

wwPDB EM Validation Summary Report (i)

Nov 21, 2022 – 03:11 PM EST

PDB ID	:	8ESQ
EMDB ID	:	EMD-24411
Title	:	Ytm1 associated nascent 60S ribosome State 2
Authors	:	Zhou, X.; Bilokapic, S.; Deshmukh, A.A.; Halic, M.
Deposited on	:	2022-10-14
Resolution	:	2.80 Å(reported)

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

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

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

The following versions of software and data (see references (1)) were used in the production of this report:

:	0.0.1. dev 43
:	4.02b-467
:	20191225.v01 (using entries in the PDB archive December 25th 2019)
:	1.9.9
:	Engh & Huber (2001)
:	Parkinson et al. (1996)
:	2.31.2
	: : : : :

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 2.80 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive	EM structures
	(#Entries)	(#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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

Mol	Chain	Length	Quality of chain					
1	7	707	27% 35%	65%				
2	1	3497	48%	16%	36%			
3	2	165	74%		17% 9%			
4	3	302	50%	•	47%			
5	6	300	17% 10%	73%				
6	8	51	59%	10%	31%			
7	А	295	71%	•	28%			
8	В	388	86%		• 13%			



Conti	nued fron	n previous	page	
Mol	Chain	Length	Quality of chain	
9	С	363	97%	
10	D	578	73% •	26%
11	Е	195	82%	15%
12	F	250	94%	• 5%
13	G	259	78% .	20%
14	Н	190	91%	5% •
15	Ι	747	61% · 38%	
16	J	333	33% • 65%	
17	Κ	373	65% • 33	%
18	L	208	55% • 44%	
19	М	134	88%	5% 7%
20	Ν	201	83%	17%
21	Ο	197	99%	••
22	Р	187	85%	15%
23	Q	187	71% . 2	29%
24	R	193	• • • • • • • • • • • • • • • • • • •	
25	S	176	93%	• 5%
26	U	117	37% 77% 7%	16%
27	V	139	89%	6% 5%
28	W	241	40%	11%
29	Х	141	92%	• 6%
30	Y	126	95%	• •
31	Z	136	94%	• •
32	a	148	53% • 46%	
33	b	642	63% 37%	



Mol	Chain	Length	Quality of chain	
34	с	117	9%	18%
35	d	113	83%	14%
36	е	127	94%	• 5%
37	f	108	98%	•
38	g	112	93%	• 5%
39	h	122	98%	
40	i	99	86%	14%
41	j	91	78%	22%
42	k	74	89%	5% 5%
43	1	180	88%	9% •
44	m	740	^{5%} 76%	23%
45	n	607	70% • 2	9%
46	0	276	9% 48% • 50%	
47	р	440	66% 34%	6
48	q	608	25% 56% 44%	
49	r	260	6% 62% • 36%	
50	s	470	6% • 93%	
51	t	249	94%	• 6%
52	u	192	55% · 41%	
53	v	209	• 75% •	23%
54	w	802	62% · 37%	
55	x	306	5% 14% 85%	
56	У	244	90%	• 8%
57	Z	117	28% · 70%	
58	Т	160	19% • 79%	

Continued from previous page...



2 Entry composition (i)

There are 59 unique types of molecules in this entry. The entry contains 130409 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 Noc2.

Mol	Chain	Residues	Atoms				AltConf	Trace
1	7	245	Total 1218	C 728	N 245	0 245	0	0

• Molecule 2 is a RNA chain called RNA (2231-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1	2230	Total 47746	C 21325	N 8659	O 15532	Р 2230	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1	1746	С	U	conflict	GB 157310483

• Molecule 3 is a RNA chain called RNA (150-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
3	2	150	Total 3189	C 1427	N 564	0 1048	Р 150	0	0

• Molecule 4 is a protein called Protein mak16.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	3	160	Total 1336	C 845	N 257	0 228	S 6	0	0

• Molecule 5 is a RNA chain called RNA (81-MER).

Mol	Chain	Residues	Atoms				AltConf	Trace	
5	6	81	Total 1717	C 770	N 296	O 570	Р 81	0	0



There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference	
6	137	С	U	conflict	GB 157310483	
6	146	G	U	conflict	GB 157310483	

• Molecule 6 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues		Aton	ıs	AltConf	Trace	
6	8	35	Total 291	C 182	N 64	O 45	0	0

• Molecule 7 is a protein called Ribosome biogenesis protein brx1.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	А	211	Total 1686	C 1079	N 301	0 299	S 7	0	0

• Molecule 8 is a protein called 60S ribosomal protein L3-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	В	339	Total 2687	C 1701	N 499	0 478	S 9	0	0

• Molecule 9 is a protein called 60S ribosomal protein L4-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	С	359	Total 2795	C 1765	N 536	0 491	${ m S} { m 3}$	0	0

• Molecule 10 is a protein called ATP-dependent RNA helicase has1.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	D	427	Total 3396	C 2190	N 581	0 614	S 11	0	0

• Molecule 11 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	Е	165	Total 1283	C 822	N 237	0 221	${ m S} { m 3}$	0	0

• Molecule 12 is a protein called 60S ribosomal protein L7-B.



Mol	Chain	Residues	Atoms					AltConf	Trace
12	F	237	Total 1925	C 1238	N 353	0 331	${ m S} { m 3}$	0	0

• Molecule 13 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	G	206	Total 1615	C 1034	N 295	0 283	${f S}\ 3$	1	0

• Molecule 14 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	Н	183	Total 1451	C 914	N 266	O 265	S 6	0	0

• Molecule 15 is a protein called Nucleolar complex-associated protein 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	Ι	460	Total 3725	C 2412	N 620	O 682	S 11	1	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ι	607	LYS	LEU	conflict	UNP O94288

• Molecule 16 is a protein called Probable rRNA-processing protein ebp2.

