wwPDB EM Validation Summary Report ⓘ

Nov 17, 2024 – 04:53 PM EST

PDB ID	:	3J0K
EMDB ID	:	EMD-5343
Title	:	Orientation of RNA polymerase II within the human VP16-Mediator-pol II-TFIIF assembly
Authors	:	Bernecky, C.; Grob, P.; Ebmeier, C.C.; Nogales, E.; Taatjes, D.J.
Deposited on	:	2011-10-04
Resolution	:	36.00 Å(reported)
Based on initial model	:	1Y1V

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

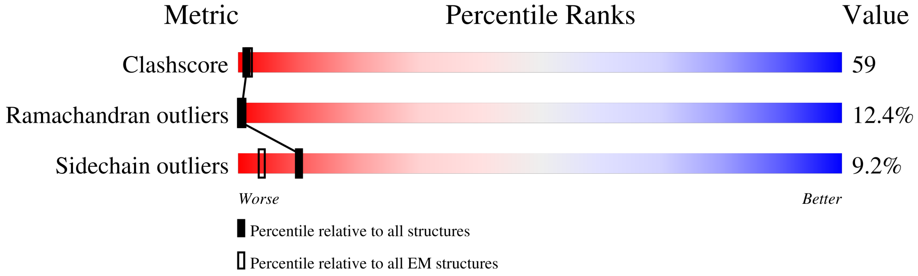
EMDB validation analysis	:	0.0.1.dev113
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance

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

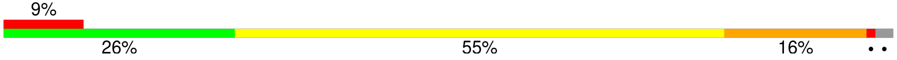
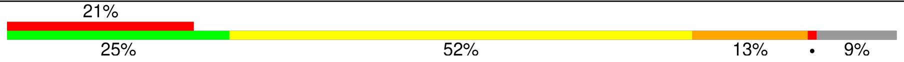
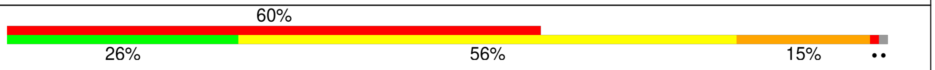
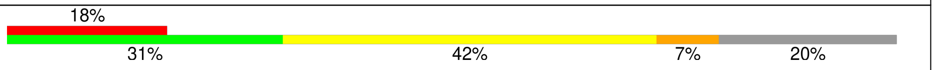
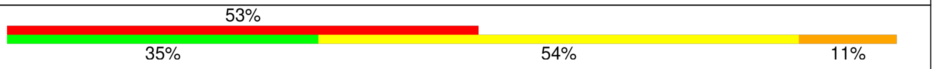
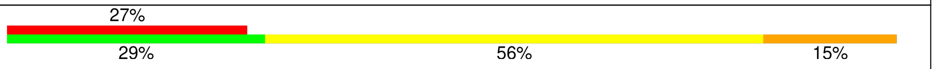
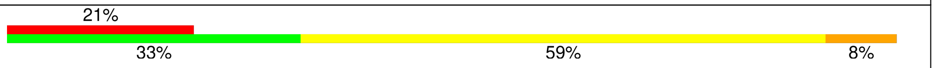
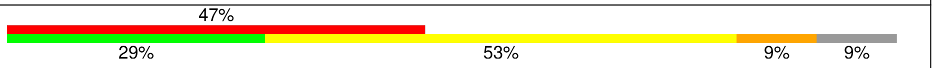
The reported resolution of this entry is 36.00 Å.

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

Mol	Chain	Length	Quality of chain
1	A	1455	
2	B	1224	
3	C	268	
4	D	221	
5	E	215	
6	F	84	
7	G	171	
8	H	146	

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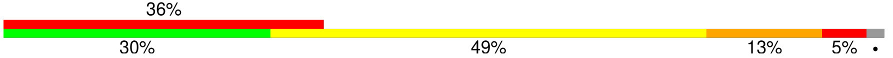
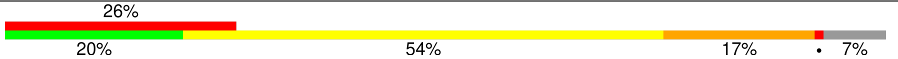
Mol	Chain	Length	Quality of chain
9	I	122	
10	J	70	
11	K	120	
12	L	46	

2 Entry composition ⓘ

There are 14 unique types of molecules in this entry. The entry contains 31137 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 DNA-directed RNA polymerase II largest subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1426	11214	7069	1959	2124	62	0	0

- Molecule 2 is a protein called DNA-directed RNA polymerase II 140 kDa polypeptide.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	1112	8837	5594	1548	1640	55	0	0

- Molecule 3 is a protein called DNA-directed RNA polymerase II 45 kDa polypeptide.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	266	2095	1317	348	417	13	0	0

- Molecule 4 is a protein called DNA-directed RNA polymerase II 32 kDa polypeptide.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	177	1356	840	241	273	2	0	0

- Molecule 5 is a protein called DNA-directed RNA polymerases I, II, and III 27 kDa polypeptide.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	214	1752	1111	309	321	11	0	0

- Molecule 6 is a protein called DNA-directed RNA polymerases I, II, and III 23 kDa polypeptide.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	84	679	434	115	127	3	0	0

- Molecule 7 is a protein called DNA-directed RNA polymerase II 19 kDa polypeptide.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	G	171	1340	861	222	249	8	0	0

- Molecule 8 is a protein called DNA-directed RNA polymerases I, II, and III 14.5 kDa polypeptide.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	H	133	1068	673	180	211	4	0	0

- Molecule 9 is a protein called DNA-directed RNA polymerase II subunit 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	I	119	971	596	179	186	10	0	0

- Molecule 10 is a protein called DNA-directed RNA polymerases I/II/III subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	J	65	532	339	93	94	6	0	0

- Molecule 11 is a protein called DNA-directed RNA polymerase II 13.6 kDa polypeptide.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	K	114	919	590	156	171	2	0	0

- Molecule 12 is a protein called DNA-directed RNA polymerases I, II, and III 7.7 kDa polypeptide.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	L	46	364	224	72	64	4	0	0

- Molecule 13 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	AltConf
13	A	1	Total Mg 1 1	0

- Molecule 14 is ZINC ION (three-letter code: ZN) (formula: Zn).

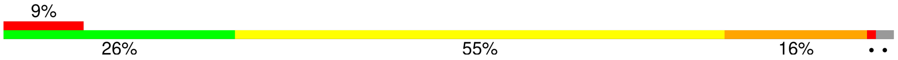
Mol	Chain	Residues	Atoms	AltConf
14	A	3	Total Zn 3 3	0
14	B	1	Total Zn 1 1	0
14	C	1	Total Zn 1 1	0
14	I	2	Total Zn 2 2	0
14	J	1	Total Zn 1 1	0
14	L	1	Total Zn 1 1	0

