

عنوان مقاله:

Extraction and determination of biphenyl and biphenyl oxide in water samples by using homogeneous liquid-liquid microextraction via flotation assistance-high performance liquid chromatography

محل انتشار:

دومین همایش ملی پژوهش های کاربردی در علوم شیمی، زیست شناسی و زمین شناسی (سال: 1393)

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خلاصه مقاله:

A new method was developed for simultaneous determination of biphenyl and biphenyl oxide in water samples with homogeneous liquid-liquid microextraction via flotation assistance and high performance liquid chromatography. In this research, a special extraction cell was designed to facilitate collection of the low-density solvent extraction. No centrifugation was required in this procedure. The sample solution was added into the extraction cell, which contained appropriate mixture of n-heptane (as extraction solvent) and acetone (as homogeneous solvent). Using air flotation, extraction solvent was collected from the top of the solution. Under the optimum conditions, good linearity was observed in a range of 0.5-100 and 10.0-100 $\mu\text{g L}^{-1}$ for biphenyl oxide and biphenyl, respectively. The limits of detection (LODs) were 0.07 and 5.0 $\mu\text{g L}^{-1}$ for biphenyl oxide and biphenyl, respectively ($S/\sigma = 3$). The developed method was successfully applied to determine the analytes in different water samples.

کلمات کلیدی:

Homogeneous liquid-liquid microextraction, Flotation assistance, Biphenyl, Biphenyl oxide, water samples

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