wwPDB EM Validation Summary Report

Jun 29, 2025 – 06:51 am BST

PDB ID	:	6FLQ / pdb_00006flq
EMDB ID	:	EMD-4275
Title	:	CryoEM structure of E.coli RNA polymerase paused elongation complex bound to NusA
Authors	:	Guo, X.; Weixlbaumer, A.
Deposited on	:	2018-01-26
Resolution	:	3.60 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 ⓘ 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:

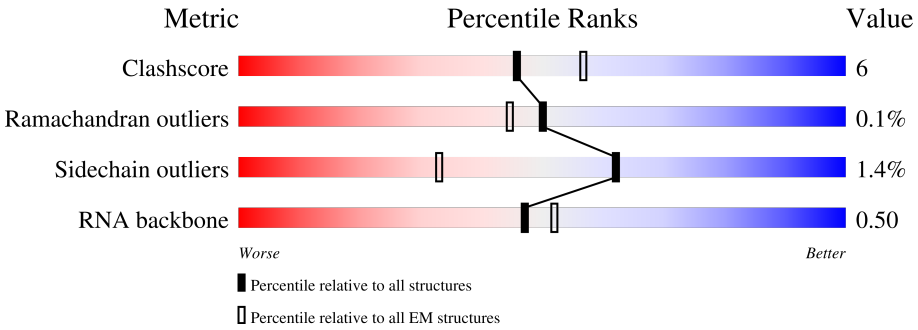
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.44

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.60 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
RNA backbone	6643	2191

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	329	88% 79% 14% • 6%
1	B	329	86% 76% 14% • 9%
2	C	1342	85% 82% 17%
3	D	1407	81% 80% 14% 5%
4	E	91	92% 93% 5% •
5	F	495	100% 95% 5%
6	N	31	94% 81% 19%

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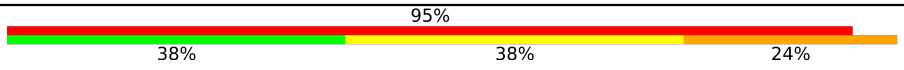
Mol	Chain	Length	Quality of chain
7	R	21	
8	T	39	

2 Entry composition (i)

There are 10 unique types of molecules in this entry. The entry contains 30201 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 subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	310	Total	C	N	O	S	0	0
			2168	1339	394	429	6		
1	B	298	Total	C	N	O	S	0	0
			2068	1280	374	408	6		

- Molecule 2 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	1341	Total	C	N	O	S	0	0
			10573	6634	1841	2055	43		

- Molecule 3 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	1334	Total	C	N	O	S	0	0
			10357	6510	1846	1952	49		

- Molecule 4 is a protein called DNA-directed RNA polymerase subunit omega.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	E	90	Total	C	N	O	S	0	0
			709	430	136	142	1		

- Molecule 5 is a protein called Transcription termination/antitermination protein NusA.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	F	495	Total	C	N	O	0	0
			2447	1457	495	495		

- Molecule 6 is a DNA chain called DNA (31-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
6	N	31	Total	C	N	O	P	0	0
			647	304	131	181	31		

- Molecule 7 is a RNA chain called RNA (5'-R(*CP*CP*UP*GP*AP*UP*CP*AP*GP*GP*CP*GP*AP*UP*GP*UP*GP*UP*GP*CP*U)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
7	R	21	Total	C	N	O	P	0	0
			444	199	77	148	20		

- Molecule 8 is a DNA chain called DNA (39-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
8	T	39	Total	C	N	O	P	0	0
			785	375	135	236	39		

- Molecule 9 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
9	D	1	Total	Mg	0
			1	1	

- Molecule 10 is ZINC ION (CCD ID: ZN) (formula: Zn).

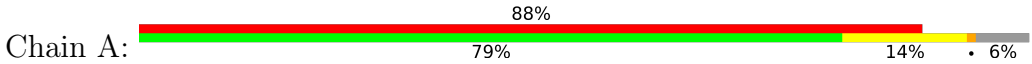
Mol	Chain	Residues	Atoms		AltConf
10	D	2	Total	Zn	0
			2	2	

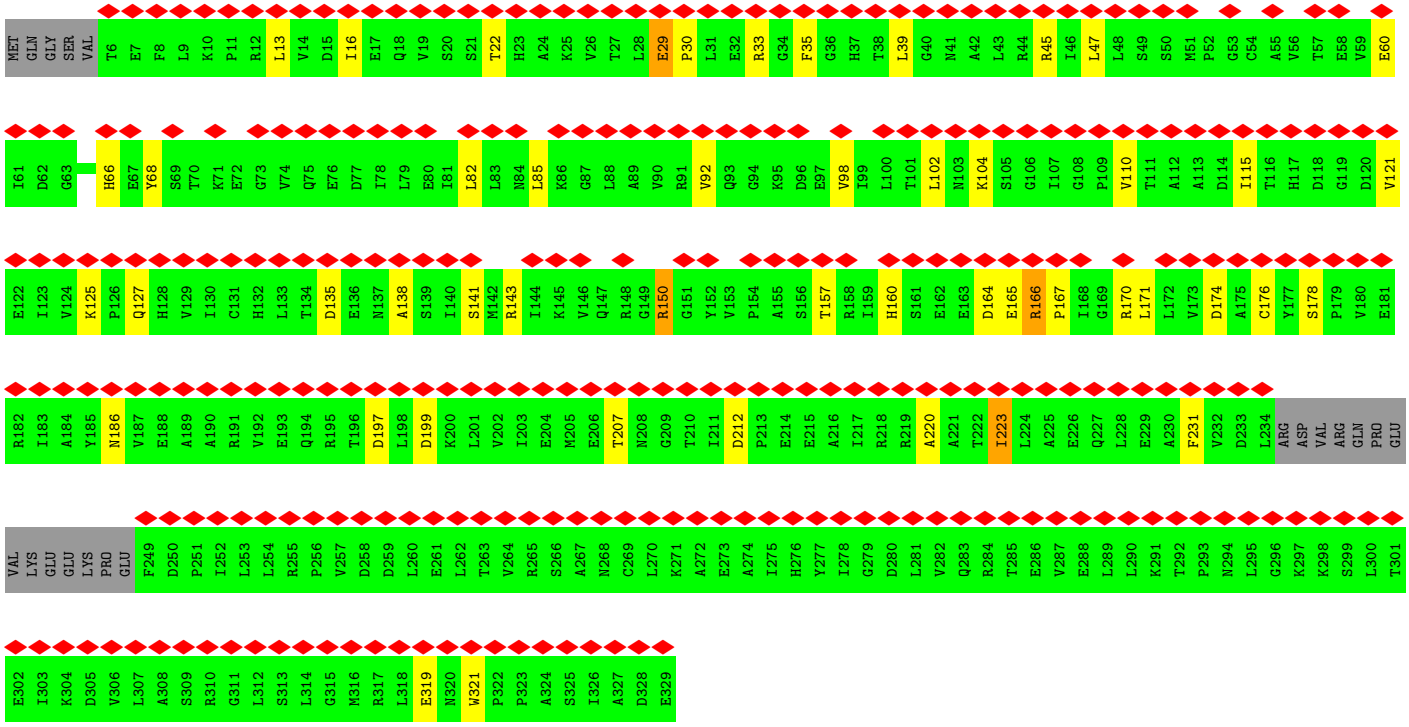
3 Residue-property plots (i)

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

• Molecule 1: DNA-directed RNA polymerase subunit alpha

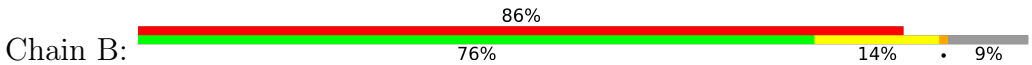
Chain A:

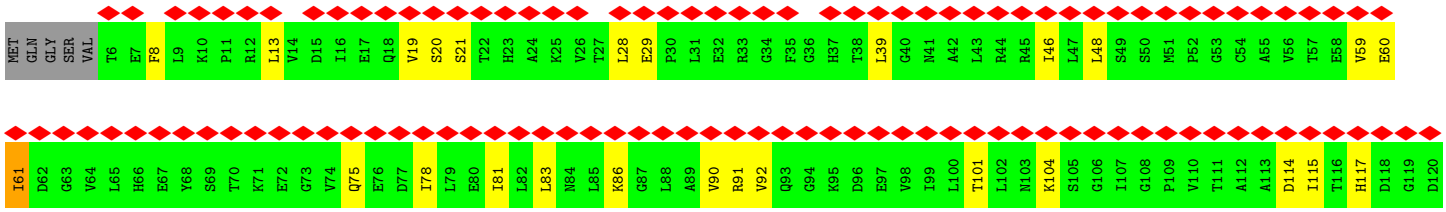


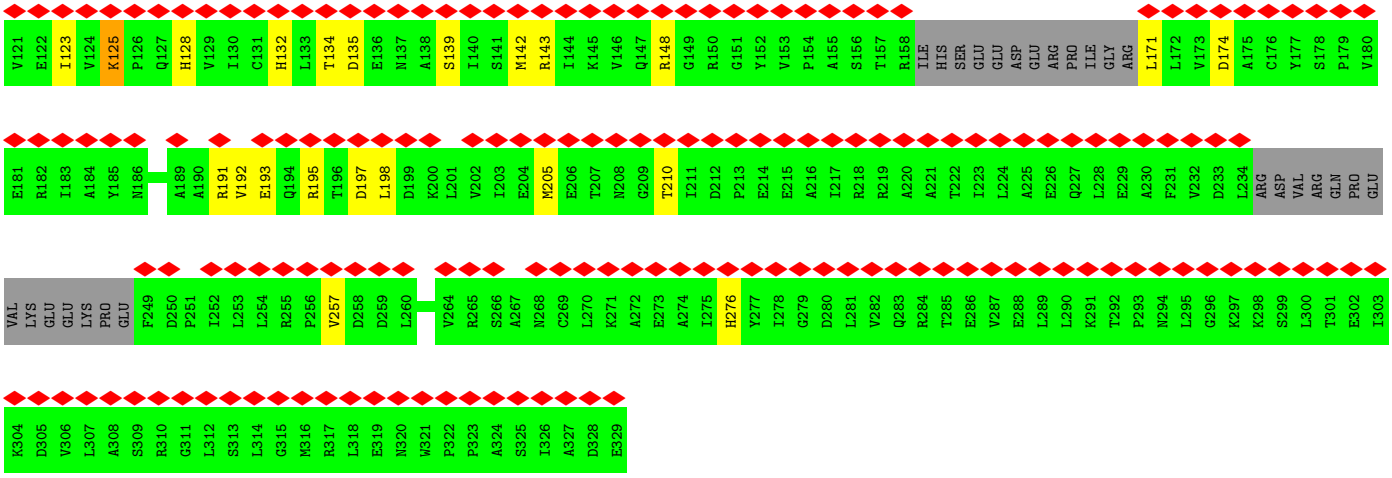


• Molecule 1: DNA-directed RNA polymerase subunit alpha

Chain B:

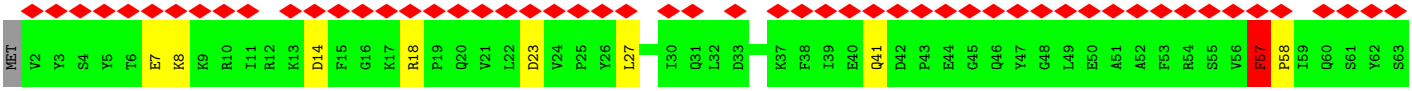


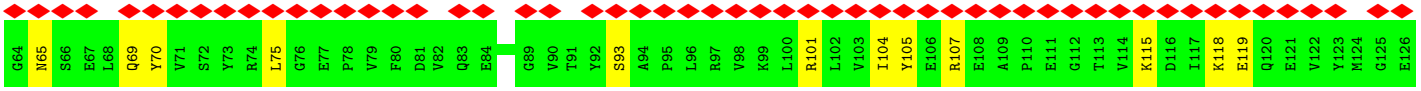


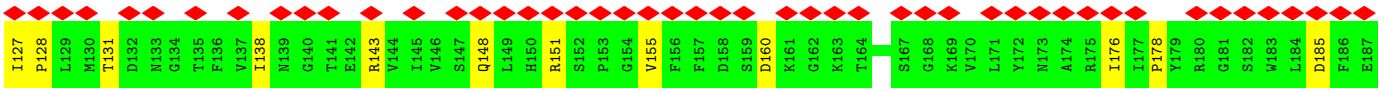


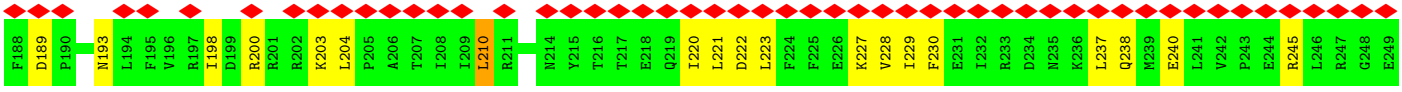
• Molecule 2: DNA-directed RNA polymerase subunit beta

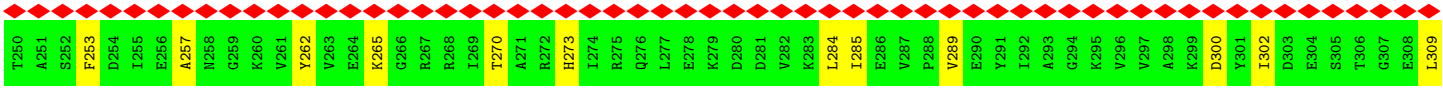
Chain C:

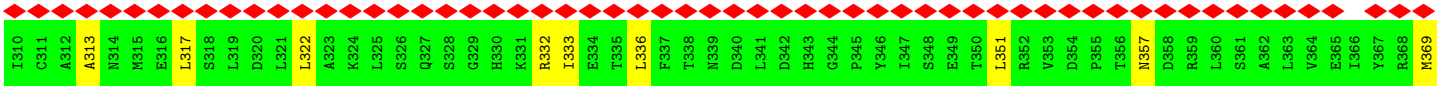


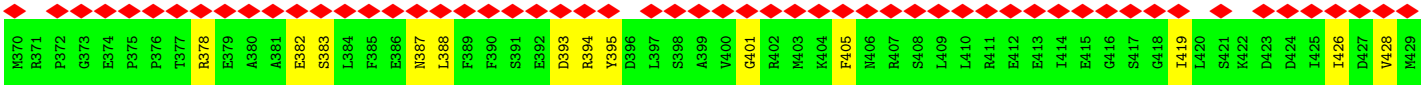


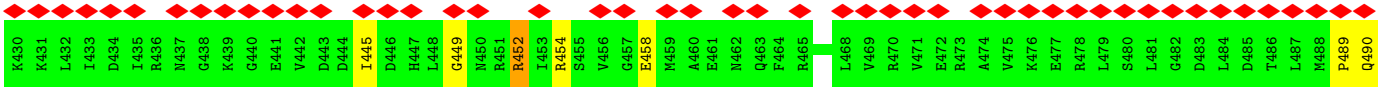


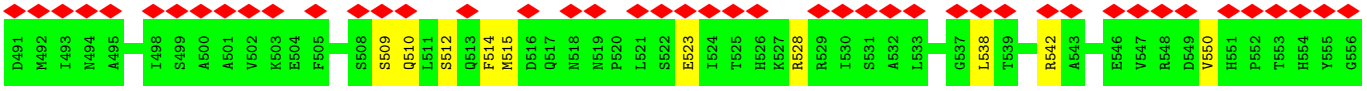


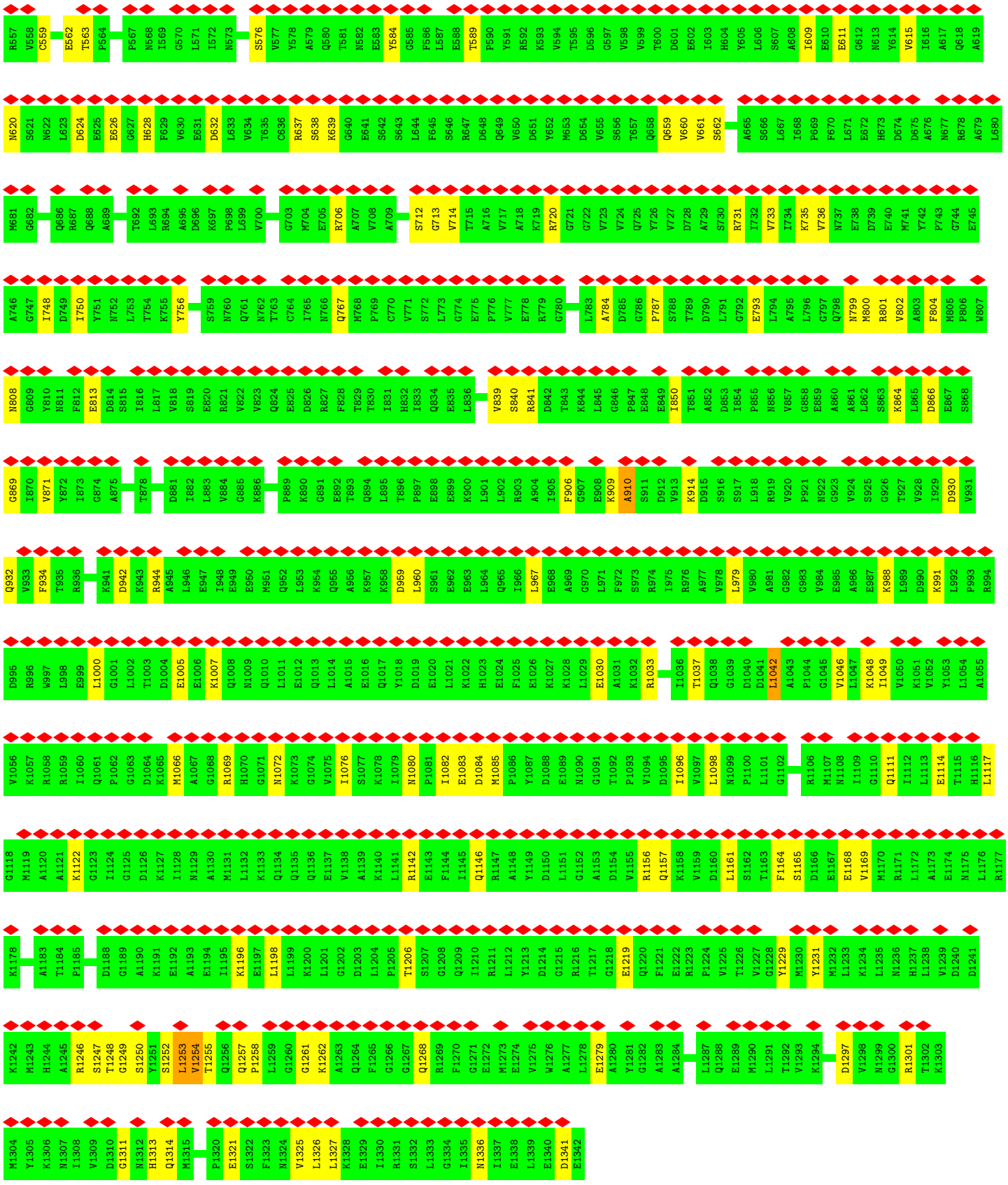






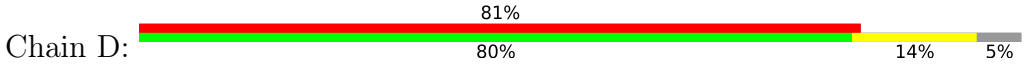


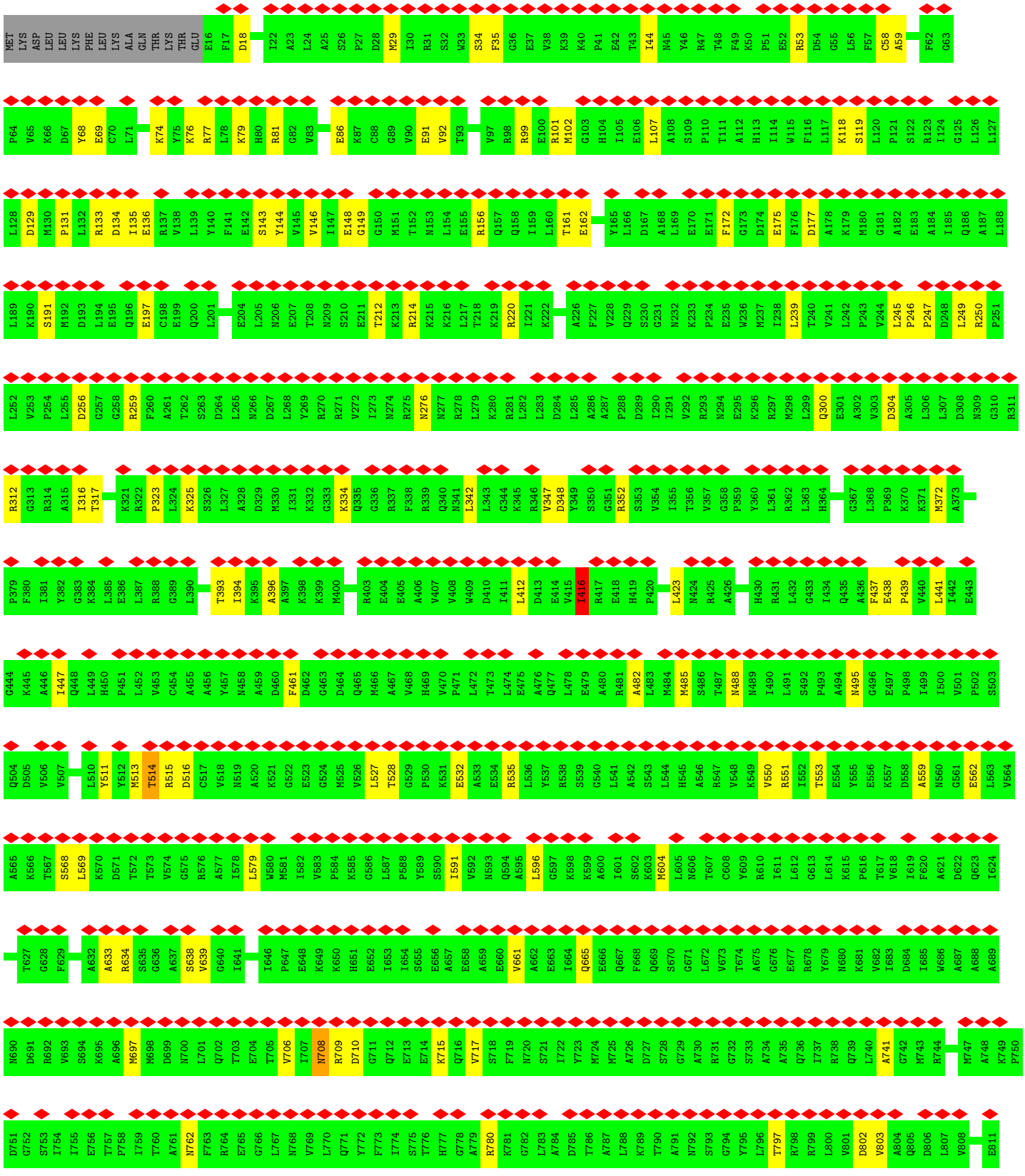


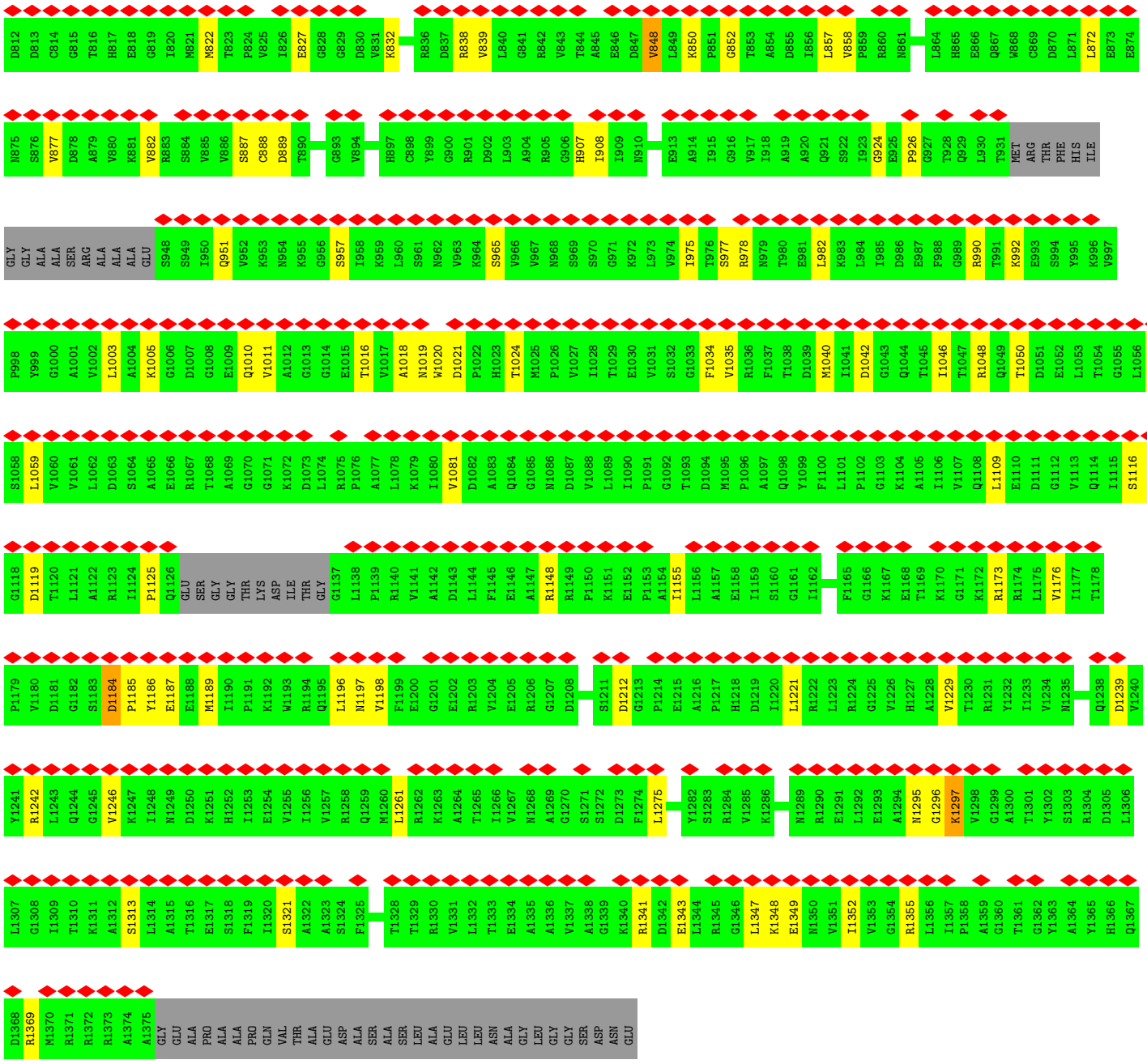


• Molecule 3: DNA-directed RNA polymerase subunit beta'

