wwPDB EM Validation Summary Report (i)

Jun 16, 2025 – 04:46 PM JST

PDB ID	:	5ZRV / pdb_00005zrv
EMDB ID	:	EMD-6944
Title	:	Structure of human mitochondrial trifunctional protein, octamer
Authors	:	Liang, K.; Li, N.; Dai, J.; Wang, X.; Liu, P.; Chen, X.; Wang, C.; Gao, N.; Xiao, J.
Deposited on	:	2018-04-25
Resolution	:	7.70 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 (i)) were used in the production of this report:

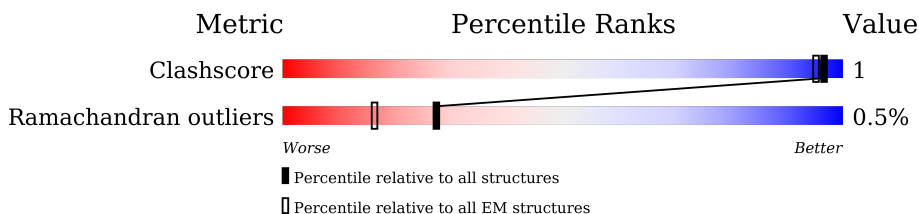|		
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline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

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 7.70 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	Percentile Ranks	Value
Clashscore		1
Ramachandran outliers		0.5%

Worse   *Better*

▌Percentile relative to all structures
❒ Percentile relative to all EM structures

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

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	763	93% 91% · 7%
1	C	763	93% 92% · 7%
1	E	763	87% 92% · 7%
1	G	763	93% 91% · 7%
2	B	474	89% 87% · 11%
2	D	474	89% 87% · 11%
2	F	474	72% 87% · 11%
2	H	474	84% 87% · 11%

2 Entry composition ⓘ

There are 2 unique types of molecules in this entry. The entry contains 18096 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 Trifunctional enzyme subunit alpha, mitochondrial.

Mol	Chain	Residues	Atoms				AltConf	Trace
1	A	711	Total	C	N	O	0	0
			2844	1422	711	711		
1	C	711	Total	C	N	O	0	0
			2844	1422	711	711		
1	E	711	Total	C	N	O	0	0
			2844	1422	711	711		
1	G	711	Total	C	N	O	0	0
			2844	1422	711	711		

- Molecule 2 is a protein called Trifunctional enzyme subunit beta, mitochondrial.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	B	420	Total	C	N	O	0	0
			1680	840	420	420		
2	D	420	Total	C	N	O	0	0
			1680	840	420	420		
2	F	420	Total	C	N	O	0	0
			1680	840	420	420		
2	H	420	Total	C	N	O	0	0
			1680	840	420	420		

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: Trifunctional enzyme subunit alpha, mitochondrial

• Molecule 1: Trifunctional enzyme subunit alpha, mitochondrial

Chain C:

