wwPDB EM Validation Summary Report (i)

Dec 17, 2022 – 12:46 pm GMT

PDB ID	:	6Z6O
EMDB ID	:	EMD-11101
Title	:	HDAC-TC
Authors	:	Lee, J.-H.; Bollschweiler, D.; Schaefer, T.; Huber, R.
Deposited on	:	2020-05-28
Resolution	:	3.80 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 (i)) were used in the production of this report:

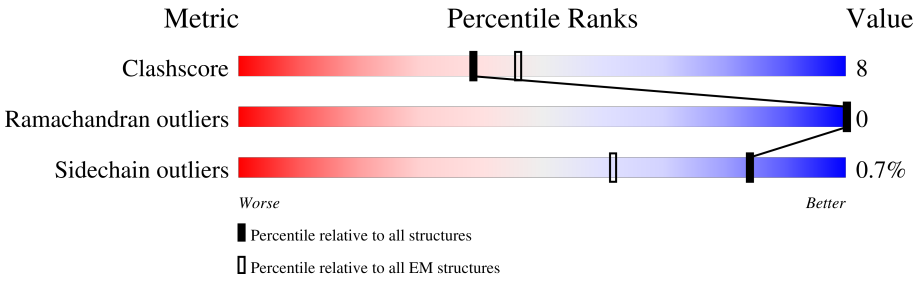
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

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 3.80 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 (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	661	79% 20%
1	E	661	78% 21%
1	I	661	78% 21%
1	M	661	79% 20%
2	B	672	78% 20%
2	F	672	79% 20%
2	J	672	79% 19%
2	N	672	80% 19%

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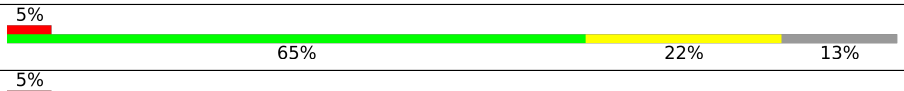
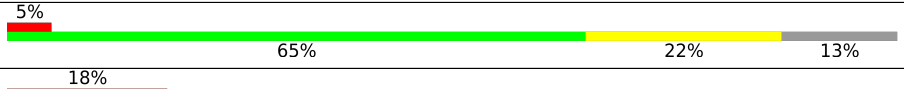
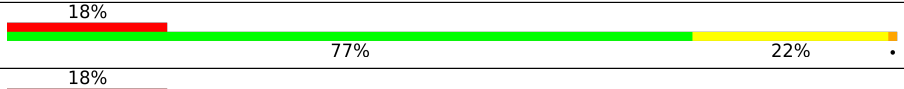
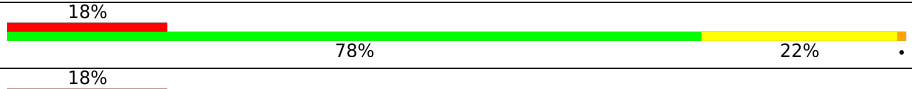
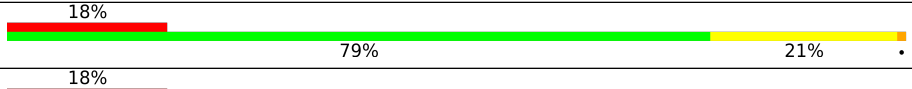
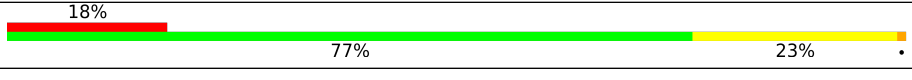
Mol	Chain	Length	Quality of chain
3	C	629	
3	G	629	
3	K	629	
3	O	629	
4	D	542	
4	H	542	
4	L	542	
4	P	542	

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 77516 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 Histone deacetylase HDA1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	656	Total	C	N	O	S	0	0
			5220	3328	883	981	28		
1	E	656	Total	C	N	O	S	0	0
			5220	3328	883	981	28		
1	I	656	Total	C	N	O	S	0	0
			5220	3328	883	981	28		
1	M	656	Total	C	N	O	S	0	0
			5220	3328	883	981	28		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	446	LEU	ILE	conflict	UNP P53973
E	446	LEU	ILE	conflict	UNP P53973
I	446	LEU	ILE	conflict	UNP P53973
M	446	LEU	ILE	conflict	UNP P53973

- Molecule 2 is a protein called Histone deacetylase HDA1.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	661	Total	C	N	O	S	0	0
			5245	3339	883	995	28		
2	F	661	Total	C	N	O	S	0	0
			5245	3339	883	995	28		
2	J	661	Total	C	N	O	S	0	0
			5245	3339	883	995	28		
2	N	661	Total	C	N	O	S	0	0
			5245	3339	883	995	28		

- Molecule 3 is a protein called HDA1 complex subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	548	Total 4472	C 2835	N 768	O 856	S 13	0	0
3	G	548	Total 4472	C 2835	N 768	O 856	S 13	0	0
3	K	548	Total 4472	C 2835	N 768	O 856	S 13	0	0
3	O	548	Total 4472	C 2835	N 768	O 856	S 13	0	0

- Molecule 4 is a protein called HDA1 complex subunit 3,HDA1 complex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	542	Total 4440	C 2803	N 750	O 867	S 20	0	0
4	H	542	Total 4440	C 2803	N 750	O 867	S 20	0	0
4	L	542	Total 4440	C 2803	N 750	O 867	S 20	0	0
4	P	542	Total 4440	C 2803	N 750	O 867	S 20	0	0

- Molecule 5 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

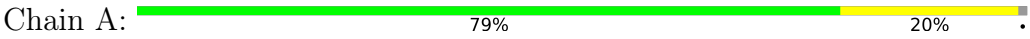
Mol	Chain	Residues	Atoms		AltConf
5	A	1	Total 1	Zn 1	0
5	B	1	Total 1	Zn 1	0
5	E	1	Total 1	Zn 1	0
5	F	1	Total 1	Zn 1	0
5	I	1	Total 1	Zn 1	0
5	J	1	Total 1	Zn 1	0
5	M	1	Total 1	Zn 1	0
5	N	1	Total 1	Zn 1	0

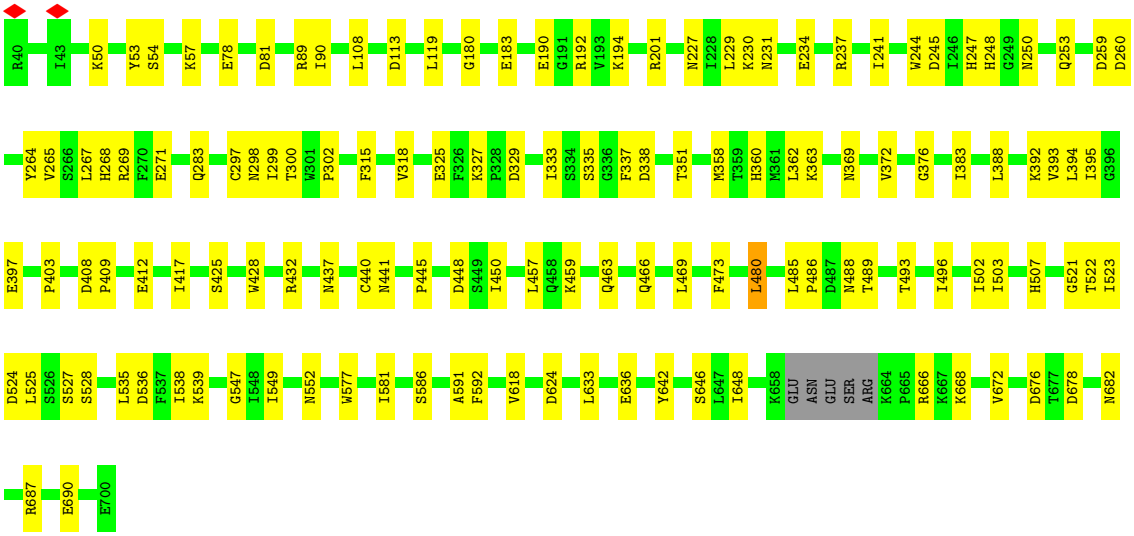
3 Residue-property plots (i)

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 1: Histone deacetylase HDA1

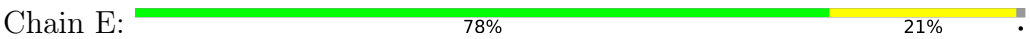
Chain A:

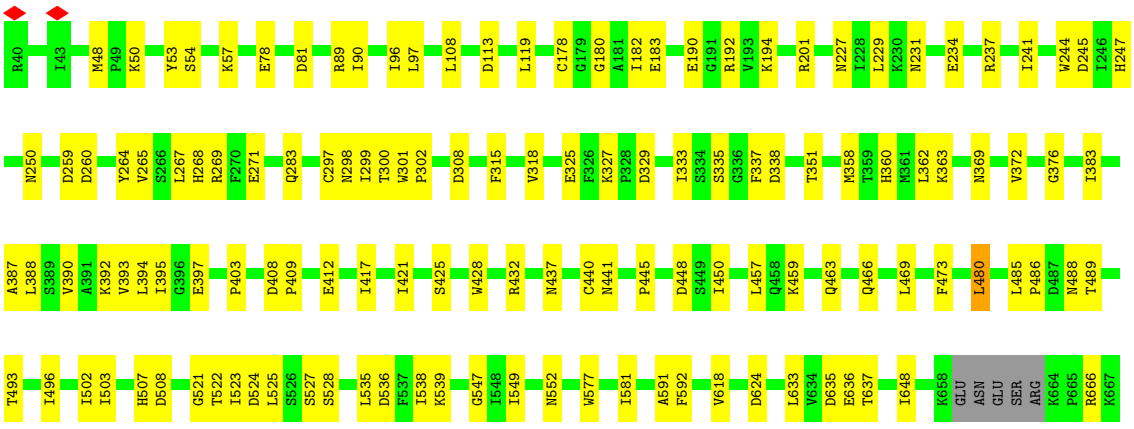


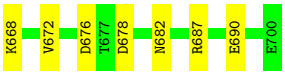


• Molecule 1: Histone deacetylase HDA1

Chain E:

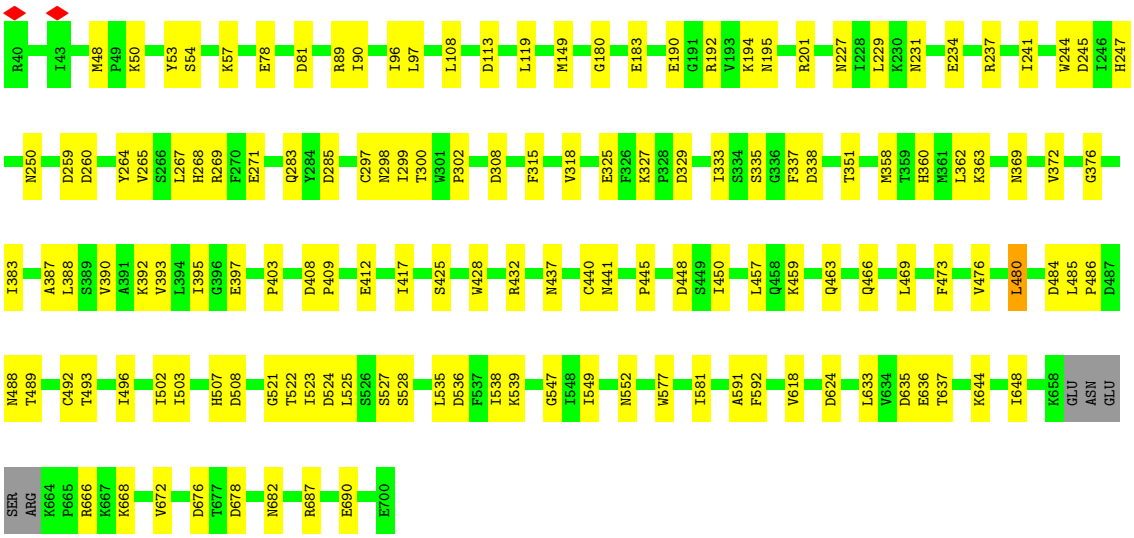






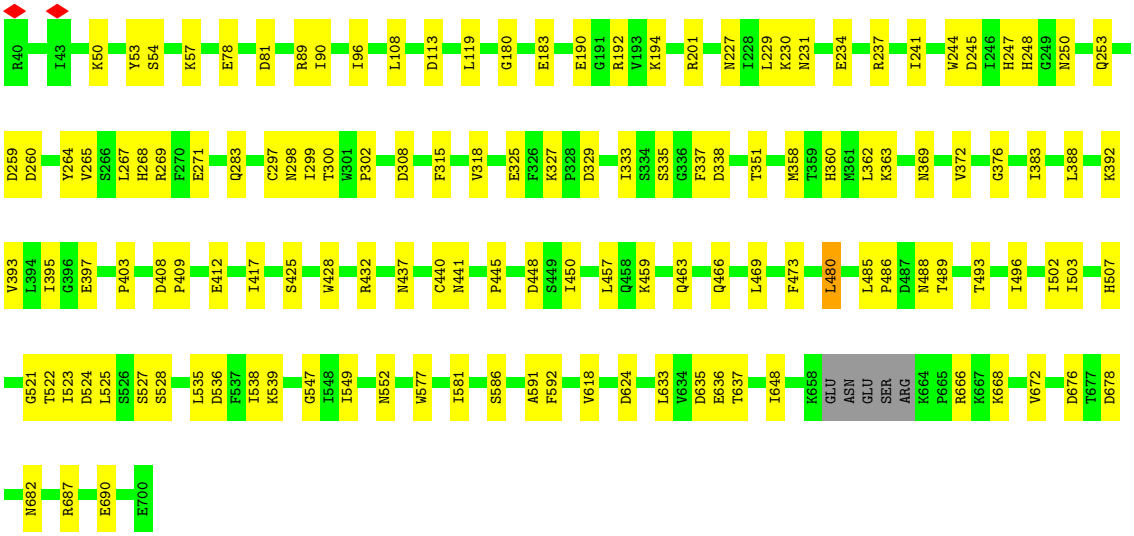
• Molecule 1: Histone deacetylase HDA1

Chain I:



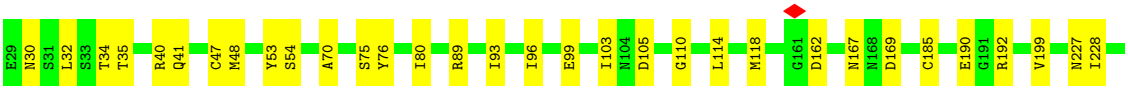
• Molecule 1: Histone deacetylase HDA1

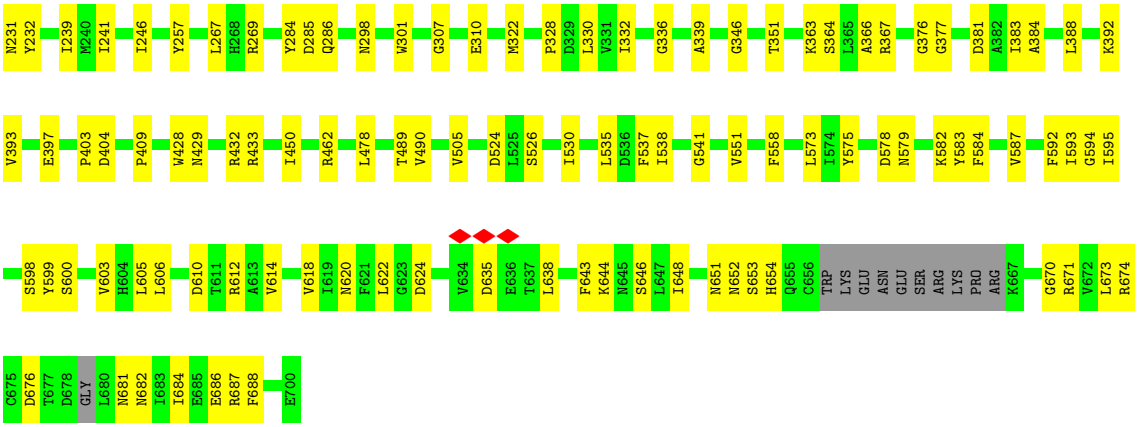
Chain M:



• Molecule 2: Histone deacetylase HDA1

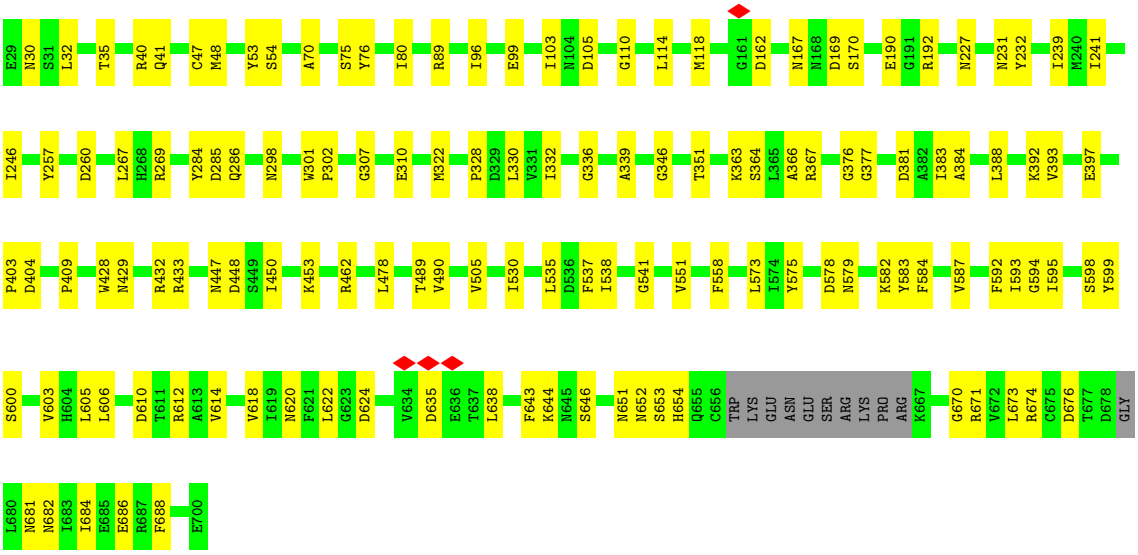
Chain B:





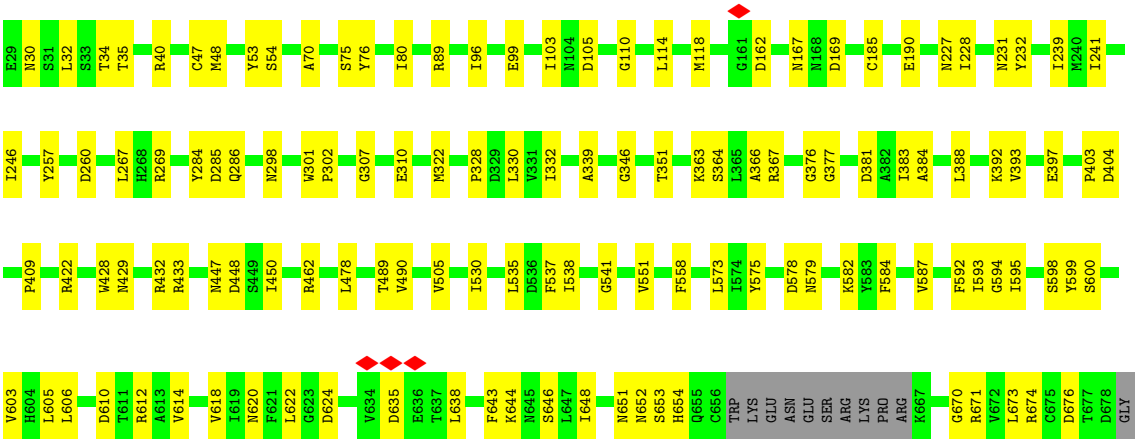
• Molecule 2: Histone deacetylase HDA1

Chain F:

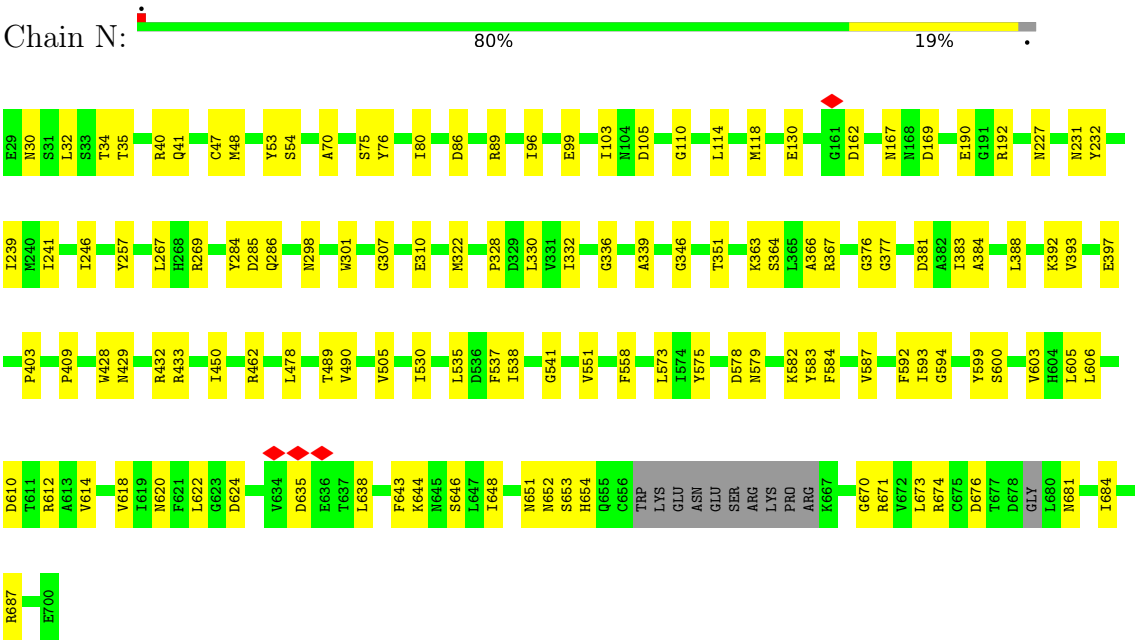


• Molecule 2: Histone deacetylase HDA1

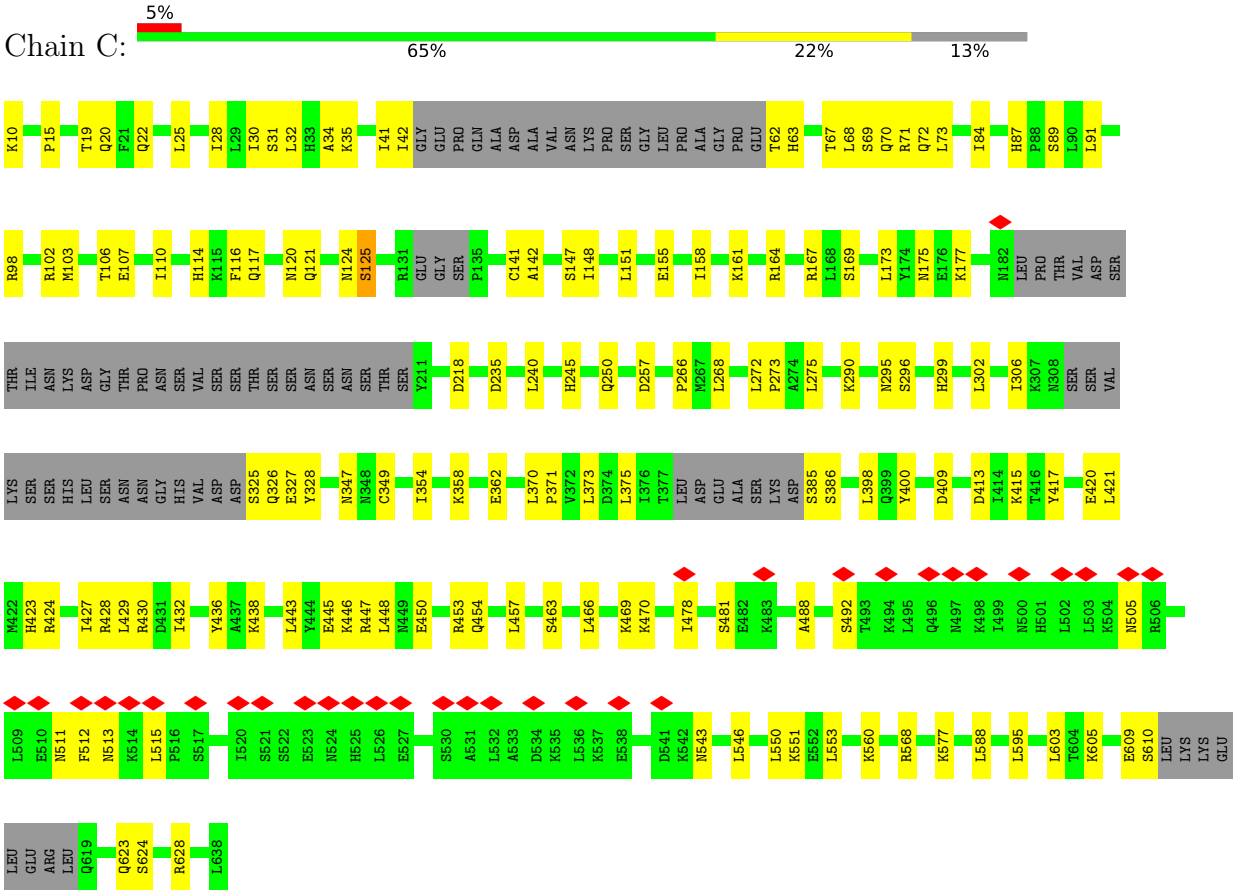
Chain J:



• Molecule 2: Histone deacetylase HDA1

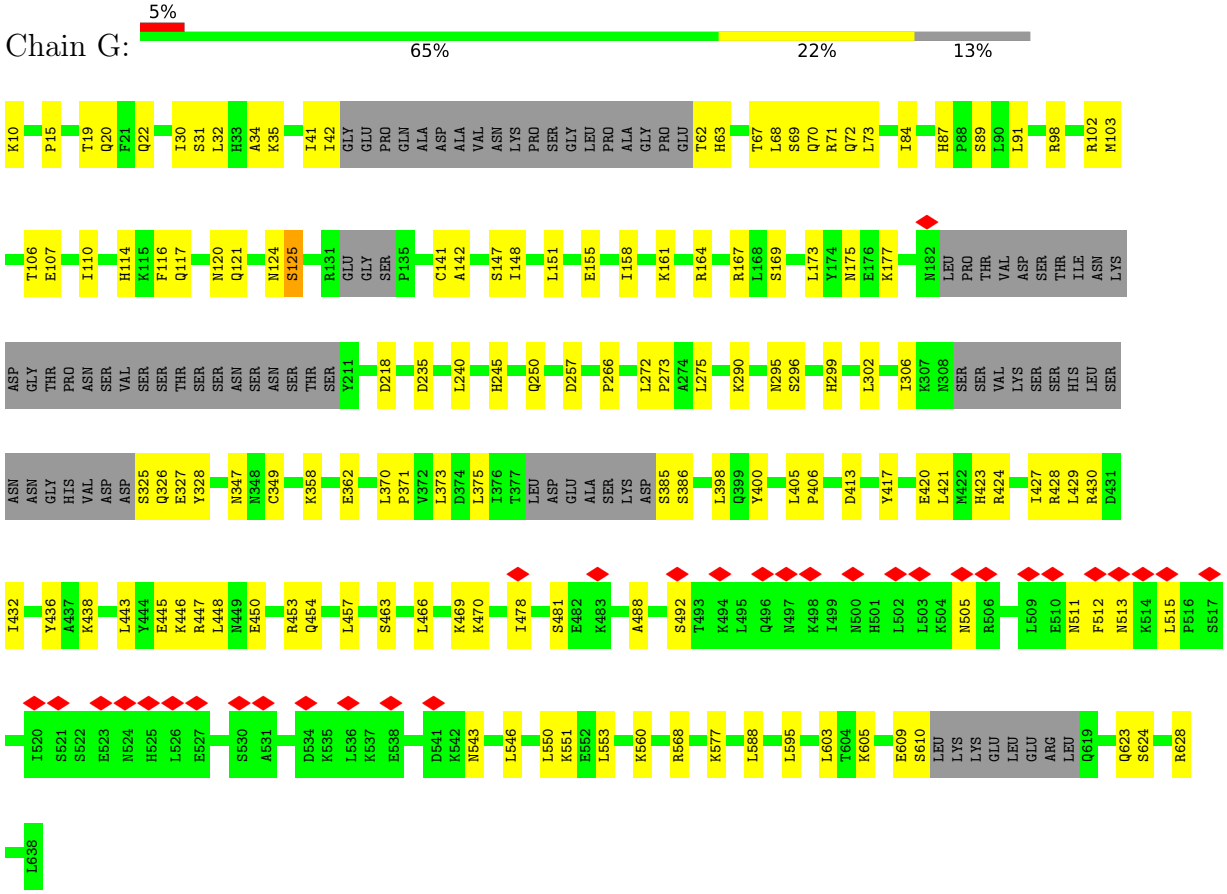


• Molecule 3: HDA1 complex subunit 2



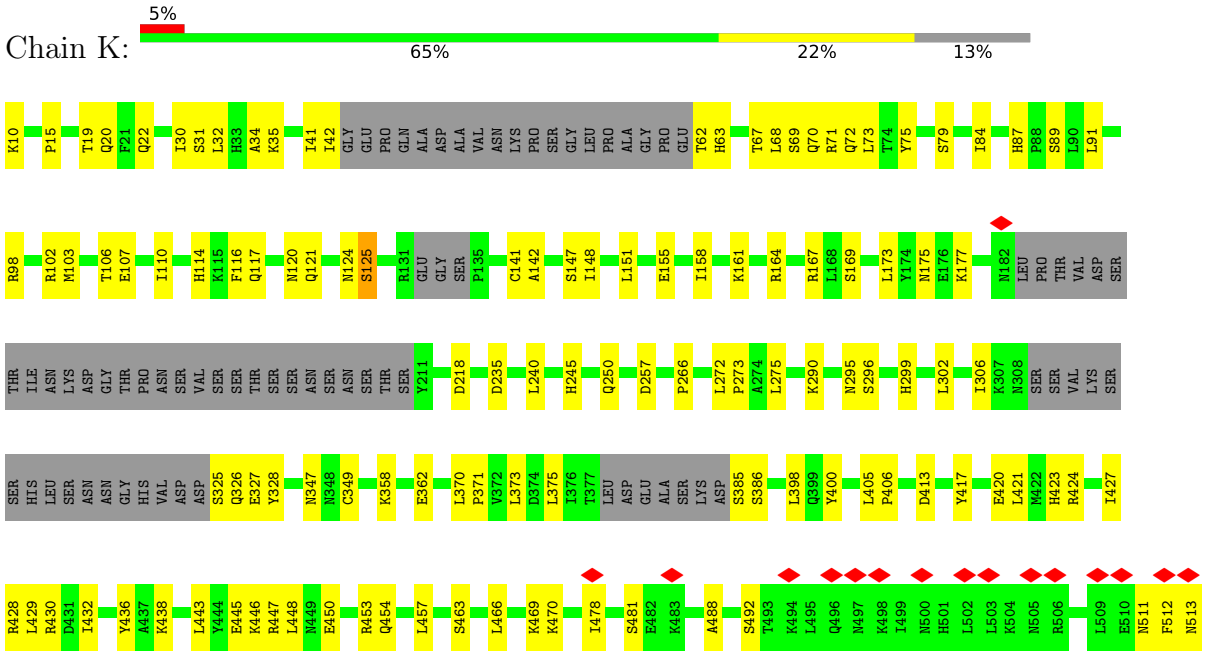
• Molecule 3: HDA1 complex subunit 2

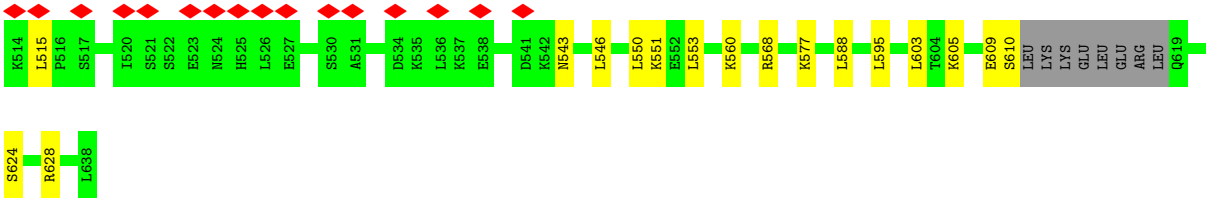
Chain G:



• Molecule 3: HDA1 complex subunit 2

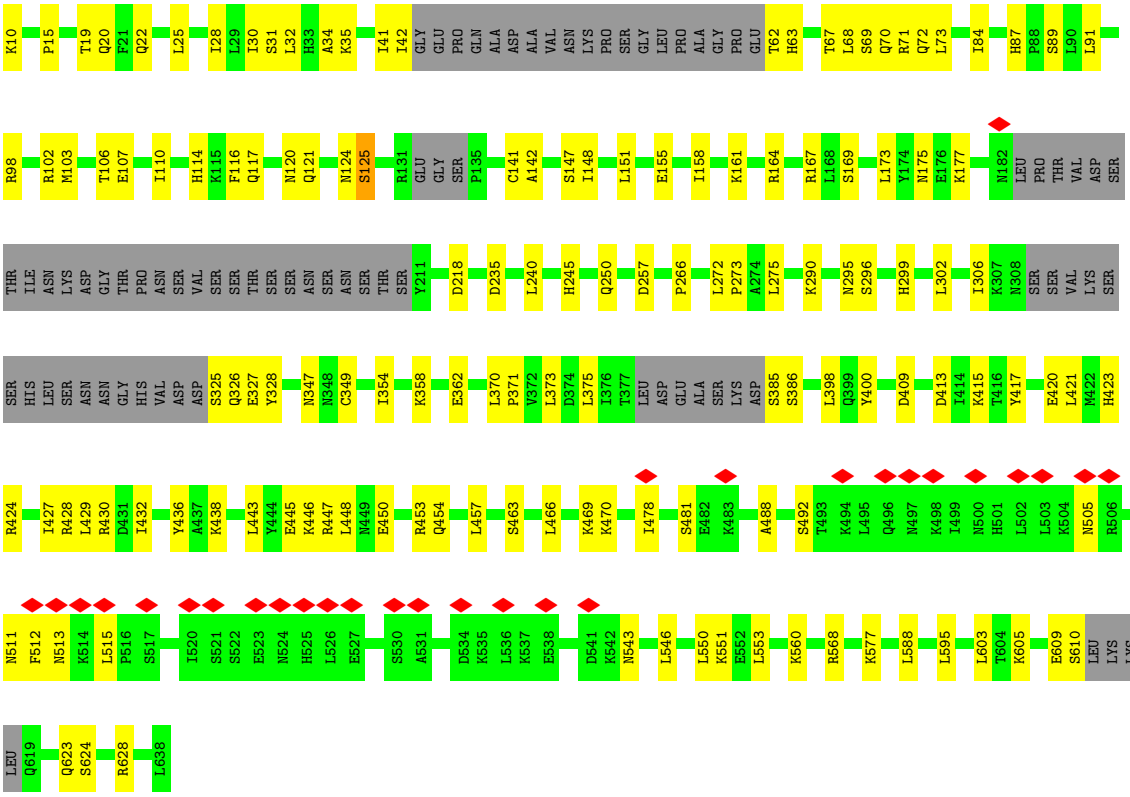
Chain K:





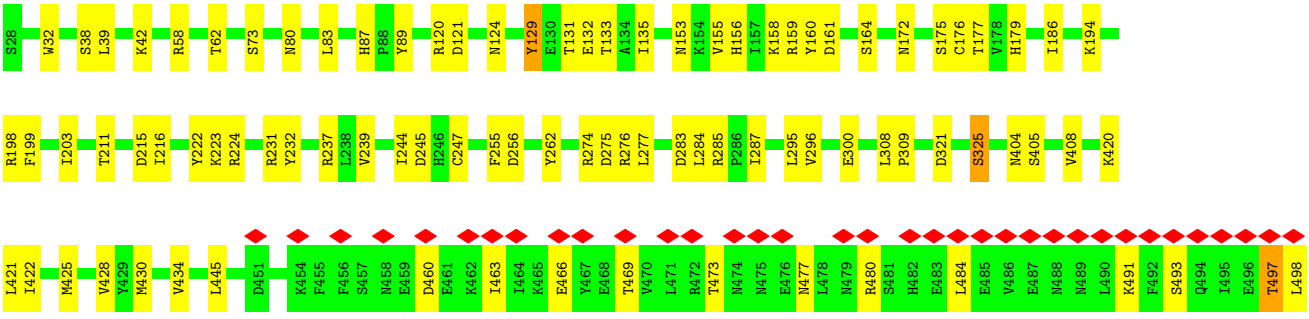
• Molecule 3: HDA1 complex subunit 2

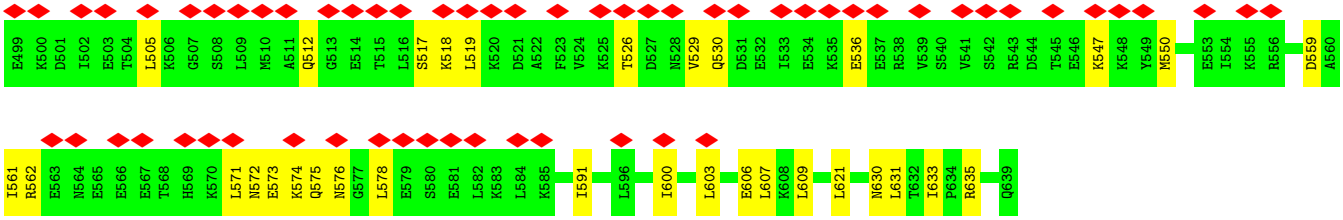
Chain O:



• Molecule 4: HDA1 complex subunit 3,HDA1 complex subunit 3

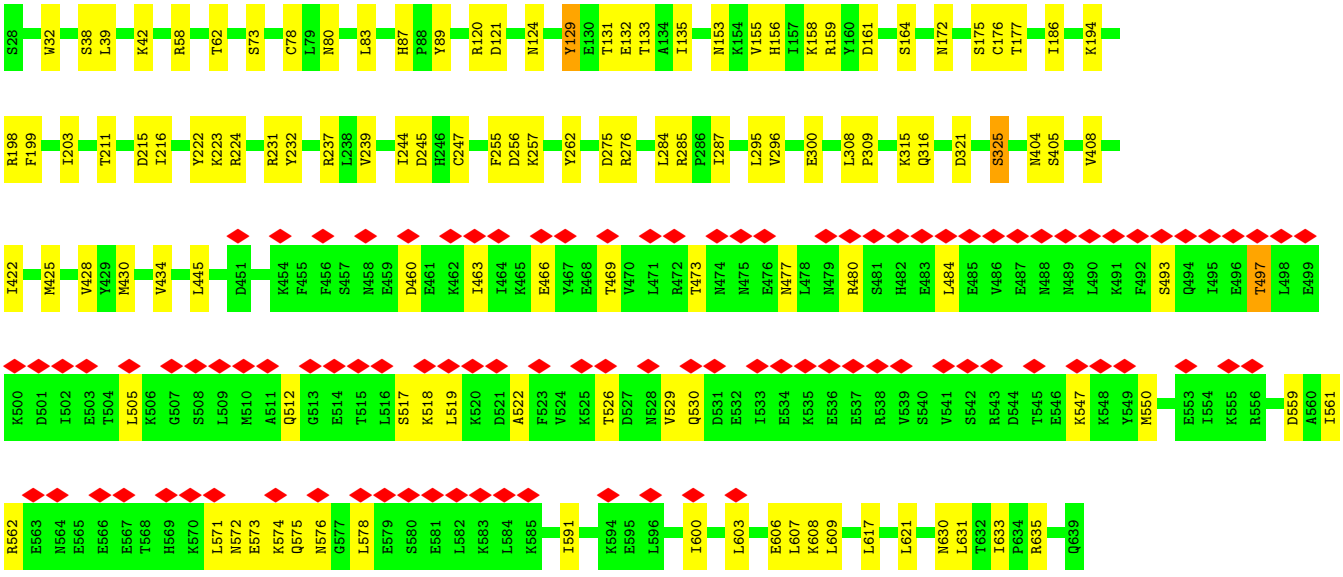
Chain D:





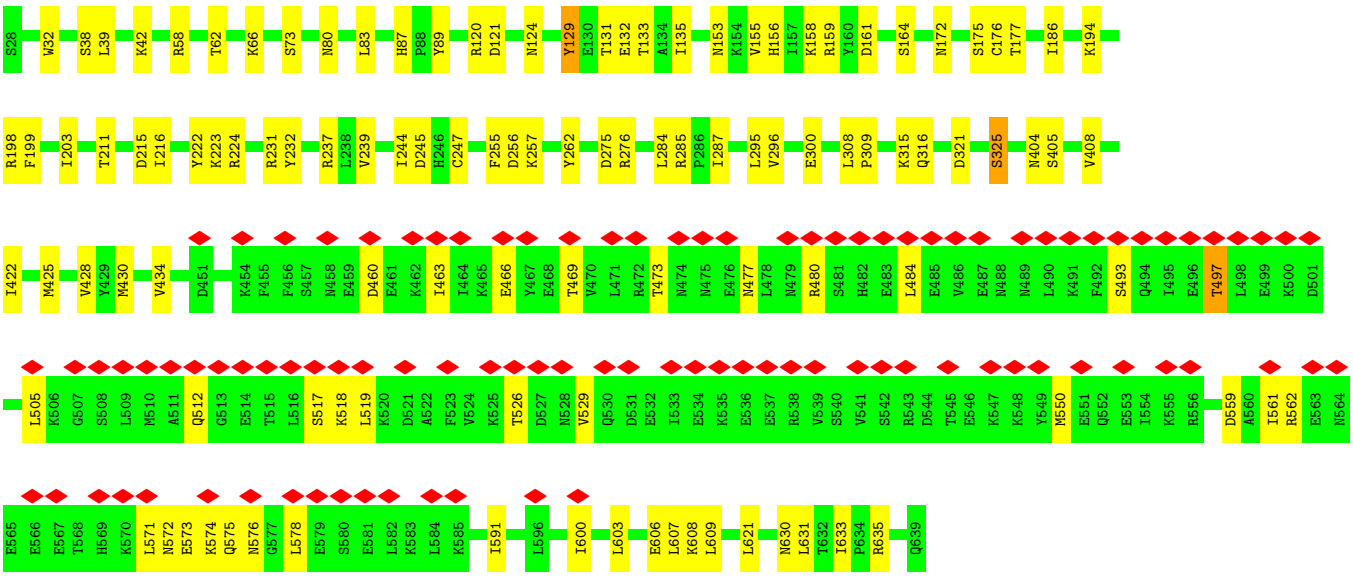
• Molecule 4: HDA1 complex subunit 3,HDA1 complex subunit 3

Chain H:



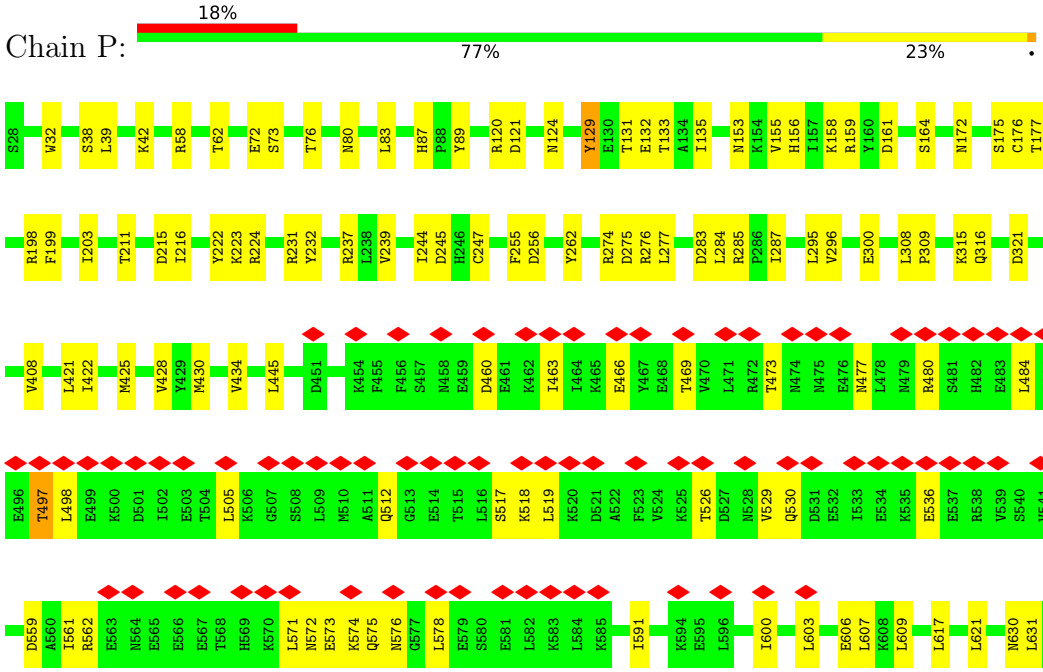
• Molecule 4: HDA1 complex subunit 3,HDA1 complex subunit 3

Chain L:



• Molecule 4: HDA1 complex subunit 3,HDA1 complex subunit 3

Chain P:


18%
77%
23%
S28 W32 S38 L39 K42 R58 T62 E72 S73 T76 N80 L83 H87 P88 Y89 R120 D121 N124 Y129 E130 T131 E132 T133 A134 I135 N153 K154 V155 H156 I157 K158 R159 Y160 D161 S164 N172 S175 C176 T177 I186 K194
R198 F199 I203 T211 D215 I216 Y222 K223 R224 R231 Y232 R237 L238 V239 I244 D245 H246 C247 F255 D256 Y262 R274 D275 R276 L277 D283 L284 R285 P286 I287 L295 V296 E300 L308 P309 K315 Q316 D321 S325 N404 S405
V408 L421 I422 M425 V428 Y429 M430 V434 L445 D451 K454 F455 F456 S457 N458 E459 D460 E461 K462 I463 I464 K465 E466 Y467 E468 T469 V470 L471 R472 T473 N474 N475 E476 N477 L478 N479 R480 S481 H482 E483 L484 E485 V486 E487 N488 N489 L490 K491 F492 S493 Q494 I495
E496 T497 L498 E499 K500 D501 I502 E503 T504 L505 K506 G507 S508 L509 M510 A511 Q512 Q513 E514 T515 L516 S517 K518 L519 K520 D521 A522 F523 V524 K525 T526 D527 N528 V529 Q530 D531 E532 I533 E534 K535 E536 E537 R538 V539 S540 V541 S542 R543 D544 T545 E546 K547 K548 Y549 M550 E553 I554 K555 R556
D559 A560 I561 R562 E563 N564 E565 E566 E567 T568 H569 K570 L571 N572 E573 K574 Q575 N576 G577 L578 E579 S580 E581 L582 K583 L584 K585 I591 K594 E595 L596 I600 L603 E606 L607 K608 L609 L617 L621 N630 L631 T632 I633 P634 R635 Q639

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, D2	Depositor
Number of particles used	53757	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	86	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	7.650	Depositor
Minimum map value	-2.931	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.361	Depositor
Recommended contour level	1.3	Depositor
Map size (Å)	510.72, 510.72, 510.72	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.8512, 0.8512, 0.8512	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

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	0/5345	0.54	2/7251 (0.0%)
1	E	0.37	0/5345	0.55	2/7251 (0.0%)
1	I	0.37	0/5345	0.54	2/7251 (0.0%)
1	M	0.37	0/5345	0.54	2/7251 (0.0%)
2	B	0.37	0/5366	0.53	0/7277
2	F	0.37	0/5366	0.53	0/7277
2	J	0.37	0/5366	0.53	0/7277
2	N	0.37	0/5366	0.53	0/7277
3	C	0.31	0/4545	0.54	0/6120
3	G	0.31	0/4545	0.54	0/6120
3	K	0.31	0/4545	0.54	0/6120
3	O	0.31	0/4545	0.54	0/6120
4	D	0.31	0/4515	0.54	1/6087 (0.0%)
4	H	0.31	0/4515	0.54	1/6087 (0.0%)
4	L	0.31	0/4515	0.54	1/6087 (0.0%)
4	P	0.31	0/4515	0.54	1/6087 (0.0%)
All	All	0.34	0/79084	0.54	12/106940 (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	3
1	E	0	3
1	I	0	3
1	M	0	3
2	B	0	1
2	F	0	1
2	J	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
2	N	0	1
3	C	0	2
3	G	0	2
3	K	0	2
3	O	0	2
4	D	0	2
4	H	0	2
4	L	0	2
4	P	0	2
All	All	0	32

There are no bond length outliers.

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

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	450	ILE	CG1-CB-CG2	-6.93	96.16	111.40
1	E	450	ILE	CG1-CB-CG2	-6.93	96.15	111.40
1	M	450	ILE	CG1-CB-CG2	-6.92	96.18	111.40
1	I	450	ILE	CG1-CB-CG2	-6.91	96.19	111.40
4	D	607	LEU	CA-CB-CG	5.75	128.53	115.30

There are no chirality outliers.

5 of 32 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	445	PRO	Peptide
1	A	521	GLY	Peptide
1	A	54	SER	Peptide
2	B	54	SER	Peptide
3	C	512	PHE	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	5220	0	5136	85	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	E	5220	0	5136	91	0
1	I	5220	0	5136	93	0
1	M	5220	0	5136	87	0
2	B	5245	0	5155	91	0
2	F	5245	0	5155	90	0
2	J	5245	0	5155	86	0
2	N	5245	0	5155	86	0
3	C	4472	0	4536	86	0
3	G	4472	0	4536	86	0
3	K	4472	0	4536	85	0
3	O	4472	0	4536	85	0
4	D	4440	0	4447	70	0
4	H	4440	0	4447	68	0
4	L	4440	0	4447	63	0
4	P	4440	0	4447	71	0
5	A	1	0	0	0	0
5	B	1	0	0	0	0
5	E	1	0	0	0	0
5	F	1	0	0	0	0
5	I	1	0	0	0	0
5	J	1	0	0	0	0
5	M	1	0	0	0	0
5	N	1	0	0	0	0
All	All	77516	0	77096	1226	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 8.

