

SUPPORTING INFORMATION

3D multiscale analysis of the hierarchical porosity in *Coscinodiscus* sp. diatoms using a combination of tomographic techniques

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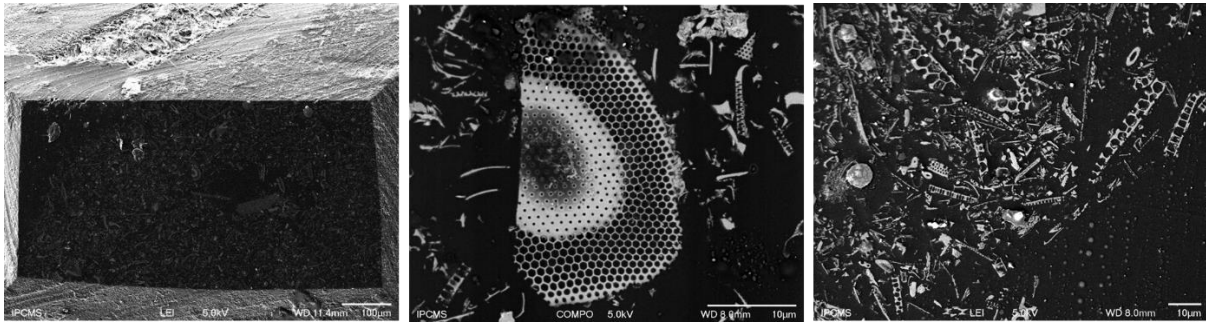


Figure S11: SEM images of the block obtained by embedding the diatoms structures into an epoxy resin.