93%

92% • 7%

D541 G542 P543 G544 F545 Y546 T547 T548 R549 C550 L551 A552 P553 M554 M555 S556 E557 V558 I559 R560 I561 L562 Q563 E564 G565 V566 D567 P568 K569 K570 L571 D572 S573 L574 T575 T576 S577 F578 G579 F580 P581 V582 G583 A584 A585 T586 L587 V588 D589 E590 V591 G592 V593 D594 V595 A596 K597 H598 V599 A600
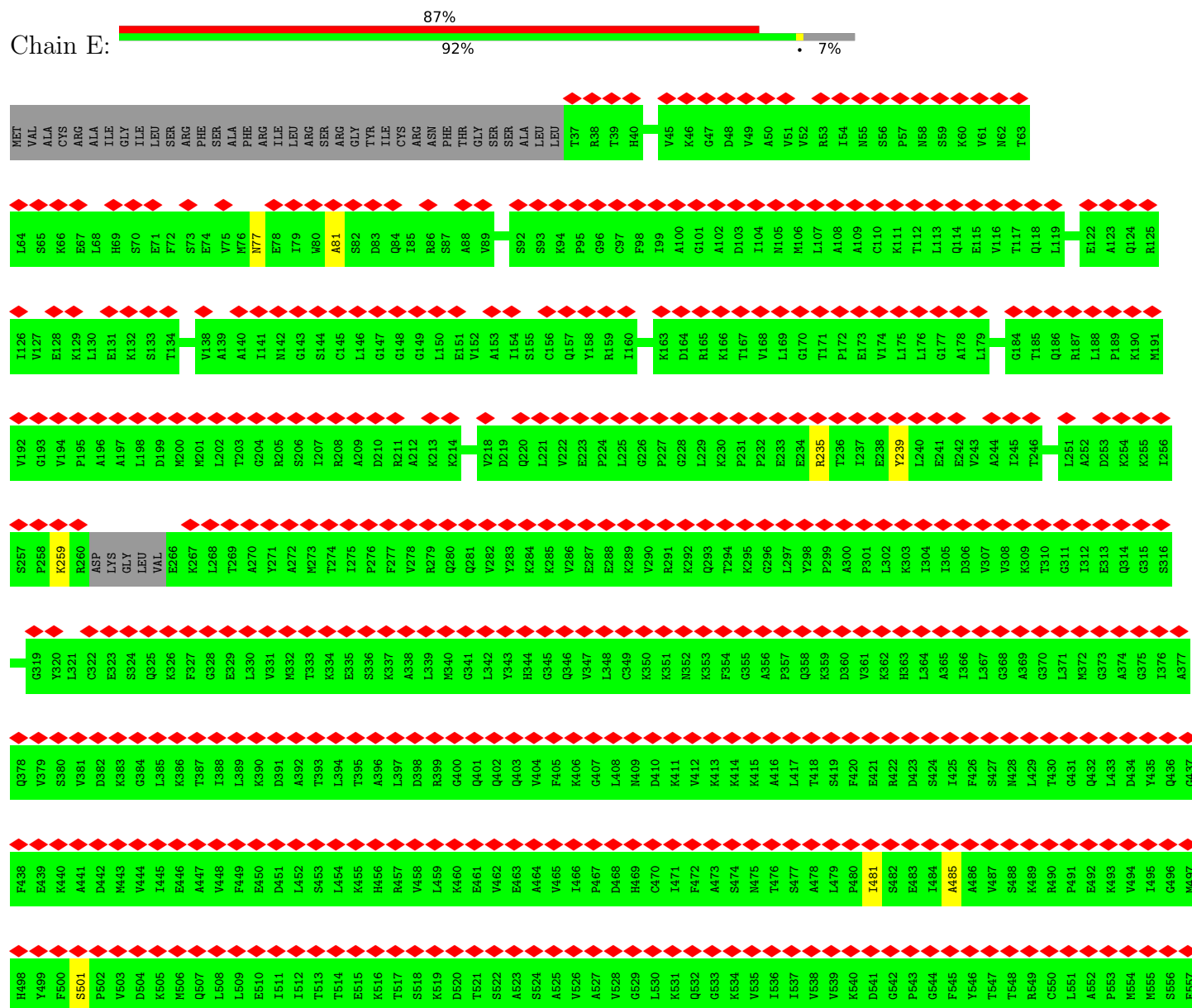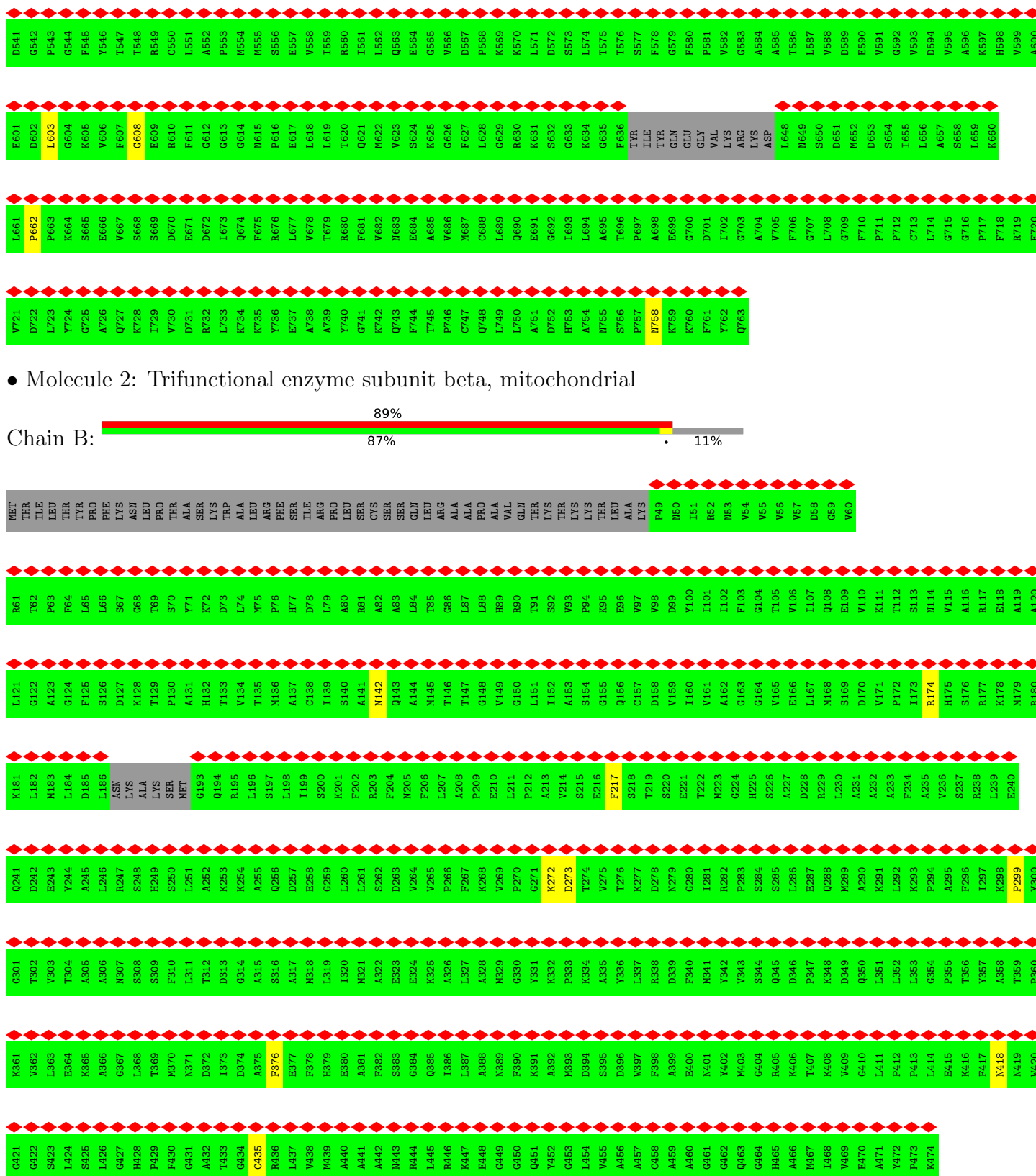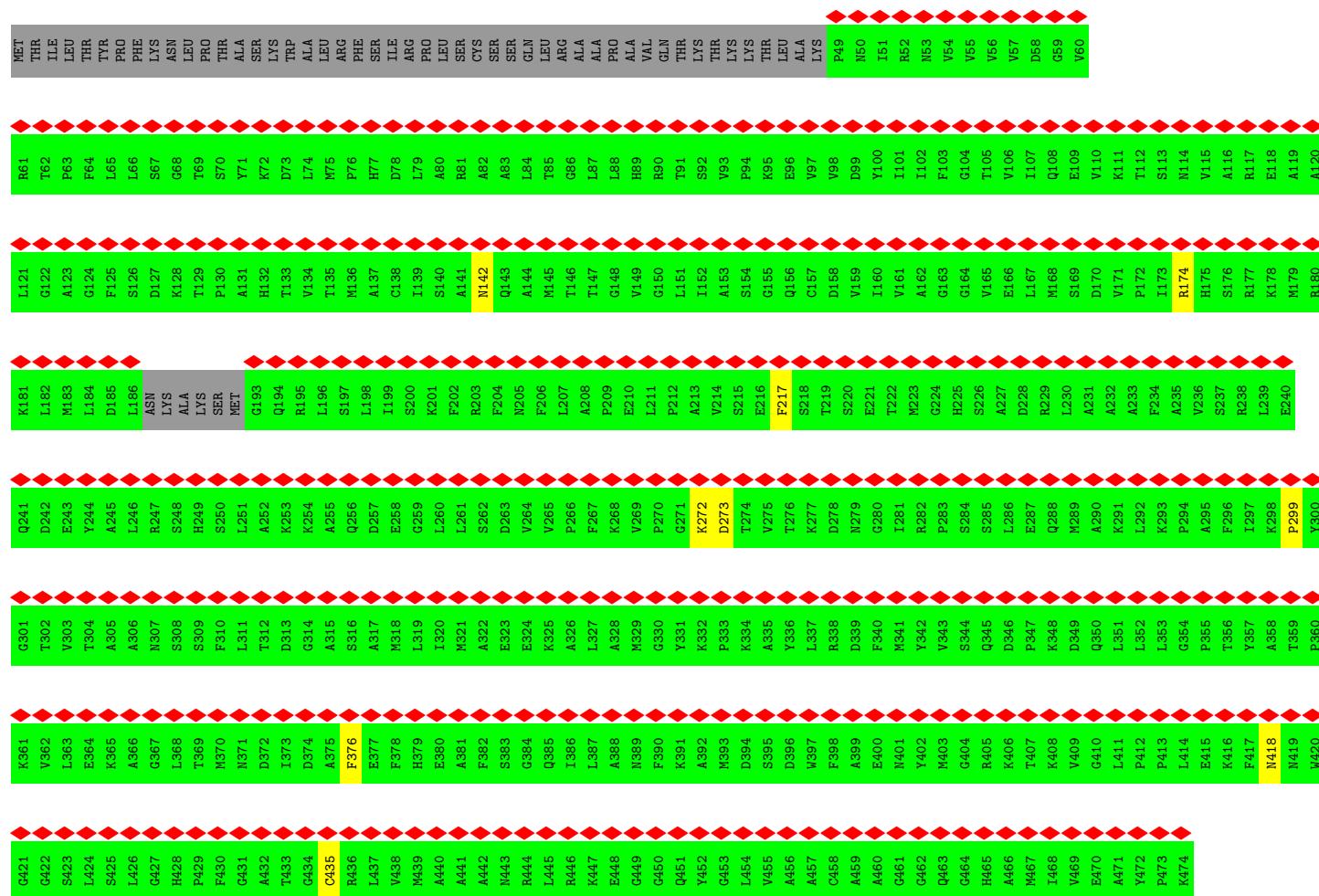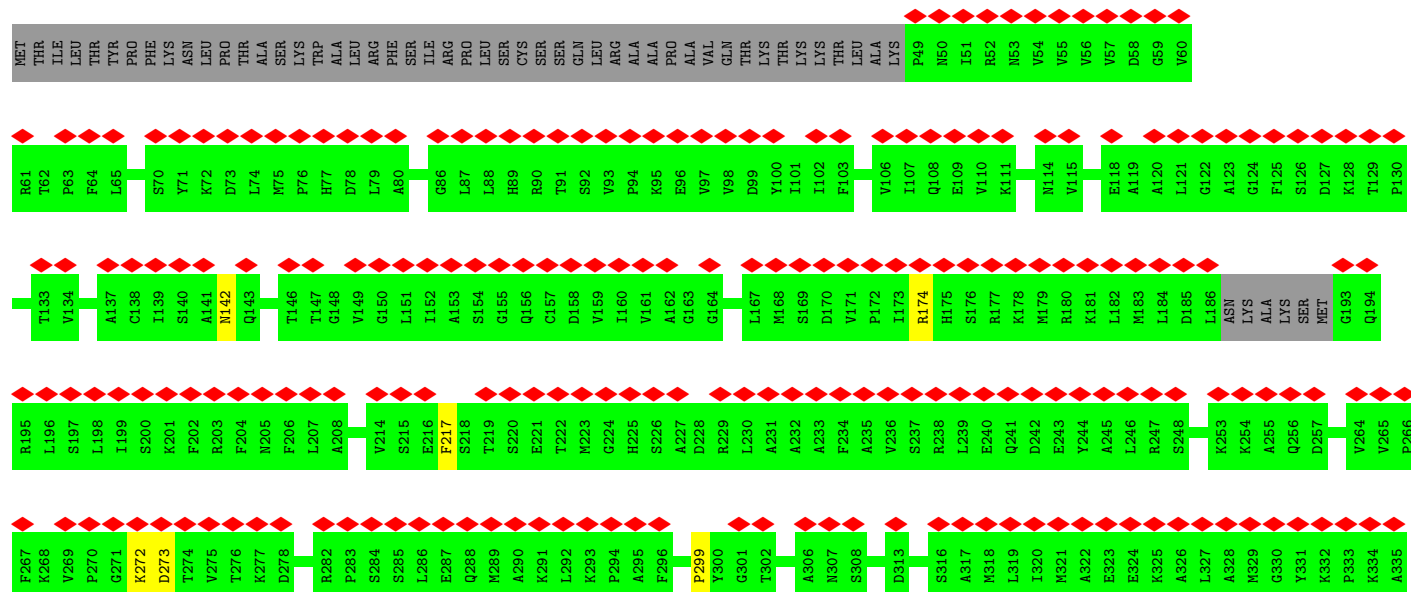
E601 D602 L603 G604 K605 V606 F607 G608 E609 R610 F611 G612 G613 G614 N615 P616 E617 L618 L619 T620 Q621 M622 V623 S624 K625 G626 F627 L628 G629 R630 K631 S632 G633 G634 G635 F636 TYR ILE TYR GLN GLU GLY VAL LYS ARG LYS ASP L648 N649 S650 D651 M652 D653 S654 I655 L656 A657 S658 L659 K660

