Author's Accepted Manuscript

A Novel Biosensor Based on Boronic Acid Functionalized Metal-Organic Frameworks for the Determination of Hydrogen Peroxide Released from Living Cells

Hongxia Dai, Wenjuan Lü, Xianwei Zuo, Qian Zhu, Congjie Pan, Xiaoying Niu, Juanjuan Liu, HongLi Chen, Xingguo Chen



www.elsevier.com/locate/bios

PII: S0956-5663(17)30269-5

DOI: http://dx.doi.org/10.1016/j.bios.2017.04.021

Reference: BIOS9682

To appear in: Biosensors and Bioelectronic

Received date: 12 January 2017 Revised date: 23 March 2017 Accepted date: 17 April 2017

Cite this article as: Hongxia Dai, Wenjuan Lü, Xianwei Zuo, Qian Zhu, Congjia Pan, Xiaoying Niu, Juanjuan Liu, HongLi Chen and Xingguo Chen, A Nove Biosensor Based on Boronic Acid Functionalized Metal-Organic Frameworks fo the Determination of Hydrogen Peroxide Released from Living Cells, *Biosensor and Bioelectronic*, http://dx.doi.org/10.1016/j.bios.2017.04.021

This is a PDF file of an unedited manuscript that has been accepted fo publication. As a service to our customers we are providing this early version o the manuscript. The manuscript will undergo copyediting, typesetting, and 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

ACCEPTED MANUSCRIPT

A Novel Biosensor Based on Boronic Acid Functionalized

Metal-Organic Frameworks for the Determination of Hydrogen

Peroxide Released from Living Cells

Hongxia Dai, †,‡, Wenjuan Lü, †,‡ Xianwei Zuo, †,‡ Qian Zhu, †,‡ Congjie Pan, †,‡

Xiaoying Niu, †,‡ Juanjuan Liu, †,‡ HongLi Chen, †,‡ and Xingguo Chen †,‡,§ *

† State Key Laboratory of Applied Organic Chemistry, Lanzhou University, Lanzhou

730000, China

[‡] Department of Chemistry, Lanzhou University, Lanzhou 730000, China

§ Key Laboratory of Nonferrous Metal Chemistry and Resources Utilization of Gansu

Province, Lanzhou 730000, China

II Gansu University of Chinese Medicine, Lanzhou 730000, China

* Corresponding authors.

E-mail: chenxg@lzu.edu.cn (X. Chen), lvwenj@lzu.edu.cn (W. Lü).

Tel: 86-931-8912763

Fax: 86-931-8912582

Abstract: In this work, we report a durable and sensitive H₂O₂ biosensor

based on boronic acid functionalized metal-organic frameworks (denoted

as MIL-100(Cr)-B) as an efficient immobilization matrix of horseradish

peroxidase (HRP). MIL-100(Cr)-B features a hierarchical porous

structure, extremely high surface area, and sufficient recognition sites,

which can significantly increase HRP loading and prevent them from

1

Download English Version:

https://daneshyari.com/en/article/5031502

Download Persian Version:

https://daneshyari.com/article/5031502

Daneshyari.com