

عنوان مقاله:

Green synthesis and characterization of copper nanoparticles on the CuS/MCM-41

محل انتشار:

دومین کنفرانس ملی ژئولیت ایران (سال: 1394)

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خلاصه مقاله:

The present study reports the plant mediated synthesis of copper nanoparticles (Cu NPs) on MCM-41 and CuS-MCM-41 mesoporous material. The CuS-MCM-41 sample was synthesized by solvothermal method in ethylene glycol phase. The Cu/MCM-41 and Cu/CuS-MCM-41 nanocomposites were prepared by reduction of Cu²⁺ ions using the plant leaf extract of Bourrache. Nanocomposites were characterized by UV-Vis spectroscopy, X-ray diffraction (XRD), Fourier transfer infrared (FTIR), and Transmission electron microscopy (TEM). The X-ray results showed the presences of pure covellite phase of copper sulfide with high crystallinity in MCM-41. The DRS result confirmed the presence of surface plasmon resonance (SPR) of Cu NPs in the MCM-41 and CuS-MCM-41. The Cu/CuS-MCM-41 nanocomposite will use for degradation of methylene blue (MB) under visible light

کلمات کلیدی:

Copper nanoparticles ; Surface Plasmon resonance ; Bourache plant ; Solvothermal

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