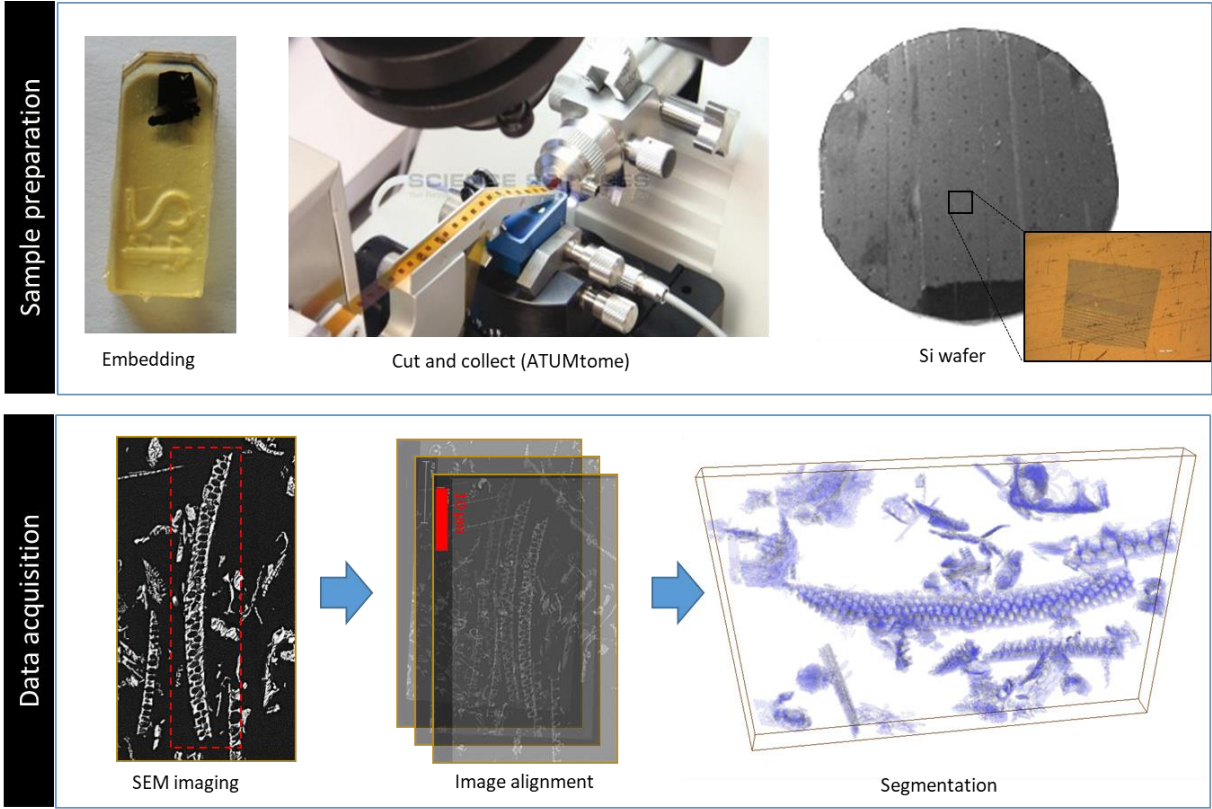


Figure S12. Illustration of the global approach used in serial ATUM-Tome tomography.

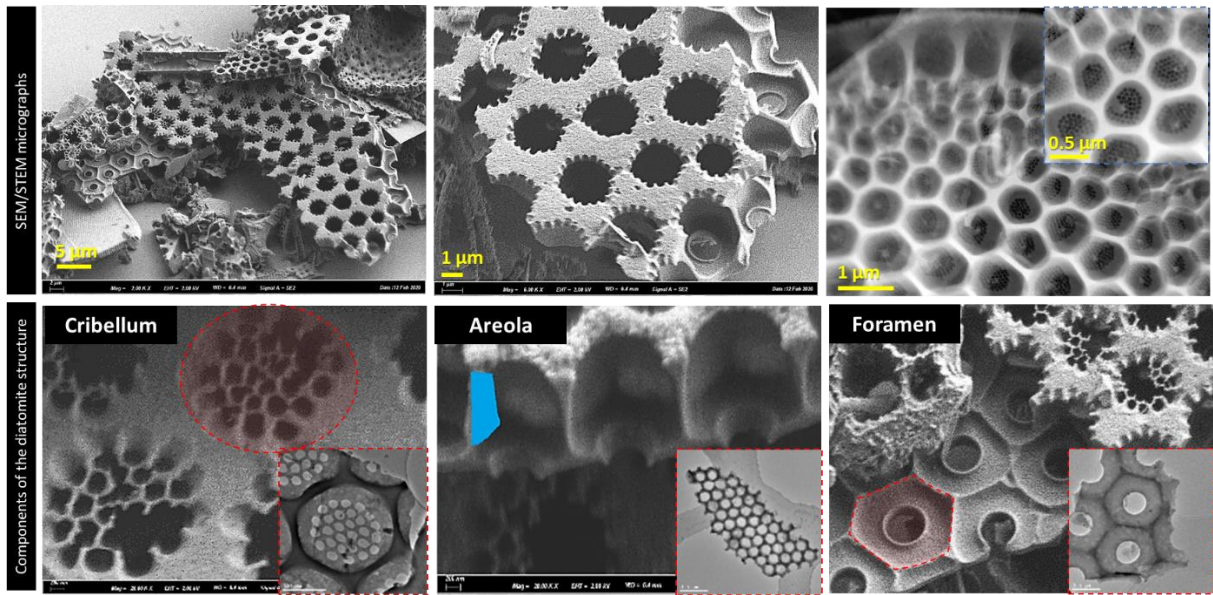


Figure S13. Typical SEM and STEM images of the considered diatomite structure, acquired in various parts of the structures. The red circled areas represent the structural units of the cribellum and foramens layers and the blue colored area (middle-bottom image) illustrates the wall of an areola chamber.

