

Acid medium sonication: a method for the preparation of low density talc nano-sheets

Abstract

Talc nano-sheets having a thickness of around 12nm, a high shape asymmetry, and a well-preserved crystalline order were prepared by jet milling followed by an acid medium sonication process. Milling facilitates the exfoliation of the (001) basal plane while the acid medium sonication removes the Mg^{2+} ions and delaminates the silicate layers in a nanometer range to produce nano-sheets.

Keywords — Nano-sheets, sonication, talc.