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ACCEPTED MANUSCRIPT

Voltammetric detection of carbofuran determination using screen-printed carbon electrodes modified with gold nanoparticles and graphene oxide

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Abstract

Carbofuran is a highly toxic pesticide that is heavily used in agriculture due to its high effectiveness and low cost. Improved methods that are simpler and lower cost are needed for carbofuran detection in food and agricultural samples. Herein, we describe the development of a unique electrochemical method for carbofuran-phenol, which is the main hydrolysis product of carbofuran. We have successfully developed a highly accurate and precise method in a portable size using a screen-printed carbon electrode (SPCE) that is modified with graphene oxide (GO) and gold nanoparticles (AuNPs). Consequently, the developed electrode is highly sensitive to

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