

Palladium Nanoparticle loaded on electrospun particles containing Nickel for its application in recycleable catalysts

지유진, 윤국로*
한남대학교
(kryoon@hnu.kr*)

We successfully fabricated palladium-based recycleable catalysts via direct reduction of palladium nanoparticles onto nickel phosphorus-PS(polystyrene) electrospayed particles[1]. The magnetic Nickel nanoparticles were encapsulated by PS and showed good magnetic responds. Palladium NP(nanoparticles) were directly reduced onto the Nickel phosphorus-PS composite via PS oxidation in chromic acid followed by Sn²⁺ coupling reduction[2]. The product was characterized via scanning electron microscope (SEM), energy dispersive x-ray spectroscopy(EDX), transmission electron microscope (TEM), Thermogravimetric Analysis(TGA), X-ray Diffraction Extensible Resource Descriptor(XRD) and Fourier transform infrared spectroscopy(FT-IR). This system, although simple in design, show that it was effective as a catalyst and also showed that it could easily be seperated via an application of magnetic filed.