عنوان مقاله:

Photocatalytic Elimination of Antibiotic Ofloxacin over Plasmonic AgBr Anchored with Co-Cr Layered Double Hydroxide as Solar-Light-Driven Nanophotocatalyst

محل انتشار:

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خلاصه مقاله:

Currently, antibiotics, as non-biodegradable and emerging contaminants, are recognized as one of the most important environmental challenges1. Photocatalysis process is an effective method for the degradation of resistant contaminants2 due to the low-cost and eco-friendly3. In this study, the elimination of the antibiotic ofloxacin was investigated using the novel plasmonic AgBr anchored with Co-Cr layered double hydroxide (denoted as: AgBr-CoCrLDH-P) nanophotocatalyst with 3:1 weighted ratio under simulated sunlight, and to further evaluate, pure AgBr-P and CoCrLDH samples were synthesized and employed in the ofloxacin degradation. For 25 mg/L ofloxacin solution, the photocatalytic efficiency of CoCrLDH, AgBr-P and AgBr-CoCrLDH-P after 120 min irradiation was found 11.4%, 65% and 83.6%, respectively (Fig. 1). XRD and FESEM analysis were used to characterize the photocatalysts. According to the results, the AgBr-CoCrLDH-P nanocomposite exhibited significantly enhanced photocatalytic performance due to a large specific area, low band gap and good charge separation

کلمات کلیدی:

Plasmonic AgBr Anchored with Co-Cr Layered Double Hydroxide, Antibiotic Ofloxacin, Solar-Light-Driven Nanophotocatalyst.