Mini review

Recent Advances in Nanomaterials-Based Electrochemical Biosensors for MicroRNAs Detection

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MicroRNAs (miRNAs), a class of non-protein-coding and small RNAs, play a critical role in post-transcriptional regulation of gene expression, thus having been regarded as important biomarkers for many diseases. In the past decade, electrochemical biosensors have been employed widely for the highly sensitive and multiplexed detection of miRNAs. In particular, integrating into nanomaterials further improve the performances of the developed assays. This review mainly focuses on the achievement in the use of nanomaterials in electrochemical biosensors for facile and sensitive miRNAs detection, which will be useful toward understanding the methodology of assays and proposing more effective and practical electrochemical biosensors for miRNAs detection.

Keywords: Metal–organic frameworks; electrochemical biosensors; signal labels

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