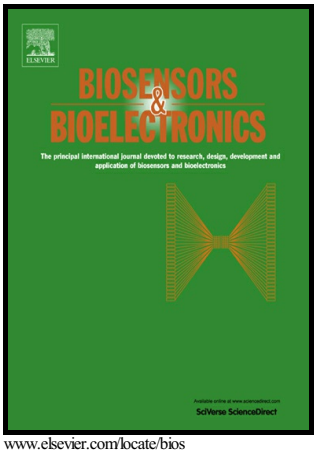
Author's Accepted Manuscript



www.elsevier.com/locate/bios

An ultrasensitive biosensor for superoxide anion based on hollow porous PtAg nanospheres

Hongxiao Yang, Jiagang Hou, Zhaohui Wang, Tingting Zhang, Caixia Xu

PII: S0956-5663(18)30467-6
DOI: https://doi.org/10.1016/j.bios.2018.06.034
Reference: BIOS10554

To appear in: *Biosensors and Bioelectronic*

Received date: 23 April 2018
Revised date: 19 June 2018
Accepted date: 19 June 2018

Cite this article as: Hongxiao Yang, Jiagang Hou, Zhaohui Wang, Tingting Zhang and Caixia Xu, An ultrasensitive biosensor for superoxide anion based on hollow porous PtAg nanospheres, *Biosensors and Bioelectronic,* https://doi.org/10.1016/j.bios.2018.06.034

An ultrasensitive biosensor for superoxide anion based on hollow porous PtAg nanospheres

Hongxiao Yang,[a] Jiagang Hou,[b] Zhaohui Wang,[a] Tingting Zhang,[a] and Caixia Xu[a*]

[a] *Institute for Advanced Interdisciplinary Research, School of Chemistry and Chemical Engineering, Jinan 250022, Shandong Province, China*

[b] *Qilu University of Technology (Shandong Academy of Sciences), Jinan 250353, Shandong Province, China*

Fax: +86-531-82767046; Tel: +86-531-82767046

*Email: chm_xucx@ujn.edu.cn (C. Xu)

ABSTRACT

The accurate detection of the superoxide anion ($O_2^{\bullet-}$) has vital academic and medical diagnostic significance due to its important dual roles in biological functioning. In this work, hollow porous PtAg nanospheres (PtAg HPNSs) were fabricated by a facile hydrothermal method followed by a dealloying procedure. The as-made PtAg nanospheres possessed hollow interiors and porous shells composed of interconnected ligaments and pores with the typical size around 4 nm. Benefitting from the unique hollow nanoporous architecture and the specific alloying effect, the PtAg HPNSs showed