

عنوان مقاله:

Spectrofluorometric determination of L-tryptophan after preconcentration using multi-walled carbon nanotubes

محل انتشار:

فصلنامه روش های تجزیه در شیمی محیط زیست, دوره 2, شماره 1 (سال: 1398)

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خلاصه مقاله:

A solid-phase extraction method based on multi-walled carbon nanotubes (MWCNTs) was applied for the preconcentration of L-tryptophan (α -amino acid) prior to its spectrofluorometric determination. Due to the high surface area of MWCNTs, satisfactory concentration factor and extraction recovery can be achieved with only 10 mg MWCNTs in 5 min. The effects of pH, sorbent amount, eluent type and time on the recovery of the analyte were investigated. Under the optimum conditions, the detection limit for L-tryptophan was 8.9 ng mL⁻¹. The precision of the method, evaluated as the relative standard deviation obtained by analyzing of 10 replicates, was 2.6%. The practical applicability of the developed method was examined using wheat and barley samples

کلمات کلیدی:

„L-tryptophan,„solid-phase extraction,„multi-walled carbon nanotubes,Bioanalysis,spectrofluorometry

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