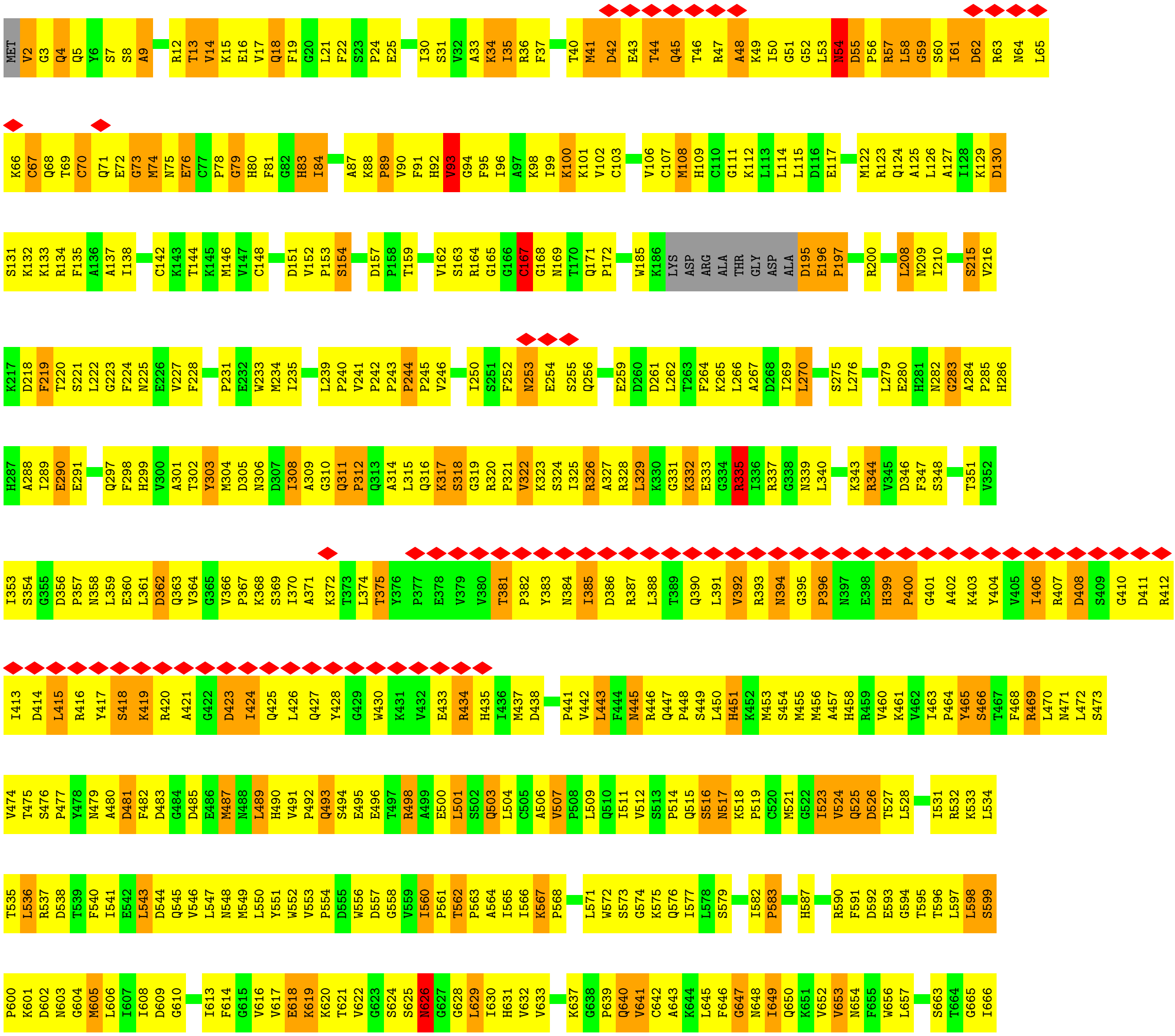
3 Residue-property plots ⓘ

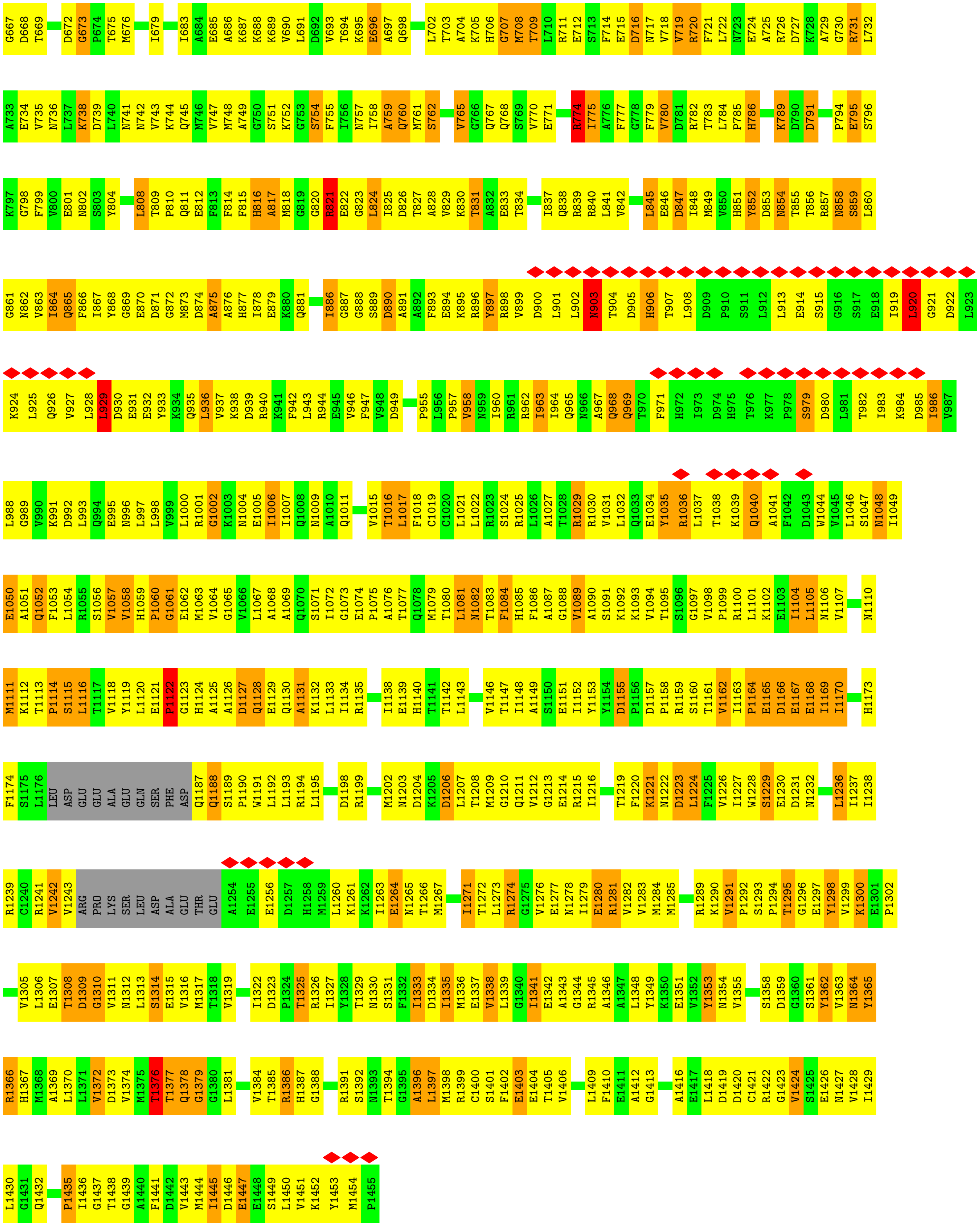
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

- Molecule 1: DNA-directed RNA polymerase II largest subunit

Chain A:

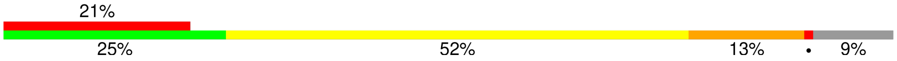


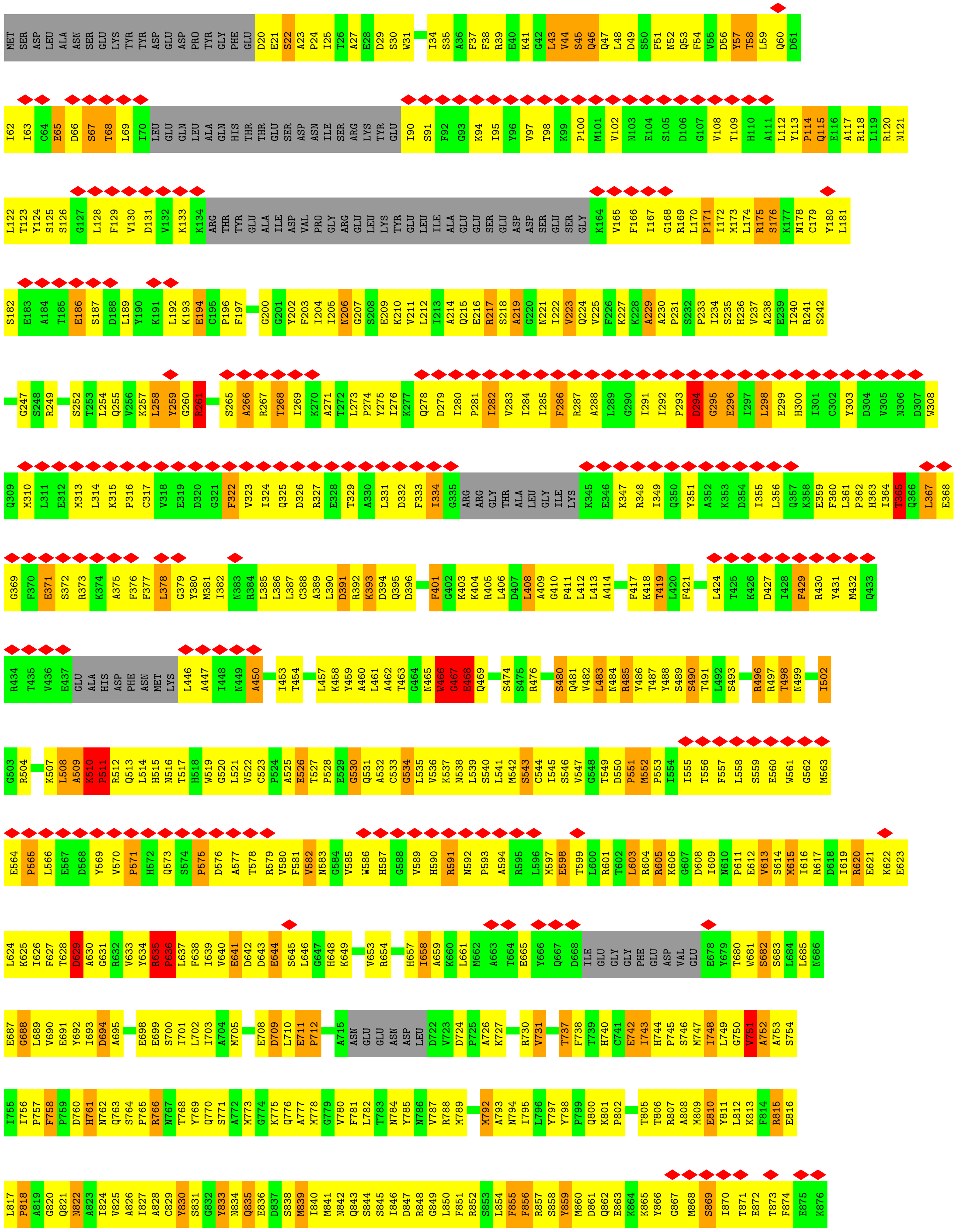


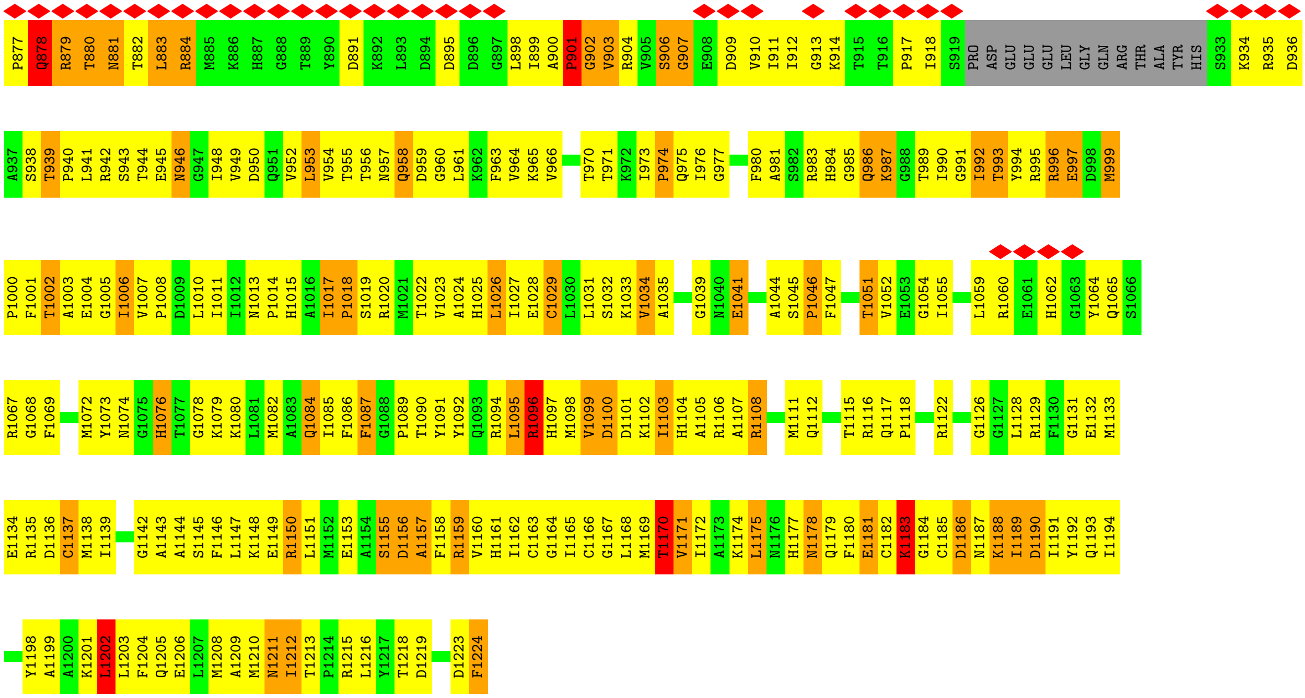


- Molecule 2: DNA-directed RNA polymerase II 140 kDa polypeptide

Chain B:

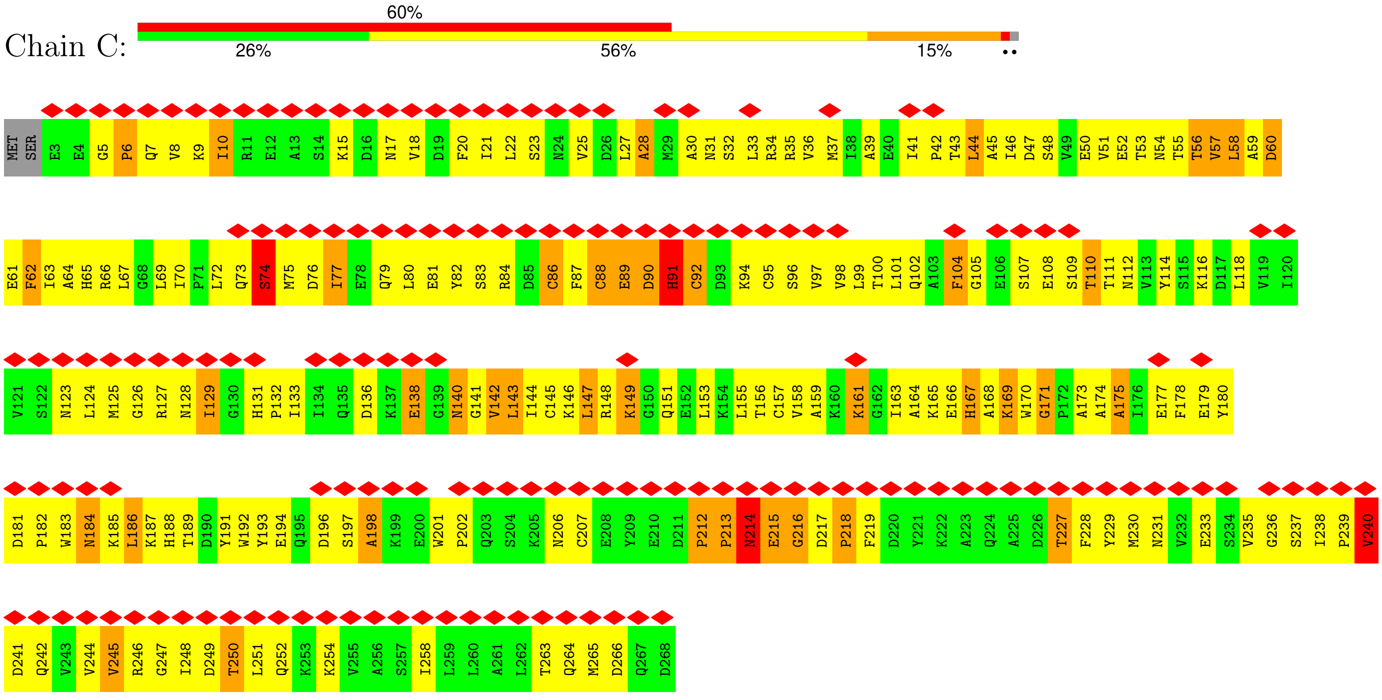



MET SER ASP LEU ALA ASN SER GLU LYS TYR TYR ASP GLU ASP PRO TYR GLY PHE GLU D20 E21 S22 A23 P24 I25 T26 A27 E28 D29 S30 W31 I34 S35 A36 F37 F38 R39 E40 K41 G42 L43 V44 S45 Q46 Q47 L48 D49 S50 F51 N52 Q53 F54 V55 D56 Y57 T58 L59 Q60 D61
I62 I63 C64 E65 D66 S67 T68 L69 I70 LEU GLU GLN GLN LEU ALA GLN HIS THR THR GLU SER ASP ASN ILE SER ARG LYS TYR GLU I90 S91 F92 G93 K94 I95 Y96 V97 T98 K99 P100 M101 V102 N103 E104 S105 D106 G107 V108 T109 H110 A111 L112 Y113 P114 Q115 E116 A117 R118 L119 R120 N121
L122 T123 Y124 S125 S126 G127 L128 F129 V130 D131 V132 K133 K134 ARG THR TYR GLU ALA ILE ASP VAL PRO GLY ARG GLU LEU LYS TYR GLU LEU ILE ALA GLU GLU SER GLU ASP ASP SER GLU SER GLY K164 V165 F166 I167 G168 R169 L170 P171 I172 M173 L174 R175 S176 K177 N178 C179 Y180 L181
S182 E183 A184 T185 E186 S187 D188 L189 Y190 K191 L192 K193 E194 C195 P196 F197 G200 G201 Y202 F203 I204 I205 N206 G207 S208 E209 K210 V211 L212 I213 A214 Q215 E216 R217 S218 A219 G220 N221 I222 V223 Q224 V225 F226 K227 K228 A229 A230 P231 S232 P233 I234 S235 H236 V237 A238 E239 I240 R241 S242
G247 S248 R249 S252 T253 L254 Q255 V256 K257 L258 Y259 G260 R261 S265 A266 R267 T268 I269 K270 A271 T272 L273 P274 Y275 I276 K277 Q278 D279 I280 P281 I282 V283 I284 I285 F286 R287 A288 L289 G290 I291 I292 P293 D294 G295 E296 I297 L298 E299 H300 I301 C302 Y303 D304 V305 N306 D307 W308
Q309 M310 L311 E312 M313 L314 K315 P316 C317 V318 E319 D320 G321 F322 V323 I324 Q325 D326 R327 E328 T329 A330 L331 D332 F333 I334 G335 ARG ARG GLY THR ALA LEU GLY ILE LYS K345 E346 K347 R348 I349 Q350 Y351 A352 K353 D354 I355 L356 Q357 K358 E359 F360 L361 P362 H363 I364 I365 Q366 L367 E368
G369 F370 E371 S372 R373 K374 A375 F376 F377 L378 G379 Y380 M381 I382 N383 R384 L385 L386 L387 C388 A389 L390 D391 R392 K393 D394 Q395 D396 F401 G402 K403 K404 R405 L406 D407 L408 A409 G410 P411 L412 L413 A414 F417 K418 T419 L420 F421 L424 T425 K426 D427 I428 F429 R430 Y431 M432 Q433
R434 T435 V436 E437 GLU ALA HIS ASP PHE ASN MET LYS L446 A447 I448 N449 A450 I453 T454 L457 K458 Y459 A460 L461 A462 T463 G464 N465 W466 G467 E468 Q469 S474 S475 R476 S480 Q481 V482 L483 N484 R485 Y486 T487 Y488 S489 S490 T491 L492 S493 R496 R497 T498 N499 I502
G503 R504 K507 L508 A509 K510 P511 R512 Q513 L514 H515 N516 T517 H518 W519 G520 L521 V522 C523 P524 A525 E526 T527 P528 E529 G530 Q531 A532 C533 G534 L535 V536 K537 N538 L539 S540 L541 M542 S543 C544 I545 S546 V547 G548 T549 D550 P551 M552 P553 I554 I555 T556 F557 L558 S559 E560 W561 G562 M563
E564 P565 L566 E567 D568 Y569 V570 P571 H572 Q573 S574 P575 D576 A577 T578 R579 V580 F581 V582 N583 G584 V585 W586 H587 G588 V589 H590 R591 N592 P593 A594 R595 L596 M597 E598 T599 L600 R601 T602 L603 R604 R605 K606 G607 D608 I609 N610 P611 E612 V613 S614 M615 I616 R617 D618 I619 R620 E621 K622 E623
L624 K625 I626 F627 T628 D629 A630 G631 R632 V633 Y634 R635 P636 L637 F638 I639 V640 E641 D642 D643 E644 S645 L646 G647 H648 K649 V653 R654 H657 I658 A659 K660 L661 M662 A663 T664 E665 Y666 Q667 D668 ILE GLU GLY GLY PHE GLU ASP VAL GLU E678 Y679 T680 W681 S682 S683 L684 L685 N686
E687 G688 L689 V690 E691 Y692 I693 D694 A695 E698 E699 S700 I701 L702 I703 A704 M705 E708 D709 L710 E711 P712 A715 ASN GLU GLU ASN ASP LEU D722 V723 D724 P725 A726 K727 R730 V731 T737 F738 T739 H740 C741 E742 I743 H744 P745 S746 M747 I748 L749 G750 V751 A752 A753 S754
I755 I756 P757 F758 P759 D760 H761 N762 Q763 S764 P765 R766 N767 T768 Y769 Q770 S771 A772 M773 G774 K775 Q776 A777 M778 G779 V780 F781 L782 T783 N784 Y785 N786 V787 R788 M789 M792 A793 N794 I795 L796 Y797 Y798 P799 Q800 K801 P802 T805 T806 R807 A808 M809 E810 Y811 L812 K813 F814 R815 E816
L817 P818 A819 G820 Q821 N822 A823 I824 V825 A826 I827 A828 C829 Y830 S831 G832 Y833 N834 Q835 E836 D837 S838 M839 I840 M841 N842 Q843 S844 S845 I846 D847 R848 G849 L850 F851 R852 S853 L854 F855 F856 R857 S858 Y859 M860 D861 Q862 E863 K864 K865 Y866 G867 M868 S869 I870 T871 E872 T873 F874 E875 K876