L661 P662 P663 K664 S665 E666 V667 S668 S669 D670 E671 D672 I673 Q674 F675 R676 L677 V678 T679 R680 F681 V682 N683 E684 A685 V686 M687 C688 L689 Q690 E691 G692 I693 L694 A695 T696 P697 A698 E699 G700 D701 I702 G703 A704 V705 F706 G707 L708 G709 F710 P711 P712 C713 L714 G715 G716 P717 F718 R719 F720

V721 D722 L723 Y724 G725 A726 Q727 K728 I729 V730 D731 R732 L733 K734 K735 Y736 E737 A738 A739 Y740 G741 K742 Q743 F744 T745 P746 C747 Q748 L749 L750 A751 D752 H753 A754 N755 S756 P757 N758 K759 K760 F761 Y762 Q763

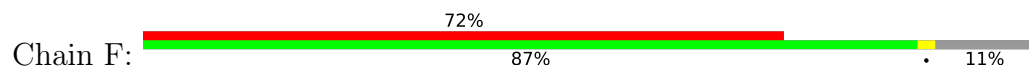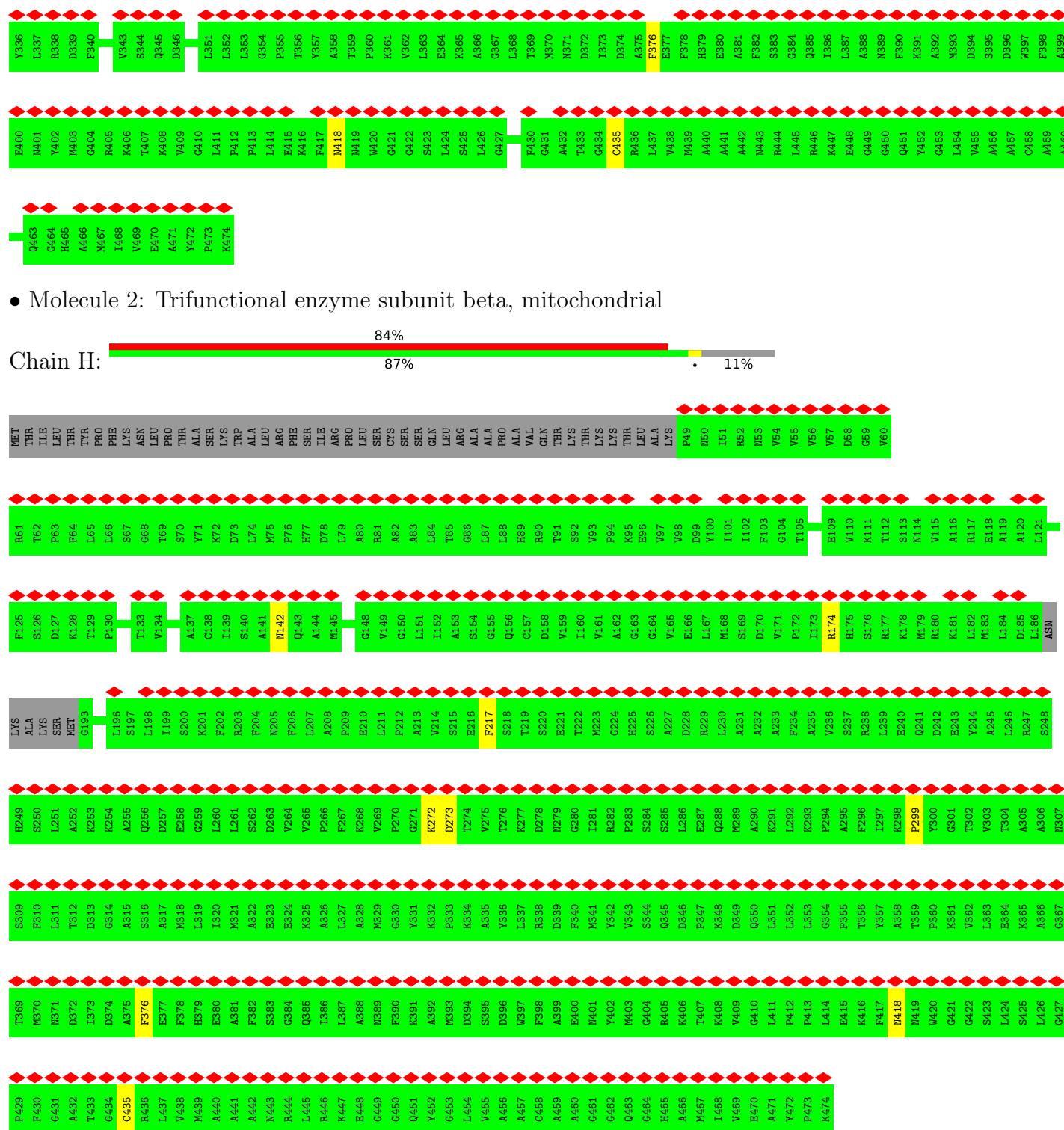• **Molecule 1:** Trifunctional enzyme subunit alpha, mitochondrial

Chain E:

87%

92% • 7%

MET VAL ALA CYS ARG ALA ILE GLY ILE LEU SER ARG PHE SER ALA PHE ARG ILE LEU ARG SER ARG GLY TYR ILE CYS ARG ASN PHE THR GLY SER SER ALA LEU LEU T37 R38 T39 H40 V45 K46 G47 D48 V49 A50 V51 V52 R53 I54 N55 S56 P57 N58 S59 K60 V61 N62 T63

L64 S65 K66 E67 L68 H69 S70 E71 F72 S73 E74 V75 M76 N77 E78 I79 W80 A81 S82 D83 Q84 I85 R86 S87 A88 V89 S92 S93 K94 P95 G96 C97 F98 I99 A100 G101 A102 D103 I104 N105 M106 L107 A108 A109 C110 K111 T112 L113 Q114 E115 V116 T117 Q118 L119 E122 A123 Q124 R125