Mol	Chain	Residues		At	oms	AltConf	Trace		
16	J	118	Total 959	C 607	N 166	0 184	${ m S} { m 2}$	0	0

• Molecule 17 is a protein called Putative ribosome biogenesis protein C8F11.04.

Mol	Chain	Residues		Ate	AltConf	Trace			
17	K	251	Total 1973	C 1262	N 338	O 367	S 6	0	0

• Molecule 18 is a protein called 60S ribosomal protein L13.



Mol	Chain	Residues		At	oms			AltConf	Trace
18	L	116	Total 942	C 592	N 198	0 151	S 1	0	0

• Molecule 19 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues		At	oms	AltConf	Trace		
19	М	125	Total 1007	С 644	N 191	0 168	$\frac{S}{4}$	0	0

• Molecule 20 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues		At	oms	AltConf	Trace		
20	Ν	166	Total 1406	C 883	N 291	O 229	${ m S} { m 3}$	0	0

• Molecule 21 is a protein called 60S ribosomal protein L16-B.

Mol	Chain	Residues		At	oms	AltConf	Trace		
21	Ο	196	Total 1557	C 999	N 297	O 257	${S \atop 4}$	0	0

• Molecule 22 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues		At	oms	AltConf	Trace		
22	Р	159	Total 1248	С 794	N 233	0 218	${ m S} { m 3}$	0	0

• Molecule 23 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues		At	oms	AltConf	Trace		
23	Q	133	Total 1032	C 650	N 199	0 182	S 1	0	0

• Molecule 24 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues		At	oms	AltConf	Trace		
24	R	114	Total 949	C 596	N 195	0 153	${S \atop 5}$	0	0

• Molecule 25 is a protein called 60S ribosomal protein L20-A.



Mol	Chain	Residues		At	oms	AltConf	Trace		
25	S	168	Total 1408	C 909	N 263	O 231	${S \over 5}$	0	0

• Molecule 26 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues		Ato	\mathbf{ms}	AltConf	Trace	
26	U	98	Total 701	C 513	N 137	0 141	0	0

• Molecule 27 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues		At	oms	AltConf	Trace		
27	V	132	Total 991	C 625	N 182	0 176	S 8	0	0

• Molecule 28 is a protein called Ribosome assembly factor mrt4.

Mol	Chain	Residues		Ato	ms	AltConf	Trace	
28	W	215	Total 1057	C 627	N 215	O 215	0	0

• Molecule 29 is a protein called 60S ribosomal protein L25-A.

Mol	Chain	Residues		At	AltConf	Trace			
29	Х	132	Total 1044	C 664	N 194	0 185	S 1	0	0

• Molecule 30 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues		At	oms	AltConf	Trace		
30	Y	125	Total 998	C 622	N 201	0 173	${S \over 2}$	0	0

• Molecule 31 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues		At	oms	AltConf	Trace		
31	Ζ	134	Total 1072	C 693	N 199	0 178	$\begin{array}{c} \mathrm{S} \\ \mathrm{2} \end{array}$	0	0

• Molecule 32 is a protein called 60S ribosomal protein L28-A.



Mol	Chain	Residues		Ato	ms		AltConf	Trace
32	a	80	Total 634	C 404	N 116	0 114	0	0

• Molecule 33 is a protein called Probable nucleolar GTP-binding protein 1.

Mol	Chain	Residues		Ator	AltConf	Trace		
33	b	403	Total 1999	C 1193	N 403	O 403	0	0

• Molecule 34 is a protein called 60S ribosomal protein L30-2.

Mol	Chain	Residues		At	oms	AltConf	Trace		
34	С	96	Total 720	C 457	N 125	0 134	$\frac{S}{4}$	0	0

• Molecule 35 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues		At	oms	AltConf	Trace		
35	d	97	Total 810	C 512	N 159	0 136	${ m S} { m 3}$	0	0

• Molecule 36 is a protein called 60S ribosomal protein L32-A.

Mol	Chain	Residues		At	oms	AltConf	Trace		
36	е	121	Total 971	C 608	N 198	O 160	${ m S}{ m 5}$	0	0

• Molecule 37 is a protein called 60S ribosomal protein L33-B.

Mol	Chain	Residues		At	oms			AltConf	Trace
37	f	106	Total 839	C 534	N 162	0 140	${ m S} { m 3}$	0	0

• Molecule 38 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues		At	oms	AltConf	Trace		
38	g	106	Total 861	C 540	N 177	0 142	$\begin{array}{c} \mathrm{S} \\ \mathrm{2} \end{array}$	0	0

• Molecule 39 is a protein called 60S ribosomal protein L35.



Mol	Chain	Residues		Ato	ms	AltConf	Trace	
39	h	121	Total 999	C 629	N 194	O 176	0	0

• Molecule 40 is a protein called 60S ribosomal protein L36-B.

Mol	Chain	Residues		At	AltConf	Trace			
40	i	85	Total 696	C 431	N 148	0 116	S 1	0	0

• Molecule 41 is a protein called 60S ribosomal protein L37-B.

Mol	Chain	Residues		Ate	AltConf	Trace			
41	j	71	Total 563	C 346	N 121	O 90	S 6	0	0

• Molecule 42 is a protein called 60S ribosomal protein L38-1.

