

Self-catalytic synthesis and characterization of SnO₂ hierarchical nanostructures

라현욱, 조송이, 최광성, 임연호*

전북대학교

(yeonhoim@chonbuk.ac.kr*)

Recently, SnO₂ nanostructures, an n-type semiconductor with a wide band gap (3.6 eV, at 300K), are the promising materials due to characteristics of these feature parameters in various applications. In particular, SnO₂ hierarchical nanostructures have attracted much interest because of the high surface-to-volume ratio in the fields of devices and sensors. Therefore, the fabrication of these nanostructures is received a great deal of attention in terms of controlling the sizes, shapes, crystal structures, and surface structures. In this work, we have successfully synthesized SnO₂ hierarchical nanostructures using thermal evaporation method. In addition, structural and compositional characteristics of the synthesized nanostructures were studied. The knowledge obtained will be useful to the promising applications such as three-dimensional optoelectronic devices and chemical sensors.