Chain D:

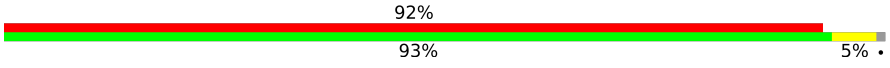

81%
80%
14%
5%

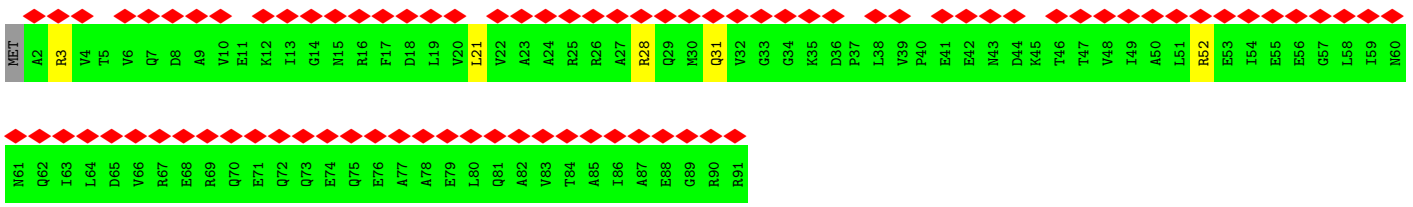

MET LYS ASP LEU LEU LYS PHE LEU LYS ALA GLN THR LYS THR GLU E16 F17 D18 I22 A23 L24 A25 S26 P27 D28 M29 I30 R31 S32 W33 S34 F35 G36 E37 V38 K39 K40 P41 E42 T43 I44 N45 Y46 R47 T48 F49 K50 P51 E52 R53 D54 G55 L56 F57 C58 A59 F62 G63
P64 V65 K66 D67 Y68 E69 C70 L71 K74 Y75 K76 R77 L78 K79 H80 R81 G82 V83 E86 K87 C88 G89 V90 E91 V92 T93 V97 R98 R99 E100 R101 M102 G103 H104 I105 E106 L107 A108 S109 P110 T111 A112 H113 I114 W115 F116 L117 K118 S119 L120 P121 S122 R123 I124 G125 L126 L127
L128 D129 M130 P131 L132 R133 D134 I135 E136 R137 V138 L139 Y140 F141 E142 S143 Y144 V145 V146 I147 E148 G149 G150 M151 T152 N153 L154 E155 R156 Q157 Q158 I159 L160 T161 E162 Y165 L166 D167 A168 L169 E170 E171 F172 G173 D174 E175 F176 D177 A178 K179 M180 G181 A182 E183 A184 I185 Q186 A187 L188
L189 K190 S191 M192 D193 L194 E195 Q196 E197 C198 E199 Q200 L201 E204 L205 N206 E207 T208 N209 S210 E211 T212 K213 R214 K215 K216 L217 T218 K219 R220 I221 K222 A226 F227 V228 Q229 S230 G231 N232 K233 P234 E235 W236 M237 I238 L239 T240 V241 L242 P243 V244 L245 P246 P247 D248 L249 R250 P251
L252 V253 P254 L255 D256 G257 G258 R259 F260 A261 T262 S263 D264 L265 N266 D267 L268 Y269 R270 R271 V272 I273 N274 R275 N276 N277 R278 L279 K280 R281 L282 L283 D284 L285 A286 A287 P288 D289 I290 I291 V292 R293 N294 E295 K296 R297 M298 L299 Q300 E301 A302 V303 D304 A305 L306 L307 D308 N309 G310 R311
R312 G313 R314 A315 I316 T317 K321 R322 P323 L324 K325 S326 L327 A328 D329 M330 I331 K332 G333 K334 Q335 G336 R337 F338 R339 Q340 N341 L342 L343 G344 K345 R346 V347 D348 Y349 S350 G351 R352 S353 V354 I355 T356 V357 G358 P359 Y360 L361 R362 L363 H364 G367 L368 P369 K370 K371 M372 A373
P379 F380 I381 Y382 G383 K384 L385 E386 L387 R388 G389 L390 T393 I394 K395 A396 A397 K398 K399 M400 R403 E404 E405 A406 V407 V408 W409 D410 I411 L412 D413 E414 V415 I416 R417 E418 H419 P420 L423 N424 R425 A426 H430 R431 L432 G433 I434 Q435 A436 F437 E438 P439 V440 L441 I442 E443
G444 K445 A446 I447 Q448 L449 H450 P451 L452 V453 C454 A455 A456 Y457 N458 A459 D460 F461 D462 G463 D464 Q465 M466 A467 V468 H469 V470 P471 L472 T473 L474 E475 A476 Q477 L478 E479 A480 R481 A482 L483 M484 M485 S486 T487 N488 N489 I490 L491 S492 P493 A494 N495 G496 E497 P498 I499 I500 V501 P502 S503
Q504 D505 V506 V507 L510 Y511 Y512 M513 T514 R515 D516 C517 V518 N519 A520 K521 G522 E523 G524 M525 V526 L527 T528 G529 P530 K531 E532 A533 E534 R535 L536 Y537 R538 S539 G540 L541 A542 S543 L544 H545 A546 R547 V548 K549 V550 R551 I552 T553 E554 Y555 E556 K557 D558 A559 N560 G561 E562 L563 V564
A565 K566 T567 S568 L569 K570 D571 T572 T573 V574 G575 R576 A577 I578 L579 W580 M581 I582 V583 P584 K585 G586 L587 P588 Y589 S590 I591 V592 N593 Q594 A595 L596 G597 K598 K599 A600 I601 S602 K603 M604 L605 N606 T607 C608 Y609 R610 I611 L612 G613 L614 K615 P616 T617 V618 I619 F620 A621 D622 Q623 I624
T627 G628 F629 A632 A633 R634 S635 G636 A637 S638 V639 G640 I641 I646 P647 E648 K649 K650 H651 E652 I653 I654 S655 E656 A657 E658 A659 E660 V661 A662 E663 I664 Q665 E666 Q667 F668 Q669 S670 G671 L672 V673 T674 A675 G676 E677 R678 Y679 N680 K681 V682 I683 D684 I685 W686 A687 A688 A689
N690 D691 R692 V693 S694 K695 A696 M697 M698 D699 N700 L701 Q702 T703 E704 T705 V706 I707 N708 R709 D710 G711 Q712 E713 E714 K715 Q716 V717 S718 F719 N720 S721 I722 Y723 M724 M725 A726 D727 S728 G729 A730 R731 G732 S733 A734 A735 Q736 I737 R738 Q739 L740 A741 G742 M743 R744 M747 A748 K749 P750
D751 G752 S753 I754 I755 E756 T757 P758 I759 T760 A761 N762 F763 R764 E765 G766 L767 N768 V769 L770 Q771 Y772 F773 I774 S775 T776 H777 G778 A779 R780 K781 G782 L783 A784 D785 T786 A787 L788 K789 T790 A791 N792 S793 G794 Y795 L796 T797 R798 R799 L800 V801 D802 V803 A804 Q805 D806 L807 V808 E811



• Molecule 4: DNA-directed RNA polymerase subunit omega

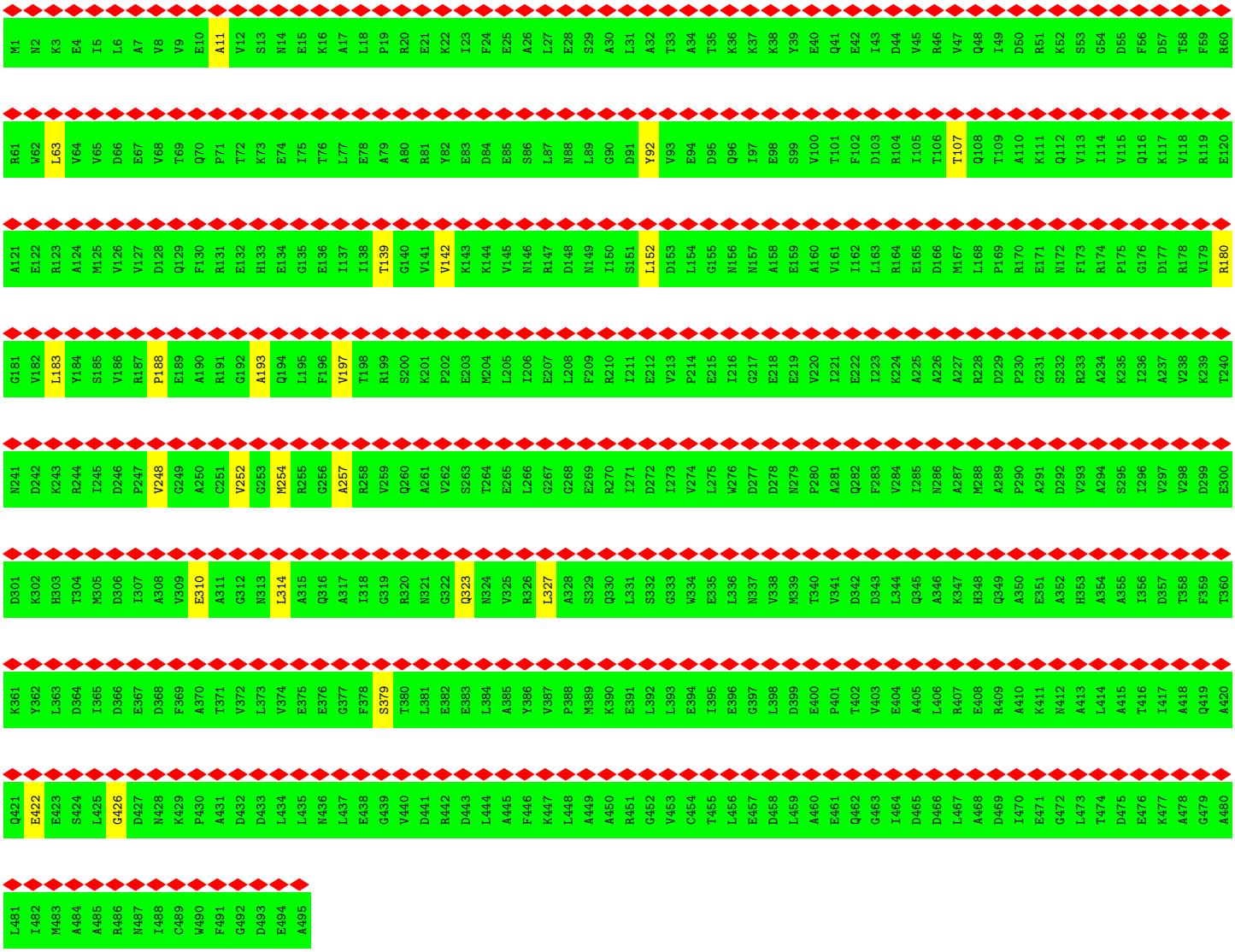
Chain E:





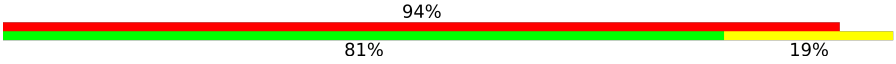
• Molecule 5: Transcription termination/antitermination protein NusA

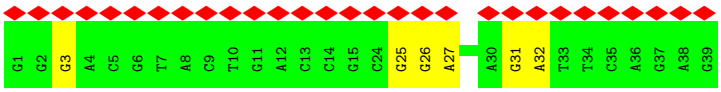
Chain F:



• Molecule 6: DNA (31-MER)

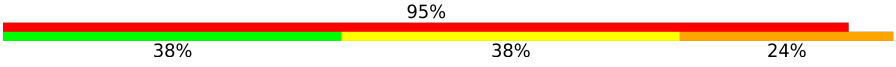
Chain N:



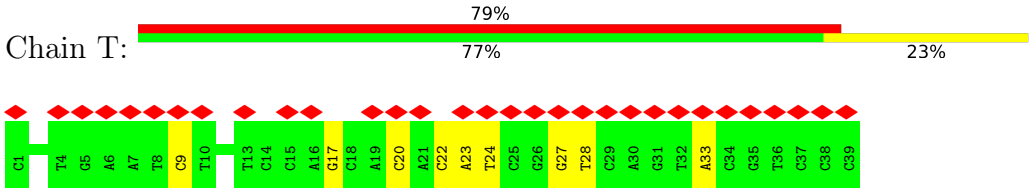


• Molecule 7: RNA (5'-R(*CP*CP*UP*GP*AP*UP*CP*AP*GP*GP*CP*GP*AP*UP*GP*UP *GP*UP*GP*CP*U)-3')

Chain R:



• Molecule 8: DNA (39-MER)



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	157100	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	53	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	3200	Depositor
Magnification	105000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	2.869	Depositor
Minimum map value	-1.326	Depositor
Average map value	0.006	Depositor
Map value standard deviation	0.086	Depositor
Recommended contour level	0.45	Depositor
Map size (Å)	308.0, 308.0, 308.0	wwPDB
Map dimensions	280, 280, 280	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.1, 1.1, 1.1	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	0.63	0/2189	0.76	1/2981 (0.0%)
1	B	0.58	0/2086	0.83	1/2841 (0.0%)
2	C	0.74	1/10742 (0.0%)	0.81	6/14494 (0.0%)
3	D	0.69	0/10514	0.80	2/14199 (0.0%)
4	E	0.55	0/711	0.70	0/956
5	F	0.23	0/2446	0.63	2/3406 (0.1%)
6	N	0.43	0/728	0.57	0/1121
7	R	0.49	0/494	0.70	0/766
8	T	0.55	0/876	0.61	0/1346
All	All	0.66	1/30786 (0.0%)	0.78	12/42110 (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
1	A	0	4
1	B	0	4
2	C	0	4
3	D	0	5
5	F	0	1
All	All	0	18

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	1084	ASP	C-N	-15.66	1.08	1.33

The worst 5 of 12 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	D	135	ILE	N-CA-C	-8.60	104.36	112.96
2	C	1084	ASP	CA-C-N	7.11	130.59	120.49
2	C	1084	ASP	C-N-CA	7.11	130.59	120.49
2	C	910	ALA	CA-C-N	5.92	132.35	121.70
2	C	910	ALA	C-N-CA	5.92	132.35	121.70

There are no chirality outliers.

5 of 18 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	166	ARG	Peptide
1	A	29	GLU	Peptide
1	A	319	GLU	Peptide
1	A	321	TRP	Peptide
1	B	19	VAL	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	2168	0	1960	31	0
1	B	2068	0	1867	26	0
2	C	10573	0	10584	151	0
3	D	10357	0	10571	138	0
4	E	709	0	719	7	0
5	F	2447	0	1180	11	0
6	N	647	0	347	6	0
7	R	444	0	228	9	0
8	T	785	0	440	8	0
9	D	1	0	0	0	0
10	D	2	0	0	0	0
All	All	30201	0	27896	347	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 6.

The worst 5 of 347 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)
2:C:393:ASP:OD2	2:C:394:ARG:NH1	1.90	1.04
3:D:1341:ARG:NH1	3:D:1343:GLU:OE2	1.98	0.97
3:D:129:ASP:OD2	3:D:220:ARG:NH1	1.98	0.96
1:A:33:ARG:NH1	1:A:199:ASP:OD2	2.02	0.91
3:D:832:LYS:HZ2	3:D:1242:ARG:HH12	1.12	0.90

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	306/329 (93%)	262 (86%)	44 (14%)	0	100	100
1	B	292/329 (89%)	243 (83%)	47 (16%)	2 (1%)	19	53
2	C	1339/1342 (100%)	1190 (89%)	147 (11%)	2 (0%)	48	79
3	D	1328/1407 (94%)	1191 (90%)	136 (10%)	1 (0%)	48	79
4	E	88/91 (97%)	82 (93%)	6 (7%)	0	100	100
5	F	493/495 (100%)	458 (93%)	35 (7%)	0	100	100
All	All	3846/3993 (96%)	3426 (89%)	415 (11%)	5 (0%)	50	79

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	C	57	PHE
2	C	58	PRO
1	B	61	ILE
1	B	117	HIS
3	D	1185	PRO

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	194/286 (68%)	191 (98%)	3 (2%)	60 78
1	B	183/286 (64%)	180 (98%)	3 (2%)	58 76
2	C	1155/1157 (100%)	1135 (98%)	20 (2%)	56 75
3	D	1114/1168 (95%)	1102 (99%)	12 (1%)	70 83
4	E	74/75 (99%)	74 (100%)	0	100 100
All	All	2720/2972 (92%)	2682 (99%)	38 (1%)	62 79

5 of 38 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	212	THR
3	D	882	VAL
3	D	239	LEU
3	D	708	ASN
3	D	1261	LEU

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

Mol	Chain	Res	Type
3	D	469	HIS
3	D	1019	ASN
3	D	1010	GLN
3	D	1023	HIS
2	C	604	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
7	R	19/21 (90%)	6 (31%)	1 (5%)

5 of 6 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
7	R	18	G
7	R	19	C
7	R	20	G
7	R	21	A
7	R	25	G

All (1) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
7	R	20	G

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)

Of 3 ligands modelled in this entry, 3 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 (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
6	N	1
7	R	1
2	C	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	N	15:DG	O3'	24:DC	P	28.78
1	R	5:A	O3'	14:U	P	17.75
1	C	1084:ASP	C	1085:MET	N	1.08

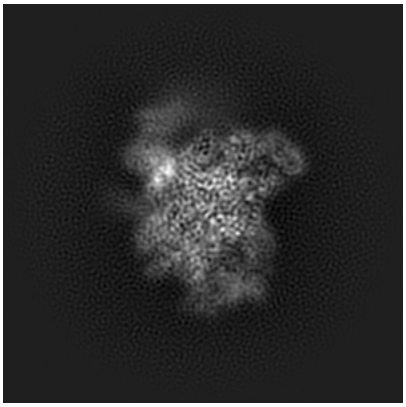
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-4275. These allow visual inspection of the internal detail of the map and identification of artifacts.