Mol	Chain	Residues		At	oms			AltConf	Trace
42	k	70	Total 564	C 357	N 104	O 102	S 1	0	0

• Molecule 43 is a protein called 60S ribosome subunit biogenesis protein nip7.

Mol	Chain	Residues		At	oms	Atoms						
43	1	174	Total 1418	C 906	N 254	O 250	S 8	0	0			

• Molecule 44 is a protein called Ribosome biogenesis protein erb1.

Mol	Chain	Residues		At	AltConf	Trace			
44	m	572	Total 4536	C 2891	N 790	0 843	S 12	0	0

• Molecule 45 is a protein called Pescadillo homolog.

Mol	Chain	Residues		At	AltConf	Trace			
45	n	433	Total 3526	C 2268	N 608	O 638	S 12	0	0

• Molecule 46 is a protein called Uncharacterized RNA-binding protein C1827.05c.



Mol	Chain	Residues		At	oms			AltConf	Trace
46	0	137	Total 1138	C 732	N 213	O 187	S 6	0	0

• Molecule 47 is a protein called Ribosome biogenesis protein ytm1.

Mol	Chain	Residues		Ato	ms	AltConf	Trace	
47	р	290	Total 1431	C 851	N 290	O 290	0	0

• Molecule 48 is a protein called 25S rRNA (cytosine-C(5))-methyltransferase nop2.

Mol	Chain	Residues		Ator	AltConf	Trace		
48	q	341	Total 1684	C 1002	N 341	O 341	0	0

• Molecule 49 is a protein called Ribosome biogenesis protein nsa2.

Mol	Chain	Residues		At	AltConf	Trace			
49	r	166	Total 1357	C 850	N 259	0 243	${ m S}{ m 5}$	0	0

• Molecule 50 is a protein called GTPase grn1.

Mol	Chain	Residues		Aton	ns	AltConf	Trace	
50	s	32	Total 269	C 163	N 63	0 43	0	0

• Molecule 51 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues		At	AltConf	Trace			
51	t	235	Total 1948	C 1242	N 367	0 334	${f S}{5}$	0	0

• Molecule 52 is a protein called Ribosome biogenesis protein rlp24.

Mol	Chain	Residues	Atoms				AltConf	Trace	
52	u	114	Total 944	C 598	N 190	0 147	S 9	0	0

• Molecule 53 is a protein called Nucleolar protein 16.



Mol	Chain	Residues	Atoms			AltConf	Trace		
53	v	161	Total 1299	C 818	N 243	O 235	${ m S} { m 3}$	0	0

• Molecule 54 is a protein called AdoMet-dependent rRNA methyltransferase spb1.

Mol	Chain	Residues	Atoms			AltConf	Trace		
54	W	504	Total 4067	C 2573	N 723	O 753	S 18	1	0

• Molecule 55 is a protein called Brix domain-containing protein C4F8.04.

Mol	Chain	Residues	Atoms				AltConf	Trace	
55	x	45	Total 383	C 236	N 80	O 66	S 1	0	0

• Molecule 56 is a protein called Eukaryotic translation initiation factor 6.

Mol	Chain	Residues	Atoms				AltConf	Trace	
56	У	225	Total 1697	C 1058	N 293	0 341	${ m S}{ m 5}$	0	0

• Molecule 57 is a protein called UPF0642 protein C32H8.05.

Mol	Chain	Residues	Atoms				AltConf	Trace
57	Z	35	Total 292	C 183	N 63	O 46	0	0

• Molecule 58 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms			AltConf	Trace		
58	Т	34	Total	С	N	0	S	0	0
	-	269	168	50	50	1	-	_	

• Molecule 59 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	AltConf
59	j	1	Total Zn 1 1	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 2: RNA (2231-MER)











<mark>4</mark> СС СС СС СС СС СС СС СС СС СС СС СС СС		U U G G A56 A57 A57		U U U U U
A A A A A A A A A A A A A A A A A A A	A99 U101 0101 6102 6105 A106 A108 A109 A109 A109 A109 A109 A109 A109 A109	< 0 0 < < 0 < D D 0 <		U U U U U
000000000000000000000000000000000000000	а 1 а а а а а а а а а а а а а а а а а а	U178 C181 C182 C182 C184 U186 U186 U186 U187		4 4 4 4 4
 4 0 4 4 5 5 4 0 0 4 4 4 0 4 4 4 5 4 	40044440000A	A U U U U U U U U U U U U U U U U U U U		C A C C
0 4 4 4 4 4 4 4 6 0 0 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000000000000000000000000000000000000	n		
• Molecule 6: 60S ribosomal	protein L39			
Chain 8: 59	%	10%	31%	
MET P2 P2 P2 P2 P2 P2 P2 P2 P2 P2 P2 P2 P2	ARG THR LYS LEU ASN ILE			
• Molecule 7: Ribosome biog	genesis protein brx1			
Chain A:	71%	·	28%	
MET SER THR TAL TYR LFU LFU LFU LFU LFU CTYS GLU CTYS GLU GLU GLU GLU GLU	TYR TYR PRO PRO PRO CLN GLN GLN GLN ASN LYS HIS S35	D81 1135 0136 0156 0170 0170	D195 D210 K211 S212 K213	N245 ASP THR PHE VAL SER SER
THR WAL VAL ARG ALA ALA ALA ALA ALA ALA ALA ALA ALA AL	LYS LEU GLU GLU GLU ARG GLN GLN GLN GLN GLN CHL TLE TLE PRO	GLU ASP PRO LEU ASP ASN VAL PHE ALA		
• Molecule 8: 60S ribosomal	protein L3-A			
Chain B:	86%		• 13%	I
MET SER HIS CYS CYS CYS CYS CIN PHE CIN CIN PHE CIN PHE CIN PHE CIN PHE CIN PHE CIN PHE CIN CIN PHE CIN PHE CIN CIN CON CYS CYS CYS CYS CYS CYS CYS CYS CYS CYS	C228 THR THR ALA ALA ARG CLY THR LYS CLY PRO PRO ARG CLYS	THR HIS ARG GLY CLU LEU VAL VAL ALA CYS	GLY GLY ALA HIS PRO PRO ALA VAL CAN	TRP THR VAL A265
K385 ASP ASP VAL ALA				
• Molecule 9: 60S ribosomal	protein L4-B			
Chain C:	97%		••	
MET ALA ALA ALA ALA R5 R5 E56 E56 E56 E56 E330 E56 E330 E330 E330 E330 E330 E330 E330 E33				

