Author's Accepted Manuscript

www.elsevier.com/locate/talanta

Efficient preparation of surface imprinted magnetic nanoparticles using poly (2-anilinoethanol) as imprinting coating for the selective recognition of glycoprotein

Daojin Li, Tianyong Tu, Mengke Yang, Chen Xu

PII: S0039-9140(18)30249-2
DOI: https://doi.org/10.1016/j.talanta.2018.03.012
Reference: TAL18446

To appear in: *Talanta*

Received date: 19 November 2017
Revised date: 28 February 2018
Accepted date: 7 March 2018

Cite this article as: Daojin Li, Tianyong Tu, Mengke Yang and Chen Xu, Efficient preparation of surface imprinted magnetic nanoparticles using poly (2-anilinoethanol) as imprinting coating for the selective recognition of glycoprotein, *Talanta,* https://doi.org/10.1016/j.talanta.2018.03.012

Efficient preparation of surface imprinted magnetic nanoparticles using poly (2-anilinoethanol) as imprinting coating for the selective recognition of glycoprotein

Daojin Li[a,*], Tianyong Tu[a], Mengke Yang[a], Chen Xu[b]

[a]College of Chemistry and Chemical Engineering, and Henan Key Laboratory of Fuction-Oriented Porous Materials, Luoyang Normal University, Luoyang 471934, P. R. China

[b]College of Food Science, Luoyang Normal University, Luoyang 471934, P. R. China.

*Corresponding author. E-mail: lidaojin7910@126.com.

Abstract

In view of the significance of glycoprotein biomarkers for early clinical diagnostics and treatments of diseases, it is essential to develop efficient and selective enrichment approaches for glycoproteins. Molecularly imprinted polymers (MIPs) have found important applications for separation and enrichment of glycoproteins. In this study, we use boronate affinity-based controllable oriented surface imprinting to prepare glycoprotein-imprinted magnetic nanoparticles. A glycoprotein was first immobilized onto the surface of boronic acid functionalized magnetic nanoparticles by boronate affinity. Subsequently, self-polymerization of 2-anilinoethanol was carried out to form thin imprinting coating on the magnetic nanoparticles surface with appropriate