

## عنوان مقاله:

Determination of diclofenac in real samples by a new two liquid-phase microextraction method considering green chemistry aspects

## محل انتشار:

ششمین کنگره ملی تحقیقات راهبردی در شیمی و مهندسی شیمی با تاکید بر فناوری های بومی ایران (سال: 1398)

تعداد صفحات اصل مقاله: 6

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## خلاصه مقاله:

In the present research, a new, speed, inexpensive and very simple preconcentration and sample preparation method based on two liquid-phase microextraction was used for the extraction of trace amounts of diclofenac in real water samples prior to UV-Vis spectrophotometer. The parameters influencing the extraction efficiencies including the kind of extracting solvent, microextraction time, the volume of the aqueous sample solution (donor phase), the volume of extraction solvent (acceptor phase), the stirring speed, the effects of pH and salt were optimized. Under the optimal conditions, the obtained enrichment factor is above 48. By plotting absorbance of the standard solutions versus various concentrations of the analyte, calibration curve is obtained which show that the linear ranges of 0.003 -1.5  $\mu\text{g mL}^{-1}$  with correlation coefficient ( $r$ ) of 0.9980 for diclofenac. The precision of the method was calculated as relative standard deviation (RSD %,  $n=5$ ) in three different concentrations and were 5.6. The limit of detection (LOD) and also, the the limit of quantitation (LOQ) were calculated theoretically and the obtained values were 0.0009 and 0.003, respectively. Finally, the proposed microextraction method was used for the extraction of the analyte from .environmental water samples and the calculated relative recoveries were all above than % 89

## کلمات کلیدی:

.Two liquid phase microextraction, Diclofenac, Green chemistry, UV-Vis spectrophotometry, water analysis

## لینک ثابت مقاله در پایگاه سیویلیکا:

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