

Biologically Synthesized Palladium Nanoparticles Impregnated Porous Aluminium Catalyst in CO₂ Detection

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Abstract : Biologically synthesized colloidal Pd nanoparticles were impregnated on porous aluminium. In this paper, the obtained Pd/Al₂O₃ catalysts were characterized by XRD, SEM, and TEM. The effects of deposited films on the performances of Pd/Al₂O₃ in adsorption, reduction, and catalytic reaction of CO₂ were investigated. The results showed that the deposited films can remarkably improve the dispersion of active components and enhance the reactivity of Pd/Al₂O₃ catalyst. The catalytic performance of Pd/Al₂O₃ in term of surface reaction is also enhanced in terms of sensitivity (SF = 850) obtained through conventional CBD method.

Keywords : palladium nanoparticles, Pd/Al₂O₃, carbon dioxide, aluminium catalyst

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