

Preparation of Silver Particle Core Mesoporous Silica Shell Nanocomposite Particles

강민석, 김성수, 임선주, 박은주, 김지만*
성균관대학교
(jimankim@skku.edu*)

Silver have been received much attention in various industrial fields like clothing, food storage containers, face masks and laundry detergents due to their antibacterial properties. Especially, nano-sized silver particles increase their antibacterial properties because of having a large surface area relative to their volume. Moreover, nano-sized silver particles are of particular interest due to their unusual optical properties that are dependent on size and shape. In the present work, we try to prepare silver nanoparticle core mesoporous silica shell which has mesoporosity and high surface area. Mesopororous silica shell enhances the stability of silver nanoparticles and expanding surface functionality. Using various analytic instruments such as XRD, UV-Vis spectra, SEM, TEM and nitrogen sorption, we confirmed the characterization of silver particle core mesoporous silica shell nanocomposite particles.