

Surfactant dependent growth of twinned ZnO nanodisks

Abstract

Regular hexagonal twinned ZnO nanodisks were successfully prepared from nanodisks using a controlled hydrothermal method with the assistance of double surfactants. The products were characterized using X-ray powder diffraction. The morphologies of ZnO nanostructures were characterized in detail using field-emission scanning electron microscopy and high-resolution transmission electron microscopy. Based on the experimental results, a growth mechanism for hexagonal structure was proposed.

Keywords; Crystal growth, Crystal structural, ZnO twinned nanodisk