

عنوان مقاله:

Comparative study on ZnO@PANI/Nc and CoHCF@PANI/Nc for removal Pb²⁺ and Cd²⁺ for treatment of industrial wastewater from environment

محل انتشار:

پانزدهمین کنگره ملی مهندسی شیمی ایران (سال: 1393)

تعداد صفحات اصل مقاله: 4

نویسندگان:

Mohammad Ali Moosavian - Authors' Addresses: Department of Chemical Engineering, Faculty of Engineering, University of Tehran, P.O. BOX 11365-4563, Tehran, Iran

Nima Moazezi - Authors' Addresses: Department of Chemical Engineering, Faculty of Engineering, University of Tehran, P.O. BOX 11365-4563, Tehran, Iran

خلاصه مقاله:

Polyaniline (PANI) adsorbents functionalized with zinc oxide nanoparticles (ZnO-NPs) and Cobalt Hexacyanoferrate (CoHCF) were prepared by chemical precipitation method and their applications for adsorption of Cd(II) and Pb(II) from aqueous solutions were investigated. The adsorbents were characterized by FTIR analysis. FTIR analyses of adsorbents indicated that the ZnO and CoHCF groups have been introduced successfully into the PANI. The adsorption percentage of Cd²⁺ and Pb²⁺ onto CoHCF@PANI/Nc is higher than ZnO@PANI/Nc and bare PANI. Increasing concentration of CoHCF and ZnO in PANI has increased metal ions adsorption to more than 56 and 34%, respectively. The formation particles in nanoscale of CoHCF@PANI/Nc (the best adsorbent), Confirm by the TEM image with average size of 30 nm.

کلمات کلیدی:

Polyaniline, ZnO, Cobalt Hexacyanoferrate, Nanocomposite, Adsorption

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