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Maísa Azevedo Beluomini, José L. da Silva, Graziela Cristina Sedenho, Nelson Ramos Stradiotto

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Maísa Azevedo Beluomini[*]*, José L. da Silva, Graziela Cristina Sedenho, Nelson Ramos Stradiotto.*

Analytical Chemistry Department, Chemistry Institute, Universidade Estadual Paulista (UNESP), Rua Prof. Francisco Degni, 55, 14800-060, Araraquara, SP, Brazil.

*Corresponding author: mabeluomini@gmail.com, Tel: +55 016 330 19581

ABSTRACT

An electrochemical sensor for D-mannitol based on molecularly imprinted polymer on electrode modified with reduced graphene oxide decorated with gold nanoparticles was developed in this present work. The sensor was constructed for the first time via the electropolymerization of o-phenylenediamine (o-PD) over a surface containing reduced graphene oxide (RGO) and gold nanoparticles (AuNP) in the presence of D-mannitol molecules. The surface modification with AuNP/RGO-GCE facilitated the charge transfer processes of $[Fe(CN)_6]^{3-/4-}$, which was used as an electrochemical probe. It also contributed meaningfully towards the increase in the surface/volume ratio, creating more locations for imprinting, and providing greater