I126 V127 E128 K129 L130 E131 K132 S133 T134 V138 A139 A140 I141 N142 G143 S144 C145 L146 G147 G148 G149 L150 E151 V152 A153 I154 S155 C156 Q157 Y158 R159 I160 K163 D164 R165 K166 T167 V168 L169 G170 T171 P172 E173 V174 L175 L176 G177 A178 L179 G184 T185 Q186 R187 L188 P189 K190 M191

V192 G193 V194 P195 A196 A197 L198 D199 M200 M201 L202 T203 G204 R205 S206 I207 R208 A209 D210 R211 A212 K213 K214 V218 D219 Q220 L221 V222 E223 P224 L225 G226 P227 G228 L229 K230 P231 P232 E233 E234 R235 T236 I237 E238 Y239 L240 E241 E242 V243 A244 I245 T246 L251 A252 D253 K254 K255 I256

S257 P258 K259 R260 ASP LYS GLY LEU VAL E266 K267 L268 T269 A270 Y271 A272 M273 T274 I275 P276 F277 V278 R279 Q280 S281 V282 V283 K284 K285 V286 E287 E288 E289 V290 R291 K292 Q293 T294 K295 G296 L297 Y298 P299 A300 P301 L302 K303 I304 I305 D306 V307 V308 K309 T310 G311 I312 E313 Q314 G315 S316

G319 Y320 L321 C322 E323 S324 Q325 K326 F327 G328 E329 L330 V331 M332 T333 K334 E335 S336 K337 A338 L339 M340 G341 L342 Y343 H344 G345 Q346 V347 L348 C349 K350 K351 N352 K353 F354 G355 A356 P357 Q358 K359 D360 V361 K362 H363 L364 A365 I366 L367 G368 A369 G370 L371 M372 G373 A374 G375 I376 A377

Q378 V379 S380 V381 D382 K383 G384 L385 K386 T387 I388 L389 K390 D391 A392 T393 L394 T395 A396 L397 D398 R399 G400 Q401 Q402 Q403 V404 P405 K406 G407 L408 N409 D410 K411 V412 K413 K414 K415 A416 L417 T418 S419 F420 E421 R422 D423 S424 I425 F426 S427 N428 L429 T430 G431 Q432 L433 D434 Y435 Q436 G437

F438 E439 K440 A441 D442 M443 V444 I445 E446 A447 V448 F449 E450 D451 L452 S453 L454 K455 H456 R457 V458 L459 K460 E461 V462 E463 A464 V465 I466 P467 D468 H469 C470 I471 F472 A473 S474 N475 T476 S477 A478 L479 P480 I481 S482 E483 I484 A485 A486 V487 S488 K489 R490 P491 E492 K493 V494 I495 G496 M497

H498 Y499 F500 S501 P502 V503 D504 K505 M506 Q507 L508 L509 E510 I511 I512 T513 T514 E515 K516 T517 S518 K519 D520 T521 S522 A523 S524 A525 V526 A527 V528 G529 L530 K531 Q532 G533 K534 V535 I536 I537 V538 V539 K540 D541 G542 P543 G544 F545 Y546 T547 T548 R549 C550 L551 A552 P553 M554 M555 S556 E557

V558 I559 R560 I561 L562 Q563 E564 G565 V566 D567 P568 K569 K570 L571 D572 S573 L574 T575 T576 S577 F578 G579 F580 P581 V582 G583 A584 A585 T586 L587 V588 D589 E590 V591 G592 V593 D594 V595 A596 K597 H598 V599 A600 E601 D602 L603 G604 K605 V606 F607 G608 E609 R610 F611 G612 G613 G614 N615 P616 E617

L618 L619 T620 Q621 M622 V623 S624 K625 G626 F627 L628 G629 R630 K631 S632 G633 K634 G635 F636 TYR ILE TYR GLN GLU GLY VAL LYS ARG ASP L648 N649 S650 D651 M652 D653 S654 I655 L656 A657 S658 L659 K660 L661 P662 P663 K664 S665 E666 V667 S668 S669 D670 E671 D672 I673 Q674 F675 R676 L677

V678 T679 R680 F681 V682 N683 E684 A685 V686 M687 C688 L689 Q690 E691 G692 I693 L694 A695 T696 P697 A698 E699 G700 D701 I702 G703 A704 V705 F706 G707 L708 G709 F710 P711 P712 C713 L714 G715 G716 P717 F718 R719 F720 V721 D722 L723 Y724 G725 A726 Q727 K728 I729 V730 D731 R732 L733 K734 K735 Y736 E737

A738 A739 Y740 G741 K742 Q743 F744 T745 P746 C747 Q748 L749 L750 A751 D752 H753 A754 N755 S756 P757 N758 K759 K760 F761 Y762 Q763

• Molecule 1: Trifunctional enzyme subunit alpha, mitochondrial

93%

Chain G:

91% • 7%

MET VAL ALA CYS ARG ALA ILE GLY ILE LEU SER ARG PHE SER ALA PHE ARG ILE LEU ARG SER ARG GLY TYR ILE CYS ARG ASN PHE THR GLY SER SER ALA LEU LEU T37 R38 T39 H40 I41 N42 Y43 G44 V45 K46 G47 D48 V49 A50 V51 V52 R53 I54 N55 S56 P57 N58 S59 K60

V61 N62 T63 L64 S65 K66 E67 L68 H69 S70 E71 F72 S73 E74 V75 M76 N77 E78 I79 W80 A81 S82 D83 Q84 I85 R86 S87 A88 V89 L90 I91 S92 S93 K94 P95 G96 C97 F98 I99 A100 G101 A102 D103 I104 N105 M106 L107 A108 A109 C110 K111 T112 L113 Q114 E115 V116 T117 Q118 L119 S120

Q121 E122 A123 Q124 R125 I126 V127 E128 K129 L130 E131 K132 S133 T134 K135 P136 I137 V138 A139 A140 I141 N142 G143 S144 C145 L146 G147 G148 G149 L150 E151 V152 A153 I154 S155 C156 Q157 Y158 R159 I160 A161 T162 K163 D164 R165 K166 T167 V168 L169 G170 T171 P172 E173 V174 L175 L176 G177 A178 L179 P180

G181 A182 G183 G184 T185 Q186 R187 L188 P189 K190 M191 V192 G193 V194 P195 A196 A197 L198 D199 M200 M201 L202 T203 G204 R205 S206 I207 R208 A209 D210 R211 A212 K213 K214 M215 G216 L217 V218 D219 Q220 L221 V222 E223 P224 L225 G226 P227 G228 L229 K230 P231 P232 E233 E234 R235 T236 I237 E238 Y239 L240

E241 E242 V243 A244 I245 T246 F247 A248 K249 G250 L251 A252 D253 K254 K255 I256 S257 P258 K259 R260 ASP LYS GLY LEU VAL E266 K267 L268 T269 A270 Y271 A272 M273 T274 I275 P276 F277 V278 R279 Q280 Q281 V282 Y283 K284 K285 V286 E287 E288 K289 V290 R291 K292 Q293 T294 K295 G296 L297 Y298 P299 A300

P301 L302 K303 I304 I305 D306 V307 V308 K309 T310 G311 I312 E313 Q314 G315 S316 D317 A318 G319 Y320 L321 C322 E323 S324 Q325 K326 F327 G328 E329 L330 V331 M332 T333 K334 E335 S336 K337 A338 L339 M340 G341 L342 Y343 H344 G345 Q346 V347 L348 C349 K350 K351 N352 K353 F354 G355 A356 P357 Q358 K359 D360

V361 K362 H363 L364 A365 I366 L367 G368 A369 G370 L371 M372 G373 A374 G375 I376 A377 Q378 V379 S380 V381 D382 K383 G384 L385 E386 T387 I388 L389 K390 D391 A392 T393 L394 T395 A396 L397 D398 R399 G400 Q401 Q402 Q403 V404 F405 K406 G407 L408 N409 D410 K411 V412 K413 K414 K415 A416 L417 T418 S419 F420

