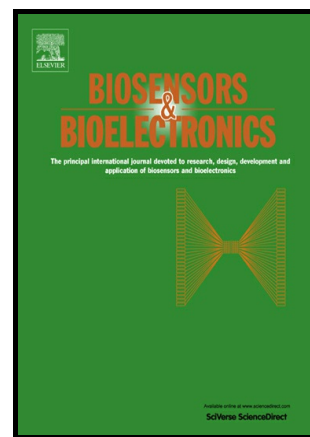


Author's Accepted Manuscript

Development of Cu nanoflowers modified the flexible needle-type microelectrode and its application in continuous monitoring glucose in vivo

Yuxin Fang, Shenjun Wang, Yangyang Liu, Zhifang Xu, Kuo Zhang, Yi Guo



PII: S0956-5663(18)30198-2
DOI: <https://doi.org/10.1016/j.bios.2018.03.024>
Reference: BIOS10350

To appear in: *Biosensors and Bioelectronic*

Received date: 29 December 2017
Revised date: 9 March 2018
Accepted date: 12 March 2018

Cite this article as: Yuxin Fang, Shenjun Wang, Yangyang Liu, Zhifang Xu, Kuo Zhang and Yi Guo, Development of Cu nanoflowers modified the flexible needle-type microelectrode and its application in continuous monitoring glucose in vivo, *Biosensors and Bioelectronic*, <https://doi.org/10.1016/j.bios.2018.03.024>

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**Development of Cu nanoflowers modified the flexible
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Yuxin Fang*, Shenjun Wang, Yangyang Liu, Zhifang Xu, Kuo Zhang, Yi Guo*

Research Center of Experimental Acupuncture Science, College of Acumox and Tuina,
Tianjin University of Traditional Chinese Medicine, Tianjin 300193, PR China

meng99_2006@126.com

guoyi_168@163.com

*Corresponding author. Tel./fax: +86 22 59596211.

*Corresponding author. Tel./fax: +86 22 59596211.

Abstract

A minimally invasive glucose microbiosensor based the flexibly integrated electrode for continuous monitoring glucose in vivo has been developed in this study. This was achieved by coating needle-type microelectrode with Cu nanoflowers, nafion, glucose oxidase (GOD) and polyurethane (PU) membranes, successfully prepared with layer-by-layer deposition. The Cu nanomaterials provided a large specific surface area and electrocatalytic activity for glucose detection. The PU layers as mass-transport limiting membranes significantly enhanced the linearity and stability of sensors. The resulting biosensor exhibited a wide linear range of 0 to 20 mM, with a good sensitivity of 42.38 nA mM^{-1} (correlation coefficient r^2 was 0.99)

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