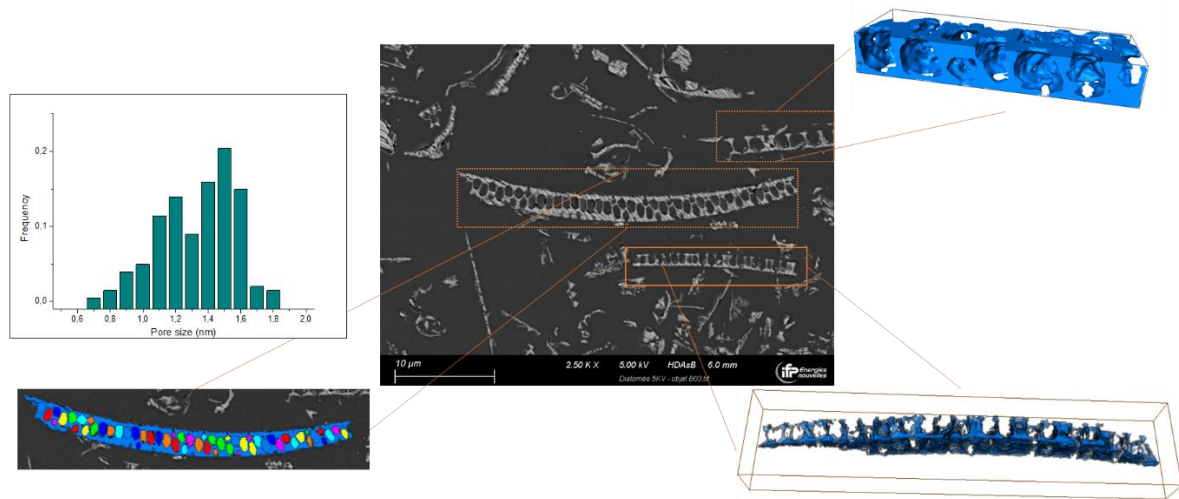


Figure S14: Illustration of the modelling and quantification protocols used in serial ATUM-Tome tomography.

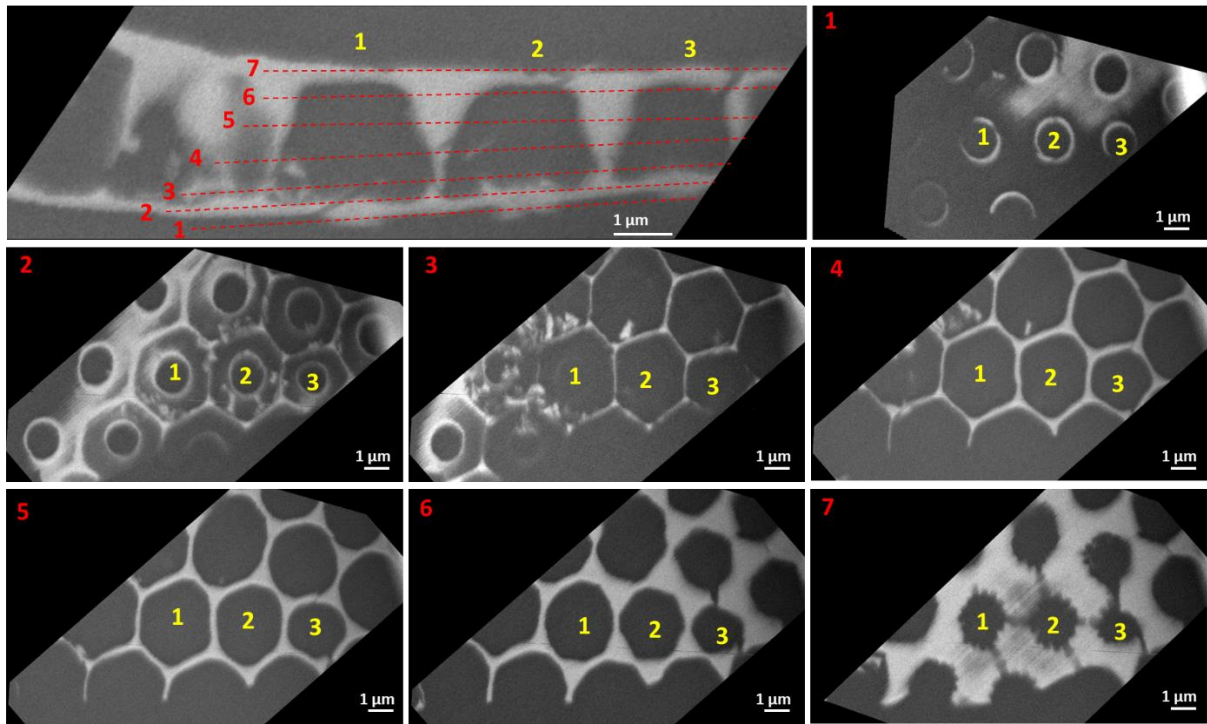


Figure S15: Typical longitudinal slices obtained by FIB-SEM tomography for the diatomite structures.