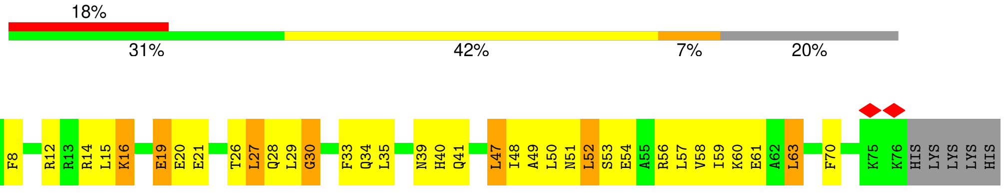
- Molecule 3: DNA-directed RNA polymerase II 45 kDa polypeptide

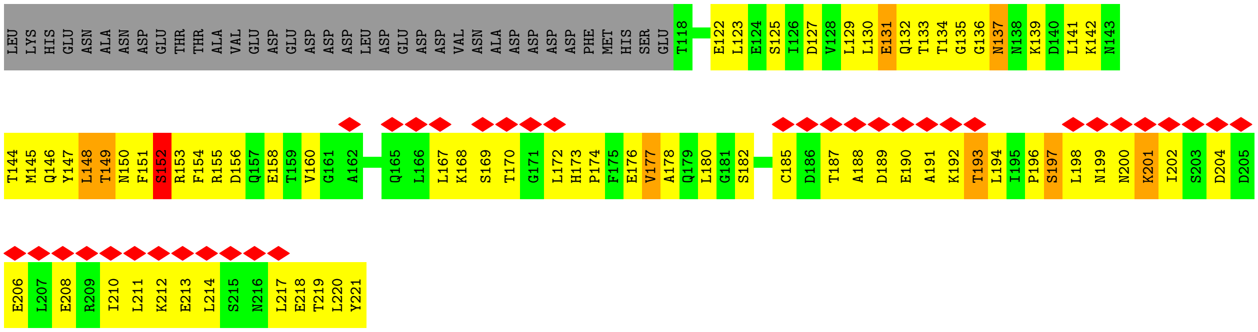
Chain C:



- Molecule 4: DNA-directed RNA polymerase II 32 kDa polypeptide

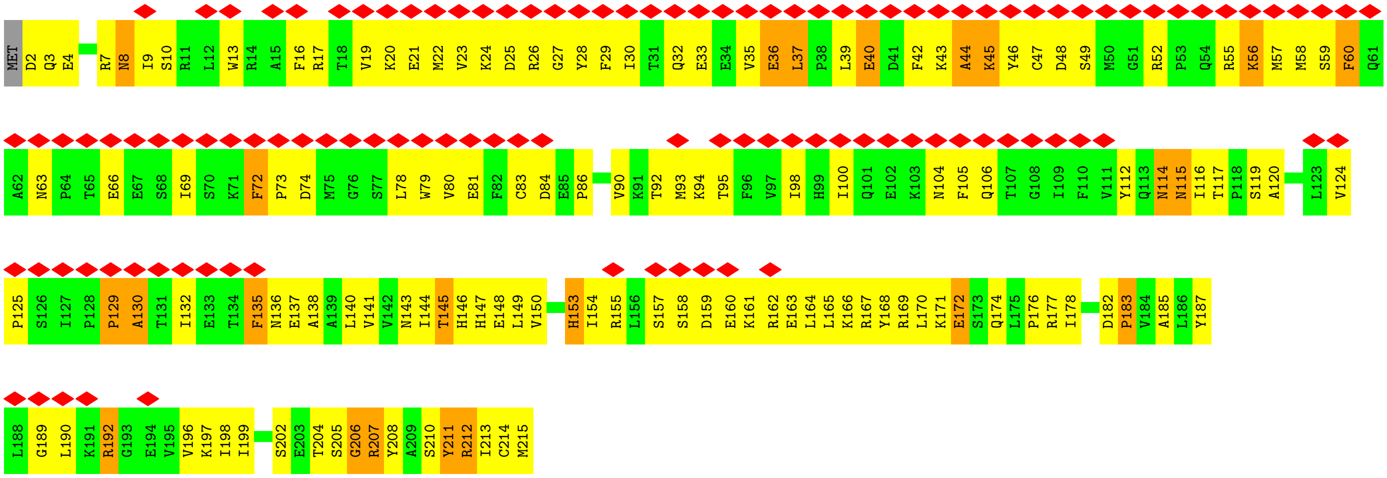
Chain D:





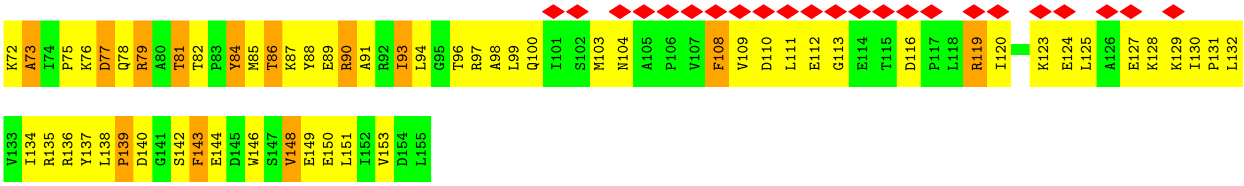
- Molecule 5: DNA-directed RNA polymerases I, II, and III 27 kDa polypeptide

Chain E:



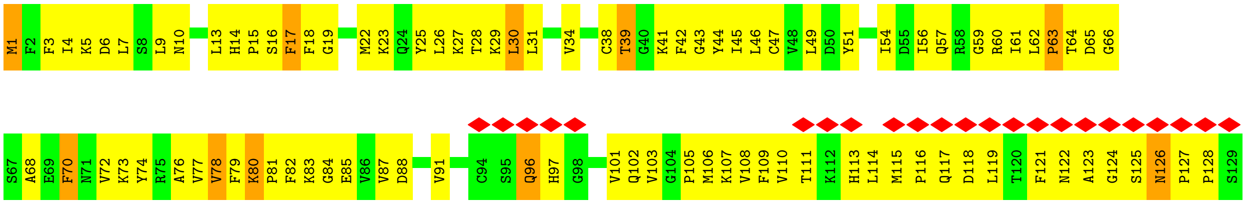
- Molecule 6: DNA-directed RNA polymerases I, II, and III 23 kDa polypeptide

