

Author's Accepted Manuscript

Novel metal ion-mediated complex imprinted membrane for selective recognition and direct determination of naproxen in pharmaceuticals by solid surface fluorescence

Haixian Lian, Yuling Hu, Gongke Li



www.elsevier.com/locate/talanta

PII: S0039-9140(13)00595-X
DOI: <http://dx.doi.org/10.1016/j.talanta.2013.07.022>
Reference: TAL14040

To appear in: *Talanta*

Received date: 16 May 2013
Revised date: 3 July 2013
Accepted date: 9 July 2013

Cite this article as: Haixian Lian, Yuling Hu, Gongke Li, Novel metal ion-mediated complex imprinted membrane for selective recognition and direct determination of naproxen in pharmaceuticals by solid surface fluorescence, *Talanta*, <http://dx.doi.org/10.1016/j.talanta.2013.07.022>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Novel metal ion-mediated complex imprinted membrane for selective recognition and direct determination of naproxen in pharmaceuticals by solid surface fluorescence

Haixian Lian, Yuling Hu*, Gongke Li*

*School of Chemistry and Chemical Engineering, Sun Yat-sen University, Guangzhou, 510275,**China*

*Corresponding author: G.K. Li, Y.L.Hu

Tel.: +86-20-84110922

Fax: +86-20-84115107

E. mail: cesgkl@mail.sysu.edu.cn.

ceshyl@mail.sysu.edu.cn

Abstract

A novel metal ion-mediated complex imprinted membrane (CIM) was prepared by immobilization of complex imprinted polymer (CIP) onto a polypropylene membrane. CIP was introduced as a novel imprinted material using a “complex template” constructed with Cu (II) ion and naproxen that could improve the selective recognition and enrichment properties of the membrane in water medium based on the coordination interaction rather than hydrogen bonding interactions, which could make CIP to be a promising material to mimic biological recognition process. A simple, sensitive and selective solid surface fluorescence method was proposed for the determination of naproxen in pharmaceuticals sample, using the CIM as the recognition material. Under the optimum conditions, the CIM exhibited large adsorption capacity and high selectivity to naproxen. A good linearity was obtained in the range of 0.50-20 mg/L with an estimated detection limit of 0.11 mg/L. Finally, the proposed method

Download English Version:

<https://daneshyari.com/en/article/7682735>

Download Persian Version:

<https://daneshyari.com/article/7682735>

[Daneshyari.com](https://daneshyari.com)