

Accepted Manuscript

Title: Surface molecularly imprinted amino-functionalized alginate microspheres for enantio-selective extraction of L-ascorbic acid

Authors: M. Monier, Amira L. Shafik, D.A. Abdel-Latif



PII: S0144-8617(18)30500-9
DOI: <https://doi.org/10.1016/j.carbpol.2018.04.106>
Reference: CARP 13560

To appear in:

Received date: 14-2-2018
Revised date: 25-4-2018
Accepted date: 26-4-2018

Please cite this article as: Monier, M., Shafik, Amira L., & Abdel-Latif, D.A., Surface molecularly imprinted amino-functionalized alginate microspheres for enantio-selective extraction of L-ascorbic acid. *Carbohydrate Polymers* <https://doi.org/10.1016/j.carbpol.2018.04.106>

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 proof before it is published in its final 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.

Surface molecularly imprinted amino-functionalized alginate microspheres for enantio-selective extraction of L-ascorbic acid

M. Monier^{*a,b}, Amira L. Shafik^b, D.A. Abdel-Latif^{a,b}

^aChemistry Department, Faculty of Science, Taibah University, Yanbu Branch, Saudi Arabia

^bChemistry Department, Faculty of Science, Mansoura University, Mansoura, Egypt

* Corresponding author. Chemistry Department, Faculty of Science
Taibah University, Yanbu El-Bahr, KSA.

Tel.: 00966532492041.

E-mail address: monierchem@yahoo.com (M.Monier).

Highlights

- Sodium alginate microspheres were strengthened by ECH covalent cross-linking.
- The cross-linked microsphere particles were amino-functionalized through grafting of PAm followed by Hofmann degradation.
- Surface molecular imprinting was carried out by adsorption of L-ascorbic acid enantiomer followed by glyoxal cross-linking.
- The prepared adsorbent particles were investigated using elemental analysis, FTIR, XRD, TGA and SEM.
- The particles were successfully employed for enantio-selective extraction of L-ascorbic acid and chiral resolution of d/l-ascorbic acid racemate.

Abstract

A surface molecular imprinting technique was utilized in the fabrication of an enantio-selective adsorbent based on amino-functionalized alginate microspheres

Download English Version:

<https://daneshyari.com/en/article/7782437>

Download Persian Version:

<https://daneshyari.com/article/7782437>

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