E421 R422 D423 S424 I425 F426 S427 N428 L429 T430 G431 Q432 L433 D434 Y435 Q436 G437 F438 E439 K440 A441 D442 M443 V444 I445 E446 A447 V448 F449 E450 D451 L452 S453 L454 K455 H456 R457 V458 L459 K460 E461 V462 E463 A464 V465 I466 P467 D468 H469 C470 I471 F472 A473 S474 N475 T476 S477 A478 L479 P480

I481 S482 E483 I484 A485 A486 V487 S488 K489 R490 P491 E492 K493 V494 I495 G496 M497 H498 Y499 F500 S501 P502 V503 D504 K505 M506 Q507 L508 L509 E510 I511 I512 T513 T514 E515 K516 T517 S518 K519 D520 T521 S522 A523 S524 A525 V526 A527 V528 G529 L530 K531 Q532 G533 K534 V535 I536 I537 V538 V539 K540

• Molecule 2: Trifunctional enzyme subunit beta, mitochondrial

Chain B:

89%

87%   •   11%

• Molecule 2: Trifunctional enzyme subunit beta, mitochondrial

Chain D:

89%

87%   •   11%

• Molecule 2: Trifunctional enzyme subunit beta, mitochondrial

Chain F:

72%

87% • 11%

• Molecule 2: Trifunctional enzyme subunit beta, mitochondrial

Chain H:

84%

87%   •   11%

4   Experimental information ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	48564	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 $(e^-/\text{Å}^2)$	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.793	Depositor
Minimum map value	-0.659	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.029	Depositor
Recommended contour level	0.15	Depositor
Map size (Å)	337.92, 337.92, 337.92	wwPDB
Map dimensions	128, 128, 128	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.64, 2.64, 2.64	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	0.37	0/2841	0.86	2/3546 (0.1%)
1	C	0.37	0/2841	0.86	2/3546 (0.1%)
1	E	0.37	0/2841	0.86	2/3546 (0.1%)
1	G	0.37	0/2841	0.86	2/3546 (0.1%)
2	B	0.45	0/1678	0.99	2/2094 (0.1%)
2	D	0.45	0/1678	0.99	2/2094 (0.1%)
2	F	0.44	0/1678	0.99	2/2094 (0.1%)
2	H	0.44	0/1678	0.99	2/2094 (0.1%)
All	All	0.40	0/18076	0.91	16/22560 (0.1%)

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	5
2	D	0	5
2	F	0	5
2	H	0	5
All	All	0	20

There are no bond length outliers.

The worst 5 of 16 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	501	SER	CA-C-N	-7.43	111.13	120.79
1	C	501	SER	C-N-CA	-7.43	111.13	120.79
1	E	501	SER	CA-C-N	-7.43	111.14	120.79
1	E	501	SER	C-N-CA	-7.43	111.14	120.79
1	G	501	SER	CA-C-N	-7.42	111.14	120.79

There are no chirality outliers.

5 of 20 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	142	ASN	Peptide
2	B	174	ARG	Peptide
2	B	272	LYS	Peptide
2	B	376	PHE	Peptide
2	B	435	CYS	Peptide

5.2　Too-close contacts ⓘ

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	2844	0	801	5	0
1	C	2844	0	801	4	0
1	E	2844	0	801	3	0
1	G	2844	0	801	5	0
2	B	1680	0	468	0	0
2	D	1680	0	468	0	0
2	F	1680	0	468	0	0
2	H	1680	0	468	0	0
All	All	18096	0	5076	17	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 1.

The worst 5 of 17 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)
1:A:235:ARG:O	1:A:239:TYR:N	2.49	0.46
1:C:235:ARG:O	1:C:239:TYR:N	2.49	0.46
1:G:235:ARG:O	1:G:239:TYR:N	2.49	0.45
1:E:235:ARG:O	1:E:239:TYR:N	2.49	0.45
1:C:77:ASN:O	1:C:81:ALA:N	2.50	0.45

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	705/763 (92%)	626 (89%)	76 (11%)	3 (0%)	30	68
1	C	705/763 (92%)	626 (89%)	77 (11%)	2 (0%)	37	73
1	E	705/763 (92%)	626 (89%)	76 (11%)	3 (0%)	30	68
1	G	705/763 (92%)	626 (89%)	77 (11%)	2 (0%)	37	73
2	B	416/474 (88%)	354 (85%)	59 (14%)	3 (1%)	19	57
2	D	416/474 (88%)	352 (85%)	61 (15%)	3 (1%)	19	57
2	F	416/474 (88%)	353 (85%)	60 (14%)	3 (1%)	19	57
2	H	416/474 (88%)	352 (85%)	61 (15%)	3 (1%)	19	57
All	All	4484/4948 (91%)	3915 (87%)	547 (12%)	22 (0%)	27	64

5 of 22 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	758	ASN
1	C	758	ASN
1	E	758	ASN
1	G	758	ASN
1	A	259	LYS

5.3.2 Protein sidechains ⓘ

There are no protein residues with a non-rotameric sidechain to report in this entry.

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 ⓘ

There are no ligands in this entry.

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-6944. 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 |
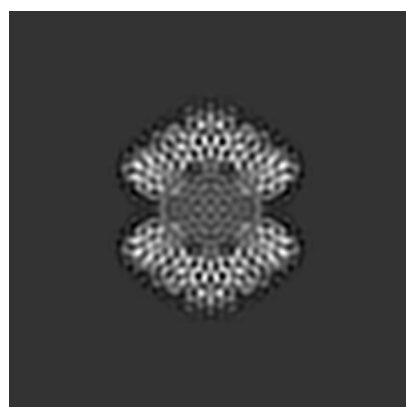
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ

6.2.1 Primary map

| X Index: 64 | Y Index: 64 | Z Index: 64 |

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

6.3　Largest variance slices ⓘ
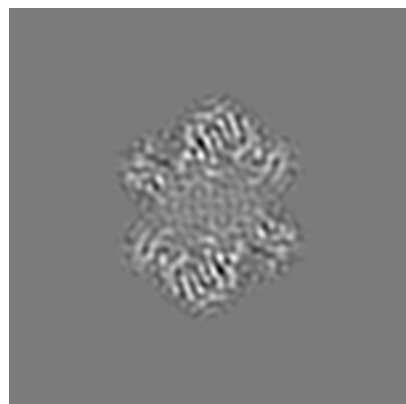
6.3.1　Primary map

| X Index: 68 | Y Index: 68 | Z Index: 47 |

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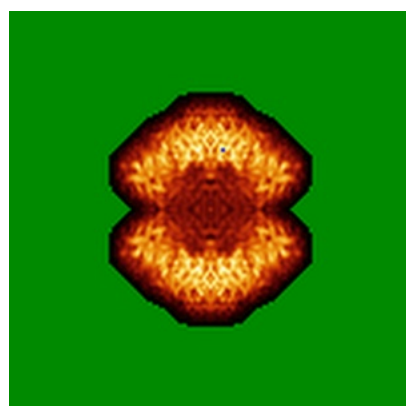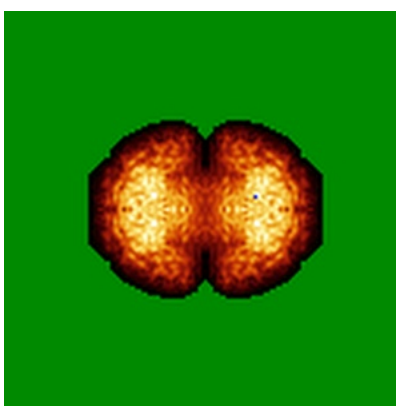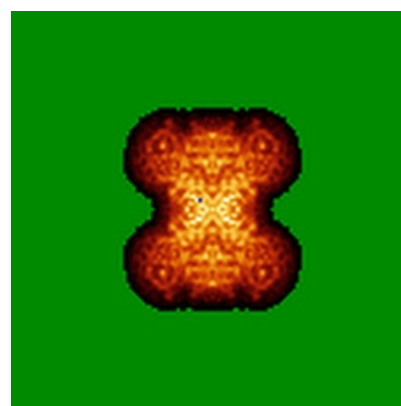
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5   Orthogonal surface views (i)