The worst 5 of 1226 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:J:575:TYR:O	2:J:579:ASN:HB2	1.77	0.84
2:F:575:TYR:O	2:F:579:ASN:HB2	1.79	0.83
2:B:575:TYR:O	2:B:579:ASN:HB2	1.80	0.81
2:N:575:TYR:O	2:N:579:ASN:HB2	1.80	0.81
3:C:358:LYS:O	3:C:362:GLU:HB2	1.83	0.77

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	652/661 (99%)	591 (91%)	61 (9%)	0	100	100
1	E	652/661 (99%)	591 (91%)	61 (9%)	0	100	100
1	I	652/661 (99%)	591 (91%)	61 (9%)	0	100	100
1	M	652/661 (99%)	590 (90%)	62 (10%)	0	100	100
2	B	655/672 (98%)	602 (92%)	53 (8%)	0	100	100
2	F	655/672 (98%)	603 (92%)	52 (8%)	0	100	100
2	J	655/672 (98%)	605 (92%)	50 (8%)	0	100	100
2	N	655/672 (98%)	603 (92%)	52 (8%)	0	100	100
3	C	534/629 (85%)	490 (92%)	44 (8%)	0	100	100
3	G	534/629 (85%)	490 (92%)	44 (8%)	0	100	100
3	K	534/629 (85%)	490 (92%)	44 (8%)	0	100	100
3	O	534/629 (85%)	490 (92%)	44 (8%)	0	100	100
4	D	538/542 (99%)	507 (94%)	31 (6%)	0	100	100
4	H	538/542 (99%)	507 (94%)	31 (6%)	0	100	100
4	L	538/542 (99%)	508 (94%)	30 (6%)	0	100	100
4	P	538/542 (99%)	507 (94%)	31 (6%)	0	100	100
All	All	9516/10016 (95%)	8765 (92%)	751 (8%)	0	100	100

There are no Ramachandran outliers to report.

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	580/585 (99%)	580 (100%)	0	100	100
1	E	580/585 (99%)	580 (100%)	0	100	100
1	I	580/585 (99%)	580 (100%)	0	100	100
1	M	580/585 (99%)	580 (100%)	0	100	100
2	B	586/596 (98%)	584 (100%)	2 (0%)	92	96
2	F	586/596 (98%)	585 (100%)	1 (0%)	93	97
2	J	586/596 (98%)	584 (100%)	2 (0%)	92	96
2	N	586/596 (98%)	584 (100%)	2 (0%)	92	96
3	C	511/582 (88%)	508 (99%)	3 (1%)	86	92
3	G	511/582 (88%)	508 (99%)	3 (1%)	86	92
3	K	511/582 (88%)	508 (99%)	3 (1%)	86	92
3	O	511/582 (88%)	508 (99%)	3 (1%)	86	92
4	D	510/510 (100%)	500 (98%)	10 (2%)	55	75
4	H	510/510 (100%)	499 (98%)	11 (2%)	52	72
4	L	510/510 (100%)	500 (98%)	10 (2%)	55	75
4	P	510/510 (100%)	500 (98%)	10 (2%)	55	75
All	All	8748/9092 (96%)	8688 (99%)	60 (1%)	84	91

5 of 60 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	H	519	LEU
4	P	285	ARG
4	L	38	SER
4	P	172	ASN
4	P	591	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 150 such sidechains are listed below:

Mol	Chain	Res	Type
1	M	286	GLN
4	P	477	ASN
2	N	231	ASN
3	O	513	ASN
3	G	72	GLN

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 monosaccharides in this entry.

5.6 Ligand geometry

Of 8 ligands modelled in this entry, 8 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

The following chains have linkage breaks:

Mol	Chain	Number of breaks
4	D	1
4	H	1
4	L	1
4	P	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	D	333:LYS	C	404:ASN	N	81.43
1	H	333:LYS	C	404:ASN	N	81.43
1	L	333:LYS	C	404:ASN	N	81.43
1	P	333:LYS	C	404:ASN	N	81.43

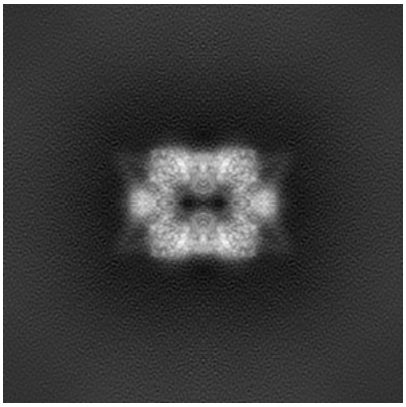
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-11101. These allow visual inspection of the internal detail of the map and identification of artifacts.

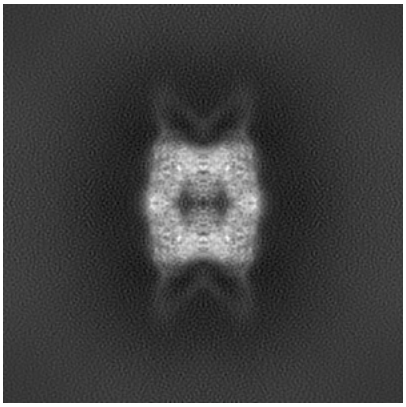
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

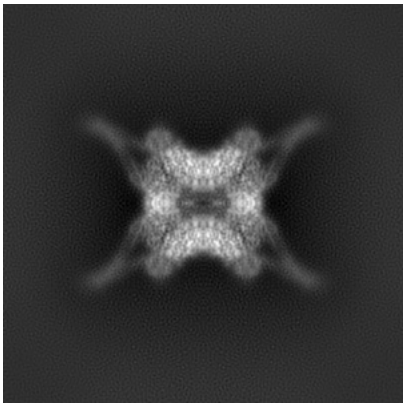
6.1.1 Primary map



X



Y

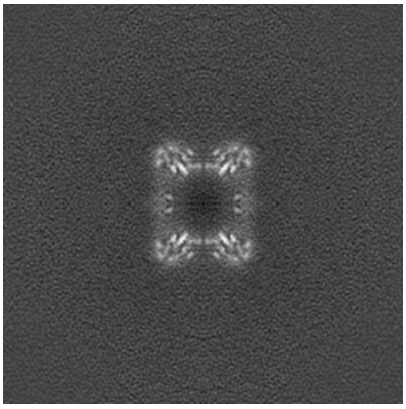


Z

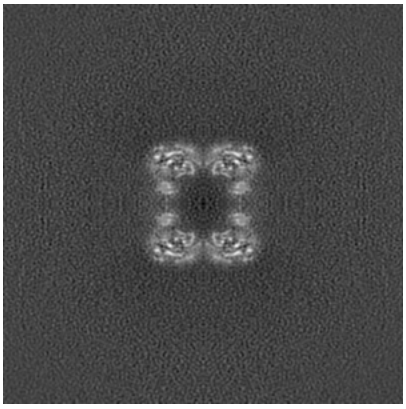
The images above show the map projected in three orthogonal directions.

6.2 Central slices

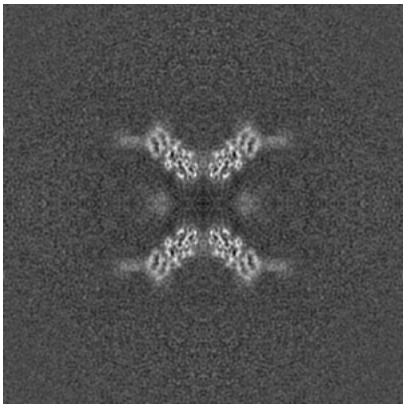
6.2.1 Primary map



X Index: 300



Y Index: 300

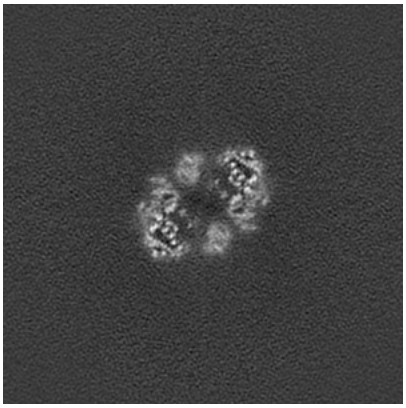


Z Index: 300

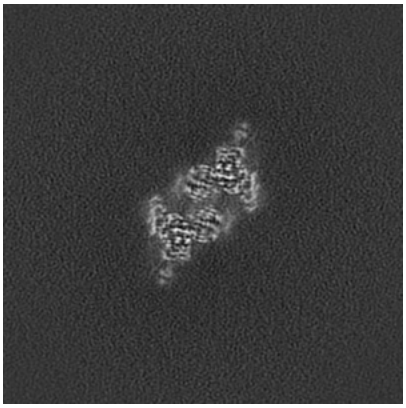
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

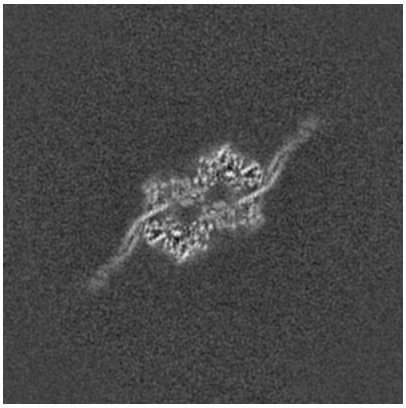
6.3.1 Primary map



X Index: 337



Y Index: 359

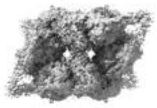


Z Index: 359

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



X

Y

Z

The images above show the 3D surface view of the map at the recommended contour level 1.3. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

