

Long-chain amine-templated synthesis of 1D and 2D materials

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Wet chemistry is a versatile approach to produce a plethora of nanostructured materials, such as metal oxides and hydroxides, metal nanoparticles, metal chalcogenides, and others.

Due to their amphiphilic properties, long-chain amines can be effectively used to direct the growth of novel nanomaterials in the form of nanotubes and platelets. In this talk, the synthesis and properties of 1-dimensional gallium sulfide and gallium selenide nanotubes and their preliminary application as energy storage materials will be presented. Moreover, the ability of long-chain amines to assemble rhenium selenide clusters in alternate layers of clusters/amines to form 2-dimensional platelets will be also discussed.