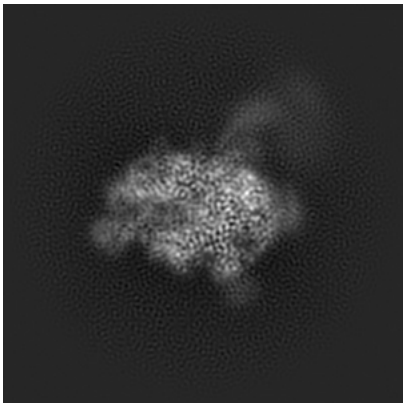
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

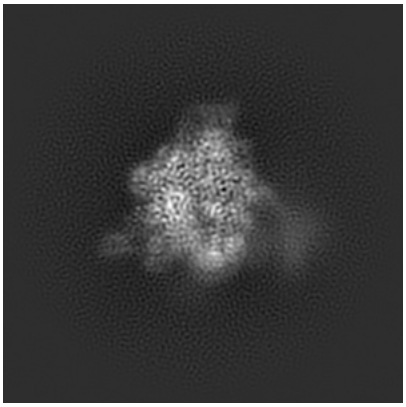
6.1.1 Primary map



X



Y

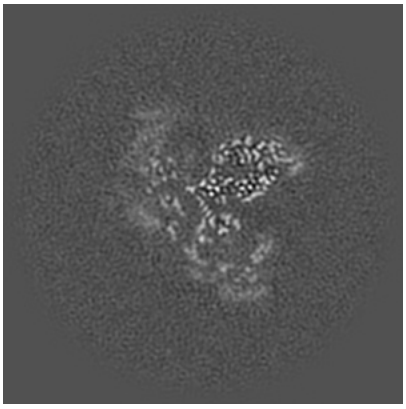


Z

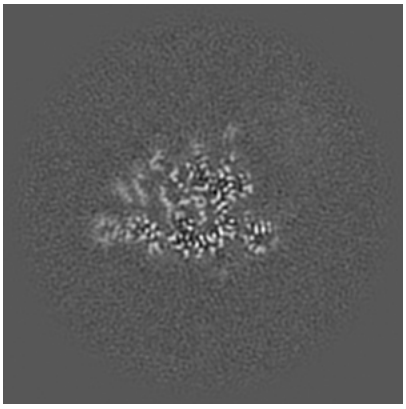
The images above show the map projected in three orthogonal directions.

6.2 Central slices

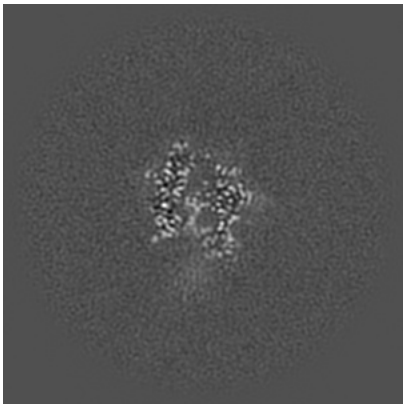
6.2.1 Primary map



X Index: 140



Y Index: 140

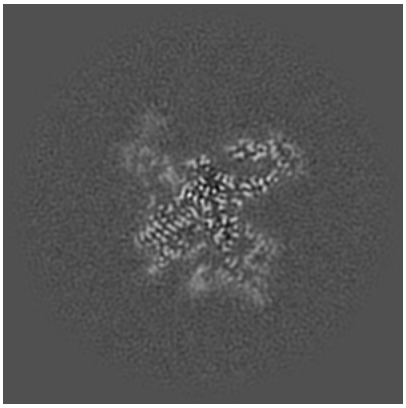


Z Index: 140

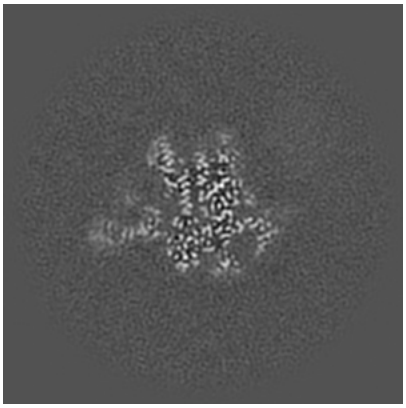
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

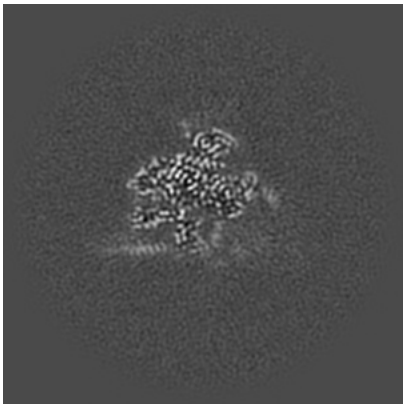
6.3.1 Primary map



X Index: 150



Y Index: 147

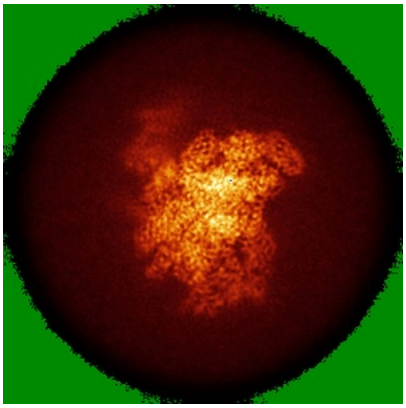


Z Index: 156

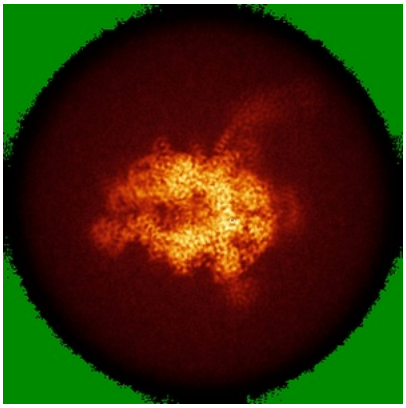
The images above show the largest variance slices of the map in three orthogonal directions.

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

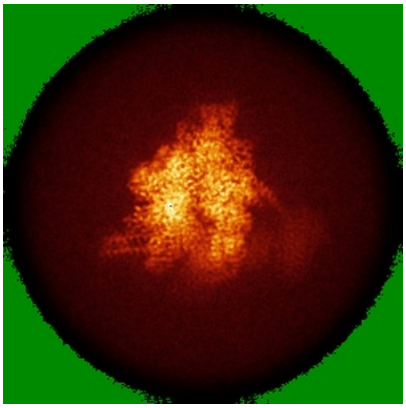
6.4.1 Primary map



X



Y

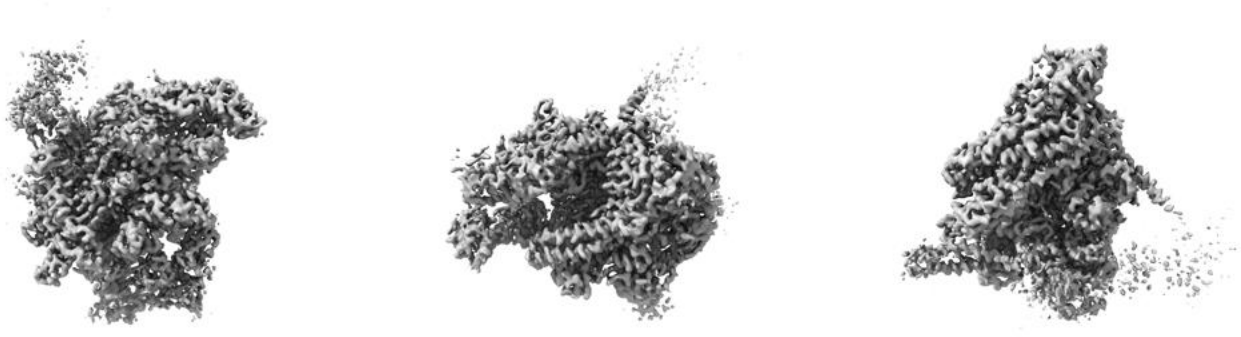


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.45. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

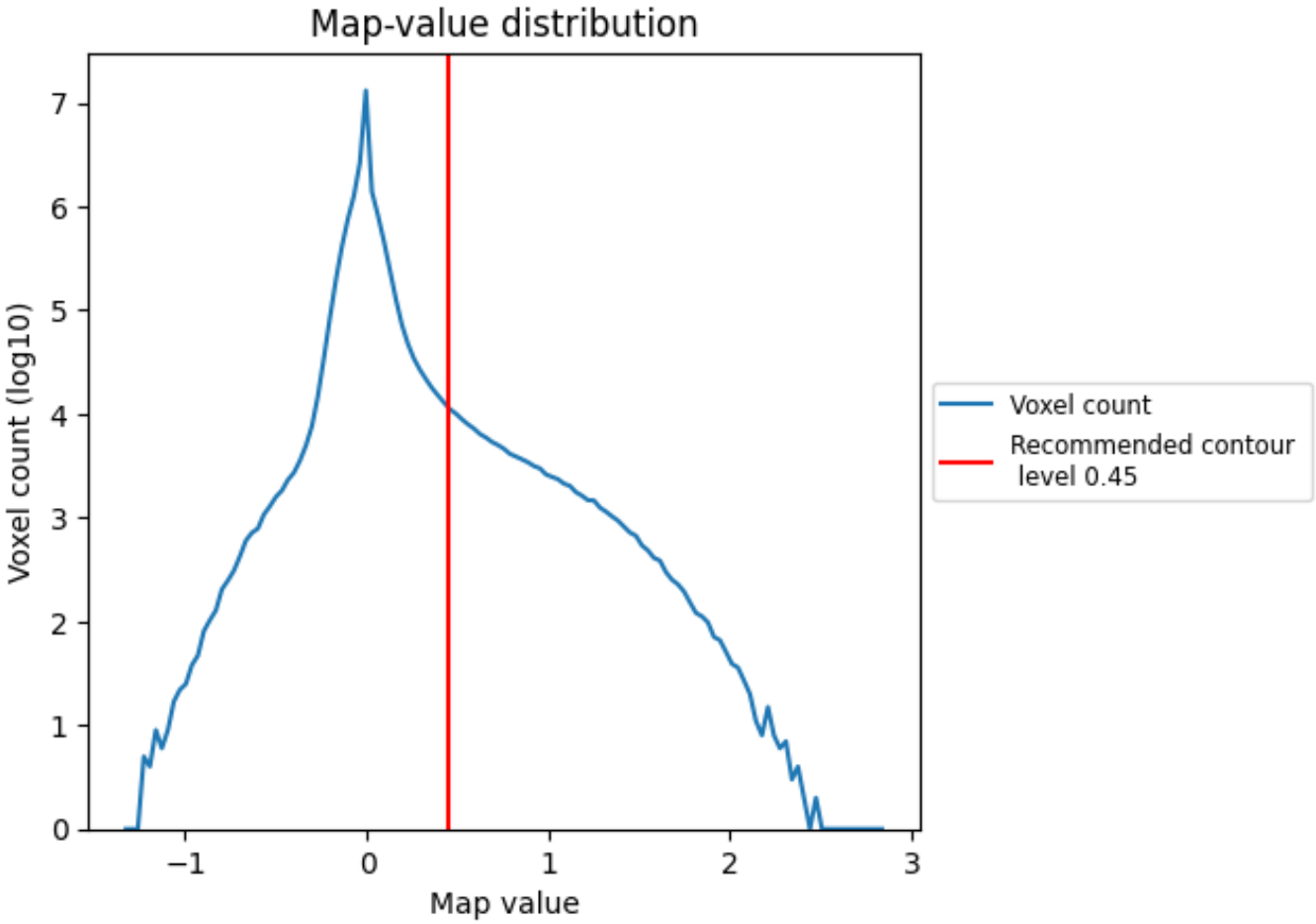
6.6 Mask visualisation (i)

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

7 Map analysis

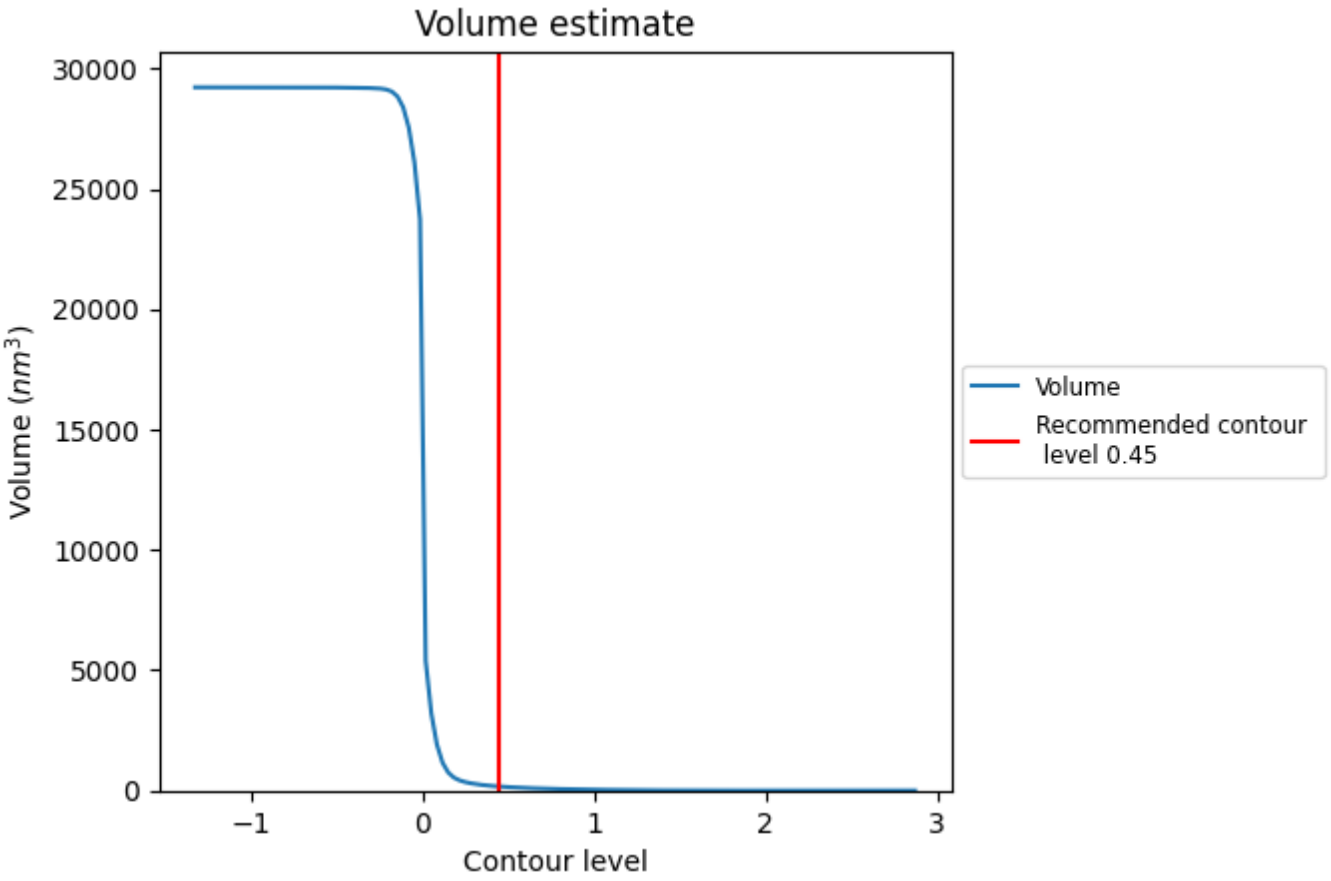
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

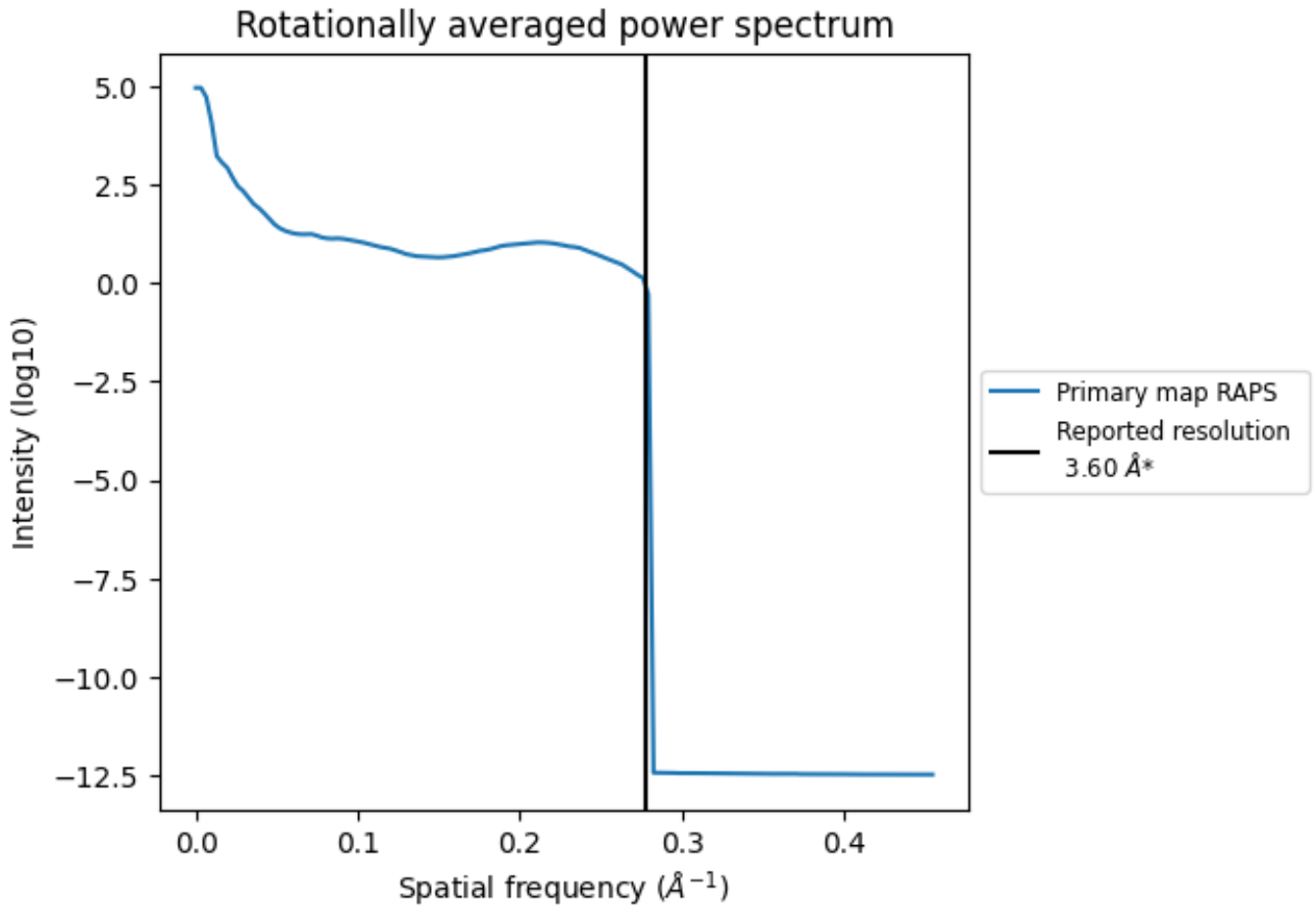
7.2 Volume estimate (i)