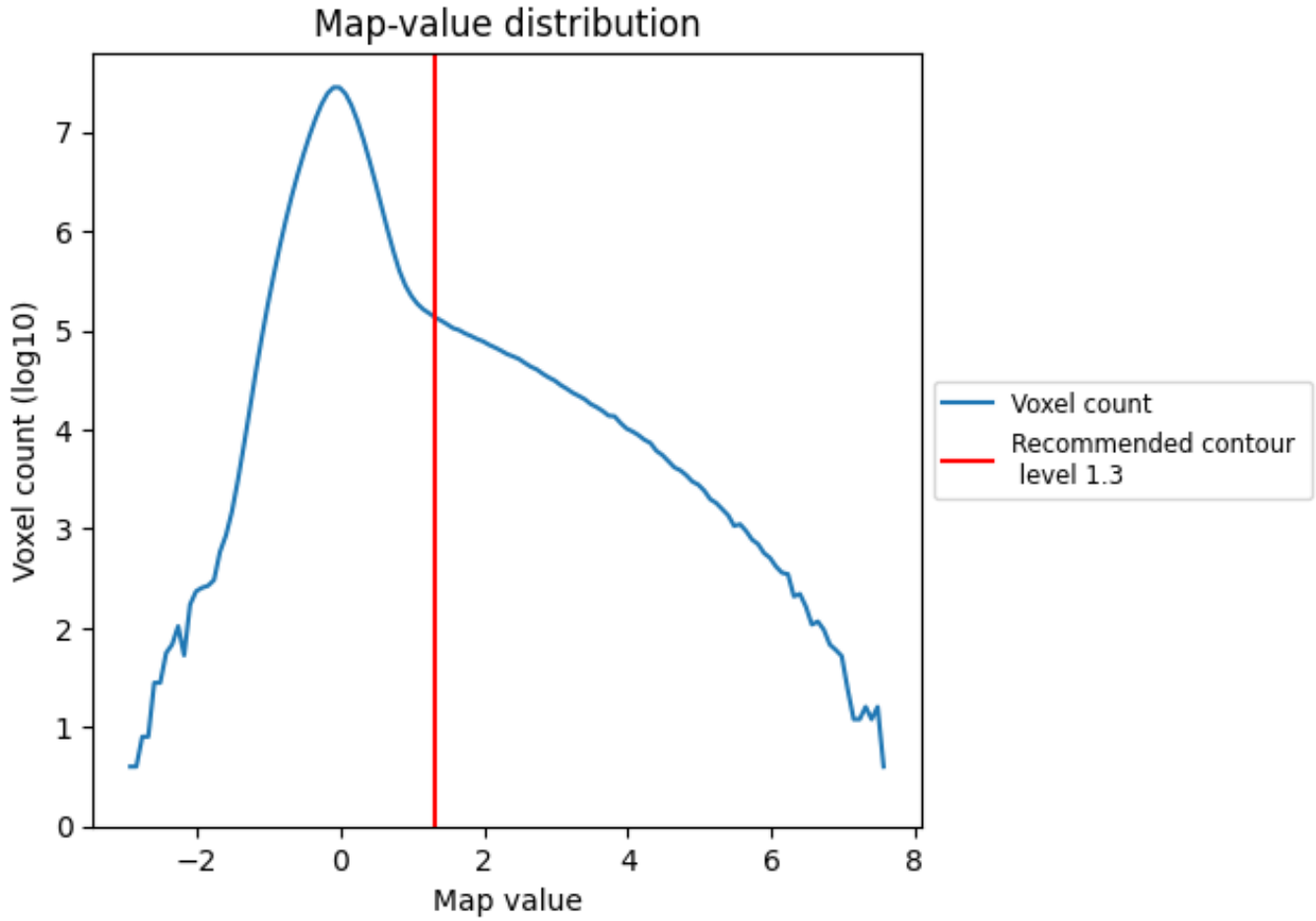
6.5 Mask visualisation (i)

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

7 Map analysis

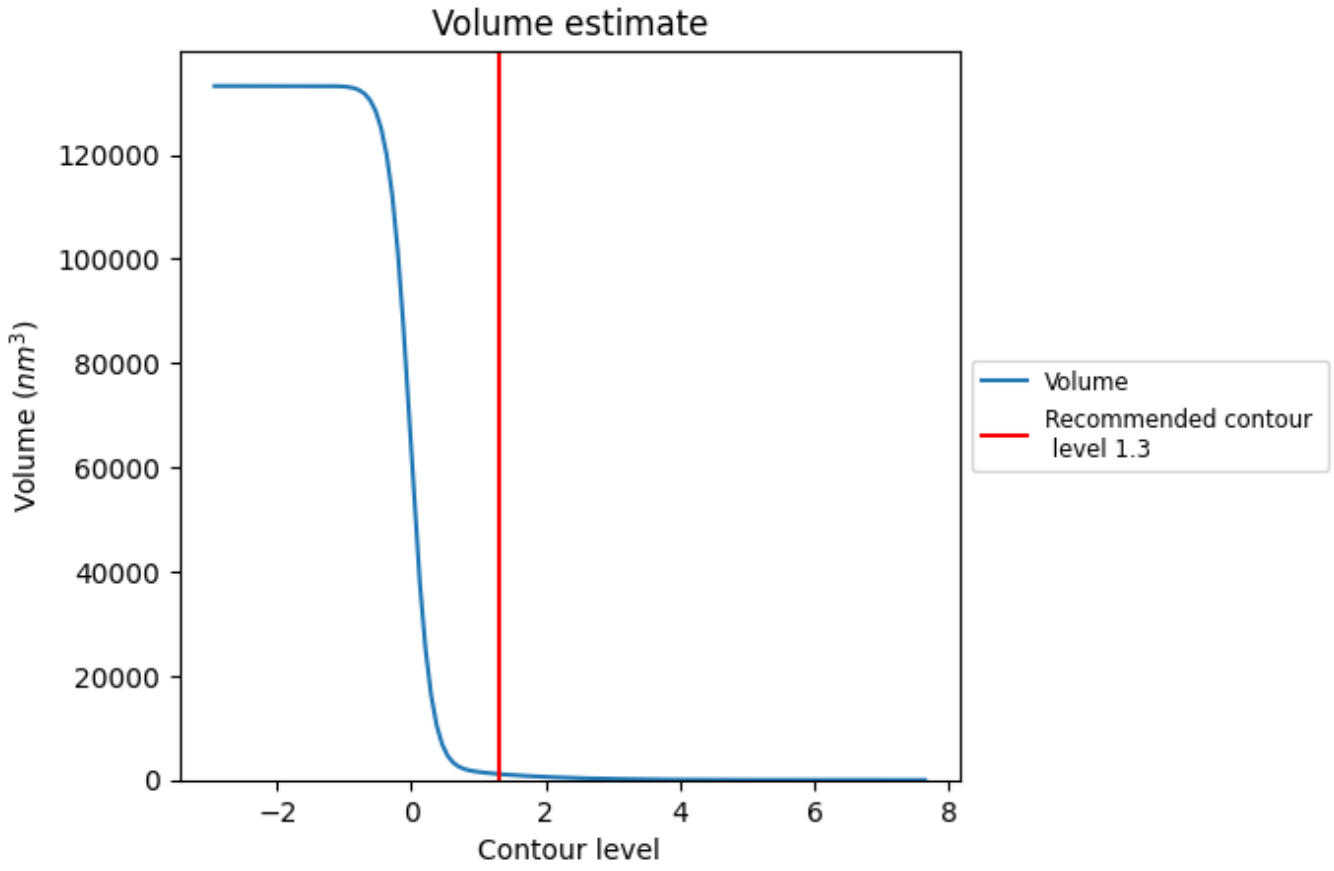
This section contains the results of statistical analysis of the map.

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.

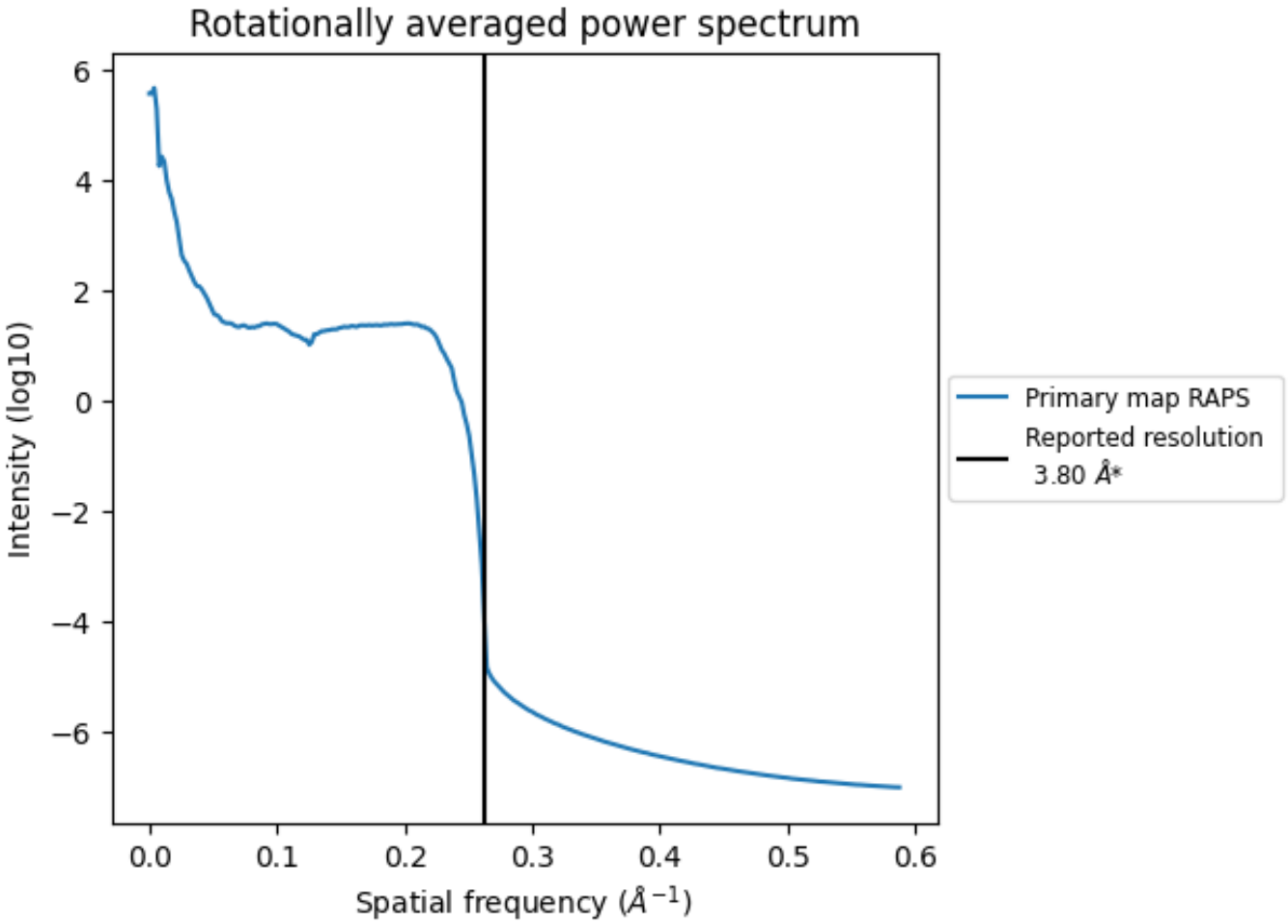
7.2 Volume estimate (i)