• Molecule 10: ATP-dependent RNA helicase has1





• Molecule 14: 60S ribosomal protein L9-A







• Molecule 17: F	Putative ribosome biogenesis	s protein C8F11.04			
Chain K:	65%	• 33%			
MET ALA LYS LYS B B B B B B C I 7	L20 22 22 22 22 22 22 22 22 22	ILTS THT M41 P47 P48 M77 I153 I153 M77 M77 M77 M77 M77 M77 M77 M77 M77 M7	r=218 q222 K234	4245 L251 N256 K258	E259
1261 A262 S263 S264 R265 VAL VAL THR THR TYS	THR ALA SER SER SER LYS SER ASP CLU CLU CLU CLU CLU CLU CLU CLU CLU CLU	LYS VAL VAL ALA ALA ALA LYS SER LYS SER LYS SER CLN CLN VAL	SER ASP LYS LYS GLN VAL THR	VAL LYS GLU PRO LYS	
LYS LEU SER VAL LYS ASN ALA ALA LYS THR THR ASN	ASP ASP GLU GLU CYS CYS CYS CYS ALA ALA ALA ALA ALA SER SER SER CYS SER SER SER SER SER	LVS LVS ALA ASN ASN THR THR THR THR LVS LVS LVS LVS CLVS CLVS CLVS ASN ASN	LYS VAL LYS HIS		
• Molecule 18: 6	0S ribosomal protein L13				
Chain L:	55%	• 44%			
MET ALA ALA ALA ILE VAL CLY GLY CLN CLN CLN ASN ASN	HIS HHE HHE IVS IVS ARC CLN ARC CLN ARC CLN ARC CLN ARC CLN ARS ASP ASP ASP ASP ASP	SER SER ALA ALA ALA CLU CLU CLU CLU ALA ALA ALA ALA ALA ALA ALA ALA ALA A	ALA VAL GLU GLU ALA LYS	PRU THR GLU GLU	
ALA LYS ASN PHE ASN ALA PHE SER THR LEU SER ASN	GLU ARG ALA TYR ALA ALA ALA ALA ALA ALA ALA ALA ALA AL	ALA GLU CIJU IVS LVS LVS LVS LVS			
• Molecule 19: 6	0S ribosomal protein L14				
Chain M:	88%		5% 7%	1	
MET GLU GLIY F4 F4 F3 F3 F3 F3 F3 F3 F3 F3 F3 F3 F3 F3 F3	D109 M114 E122 L128 ALA LLEU LVS ALA ALA ALA ALA				
• Molecule 20: 6	0S ribosomal protein L15-A				
Chain N:	83%		17%		
MET C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2 C2	GLY GLY THR THR GLY GLY VAL VAL ASN VAL ASN CLN ASN CLN CLN CLN CLN CLN CLN CLN CLN CLN CL	A180 ASN ASN ASN ALA ALA ALA ALA ALA ALA ALA ALA ALA			
• Molecule 21: 6	0S ribosomal protein L16-B				
Chain O:	99%		•		

L D W I D E

••••



• Molecule 22: 60S ribosomal protein L17-A



• Molecule 27: 60S ribosomal protein L23-A Chain V: 89% 6% 5% MET SER ARG GLY GLY GLY ALA • Molecule 28: Ribosome assembly factor mrt4 40% Chain W: 89% 11% L95 L96 H97 G98 A99 A99 V10 G10 A 131 VAL GLU ASP ASP ILE LEU SER LYS PRO ASP GLU V227 E228 F228 F229 GLN GLN ALA ALA ALA ALA ALA ALA ALA ALA ALA CLU GLU GLU **A22** • Molecule 29: 60S ribosomal protein L25-A Chain X: 92% • 6% LYS VAL ALA LYS LYS LYS VAL ARG ARG • Molecule 30: 60S ribosomal protein L26 Chain Y: 95% • Molecule 31: 60S ribosomal protein L27-A 6% Chain Z: 94% • Molecule 32: 60S ribosomal protein L28-A Chain a: 53% 46% MET THM MET SERVAL SERVAL SERVAL SERVAL ARG GLY ARG GLY HIS GLY HIS GLY HIS GLY HIS GLY HIS SER HIS SE







