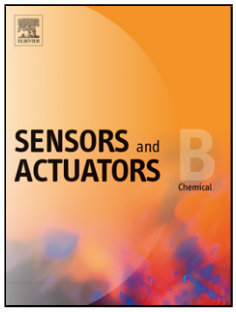

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PII: S0925-4005(18)30232-6
DOI: https://doi.org/10.1016/j.snb.2018.01.208
Reference: SNB 24057

To appear in: *Sensors and Actuators B*

Received date: 27-9-2017
Revised date: 25-11-2017
Accepted date: 26-1-2018

Please cite this article as: Weixiang Li, Di Shu, Dongsheng Zhang, Zhanfang Ma, Multi-amplification of the signal of voltammetric immunosensors: Highly sensitive detection of tumor marker, Sensors and Actuators B: Chemical https://doi.org/10.1016/j.snb.2018.01.208

Multi-amplification of the signal of voltammetric immunosensors: Highly sensitive detection of tumor marker

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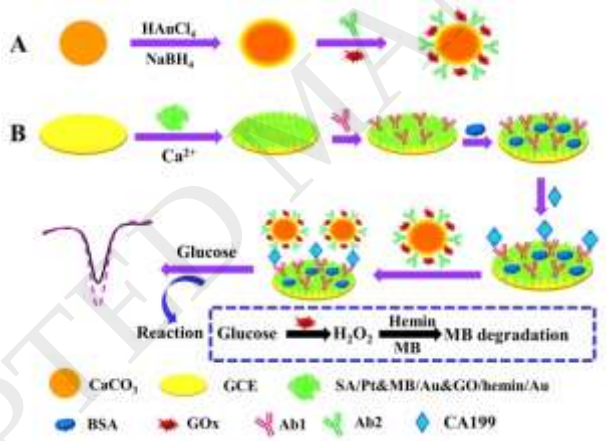
Graphical Abstract

An immunosensor for the determination of carbohydrate antigen 199 based on calcium carbonate sphere as probe and the degradation of methylene blue by hemin as catalyst was fabricated.



Highlights

- Degradation of signal substance and non-conductive probe were used to increase the sensitivity of voltammetric immunosensor.
- Redox species was fixed on the substrate for sandwich-type immunosensor.
- $CaCO_3$ nanoparticles were used as support to construct immunoprobe.

Abstract

For sandwich-type voltammetric immunosensor, immunoprobe contains redox species, antibody (as recognition element) and protein (as blocking agent). These