

A green sonochemical synthesis of PdO@silica heterogeneous catalyst for the decarbonylation of aldehydes

Muhammad Asif Hussain¹, 석승환^{2,3}, 김도현², 최봉길¹,
김정원^{1,*}

¹강원대학교; ²강원대학교 공정해석연구실;

³강원대학교 생명화학공학과

(jwemye@kangwon.ac.kr[†])

PdO nanoparticles have been grown on the silica nanoparticles (SNP) using a green sonochemical method to produced PdO@SNP nanocatalyst. The large surface area of SNP allowed the fine dispersion of PdO without agglomeration. As prepared PdO@SNP was successfully applied for the decarbonylation of alcohol and various aldehydes in the absence of any co-catalyst at moderate temperature. PdO@SNP gave products with high yields and selectivities without leaching which shows that catalyst is totally heterogeneous and can be applied for several turns.