

Brief communication

Photoinduced growth of Cu nanoparticles on ZnO from CuCl₂ in methanol

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Abstract

Cu nanoparticles were formed on surface of nano-ZnO by UV light induced photoreduction of CuCl₂ in methanol solution suspended with ZnO nanoparticles. By controlling the reaction conditions, the average size of the produced copper nanocrystal can be fine-tuned in the range of 10–200 nm. At constant UV irradiation, the Cu nanocrystals gradually grew up as the initial concentration of copper cation was increased, showing that the *in situ* formed Cu nanoparticles act as a bridge to facilitate the transferring of photoexcited electrons from ZnO surface to Cu²⁺ in solution. A Redox property was also proved for the Cu nanoparticles.