

Flame Synthesis of Nanostructured TiO₂ Thin Films with Controlled Morphology

Ding Jinrui, 김교선*
강원대학교 화학공학과
(kkyoseon@kangwon.ac.kr*)

Nanostructured TiO₂ thin films have great potential in solar energy applications, such as photo-splitting of water and dye sensitized solar cells. The morphology of TiO₂ thin film has been identified as an important, efficiency-limiting aspect in establishing the overall effectiveness. In this study, we prepared one crystal-phase nanostructured TiO₂ thin films with well-controlled morphologies coating on glass substrate by the aerosol flame deposition process. The effects of the various process parameters, such as precursor feed rate, deposition height, substrate temperature and deposition time on resultant morphology and thickness of TiO₂ thin films were investigated, respectively.