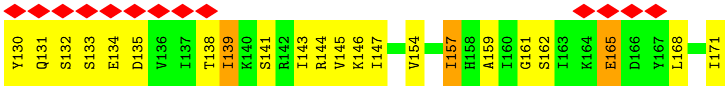
Chain F:



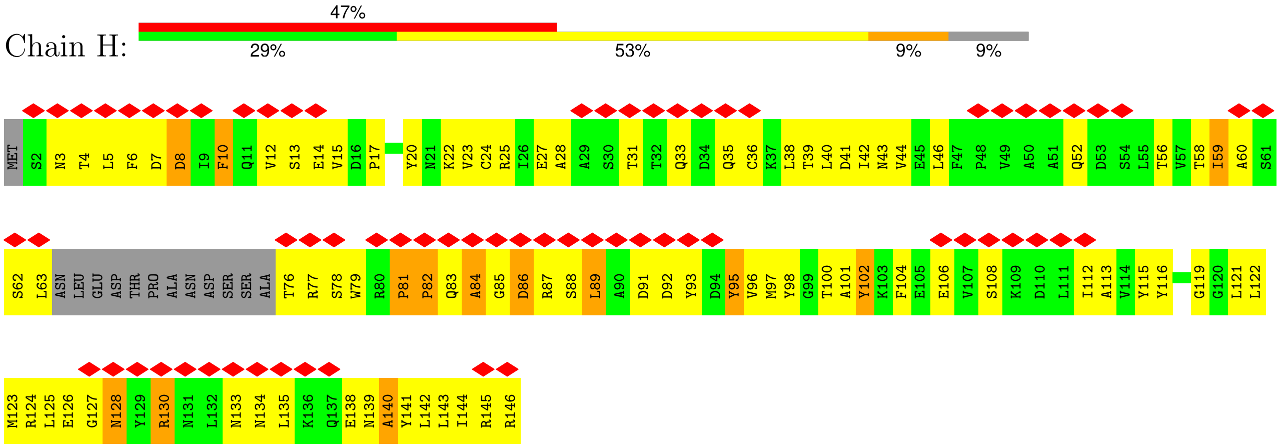
- Molecule 7: DNA-directed RNA polymerase II 19 kDa polypeptide

Chain G:

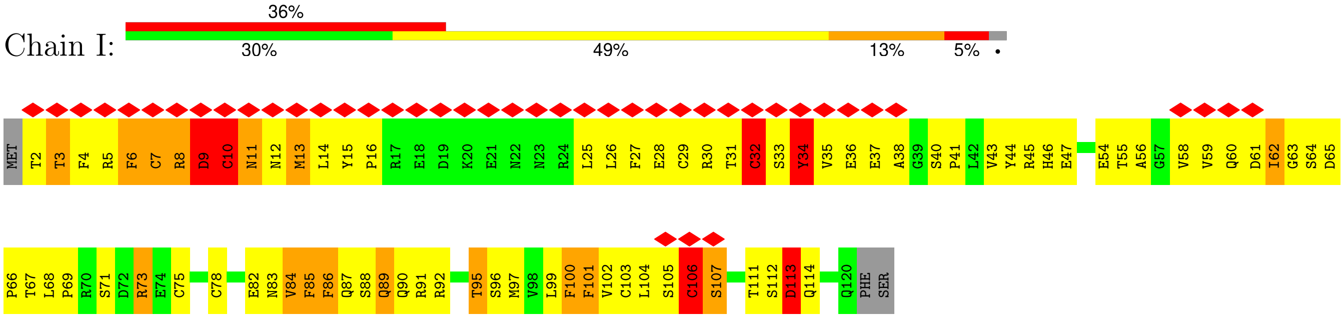




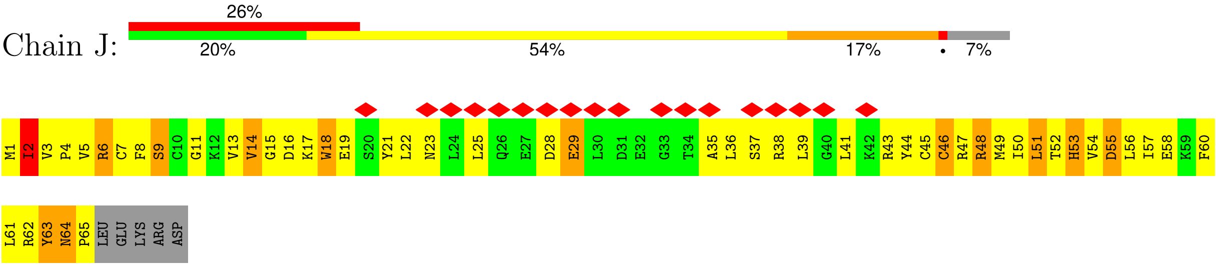
- Molecule 8: DNA-directed RNA polymerases I, II, and III 14.5 kDa polypeptide



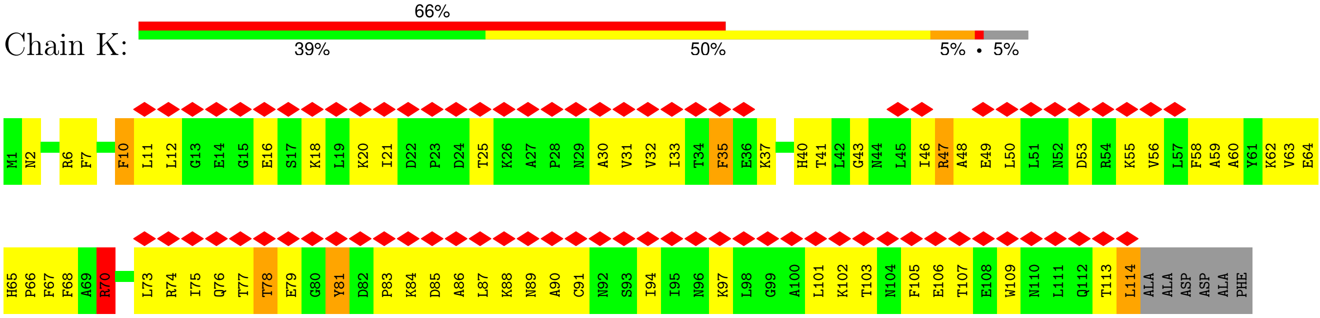
- Molecule 9: DNA-directed RNA polymerase II subunit 9



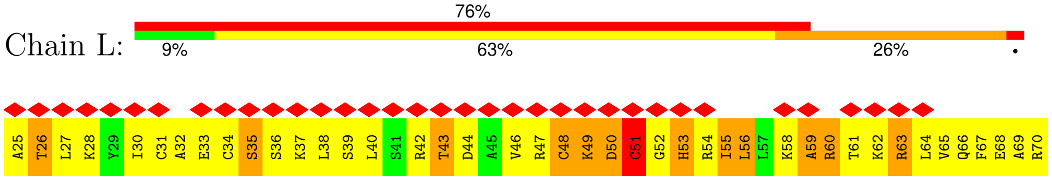
- Molecule 10: DNA-directed RNA polymerases I/II/III subunit 10



- Molecule 11: DNA-directed RNA polymerase II 13.6 kDa polypeptide



- Molecule 12: DNA-directed RNA polymerases I, II, and III 7.7 kDa polypeptide



4 Experimental information ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	3146	Depositor
Resolution determination method	FSC 0.5 CUT-OFF	Depositor
CTF correction method	each micrograph	Depositor
Microscope	FEI TECNAI F20	Depositor
Voltage (kV)	200	Depositor
Electron dose $(e^-/\text{Å}^2)$	15	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	4500	Depositor
Magnification	29000	Depositor
Image detector	KODAK SO-163 FILM	Depositor
Maximum map value	0.073	Depositor
Minimum map value	-0.009	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.0284	Depositor
Map size (Å)	690.69, 690.69, 690.69	wwPDB
Map dimensions	161, 161, 161	wwPDB
Map angles (°)	90, 90, 90	wwPDB
Pixel spacing (Å)	4.29, 4.29, 4.29	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	0.50	2/11417 (0.0%)	0.78	4/15442 (0.0%)
2	B	0.52	4/9009 (0.0%)	0.76	8/12146 (0.1%)
3	C	0.48	0/2133	0.77	1/2891 (0.0%)
4	D	0.41	0/1365	0.64	0/1837
5	E	0.43	0/1788	0.66	0/2406
6	F	0.52	0/691	0.77	0/933
7	G	0.49	0/1368	0.72	0/1844
8	H	0.38	0/1086	0.65	1/1470 (0.1%)
9	I	0.46	0/989	0.77	1/1331 (0.1%)
10	J	0.48	0/541	0.75	0/727
11	K	0.45	0/937	0.67	0/1265
12	L	0.54	0/366	0.79	0/485
All	All	0.49	6/31690 (0.0%)	0.75	15/42777 (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.