• Molecule 37: 60S ribosomal protein L33-B

Chain f: 98% • Molecule 38: 60S ribosomal protein L34-A Chain g: 93% • 5% • Molecule 39: 60S ribosomal protein L35 Chain h: . . 98% • Molecule 40: 60S ribosomal protein L36-B Chain i: 86% 14% MET ALA PRO GLY UAL VAL VAL UAL CLEU LEU LEU LYS GLY THR • Molecule 41: 60S ribosomal protein L37-B Chain j: 78% 22% MET THR LYS GLY GLY GLN SER PHE PHE GLY MET ARG HIS ALA VAL ALA ALA ALA SER SER • Molecule 42: 60S ribosomal protein L38-1 Chain k: 89% 5% 5% • Molecule 43: 60S ribosome subunit biogenesis protein nip7 11% Chain l: 88% 9%

D123 D124 H128 H128 S135 M136 N137 D138 N102 G103 E104 Y109 G110 N111 V169 L151 R154 E157 P158 T159 A160 I161 ASP GLU ASP THR LEU PHE • Molecule 44: Ribosome biogenesis protein erb1 Chain m: 76% 23% MET THR MET TTHR MET ASSON ARG CGLV ARG ARG ARG ASSER ASSON ASP ASP ASP ASP ASP ASP ASP ASD ASD ASP ASP ASP ASP ASP SER PHE GLY ASN ASN HIS ASN ASN ASP SER ALA PRO PRO TYR GLN GLN SER SER ASP GLU GLU VAL VAL VAL ASN GLU GLU SER SER R50 GLY ALA LYS GLN GLN SER LEU SEH HIS SER SER THR THR • Molecule 45: Pescadillo homolog Chain n: 70% 29% LYS USN LEU ASP GLU GLU GLU SPRO GLV PPRO GLV SPRO GLV GLY SSR SSRS FLYS SSRS LLYS SSRS LLYS SSRS FLYS SSRS TLEU VAL LYS ARG GLN ARG ASP ASP THR LEU THR K595 ARG LYS LYS LYS LYS LYS VAL VAL GLU ASN • Molecule 46: Uncharacterized RNA-binding protein C1827.05c 9% Chain o: 48% 50%











 \bullet Molecule 51: 60S ribosomal protein L7-A

Chain t:	94%	• 6%	
MET ALA GLU GLU ASP PRO PRO VAL CLN GLN THR THR LEU GLU GLU	P15 N77 K78 C79 C79 K88 K88 K88 V165 V165 V249		
• Molecule 52: Rib	osome biogenesis protein rlp24		
Chain u:	55% •	41%	
M1 Y7 D25 V64 Y65 D66 D66 A68 A68 A68 L69	A70 V71 T72 A73 A73 A73 A73 A73 A73 A73 A73 A73 A73	R96 199 199 100 100 100 100 100 100 100 100	L113 A114 A114 ARG LYY LVY GLN GLN GLN GLN GLU
ALA GLN GLN LYS LYS LEU LEU ALA GLN GLN GLU GLU	PR0 GLU GLU GLU GLU GLU THR GLU CLU CLU CLU CLU CLU CLU THR THR THR THR CLU CLU CLU CLU CLU CLU CLU CLU CLU CLU	GLU GLU GLU ALA ALA GLU PRO PRO PRO PRO PRO VAL LYS LYS ARG ARG	LIYS LIYS SER ARG
ASN SER SER SER ALA MET MET ASP ASP			
• Molecule 53: Nuc	eleolar protein 16		
Chain v:	75%	• 23%	
MET A2 LYS LYS ARG ASU ASD ASC ASC ASC ASC ASC ASC ASC ASC ASC ASC	SER GLU LEU CLU CLU CLEU CLY CLYS CLY CLYS CLY ASP ASP ASP ASP ASP	ASU TLE ASU TLE TLE TLE TLE TLE TLE ALA ALA ALA ALA ALA TLS TLS TLE TLE TLE TLE TLE TLE TLE TLE	E136 K147
181 A207 THR LYS			
• Molecule 54: Ado	Met-dependent rRNA methyltra	ansferase spb1	
Chain w:	36% 62%	37%	
MET OLYS CLYS CLYS CLN CLN CLN CLY CLY CLY CLY	K15 V17 V17 K18 K12 K21 K21 K21 K21 K22 K22 K22 K22 K22	V344 Q355 L126 Q385 N187 Q389 X187 P420 F42 F42 F42 F42 F43 K45 K44	V48 149 150 150 152 152 A54 A55 A55 A55 C53 A55 A55 C53 B56 C57 U50 U50
Q61 V62 A63 S64 K65 K65 C67 K68 F69 F69 C70 S71	L72 173 173 675 675 675 77 177 877 877 880 181 881 883 882 883 885 885 886 886 887 886 887 888	F90	R104 G105 Y106 L107 K110 W110 M112 N112 V114 V114 V115 L116 H117 D118 G119 G119
• • •• •• •	•••••••••	••••• ••• •••	•••••
P121 A126 W127 D130 A131 Q134 A135 Q136 Q136	V138 L139 M140 S141 S141 H142 K143 K143 K144 A145 F148 F148 F148 F148 F149 F149 C1460 C1460 C1460 C1460 C1460 C1465 C1465 C1552 C1553 C155	V156 T157 K158 V159 F160 R161 R161 D164 V165 L168 L168 L168	K173 Q174 L175 F176 N177 K178 V179 E180 A181 T182 A181 T182 P183 P183 S185 S185





• Molecule 57: UPF0642 protein C32H8.05





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	172500	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE	Depositor
	CORRECTION	
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{\AA}^2)$	60	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 $(6k \ge 4k)$	Depositor
Maximum map value	0.806	Depositor
Minimum map value	-0.343	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.011	Depositor
Recommended contour level	0.05	Depositor
Map size (Å)	542.72, 542.72, 542.72	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor



5 Model quality (i)

5.1 Standard geometry (i)

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

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).