6.5.1   Primary map

X   Y   Z
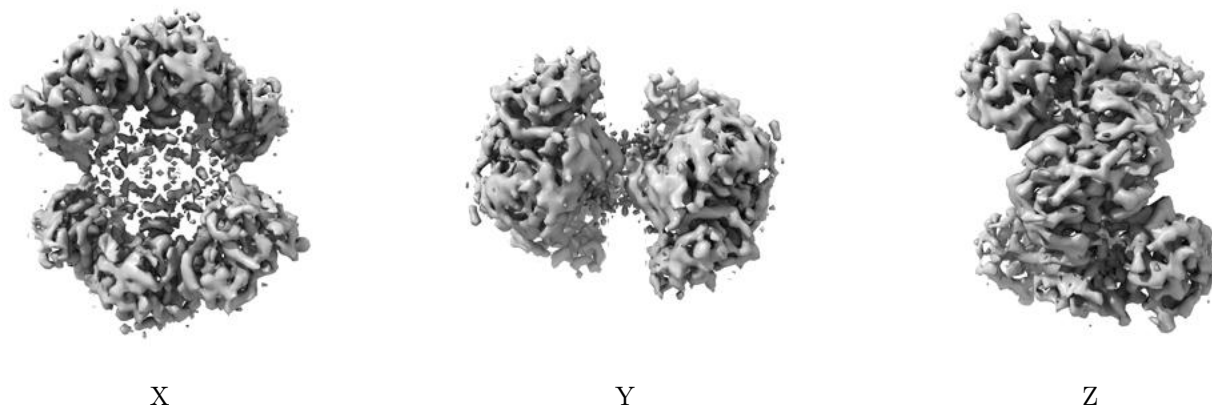
The images above show the 3D surface view of the map at the recommended contour level 0.15. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

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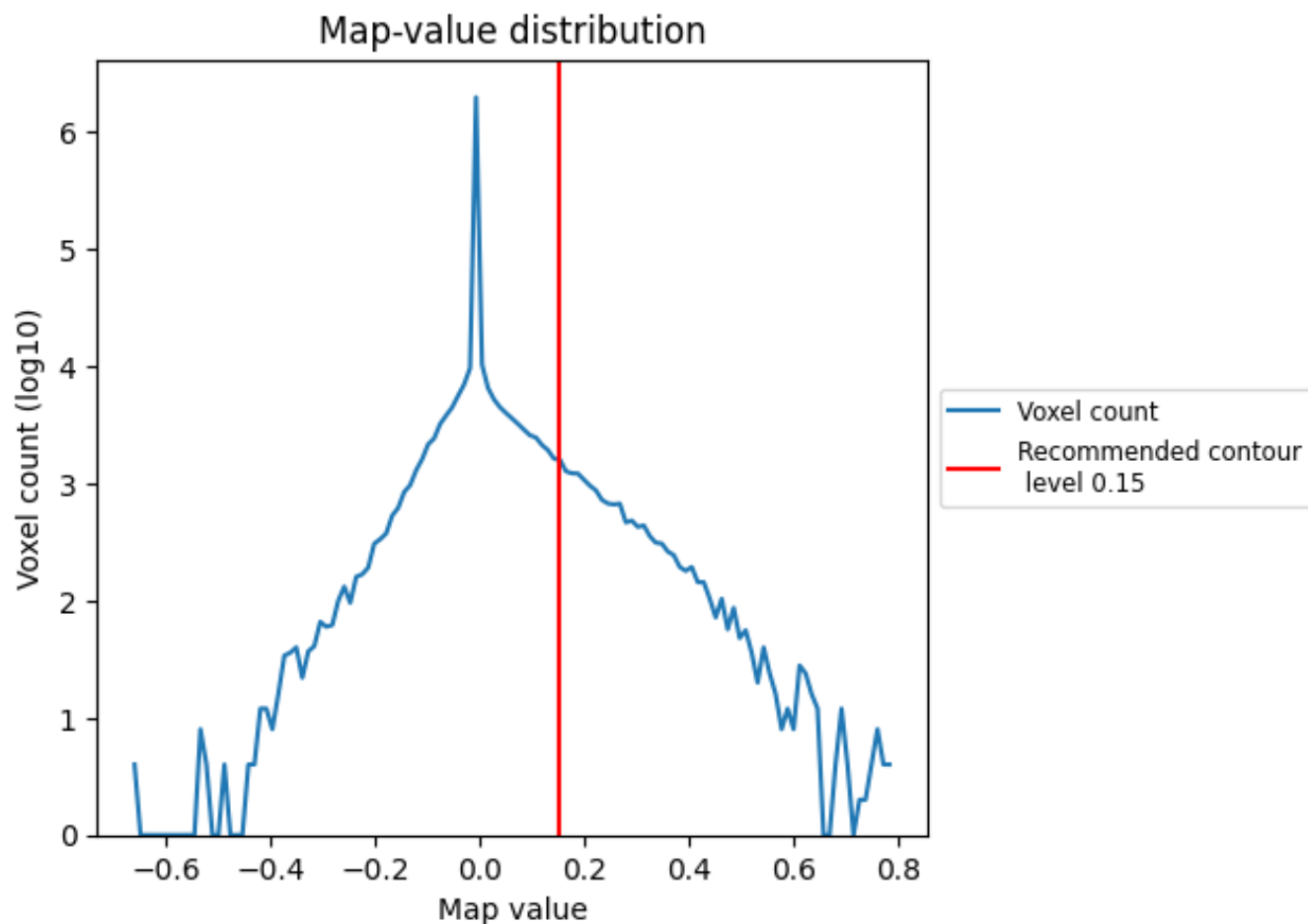
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2 Volume estimate ⓘ
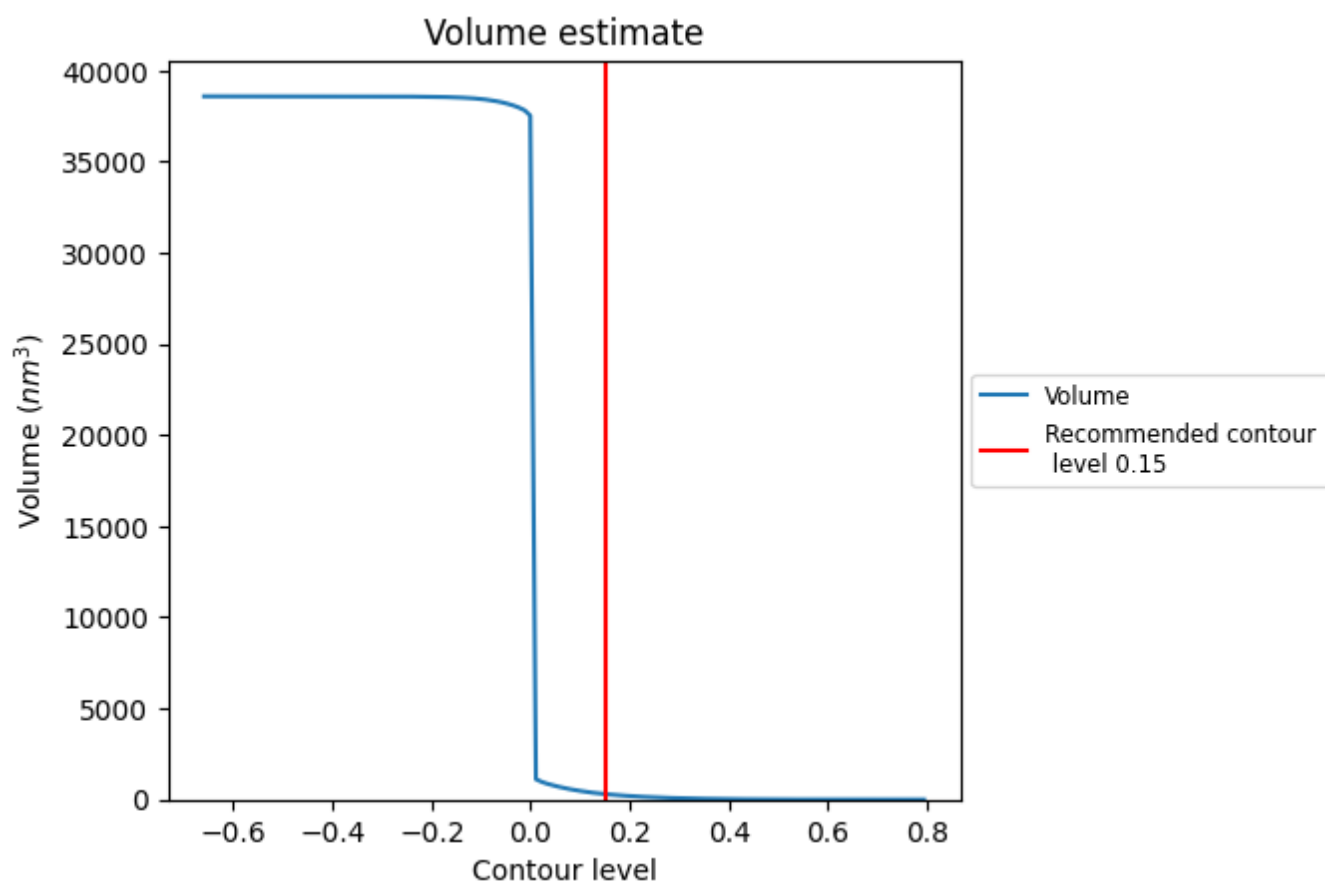
The volume at the recommended contour level is 301 nm^3; this corresponds to an approximate mass of 272 kDa.

