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عنوان مقاله:

Synthesis, Characterization and Application of GO/LDH in the Wastewater Treatment

محل انتشار:

نهمین سمینار ملی شیمی و محیط زیست ایران (سال: 1398)

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خلاصه مقاله:

In this study, graphene oxide-Layered Double Hydroxide nanocomposite (GO-LDH) as adsorbent were synthesized by a hydrothermal method and was applied to removal the 4-Nitrophenol from the aqueous wastewater under different conditions of main influential parameters, (i.e. adsorbent dose, initial nitrophenol concentration, sonication time, and temperature). The phase, morphology, composition and thermal properties of the obtained nanocomposite were determined by XRD, EDX, SEM, IR and TGA. In this research, a general regression neural network (GRNN) and an adaptive neuro-fuzzy inference system (ANFIS) have been employed to the prediction of removal of 4-Nitrophenol from aqueous solution. The result reveals that GRNN and ANFIS models as a promising predicting technique would be effectively used for adsorption process. Furthermore, the detailed kinetic, isotherm, thermodynamic, reusability cycles and optimization (by GA and DF) studies were conducted to evaluate the behavior and adsorption mechanism .of nitrophenol on the surface of GO-LDH nanocomposite

کلمات کلیدی:

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