

Author's Accepted Manuscript

Property evaluations and application for separation of small molecules of a nanodiamond-polymer composite monolithic column

Fengqing Wang, Aile Wei, Xixi Wang, Haiyan Liu, Hongyuan Yan



www.elsevier.com/locate/talanta

PII: S0039-9140(16)30192-8
DOI: <http://dx.doi.org/10.1016/j.talanta.2016.03.069>
Reference: TAL16450

To appear in: *Talanta*

Received date: 7 January 2016
Revised date: 16 March 2016
Accepted date: 19 March 2016

Cite this article as: Fengqing Wang, Aile Wei, Xixi Wang, Haiyan Liu and Hongyuan Yan, Property evaluations and application for separation of small molecules of a nanodiamond-polymer composite monolithic column, *Talanta*, <http://dx.doi.org/10.1016/j.talanta.2016.03.069>

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 a 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.

Property evaluations and application for separation of small molecules of a nanodiamond-polymer composite monolithic column

Fengqing Wang^{1,2}, Aile Wei^{1,2}, Xixi Wang^{1,2}, Haiyan Liu^{1,2*}, and Hongyuan Yan^{1,2*}

¹ College of Pharmacy, Hebei University, Baoding, 071002, P. R. China.

² Hebei Province Key Laboratory of Pharmaceutical Quality Control; Key Laboratory of Medicinal Chemistry and Molecular Diagnosis, Ministry of Education, Hebei University, Baoding, 071002, P. R. China.

lhy1610@126.com

yanhongyuan@126.com

* Corresponding author: TAL.: +86 136 632 40075.

Abstract

A nanodiamond-polymer composite monolithic column was first prepared successfully with modified nanodiamond (ND) as monomer, ethylene glycol dimethacrylate (EDMA) as cross-linker, 1-dodecanol as porogenic agent and benzoyl peroxide/dimethylacetamide (BPO/DMA) as initiator at 35°C for 2.5 h. There was a sharp increase of specific surface area with ND added about 22 times from 0 mg (3.90 m²/g) to 7 mg (81.2 m²/g) determined with BET. Characterizations including scanning electron microscopy (SEM), fourier-transform infrared spectra (FIRT) and mercury intrusion porosimetry (MIP) were used to determine the microstructure, group

Download English Version:

<https://daneshyari.com/en/article/7678032>

Download Persian Version:

<https://daneshyari.com/article/7678032>

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