عنوان مقاله:

Magnetic nanoparticle based solid phase microextraction of venlafaxine using gas chromatography – flame ionization (detector (GC-FID

محل انتشار:

دومین همایش ملی نفت ،گاز و پتروشیمی (سال: 1391)

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خلاصه مقاله:

In this paper, a fast, rapid, inexpensive, and sensitive analytical method based on nano magnetic solid phase microextraction coupled to gas chromatography–flame ionization detector (GC–FID) was developed for determination of the venlafaxine in water samples. The feasibility of employing non modified magnetic nanoparticles (MNPs), as sorbent was examined and applied to perform the extraction process. Influential parameters affecting the extraction efficiency Including pH, amount of MNPs, shaking time, and desorption condition were investigated and optimized. Under the optimized experimental conditions, a good linearity was observed in the range of 1–500 µg L–1 for the analyte, with the correlation coefficients (R2) was 0.992. The preconcentration factor of 1597 was achieved in this method. The limits of detection of the method ranged between 0.1 and 0.6 µg L–1 bases S/N=3 and Good reproducibility with the relative standard deviations (n = 5) 4.27 % were obtained. This method can be applied for environmental pollution control organizations to qualitative and quantitative analysis of environmental water samples.

کلمات کلیدی:

venlafaxin, magnetic nanoparticles, MNPs, GC-FID, antidepressants

لینک ثابت مقاله در پایگاه سیویلیکا: