



Full wwPDB EM Validation Report ⓘ

Mar 10, 2026 – 02:05 PM UTC

PDB ID : 6R21 / pdb_00006r21
EMDB ID : EMD-4706
Title : Cryo-EM structure of T7 bacteriophage fiberless tail complex
Authors : Cuervo, A.; Fabrega-Ferrer, M.; Machon, C.; Conesa, J.J.; Perez-Ruiz, M.;
Coll, M.; Carrascosa, J.L.
Deposited on : 2019-03-15
Resolution : 3.33 Å (reported)
Based on initial models : 6QWP, ?, 5MU4

This is a Full wwPDB EM Validation 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.dev132
MolProbity : **FAILED**
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.8.1
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

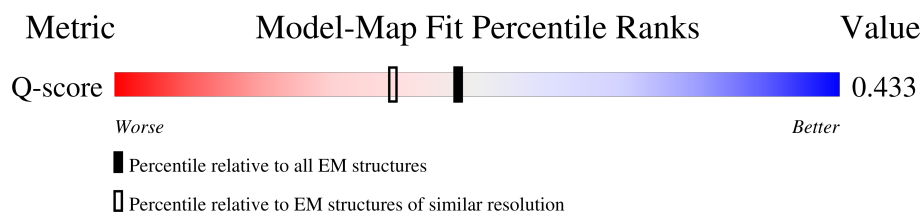
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.33 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	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Q-score	25397	14484 (2.83 - 3.83)

ENTRY-COMPOSITION INFOmissingINFO

SEQUENCE-PLOTS INFOmissingINFO

2 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C6	Depositor
Number of particles used	92382	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 ($e^-/\text{\AA}^2$)	0.84	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	0.256	Depositor
Minimum map value	-0.003	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.007	Depositor
Recommended contour level	0.0113	Depositor
Map size ($\text{\AA}$)	366.8, 366.8, 366.8	wwPDB
Map dimensions	350, 350, 350	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.048, 1.048, 1.048	Depositor

3 Model quality [i](#)

3.1 Standard geometry [i](#)

MolProbity failed to run properly - this section is therefore empty.

3.2 Too-close contacts [i](#)

MolProbity failed to run properly - this section is therefore empty.

3.3 Torsion angles [i](#)

3.3.1 Protein backbone [i](#)

MolProbity failed to run properly - this section is therefore empty.

3.3.2 Protein sidechains [i](#)

MolProbity failed to run properly - this section is therefore empty.

3.3.3 RNA [i](#)

MolProbity failed to run properly - this section is therefore empty.

3.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

3.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

3.6 Ligand geometry [i](#)

There are no ligands in this entry.

3.7 Other polymers [i](#)

There are no such residues in this entry.

3.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

4 Map visualisation

This section contains visualisations of the EMDB entry EMD-4706. 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.

4.1 Orthogonal projections

This section was not generated.

4.2 Central slices

This section was not generated.

4.3 Largest variance slices

This section was not generated.

4.4 Orthogonal standard-deviation projections (False-color)

This section was not generated.

4.5 Orthogonal surface views

This section was not generated.

