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Facile Electrochemiluminescence Sensing Platform Based on High-Quantum-Yield Gold Nanocluster Probe for Ultrasensitive Glutathione Detection

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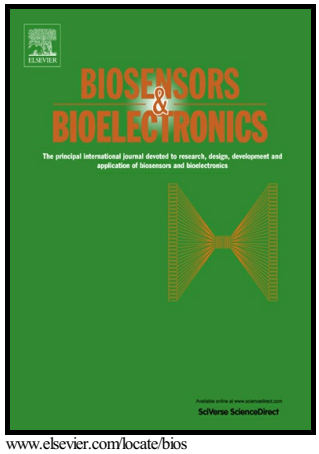

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Facile Electrochemiluminescence Sensing Platform Based on High-Quantum-Yield Gold Nanocluster Probe for Ultrasensitive Glutathione Detection

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Abstract

This report outlines a highly sensitive and facile electrochemiluminescence (ECL) sensing platform based on a novel high-quantum-yield Au-nanocluster (AuNC) probe for glutathione (GSH) detection. Owing to the prominent quenching effect of GSH on the ECL of the AuNCs, the proposed ECL nanosensor showed a wide response to GSH in the ranges of 1.0×10^{-9}-1.0×10^{-5} M and 1.0×10^{-5}-1.0×10^{-1} M and a low detection limit of 3.2×10^{-10} M. In addition, the proposed system exhibited good selectivity for GSH in the presence of other chemical/biological interferences. Moreover, since no further functionalization of AuNC-based sensor interface was necessary, together with the stability, high sensitivity and selectivity of the proposed nanosensor, this

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