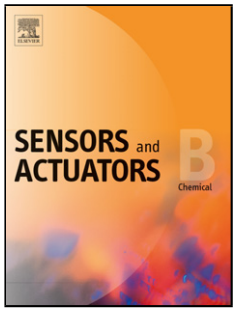

Title: A Magnetic Separation Fluorescent Aptasensor for Highly Sensitive Detection of Bisphenol A

Authors: Meng-Ke Li, Liu-Yin Hu, Cheng-Gang Niu, Da-Wei Huang, Guang-Ming Zeng

PII: S0925-4005(18)30661-0
DOI: https://doi.org/10.1016/j.snb.2018.03.163
Reference: SNB 24448

To appear in: *Sensors and Actuators B*

Received date: 13-7-2017
Revised date: 26-3-2018
Accepted date: 27-3-2018

Please cite this article as: Meng-Ke Li, Liu-Yin Hu, Cheng-Gang Niu, Da-Wei Huang, Guang-Ming Zeng, A Magnetic Separation Fluorescent Aptasensor for Highly Sensitive Detection of Bisphenol A, Sensors and Actuators B: Chemical https://doi.org/10.1016/j.snb.2018.03.163

A Magnetic Separation Fluorescent Aptasensor for Highly Sensitive Detection of Bisphenol A

Meng-Ke Li, [a] Liu-Yin Hu, [a] Cheng-Gang Niu,[a]* Da-Wei Huang,[b]* Guang-Ming Zeng[a]

[a] College of Environmental Science Engineering, Key Laboratory of Environmental Biology Pollution Control, Ministry of Education, Hunan University, Changsha 410082, China

[b] South China Institute of Environmental Sciences, Ministry of Environmental Protection of PRC, Guangzhou 510655, China

***Corresponding Author**

Cheng-Gang Niu, E-mail: cgniu@hnu.edu.cn; cgniu@hotmail.com; Tel: +86-731-88823820;

Da-Wei Huang, E-mail: huangdawei@scies.org

Highlights:

1. The fluorescent approach that involves in the magnetic nanometer materials have been used for the detection of BPA.
2. Aptamer-based strategies have been used to efficiently provide a simplicity and rapidly aptasensor of BPA.
3. The aptasensor exhibits a liner range from 0 to 8.00 ng mL^{-1} for BPA and a relatively low detection limit of 0.047 ng mL^{-1} was obtained.

Abstract

Bisphenol A (BPA) is an environmental endocrine hormone that is commonly considered to cause endocrine disorders and even life-threatening. Herein, a magnetic separation fluorescent aptasensor for highly sensitive detection of BPA is proposed based on AHN-labeled aptamer and magnetic nanoparticles. The BPA aptamer can