Mol	Chain	#Chirality outliers	#Planarity outliers
2	B	0	2

The worst 5 of 6 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	467	GLY	C-O	-11.91	1.04	1.23
2	B	468	GLU	CB-CG	8.45	1.68	1.52
2	B	510	LYS	CB-CG	5.58	1.67	1.52
1	A	195	ASP	N-CA	5.49	1.57	1.46
2	B	468	GLU	CG-CD	5.21	1.59	1.51

The worst 5 of 15 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	195	ASP	N-CA-C	9.36	136.28	111.00
2	B	510	LYS	CB-CA-C	-7.65	95.10	110.40
2	B	510	LYS	C-N-CD	-7.45	104.21	120.60
3	C	92	CYS	CA-CB-SG	-6.78	101.80	114.00
1	A	1310	GLY	N-CA-C	-6.49	96.88	113.10

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	510	LYS	Mainchain
2	B	833	TYR	Sidechain

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	11214	0	11281	1475	0
2	B	8837	0	8871	1203	0
3	C	2095	0	2052	263	0
4	D	1356	0	1319	106	0
5	E	1752	0	1776	189	0
6	F	679	0	701	84	0
7	G	1340	0	1357	161	0
8	H	1068	0	1040	120	0
9	I	971	0	929	113	0
10	J	532	0	542	110	0
11	K	919	0	929	97	0
12	L	364	0	387	68	0
13	A	1	0	0	0	0
14	A	3	0	0	0	0
14	B	1	0	0	0	0
14	C	1	0	0	0	0
14	I	2	0	0	0	0
14	J	1	0	0	0	0
14	L	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	31137	0	31184	3684	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 59.

The worst 5 of 3684 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:45:ALA:HA	3:C:72:LEU:HD12	1.28	1.13
4:D:40:HIS:HB3	7:G:73:LYS:HZ3	1.10	1.12
7:G:138:THR:HG22	7:G:139:ILE:H	1.11	1.11
1:A:913:LEU:HD12	1:A:914:GLU:H	1.15	1.11
6:F:82:THR:HG22	6:F:84:TYR:H	1.15	1.11

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	1418/1455 (98%)	914 (64%)	316 (22%)	188 (13%)	0	4
2	B	1096/1224 (90%)	725 (66%)	223 (20%)	148 (14%)	0	4
3	C	264/268 (98%)	169 (64%)	62 (24%)	33 (12%)	0	4
4	D	173/221 (78%)	129 (75%)	27 (16%)	17 (10%)	0	7
5	E	212/215 (99%)	141 (66%)	50 (24%)	21 (10%)	0	7
6	F	82/84 (98%)	60 (73%)	15 (18%)	7 (8%)	0	9
7	G	169/171 (99%)	123 (73%)	34 (20%)	12 (7%)	1	11
8	H	129/146 (88%)	93 (72%)	25 (19%)	11 (8%)	0	9
9	I	117/122 (96%)	80 (68%)	22 (19%)	15 (13%)	0	4

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	J	63/70 (90%)	36 (57%)	14 (22%)	13 (21%)	0	2
11	K	112/120 (93%)	82 (73%)	25 (22%)	5 (4%)	2	17
12	L	44/46 (96%)	18 (41%)	14 (32%)	12 (27%)	0	0
All	All	3879/4142 (94%)	2570 (66%)	827 (21%)	482 (12%)	1	4

5 of 482 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	4	GLN
1	A	48	ALA
1	A	55	ASP
1	A	58	LEU
1	A	62	ASP

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1246/1270 (98%)	1133 (91%)	113 (9%)	7	24
2	B	964/1061 (91%)	880 (91%)	84 (9%)	8	25
3	C	234/236 (99%)	205 (88%)	29 (12%)	4	15
4	D	140/200 (70%)	126 (90%)	14 (10%)	6	20
5	E	196/197 (100%)	184 (94%)	12 (6%)	15	37
6	F	74/74 (100%)	63 (85%)	11 (15%)	2	11
7	G	152/152 (100%)	143 (94%)	9 (6%)	16	37
8	H	117/128 (91%)	110 (94%)	7 (6%)	16	37
9	I	113/116 (97%)	97 (86%)	16 (14%)	2	12
10	J	60/65 (92%)	55 (92%)	5 (8%)	9	27
11	K	99/102 (97%)	91 (92%)	8 (8%)	9	28
12	L	40/40 (100%)	33 (82%)	7 (18%)	1	8
All	All	3435/3641 (94%)	3120 (91%)	315 (9%)	10	23

5 of 315 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	D	148	LEU
9	I	46	HIS
4	D	197	SER
6	F	143	PHE
11	K	10	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 88 such sidechains are listed below:

Mol	Chain	Res	Type
2	B	1179	GLN
5	E	101	GLN
3	C	65	HIS
3	C	252	GLN
5	E	147	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 10 ligands modelled in this entry, 10 are 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 ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Map visualisation

This section contains visualisations of the EMDB entry EMD-5343. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1 Orthogonal projections

6.1.1 Primary map

X Y Z

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

6.2 Central slices

6.2.1 Primary map

X Index: 80 Y Index: 80 Z Index: 80

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

6.3 Largest variance slices

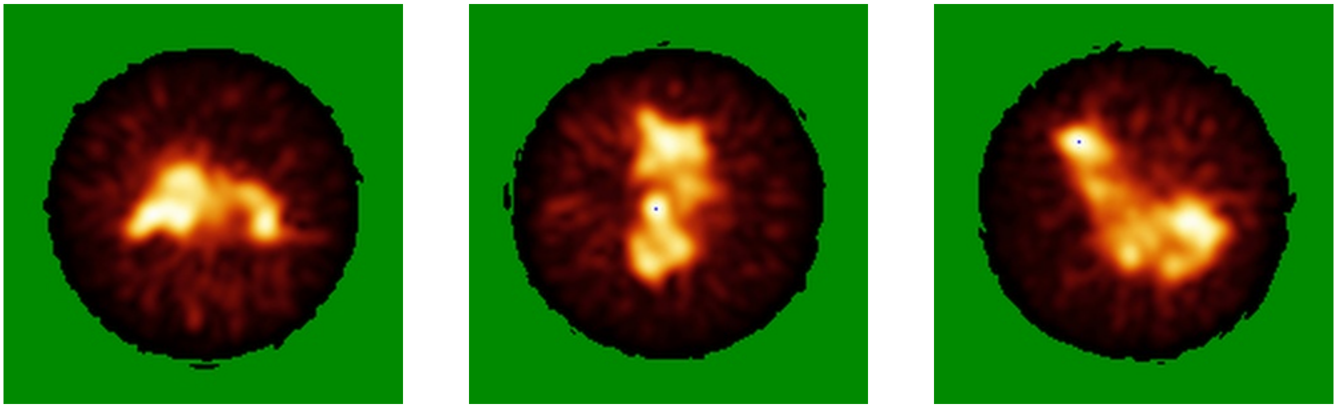
6.3.1 Primary map

X Index: 104 Y Index: 71 Z Index: 76

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

6.4 Orthogonal standard-deviation projections (False-color)

6.4.1 Primary map



X Y Z

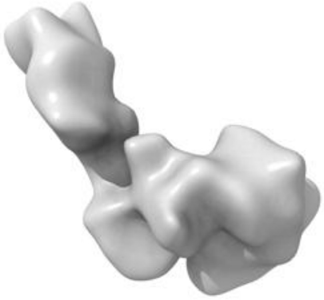
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views

6.5.1 Primary map

X

Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0284. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