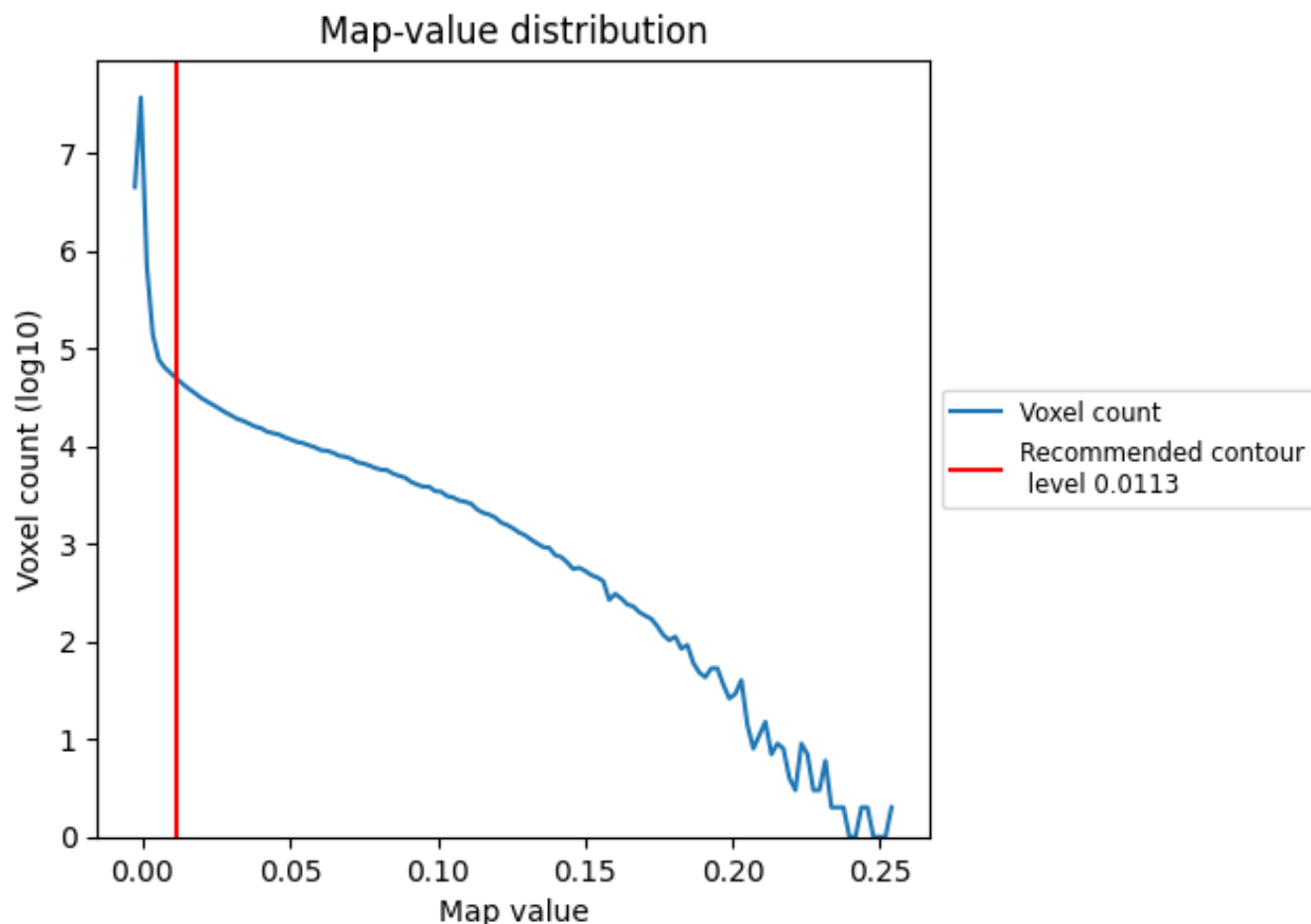
4.6 Mask visualisation

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

5 Map analysis [i](#)

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

5.1 Map-value distribution [i](#)



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

5.2 Volume estimate versus contour level [i](#)

This section was not generated.

5.3 Rotationally averaged power spectrum [i](#)

This section was not generated. The rotationally averaged power spectrum could not be displayed.

6 Fourier-Shell correlation ⓘ

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

7 Map-model fit

This section contains information regarding the fit between EMDB map EMD-4706 and PDB model 6R21. Per-residue inclusion information can be found in section ?? on page ??.

7.1 Map-model overlay

This section was not generated.

7.2 Q-score mapped to coordinate model

This section was not generated.

7.3 Atom inclusion mapped to coordinate model

This section was not generated.

7.4 Atom inclusion versus contour level

This section was not generated.

7.5 Map-model fit summary

This section was not generated.