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)
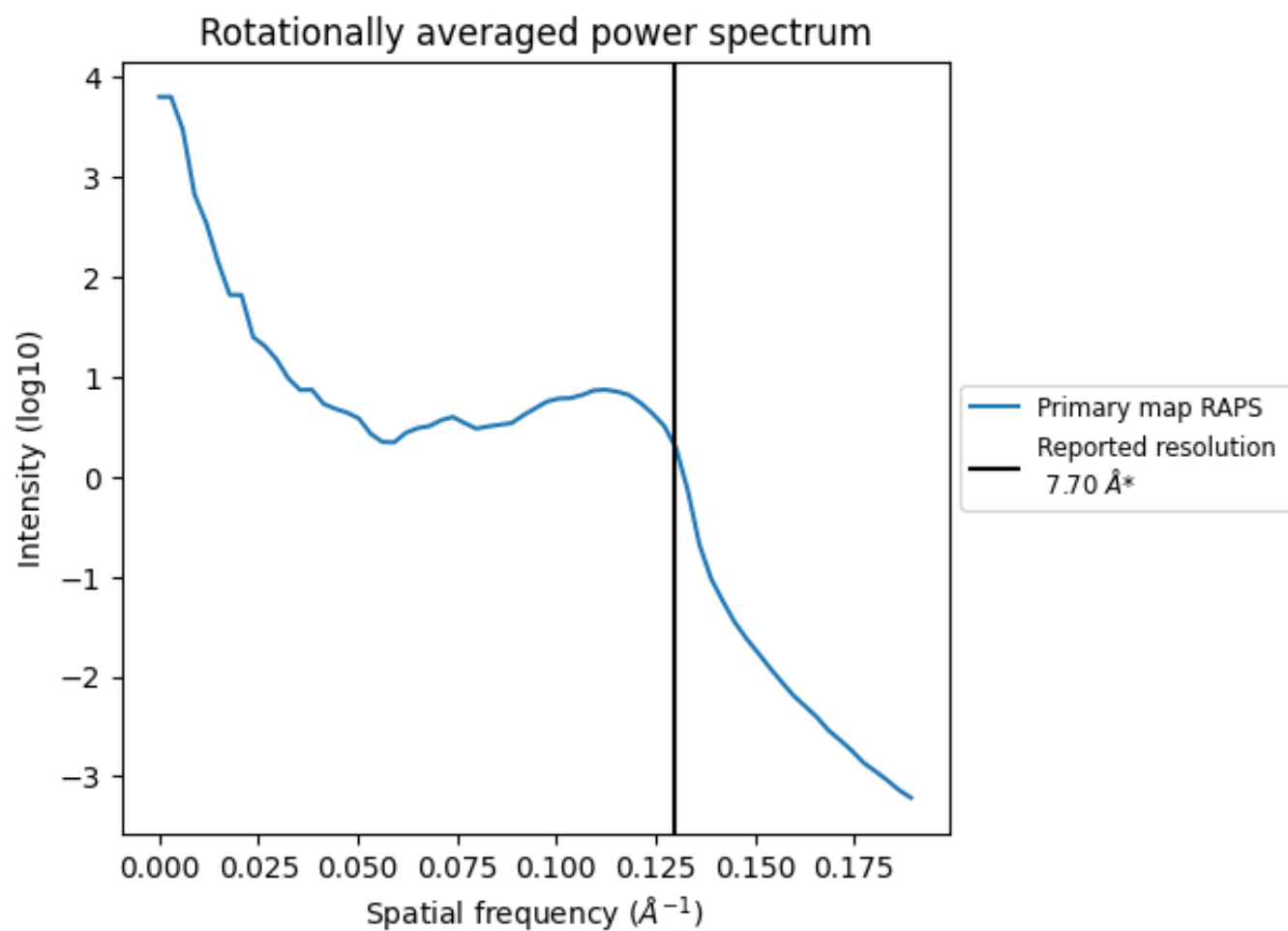
*Reported resolution corresponds to spatial frequency of 0.130 Å^{-1}

8 Fourier-Shell correlation ⓘ

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-6944 and PDB model 5ZRV. Per-residue inclusion information can be found in section 3 on page 4.

9.1   Map-model overlay (i)

X   Y   Z
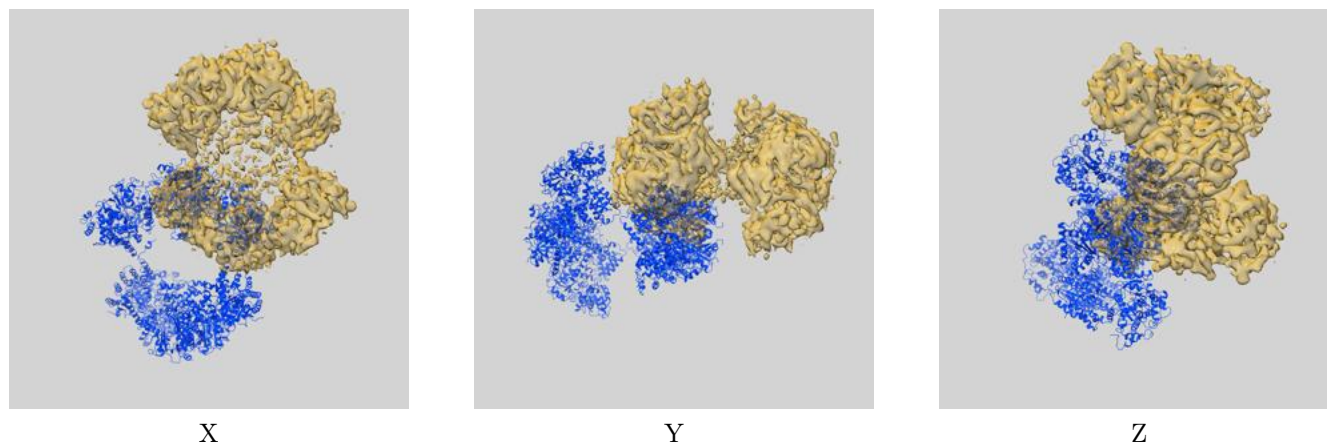
The images above show the 3D surface view of the map at the recommended contour level 0.15 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model ⓘ