Mal	Chain	Bond	Bond lengths		l angles
	Ullalli	RMSZ	# Z > 5	RMSZ	# Z > 5
1	7	0.23	0/1213	0.33	0/1686
2	1	0.33	0/53422	0.73	0/83211
3	2	0.44	0/3563	0.72	0/5543
4	3	0.25	0/1363	0.51	0/1832
5	6	0.24	0/1916	0.72	0/2973
6	8	0.28	0/298	0.62	0/399
7	А	0.27	0/1722	0.54	0/2325
8	В	0.25	0/2740	0.52	0/3680
9	С	0.29	0/2848	0.53	0/3842
10	D	0.26	0/3458	0.46	0/4662
11	Е	0.28	0/1308	0.55	0/1763
12	F	0.28	0/1963	0.48	0/2632
13	G	0.30	0/1637	0.49	0/2203
14	Н	0.27	0/1470	0.57	0/1982
15	Ι	0.24	0/3782	0.46	0/5087
16	J	0.28	0/972	0.51	0/1304
17	Κ	0.27	0/2008	0.52	0/2713
18	L	0.30	0/960	0.60	0/1288
19	М	0.27	0/1024	0.56	0/1375
20	Ν	0.33	0/1436	0.58	0/1920
21	0	0.27	0/1588	0.50	0/2128
22	Р	0.26	0/1269	0.50	0/1699
23	Q	0.28	0/1043	0.55	0/1401
24	R	0.29	0/963	0.64	0/1284
25	S	0.26	$0/1\overline{444}$	0.54	0/1939
26	U	0.27	0/805	0.63	0/1080
27	V	0.28	0/1007	0.60	0/1357
28	W	0.23	0/1053	0.43	0/1457
29	Х	0.28	0/1060	0.53	0/1422
30	Y	0.27	0/1008	0.58	0/1341
31	Ζ	0.28	0/1095	0.56	0/1467
32	a	0.25	0/645	0.54	0/874



Mal	Chain	Bond lengths		Bond angles	
	Unam	RMSZ	# Z > 5	RMSZ	# Z > 5
33	b	0.23	0/1994	0.38	0/2774
34	с	0.28	0/729	0.61	0/980
35	d	0.27	0/824	0.57	0/1106
36	е	0.28	0/985	0.55	0/1313
37	f	0.29	0/859	0.52	0/1152
38	g	0.26	0/873	0.58	0/1170
39	h	0.30	0/1008	0.53	0/1340
40	i	0.28	0/703	0.57	0/931
41	j	0.31	0/575	0.59	0/761
42	k	0.29	0/570	0.60	0/762
43	1	0.31	0/1452	0.65	0/1961
44	m	0.27	0/4655	0.51	0/6327
45	n	0.29	0/3607	0.50	0/4856
46	0	0.28	0/1163	0.51	0/1552
47	р	0.24	0/1426	0.44	0/1977
48	q	0.23	0/1682	0.40	0/2339
49	r	0.25	0/1373	0.56	0/1827
50	s	0.23	0/268	0.61	0/346
51	t	0.26	0/1979	0.52	0/2645
52	u	0.25	0/966	0.55	0/1292
53	v	0.28	0/1319	0.52	0/1769
54	W	0.25	0/4139	0.50	0/5567
55	Х	0.22	0/384	0.51	0/505
56	У	0.25	0/1720	0.54	0/2345
57	Z	0.29	0/297	0.45	0/388
58	Т	0.25	0/276	0.52	0/375
All	All	0.30	0/137909	0.62	0/198229

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)

Due to software issues we are unable to calculate clashes - this section is therefore empty.



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	Perce	entiles
1	7	235/707~(33%)	234 (100%)	1 (0%)	0	100	100
4	3	158/302~(52%)	150 (95%)	8~(5%)	0	100	100
6	8	33/51~(65%)	31 (94%)	2~(6%)	0	100	100
7	А	209/295~(71%)	197 (94%)	12 (6%)	0	100	100
8	В	335/388~(86%)	323 (96%)	12 (4%)	0	100	100
9	С	357/363~(98%)	334 (94%)	23~(6%)	0	100	100
10	D	421/578~(73%)	412 (98%)	9(2%)	0	100	100
11	Ε	163/195~(84%)	150 (92%)	13 (8%)	0	100	100
12	F	235/250~(94%)	227 (97%)	8 (3%)	0	100	100
13	G	203/259~(78%)	193 (95%)	8 (4%)	2 (1%)	15	44
14	Н	181/190~(95%)	172 (95%)	8 (4%)	1 (1%)	25	56
15	Ι	447/747~(60%)	422 (94%)	23~(5%)	2(0%)	34	66
16	J	116/333~(35%)	111 (96%)	5 (4%)	0	100	100
17	К	247/373~(66%)	227 (92%)	18 (7%)	2(1%)	19	49
18	L	114/208~(55%)	110 (96%)	4 (4%)	0	100	100
19	М	123/134~(92%)	117 (95%)	6~(5%)	0	100	100
20	Ν	160/201~(80%)	158 (99%)	2(1%)	0	100	100
21	Ο	194/197~(98%)	190 (98%)	4 (2%)	0	100	100
22	Р	153/187~(82%)	147 (96%)	6 (4%)	0	100	100
23	Q	131/187~(70%)	127 (97%)	4 (3%)	0	100	100
24	R	110/193~(57%)	109 (99%)	1 (1%)	0	100	100
25	S	164/176~(93%)	156 (95%)	8 (5%)	0	100	100
26	U	96/117~(82%)	89 (93%)	7 (7%)	0	100	100
27	V	130/139~(94%)	126 (97%)	4 (3%)	0	100	100
28	W	207/241~(86%)	194 (94%)	13 (6%)	0	100	100



