

Accelerated Microwave Assisted Synthesis of Alumino-Germanate Imogolite Nanotubes

A. Avellan*^{a,b}, C. Levard^{a,b}, C. Chaneac^c, D. Borschneck^{a,b}, Fabrice R.A. Onofri^d, J. Rose^{a,b}, A. Masion**^{a,b}

^a CEREGE, CNRS, Aix-Marseille Université, IRD, UM34, 13545 Aix-en-Provence, France.

^b iCeint – International Center for the Environmental Implications of NanoTechnologies, Europôle de l'Arbois, 13545 Aix-en-Provence, France.

^c Chimie de la Matière Condensée de Paris - UMR7574 (UPMC/CNRS); Collège de France; 11, place Marcelin Berthelot; 75231 Paris; France

^d IUSTI, CNRS, Aix-Marseille Université, UMR 7343, 13453, Marseille, France

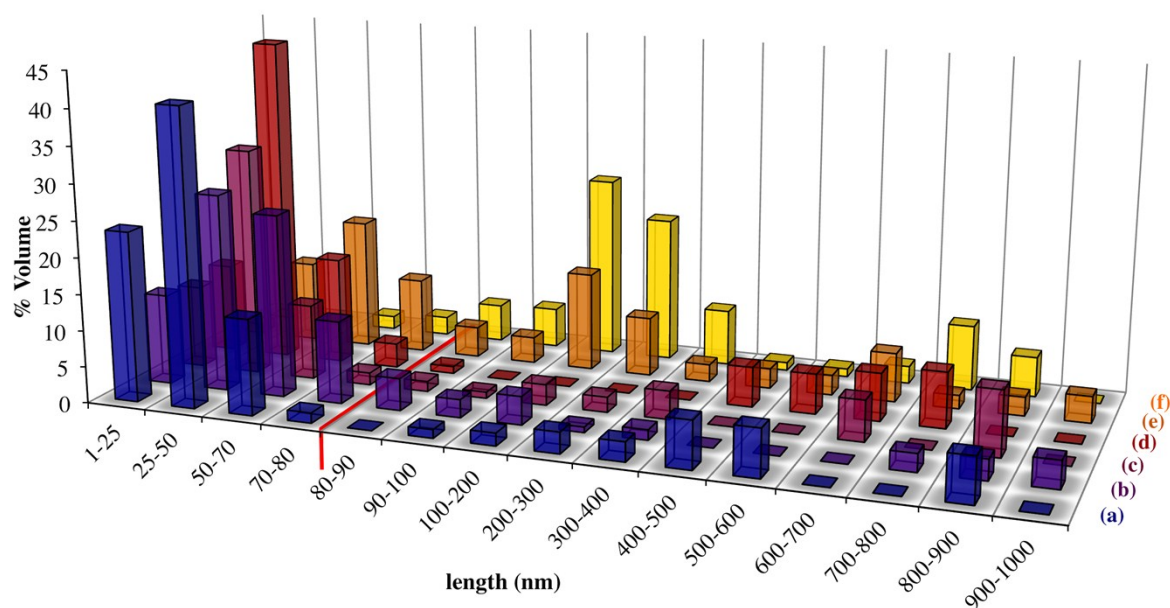


Figure S. 1: Repartition in volume percentage of Ge-imogolites nanotube lengths estimated from AFM images. At least 200 particles were considered excluding aggregates. Growth stages were performed under microwave heating at 100°C: (a) 1h, (b) 2h; 150°C: (c) 1h or (d) 2h; 200°C: (e) 1h or (f) 2h. The maximum length obtained with conventional heating is delimited with the red line.

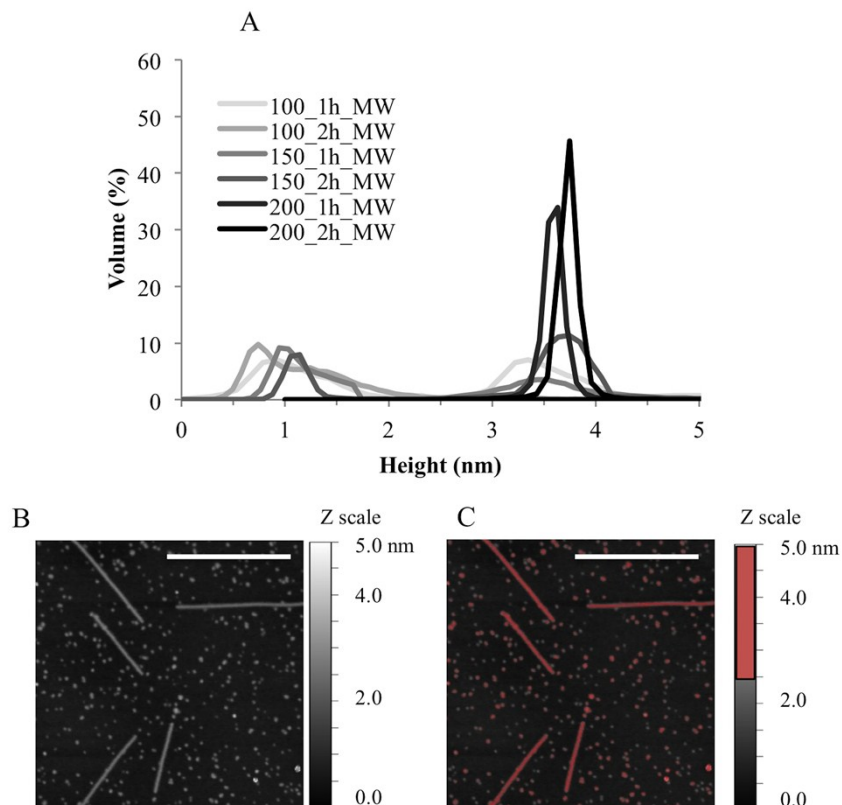


Figure S. 2 : Example of height thresholding to distinguish proto-imogolites from tubes. (A) Height repartition (volumes) of particles synthesized under MW irradiations obtained from AFM pictures. (B) AFM picture of Ge-imogolite grown under MW irradiation, 150°C, 2hrs. (C) Particles highest than 2.5nm (tubes) are highlighted in red.