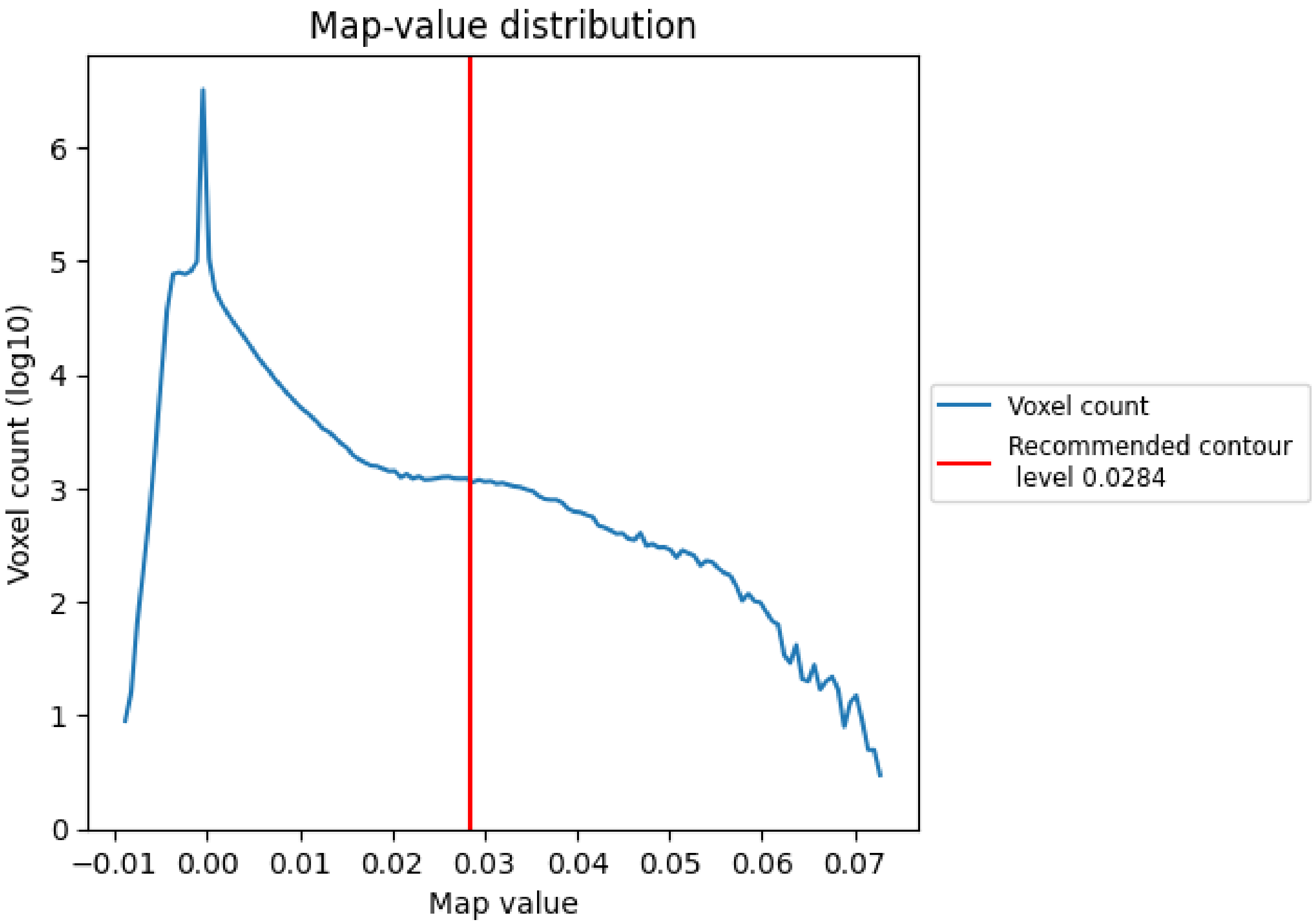
6.6 Mask visualisation

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

7 Map analysis ⓘ

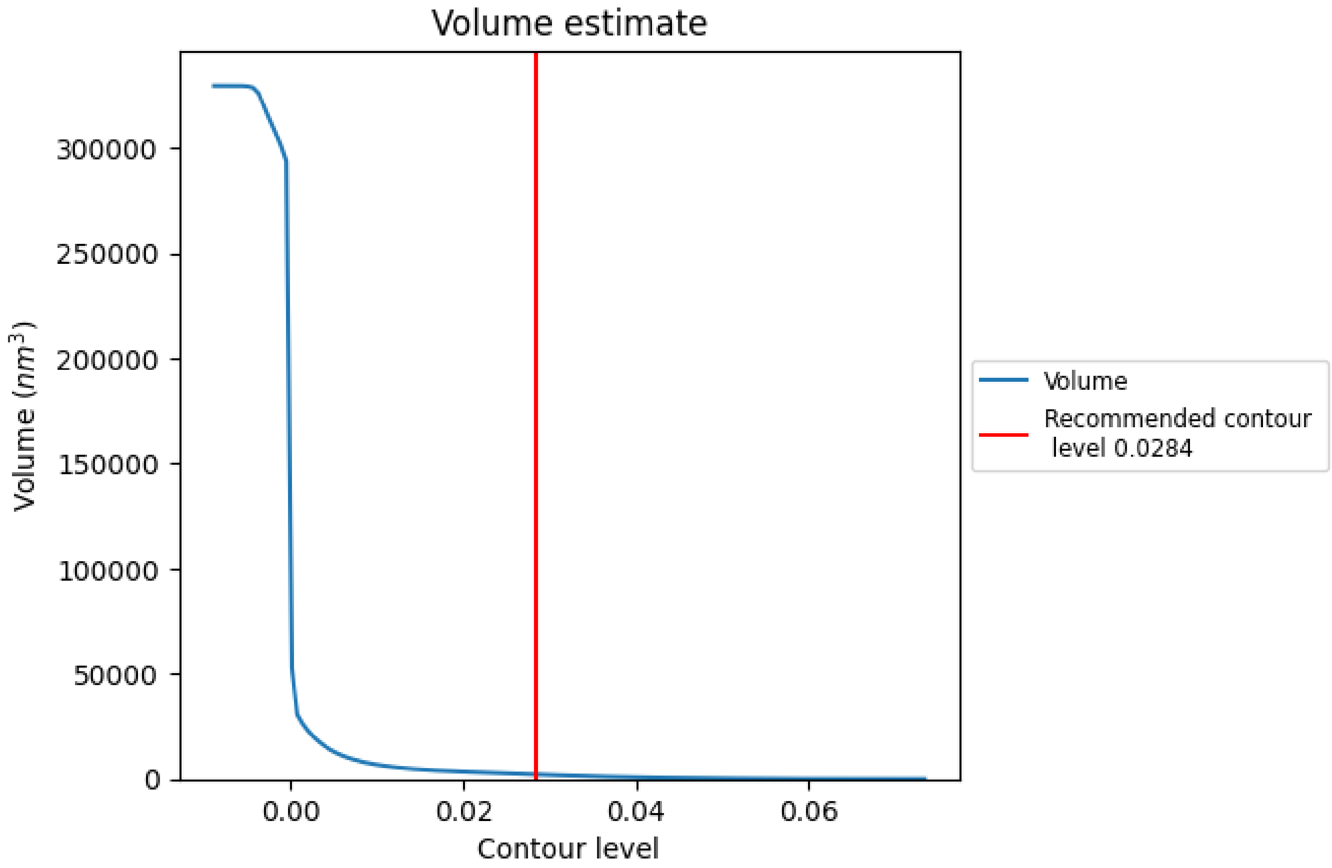
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution ⓘ



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

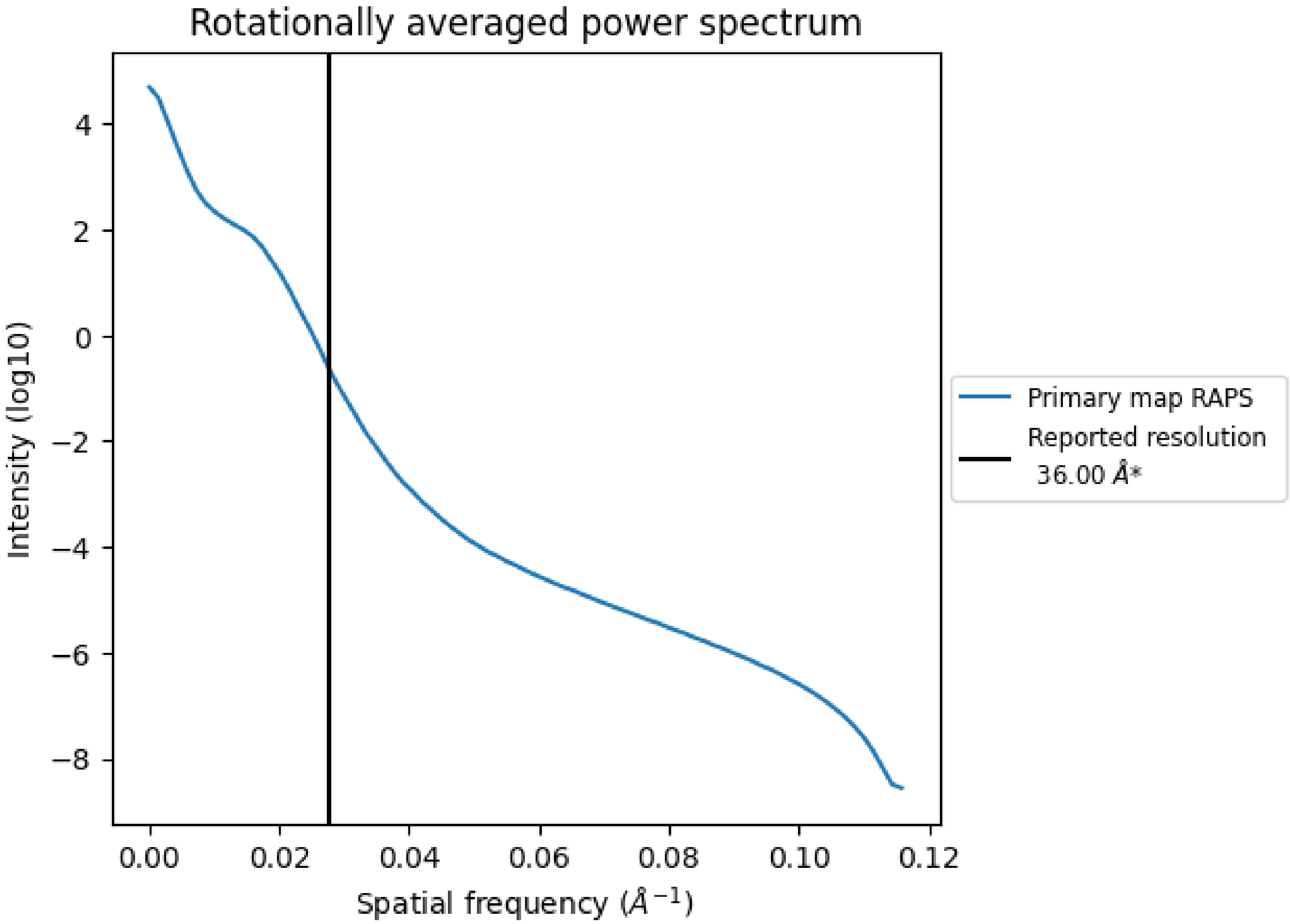
7.2 Volume estimate ⓘ



The volume at the recommended contour level is 2188 nm^3; this corresponds to an approximate mass of 1977 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 ⓘ