<i>a</i> 1	c		
Continued	trom	previous	page
00100000000	J. 01.0	proceedae	p ~ g ~

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Perce	ntiles
29	Х	128/141~(91%)	125~(98%)	3~(2%)	0	100	100
30	Y	123/126~(98%)	$119 \ (97\%)$	4(3%)	0	100	100
31	Z	132/136~(97%)	128 (97%)	4 (3%)	0	100	100
32	a	78/148~(53%)	77 (99%)	1 (1%)	0	100	100
33	b	393/642~(61%)	382 (97%)	11 (3%)	0	100	100
34	с	94/117~(80%)	93 (99%)	1 (1%)	0	100	100
35	d	93/113 (82%)	91 (98%)	2 (2%)	0	100	100
36	е	119/127~(94%)	117 (98%)	2 (2%)	0	100	100
37	f	104/108~(96%)	96 (92%)	8 (8%)	0	100	100
38	g	104/112~(93%)	101 (97%)	3 (3%)	0	100	100
39	h	119/122~(98%)	117 (98%)	2(2%)	0	100	100
40	i	83/99~(84%)	83 (100%)	0	0	100	100
41	j	69/91~(76%)	67 (97%)	2(3%)	0	100	100
42	k	68/74~(92%)	67 (98%)	1 (2%)	0	100	100
43	1	172/180~(96%)	163 (95%)	9(5%)	0	100	100
44	m	558/740~(75%)	527 (94%)	30 (5%)	1 (0%)	47	78
45	n	427/607~(70%)	404 (95%)	23~(5%)	0	100	100
46	0	135/276~(49%)	130 (96%)	5 (4%)	0	100	100
47	р	280/440~(64%)	271 (97%)	9(3%)	0	100	100
48	q	337/608~(55%)	332 (98%)	5 (2%)	0	100	100
49	r	158/260~(61%)	158 (100%)	0	0	100	100
50	s	30/470~(6%)	29 (97%)	1 (3%)	0	100	100
51	t	233/249~(94%)	220 (94%)	13 (6%)	0	100	100
52	u	112/192~(58%)	105 (94%)	7 (6%)	0	100	100
53	v	157/209~(75%)	150 (96%)	6 (4%)	1 (1%)	25	56
54	w	495/802~(62%)	476 (96%)	19 (4%)	0	100	100
55	x	41/306 (13%)	41 (100%)	0	0	100	100
56	У	223/244~(91%)	215 (96%)	8 (4%)	0	100	100
57	Z	33/117~(28%)	31 (94%)	2(6%)	0	100	100
58	Т	30/160~(19%)	30 (100%)	0	0	100	100
All	All	10050/15027~(67%)	9651 (96%)	390 (4%)	9 (0%)	54	81



5 of 9 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
15	Ι	698	ILE
17	Κ	153	ILE
13	G	227[A]	ASP
13	G	227[B]	ASP
15	Ι	624	VAL

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent side chain 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	Perce	ntiles
4	3	141/271~(52%)	131 (93%)	10 (7%)	14	39
6	8	31/47~(66%)	26 (84%)	5 (16%)	2	7
7	А	184/266~(69%)	181 (98%)	3 (2%)	62	88
8	В	285/326~(87%)	280 (98%)	5 (2%)	59	86
9	С	296/297~(100%)	290 (98%)	6 (2%)	55	84
10	D	371/505~(74%)	367~(99%)	4 (1%)	73	92
11	Е	135/155~(87%)	130 (96%)	5 (4%)	34	68
12	F	199/210~(95%)	196 (98%)	3 (2%)	65	89
13	G	168/212~(79%)	166 (99%)	2 (1%)	71	92
14	Н	164/170~(96%)	155 (94%)	9 (6%)	21	52
15	Ι	418/685 (61%)	412 (99%)	6 (1%)	67	90
16	J	104/288~(36%)	96 (92%)	8 (8%)	13	35
17	K	224/333~(67%)	216 (96%)	8 (4%)	35	69
18	L	97/167~(58%)	95~(98%)	2 (2%)	53	84
19	М	108/113~(96%)	101 (94%)	7 (6%)	17	44
20	Ν	146/176~(83%)	146 (100%)	0	100	100
21	О	161/162~(99%)	160 (99%)	1 (1%)	86	96
22	Р	128/149~(86%)	128 (100%)	0	100	100
23	Q	114/159~(72%)	113 (99%)	1 (1%)	78	94



Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Perce	ntiles
24	R	102/162~(63%)	101 (99%)	1 (1%)	76	93
25	S	150/154~(97%)	145~(97%)	5(3%)	38	72
26	U	85/103~(82%)	77 (91%)	8 (9%)	8	26
27	V	103/107~(96%)	95~(92%)	8 (8%)	12	35
29	Х	114/122~(93%)	112 (98%)	2(2%)	59	86
30	Y	110/111 (99%)	105 (96%)	5 (4%)	27	60
31	Ζ	113/115~(98%)	107~(95%)	6 (5%)	22	54
32	a	68/122~(56%)	66~(97%)	2(3%)	42	76
34	с	77/91~(85%)	71 (92%)	6 (8%)	12	35
35	d	89/102~(87%)	86~(97%)	3(3%)	37	71
36	е	103/107~(96%)	101 (98%)	2(2%)	57	85
37	f	89/91~(98%)	89 (100%)	0	100	100
38	g	92/97~(95%)	90 (98%)	2 (2%)	52	83
39	h	106/107~(99%)	104 (98%)	2 (2%)	57	85
40	i	74/84~(88%)	74 (100%)	0	100	100
41	j	58/71~(82%)	58 (100%)	0	100	100
42	k	63/66~(96%)	59 (94%)	4 (6%)	18	46
43	1	152/158~(96%)	136 (90%)	16 (10%)	7	20
44	m	506/659~(77%)	496 (98%)	10 (2%)	55	84
45	n	379/532~(71%)	371~(98%)	8 (2%)	53	84
46	О	123/246~(50%)	119 (97%)	4 (3%)	38	72
49	r	146/224~(65%)	140 (96%)	6 (4%)	30	64
50	s	29/409~(7%)	25~(86%)	4 (14%)	3	11
51	t	211/223~(95%)	209 (99%)	2 (1%)	78	94
52	u	99/168~(59%)	91 (92%)	8 (8%)	11	33
53	V	138/181 (76%)	135 (98%)	3 (2%)	52	83
54	W	444/697~(64%)	435 (98%)	9 (2%)	55	84
55	х	42/273~(15%)	41 (98%)	1 (2%)	49	81
56	У	189/206~(92%)	183 (97%)	6 (3%)	39	73
57	Z	31/107~(29%)	29 (94%)	2(6%)	17	44
58	Т	31/139~(22%)	27 (87%)	4 (13%)	4	13



Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentile	es
All	All	7590/10725~(71%)	7366~(97%)	224 (3%)	45 75	

5 of 224 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
31	Ζ	91	ASN
58	Т	105	PHE
43	1	29	ASP
57	Z	106	LYS
53	V	136	GLU

Sometimes side chains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 24 such side chains are listed below:

Mol	Chain	Res	Type
45	n	197	GLN
49	r	246	ASN
46	0	211	HIS
52	u	24	ASN
15	Ι	729	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	1	2191/3497~(62%)	555~(25%)	21 (0%)
3	2	147/165~(89%)	27 (18%)	1 (0%)
5	6	77/300~(25%)	31 (40%)	0
All	All	2415/3962~(60%)	613 (25%)	22~(0%)

5 of 613 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	1	14	U
2	1	34	А
2	1	36	С
2	1	49	А
2	1	57	А

5 of 22 RNA pucker outliers are listed below:



Mol	Chain	Res	Type
2	1	1916	G
2	1	3081	U
2	1	3070	U
2	1	3217	U
2	1	1159	U

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)

Of 1 ligands modelled in this entry, 1 is monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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-24411. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1 Orthogonal projections (i)

6.1.1 Primary map



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

6.2 Central slices (i)

6.2.1 Primary map



X Index: 256

Y Index: 256



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: 271

Y Index: 274

Z Index: 314

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

6.4 Orthogonal surface views (i)

6.4.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.05. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.



6.5 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 1366 $\rm nm^3;$ this corresponds to an approximate mass of 1234 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.



7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.357 ${\rm \AA^{-1}}$



8 Fourier-Shell correlation (i)

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



9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-24411 and PDB model 8ESQ. Per-residue inclusion information can be found in section 3 on page 14.

9.1 Map-model overlay (i)



The images above show the 3D surface view of the map at the recommended contour level 0.05 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 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 (0.05).



9.4 Atom inclusion (i)



At the recommended contour level, 87% of all backbone atoms, 85% of all non-hydrogen atoms, are inside the map.



9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.05) and Q-score for the entire model and for each chain.

\mathbf{Chain}	Atom inclusion	$\mathbf{Q} extsf{-score}$
All	0.8453	0.4890
1	0.9673	0.5130
2	0.9893	0.6270
3	0.6620	0.5250
6	0.9447	0.5020
7	0.2233	0.2600
8	0.8679	0.4260
А	0.8411	0.4450
В	0.9272	0.5150
С	0.9717	0.6220
D	0.6478	0.5090
E	0.8219	0.4660
F	0.8430	0.5430
G	0.9498	0.6220
Н	0.8767	0.4450
Ι	0.5248	0.3430
J	0.5652	0.3300
Κ	0.7437	0.4620
\mathbf{L}	0.9789	0.6500
Μ	0.9591	0.4900
Ν	0.9963	0.6690
Ο	0.9564	0.5490
Р	0.9132	0.5590
\mathbf{Q}	0.9421	0.5830
R	0.8457	0.4080
S	0.8862	0.4800
Т	0.5358	0.2880
U	0.4864	0.2730
V	0.8563	0.4610
W	0.4891	0.3040
Х	0.9493	0.5960
Y	0.9615	0.6190
Z	0.8057	0.4220
a	0.7203	0.5210
b	0.5978	0.3670

0.0 <0.0

1.0



Continued from previous page...

Chain	Atom inclusion	Q-score
С	0.7185	0.3420
d	0.9104	0.5160
е	0.9668	0.6030
f	0.9865	0.6030
g	0.9057	0.5000
h	0.9658	0.6270
i	0.9564	0.6130
j	0.9963	0.6580
k	0.7927	0.4580
1	0.6389	0.3410
m	0.7769	0.4360
n	0.8547	0.5060
О	0.7532	0.5000
р	0.5332	0.2850
q	0.4786	0.3460
r	0.7241	0.3690
S	0.6471	0.3240
t	0.8780	0.5260
u	0.6924	0.3860
V	0.9140	0.5820
W	0.3878	0.3550
x	0.5324	0.4510
У	0.7377	0.3610
Z	0.6211	0.3470

