

ẢNH HƯỞNG SỰ PHA TẠP SI ĐẾN ĐẶC TRƯNG CẤU TRÚC VÀ HOẠT TÍNH QUANG XÚC TÁC PHÂN HỦY RHODAMINE B CỦA HẠT NANO TiO₂

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TÓM TẮT:

Si-doped TiO₂ nanoparticles were prepared by a hydrothermal method using acetic acid as the solvent. Effect of Si doping on the characterization of TiO₂ nanoparticles were studied with X-ray powder diffraction (XRD), transmission electron microscope (TEM), energy dispersive X-ray spectroscopy (EDX), fourier transform infrared spectra (FT-IR) and UV-visible diffuse reflection spectrum (DRS). In addition, the effect of Si doping on the photocatalytic activity of TiO₂ nanoparticles for the degradation of Rhodamine B as a model pollutant under ultraviolet light irradiation were studied. So doping suitable amount of Si in TiO₂ nanoparticles was profitable for transferring photogenerated electrons and inhibiting the recombination of photogenerated electrons and holes. As a result, the photocatalytic activity of TiO₂ nanoparticles was improved.