

## عنوان مقاله:

Application of graphene oxide- magnetic nanoparticle for solid phase extraction of trace amounts of cadmium ions in environmental samples

## محل انتشار:

مجله شیمی فیزیکی و الکتروشیمی، دوره 4، شماره 2 (سال: 1395)

تعداد صفحات اصل مقاله: 12

## نویسندگان:

Hanieh Etezadi - *Department of Chemistry, Marvdasht branch, Islamic Azad University, Marvdasht, Iran*

Leila Baramakeh - *Department of Chemistry, Marvdasht branch, Islamic Azad University, Marvdasht, Iran*

## خلاصه مقاله:

Abstract In this work, Fe<sup>3</sup>O<sub>4</sub>-graphene oxide nanocomposite (GO-Fe<sup>3</sup>O<sub>4</sub>) was prepared as effective absorbent for magnetic solid phase extraction (MSPE) of trace quantities of cadmium ions in environmental water and rice samples using 1, 2-dihydroxy anthraquinone-3-sulphonic acid, sodium salt (Alizarin red S) and flame atomic absorption spectrometry (FAAS). The GO-Fe<sup>3</sup>O<sub>4</sub> was characterized by scanning electron microscopy (SEM) and X-ray powder diffraction (XRD). Various parameters affecting GO-Fe<sup>3</sup>O<sub>4</sub> MSPE of cadmium have been investigated. Under the optimized experimental conditions, the limit of detection (LOD) for Cd<sup>2+</sup> in the range of 1-50 ngL<sup>-1</sup> were 0.21 and the relative standard deviation (RSDs, c=50 ngL<sup>-1</sup>, n=7) were 3.2 %. The developed GO-Fe<sup>3</sup>O<sub>4</sub> MSPE-FAAS method has the advantages of rapidity, simplicity, good sensitivity, and it is suitable for the analysis of trace cadmium in samples .with complex matrix

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1907672>

