Electrochemical detection of sulfasalazine in real samples by GO/Fe₃O₄@SiO₂ nanostructure and ionic liquid modified carbon paste electrode

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A core-shell nanocomposite (GO/Fe₃O₄@SiO₂ in this case) and ionic liquid have been used to improve the sensory properties of carbon paste electrode (CPE) entitle GO/Fe₃O₄@SiO₂/IL-CPE as new analytical approach. We validated the applications of GO/Fe₃O₄@SiO₂/IL-CPE for the determination of sulfasalazine by using different electrochemical techniques. Under the optimized experimental condition, the linearity range and the detection limit (LOD) of GO/Fe₃O₄@SiO₂/IL-CPE were 1.0– 300.0 and 0.4 μ M for sulfasalazine, respectively. The recording data showed that GO/Fe₃O₄@SiO₂/IL-CPE could be fabricated easily fabricated with outstanding stability. The sensor was applied to the detection of drug in real samples.

Keywords: GO/Fe₃O₄@SiO₂ nanocomposite, Sulfasalazine, Voltammetry, Carbon paste electrode

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