

Fabrication of One Dimensional ZnO Nanorods by Wet Chemical Solution Process

이은원, 김진석¹, 김진환, 한윤봉*
전북대학교; ¹전북대학교 반도체 화학공학
(ybhahn@chonbuk.ac.kr*)

In recent years, ZnO-based nanostructures such as nanowires (NWs), nanoneedles, nanotubes and nanorods, have attracted much interest because of their use as building blocks for future optical, electrical, or optoelectronic devices. In this regards, we have grown various morphologies of ZnO nanorods by simple solution process at low-temperature using zinc nitrate hexahydrate and hexamethylenetetramine. We have fabricated various morphologies of ZnO nanorods aligned vertically and horizontally on patterned substrates. To control the various morphologies of ZnO nanorods, diverse substrates such as flexible substrates, patterned substrates, and nano-imprinted substrates were used. These experimental results demonstrated that by controlling the morphologies of ZnO nanorods put a further step to use as-grown ZnO nanorods for various highly efficient ZnO-based nanodevices.