The volume at the recommended contour level is 166 nm^3; this corresponds to an approximate mass of 150 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 0.278 Å^{-1}

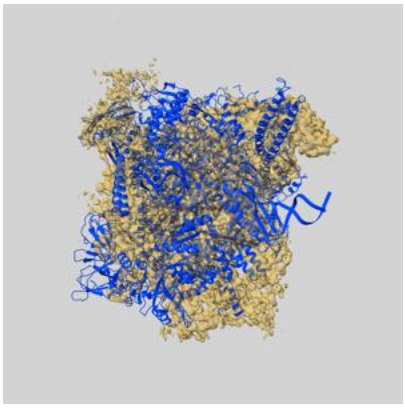
8 Fourier-Shell correlation (i)

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

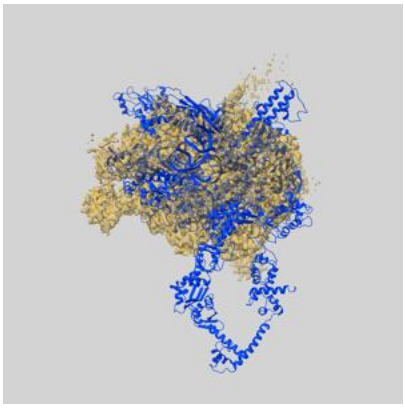
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-4275 and PDB model 6FLQ. Per-residue inclusion information can be found in section 3 on page 6.

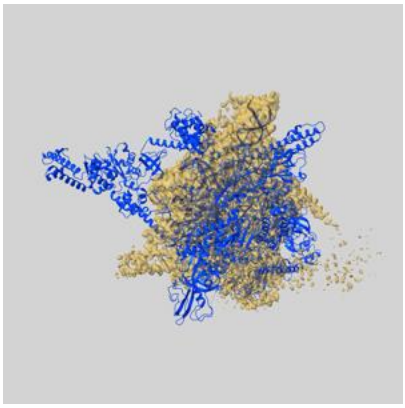
9.1 Map-model overlay



X



Y



Z

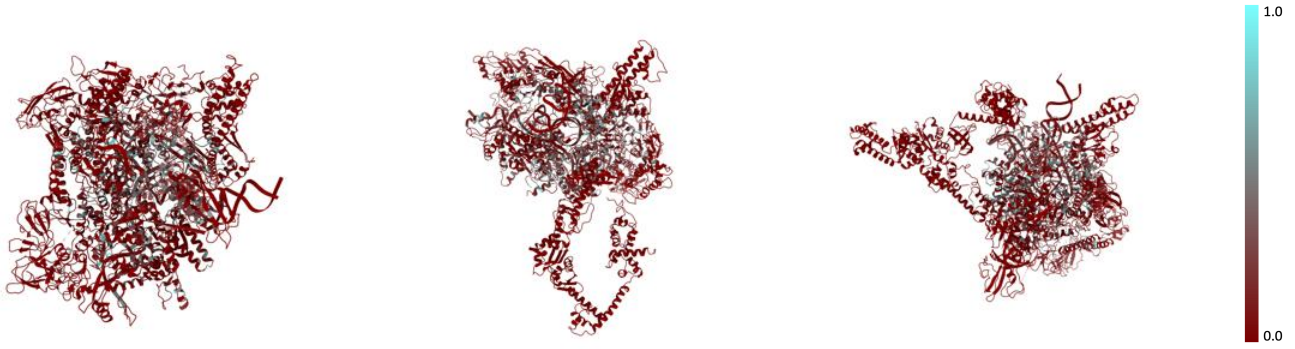
The images above show the 3D surface view of the map at the recommended contour level 0.45 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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.

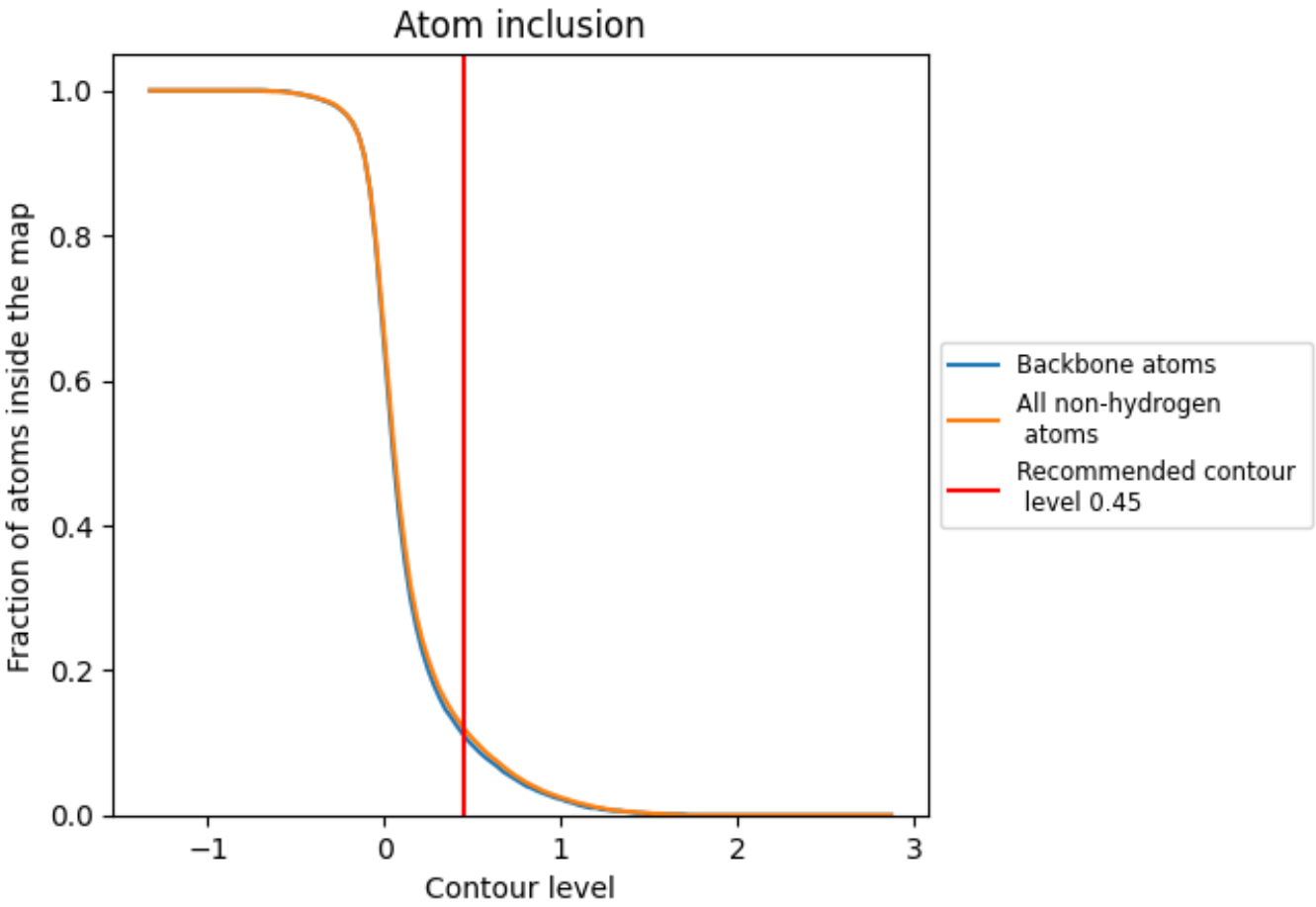
9.3 Atom inclusion mapped to coordinate model



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 (0.45).

9.4 Atom inclusion (i)



At the recommended contour level, 11% of all backbone atoms, 12% 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 (0.45) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.1200	-0.0110
A	0.0840	-0.0070
B	0.0490	-0.0030
C	0.1390	-0.0150
D	0.1490	-0.0060
E	0.0680	-0.0180
F	0.0010	-0.0220
N	0.1130	-0.0070
R	0.2280	-0.0290
T	0.1530	-0.0050