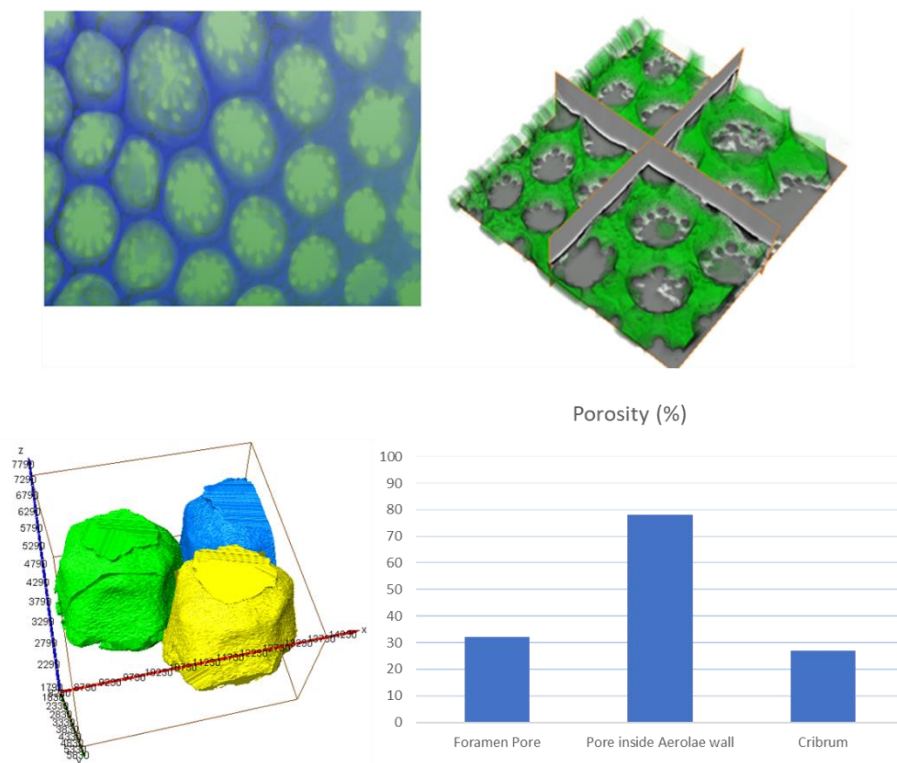


Figure S16: Illustration of the protocol used for the quantification of the volumes obtained by FIB-SEM tomography

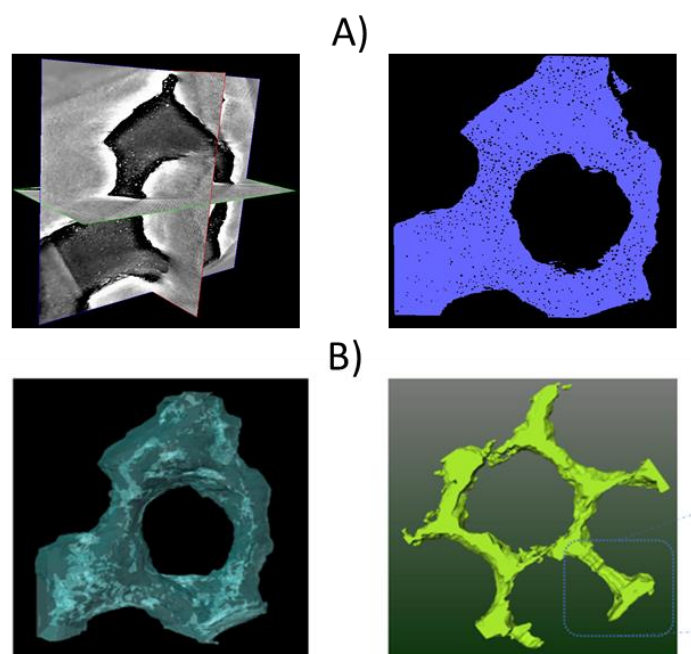


Figure S17: Electron tomography analysis of the diatomite structure. A) Typical slices showing the presence of the porosity in the analysed areas. B) 3D models illustrating the general shape of a fragment chosen at the level of areola chambers and a global view of the structure.

