

Direct electrochemistry of glucose oxidase at ZrO₂ nanoparticles-decorated reduced graphene oxide biosensor for glucose detection

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We synthesized a glucose biosensor based on glucose oxidase (GOx) immobilized in a poly (L-lysine) (PLL) and reduced graphene oxide-zirconium oxide composite (RGO-ZrO₂). The fabricated biosensor exhibited good electrocatalytic ability for the determination of glucose with excellent analytical parameters such as wide linear range of 0.29 Mm to 14 mM and high sensitivity of 11.65 (-0.17) mA mM⁻¹ cm⁻². Good recovery rates were achieved for the real sample studies proving the promise and practicality of the proposed sensor.