0.04) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9850	 0.2150
9	 1.0000	 0.2220
A	 0.9970	 0.1740
B	 0.9950	 0.1190
C	 0.9630	 0.1290
D	 0.9950	 0.0790
E	 0.9950	 0.1370
F	 1.0000	 0.1670
G	 0.7220	 0.0500
H	 0.9970	 0.1930
I	 0.9800	 0.2420
J	 0.9910	 0.2480
K	 0.9890	 0.2450
L	 0.9880	 0.2410
M	 0.9990	 0.2300
O	 1.0000	 0.2760
P	 0.9600	 0.0750
Q	 0.9930	 0.1920
R	 0.9840	 0.1950
S	 0.9920	 0.2380
T	 0.9950	 0.2050
V	 0.9960	 0.3020
W	 0.9910	 0.2380
X	 1.0000	 0.2500
Y	 0.9990	 0.2570
Z	 0.9940	 0.0880
a	 1.0000	 0.2080