*Reported resolution corresponds to spatial frequency of 0.028 $\AA^{-1}$

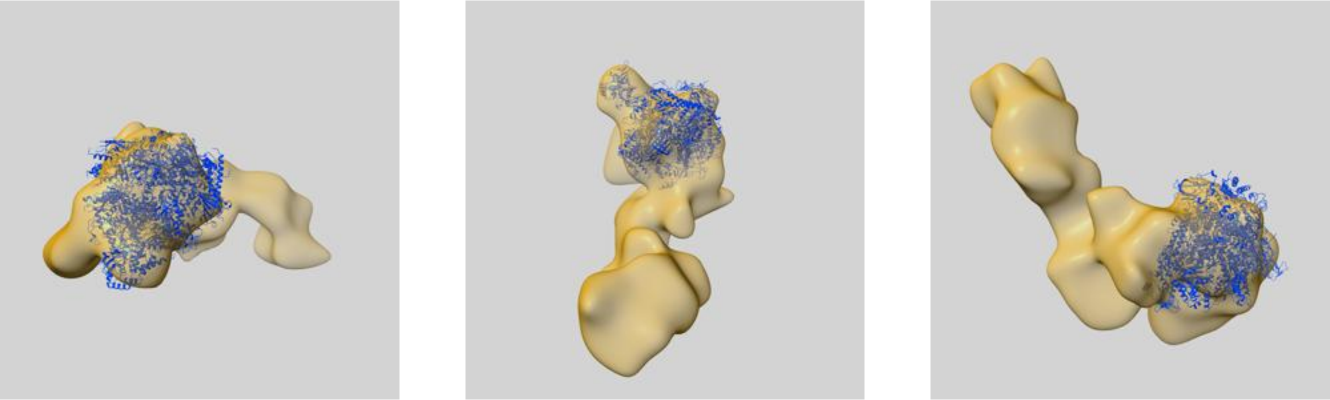
8 Fourier-Shell correlation ⓘ

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

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-5343 and PDB model 3J0K. Per-residue inclusion information can be found in section 3 on page 7.

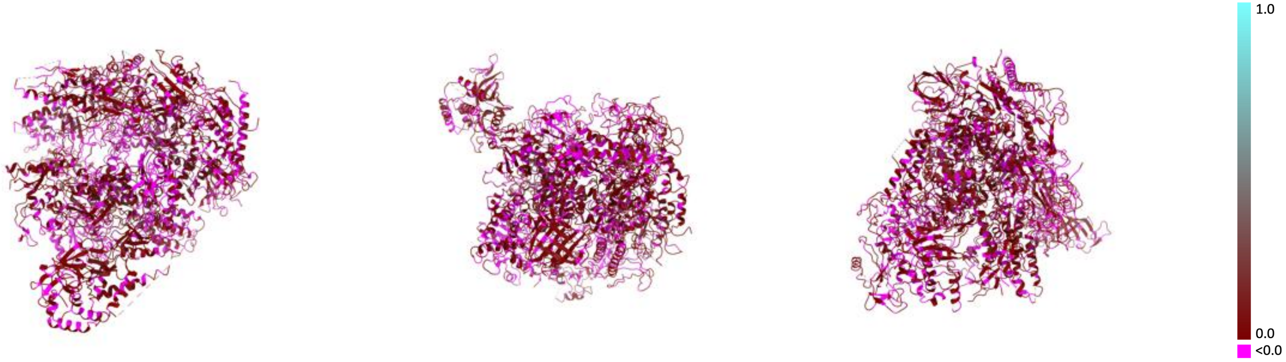
9.1 Map-model overlay ⓘ



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0284 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

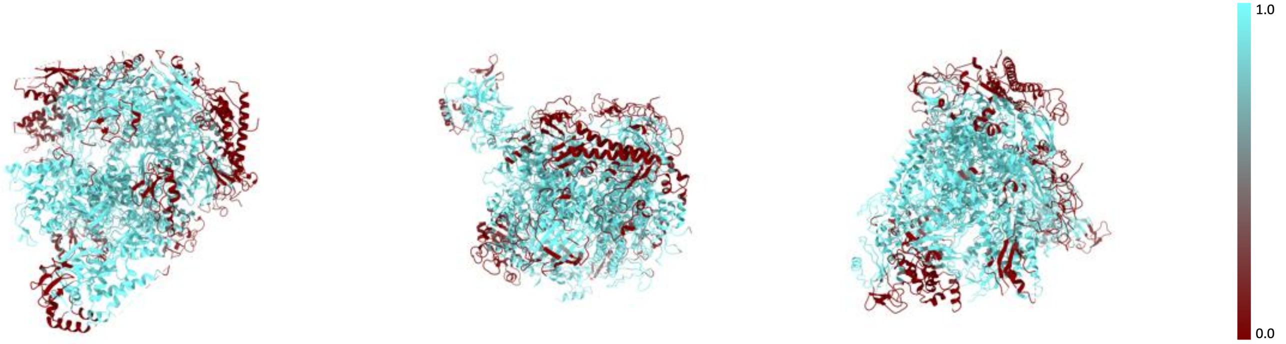
9.2 Q-score mapped to coordinate model ⓘ



X Y Z

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

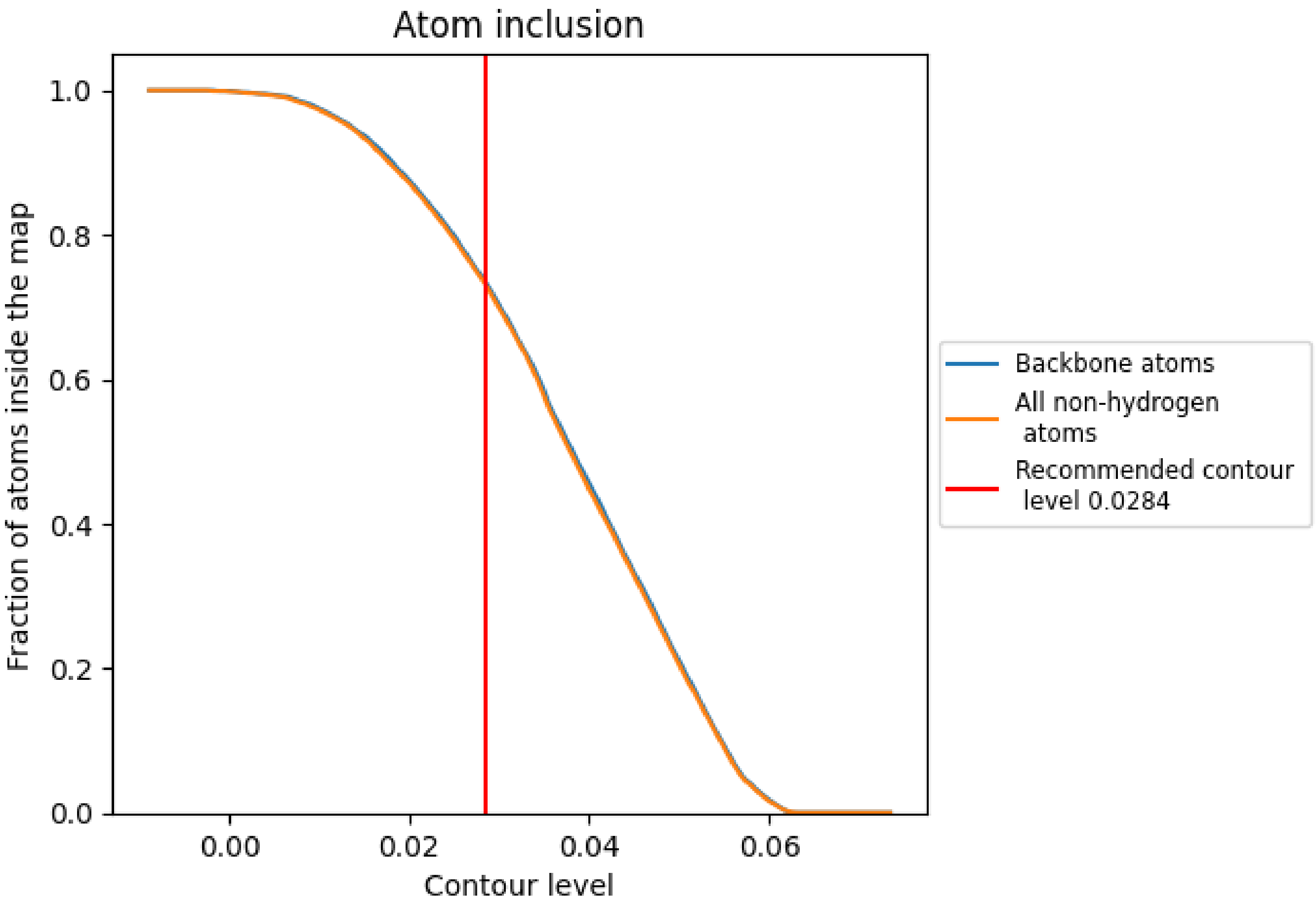
9.3 Atom inclusion mapped to coordinate model ⓘ



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0284).

9.4 Atom inclusion ⓘ



At the recommended contour level, 74% of all backbone atoms, 73% 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 (0.0284) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7330	0.0260
A	0.8980	0.0290
B	0.7610	0.0340
C	0.3730	0.0210
D	0.7520	0.0200
E	0.4560	-0.0130
F	0.7490	0.0060
G	0.7880	0.0470
H	0.4850	0.0300
I	0.6210	-0.0000
J	0.7080	0.0350
K	0.3020	0.0010
L	0.2440	0.0090