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Determination of carbamate pesticide in food using a biosensor based on reduced graphene oxide and acetylcholinesterase enzyme

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Research Highlights

- A novel tool for monitoring carbaryl in tomato samples was presented
- A biosensor based on reduced graphene oxide and acetylcholinesterase enzyme was developed
- The reduced graphene oxide presents as an excellent material to immobilize enzymes

Abstract

Food safety is a major concern for human health and wellbeing all over the world. A novel and sensitive biosensor based on reduced graphene oxide (rGO) and the enzyme acetylcholinesterase (AChE) was developed and applied for the detection of carbaryl in food samples. The glassy carbon/rGO/AChE biosensor was characterized morphologically and electrochemically using scanning electron microscopy and cyclic voltammetry/electrochemical impedance spectroscopy, respectively.

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