The volume at the recommended contour level is 1141 nm^3; this corresponds to an approximate mass of 1030 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 0.263 Å^{-1}

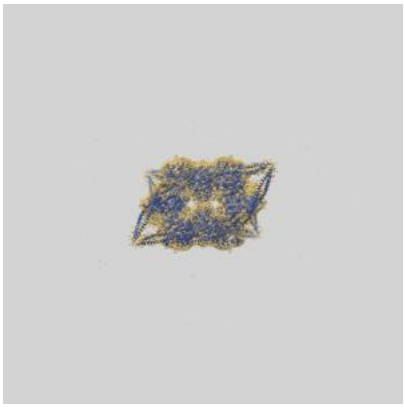
8 Fourier-Shell correlation

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

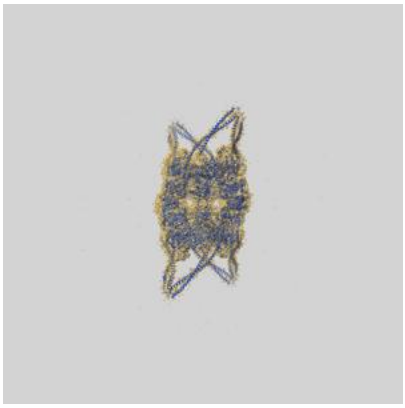
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-11101 and PDB model 6Z6O. Per-residue inclusion information can be found in section 3 on page 6.

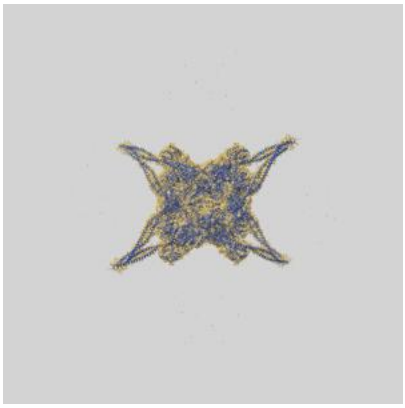
9.1 Map-model overlay



X



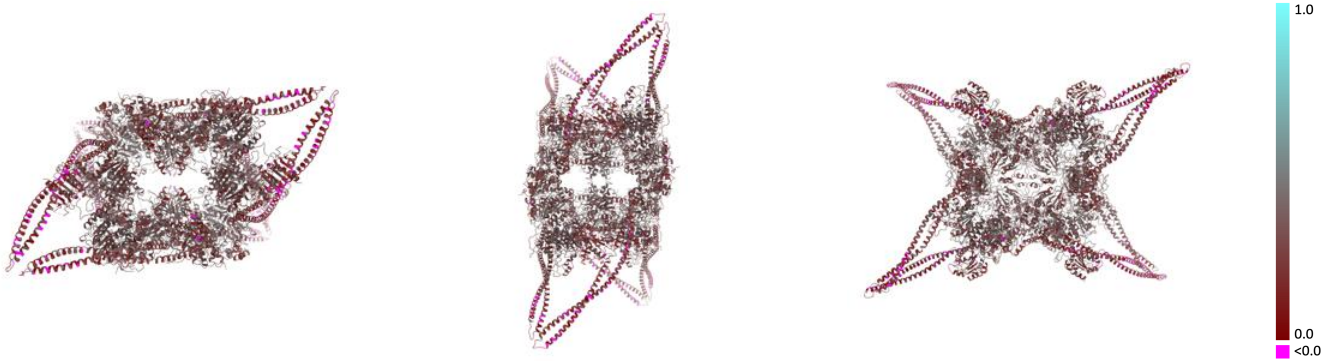
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 1.3 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.

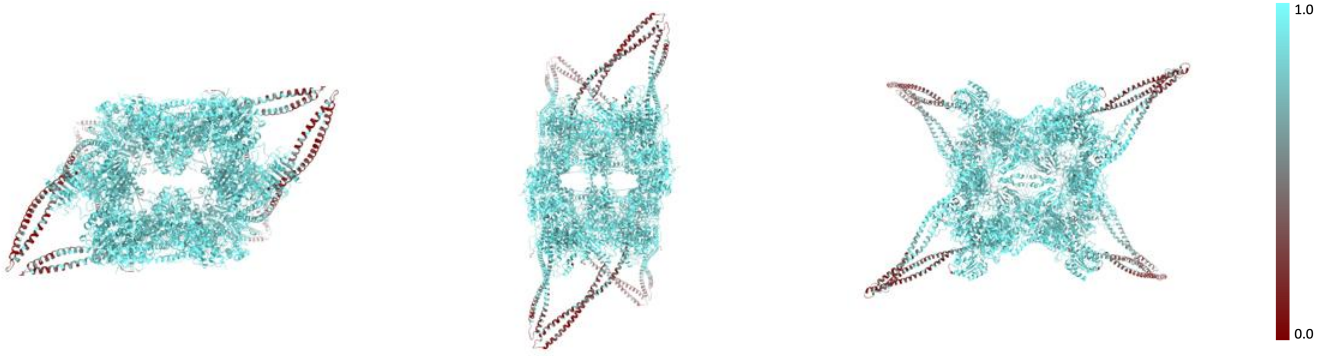
9.2 Q-score mapped to coordinate model (i)



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.

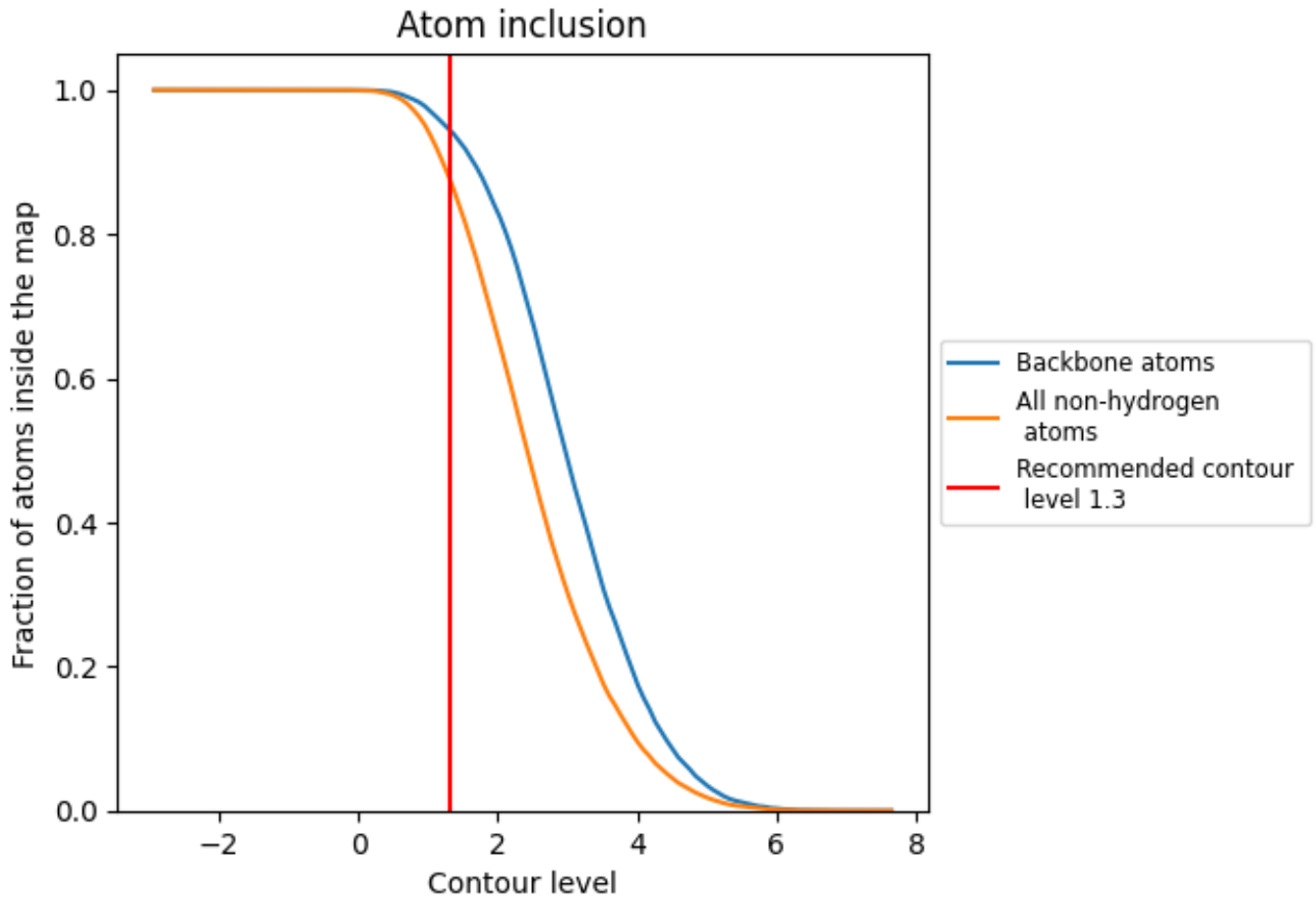
9.3 Atom inclusion mapped to coordinate model (i)



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 (1.3).

9.4 Atom inclusion (i)



At the recommended contour level, 95% of all backbone atoms, 88% 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 (1.3) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8789	0.3130
A	0.9493	0.3480
B	0.9315	0.3320
C	0.8497	0.2970
D	0.7637	0.2630
E	0.9485	0.3490
F	0.9315	0.3330
G	0.8499	0.2970
H	0.7628	0.2610
I	0.9493	0.3480
J	0.9323	0.3330
K	0.8497	0.2960
L	0.7624	0.2620
M	0.9495	0.3490
N	0.9323	0.3330
O	0.8497	0.2970
P	0.7642	0.2620