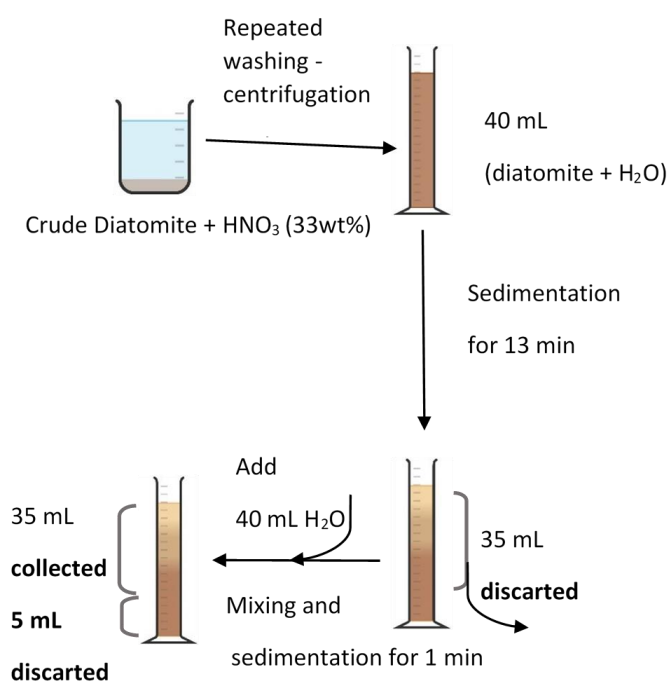


Figure S18: The protocol for the sample preparation used for obtaining the diatoms frustules.

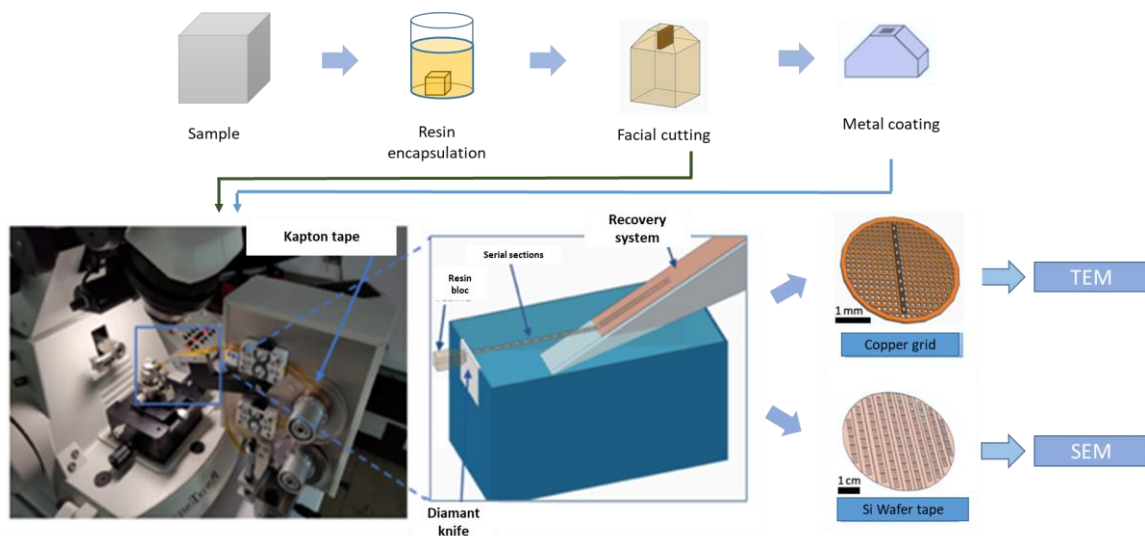


Figure S19: Protocol used for the preparation of the serial sections by ultramicrotomy, using the ATUM-Tome set-up.