Synthesis of Various Morphologies of ZnO Nanostuctures using Hydrothermal Process

장진희, 박재형, 오성근*
한양대학교
(seongoh@hanyang.ac.kr*)

Single-crystalline zinc oxide nanostructures with different morphologies were synthesized by a simple hydrothermal process. In this approach, the ZnO nanostructures with high crystalline quality, such as nanorods, nanowires, nanobebts and nanospheres, were successfully prepared by the control of nucleation and crystal growth steps. The key factors are use of polymers and surfactants as a capping agent, the kind of hydroxide-generating agents and reaction temperatures in the reaction. Scanning Electron Microscope (SEM), Transmission Electron Microscopy (TEM), X-Ray Diffraction (XRD) were used to characterize the morphologies and crystallinities of the structures.