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Carbon nanotube/reduced graphene oxide thin-film nanocomposite formed at liquid-liquid interface: Characterization and potential electroanalytical applications

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Highlights

- 1) Formation of carbon nanotube-reduced graphene oxide thin film on different substrates.
- 2) Film transfer on a boron-doped diamond for sensing applications: phenolic species.
- 3) EIS, Raman and k^0 values showed faster electron transfer on the nanocomposite.
- 4) SEM images the interaction of reduced graphene oxide and carbon nanotubes.
- 5) Improved amperometric sensing (nanomolar detection limit) in biological fluids.

Abstract

This paper presents a new route to produce carbon nanotube/reduced graphene oxide (CNT/rGO) nanocomposites using the interfacial method to produce high-performance electroanalytical sensing. The nanocomposite thin-film is formed at the cyclohexane/water immiscible interface after stirring of a mixture of CNT and rGO in

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