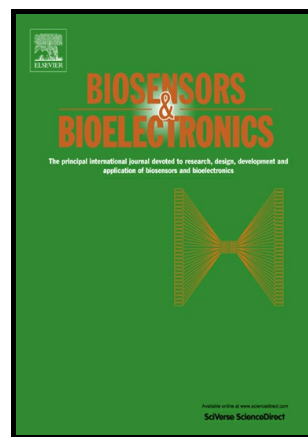


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A Novel Metronidazole Fluorescent Nanosensor based on Graphene Quantum Dots Embedded Silica Molecularly Imprinted Polymer

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Abstract

A novel optical nanosensor for detection of Metronidazole in biological samples was reported. Graphene quantum dots embedded silica molecularly imprinted polymer (GQDs-embedded SMIP) was synthesized and used as a selective fluorescent probe for Metronidazole detection. The newly synthesized GQDs-embedded SMIP showed strong fluorescent emission at 450 nm excited at 365 nm which was quenched in the presence of Metronidazole as a template molecule. The quenching was proportional to the concentration of Metronidazole in a linear range of at least 0.2 μM to 15 μM . The limit of detection for metronidazole determination was obtained 0.15 μM . The nanosensor successfully worked in plasma matrices.

Keywords: Nanosensor, Fluorescence detection, Graphene quantum dots, Metronidazole, Molecularly imprinted polymer, Inorganic silica polymer

1. Introduction

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