

Facile Synthesis of TiO₂ Porous/Hollow Nanostructures through Solvothermal Process

Nguyen The Dung, 류필조¹, 김교선*

강원대학교 화학공학과; ¹세명대학교 바이오환경공학과

(kkyoseon@kangwon.ac.kr*)

In this work, we report a simple one-pot approach to prepare TiO₂ porous/hollow nanostructures without template. We demonstrated the development of hollow structure of magnetite spheres by characterizing systematically the changes of morphology and crystal structure for different processing times. A detailed process mechanism to form the porous/hollow structure was proposed, combining the formation of numerous tiny grains, the spherical assembly of those grains and the chemical conversion simultaneously coupled with the Ostwald ripening process within spherical assembly.