X   Y   Z
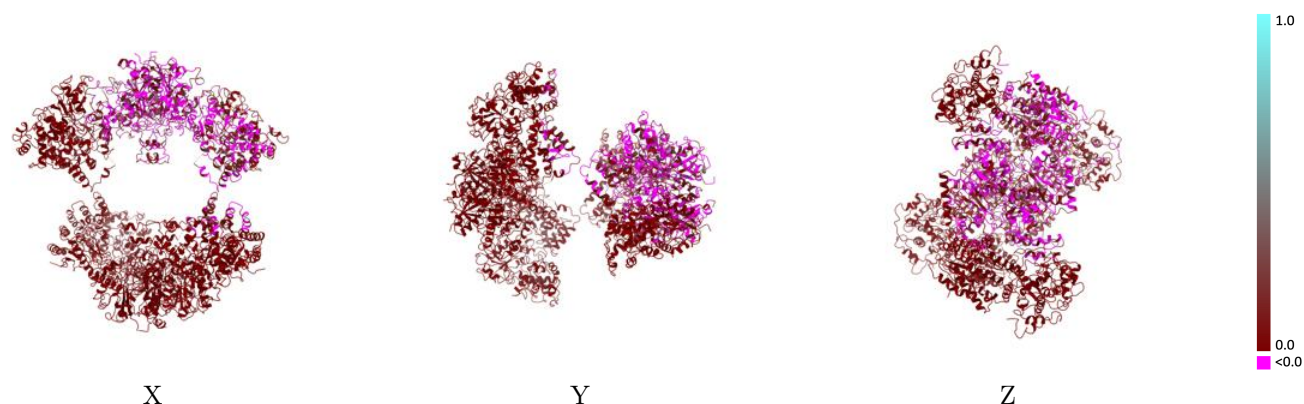
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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
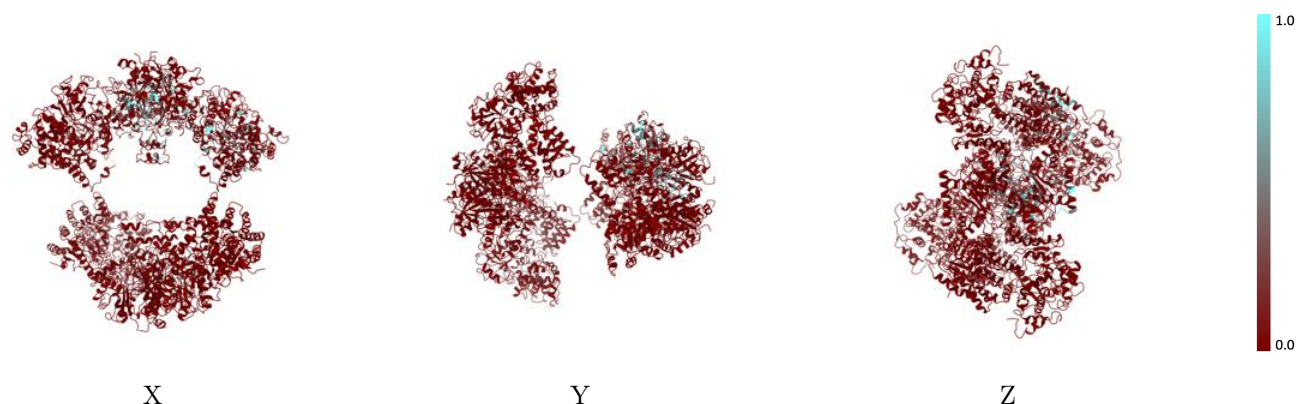
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.15).

9.4 Atom inclusion (i)
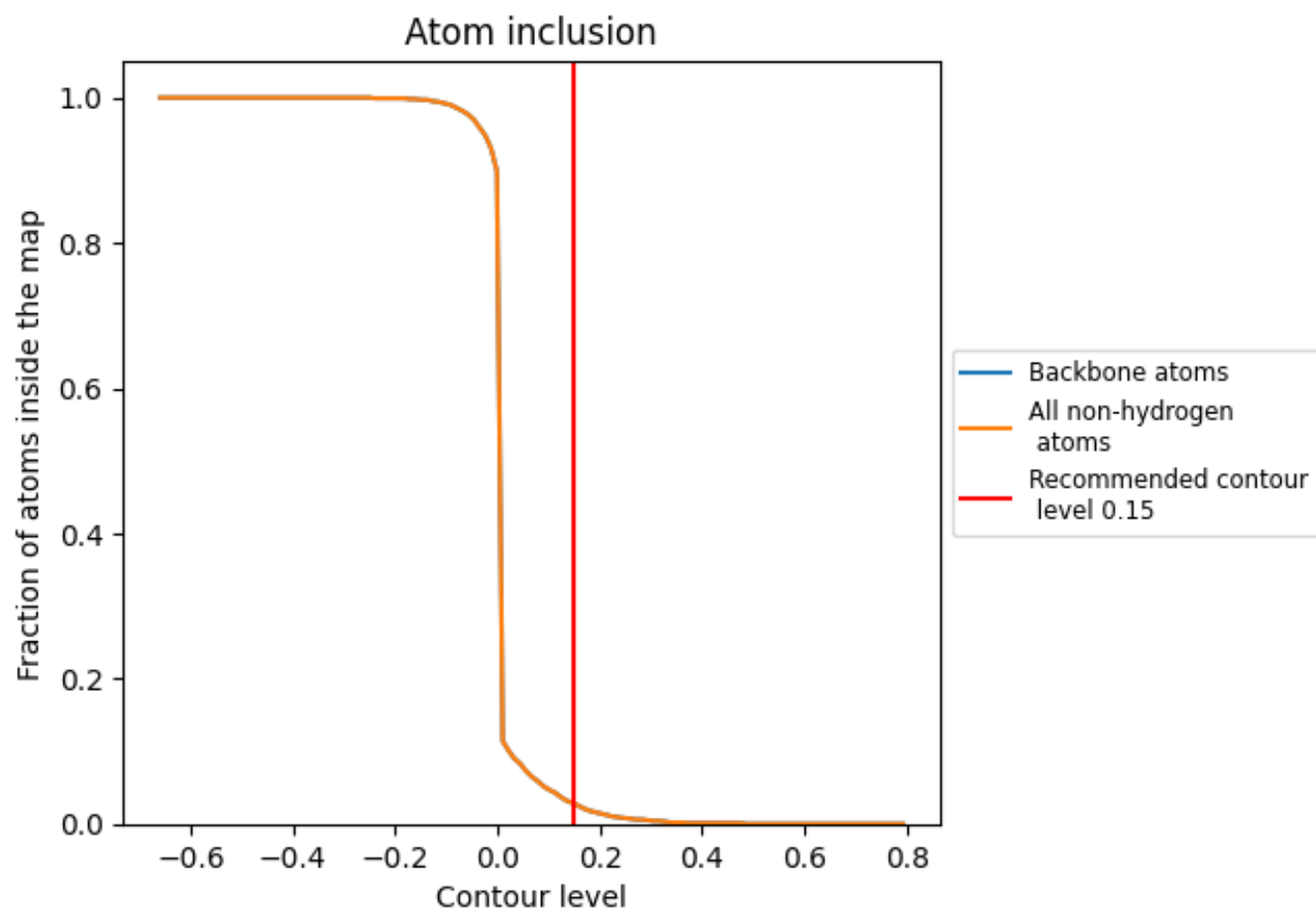
At the recommended contour level, 3% of all backbone atoms, 3% of all non-hydrogen atoms, are inside the map.

9.5   Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.15) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.0280	0.0020
A	0.0000	0.0050
B	0.0000	0.0000
C	0.0000	0.0000
D	0.0000	0.0000
E	0.0550	0.0040
F	0.1590	-0.0000
G	0.0010	0.0050
H	0.0430	-0.0000

1.0

0.0
<0.0