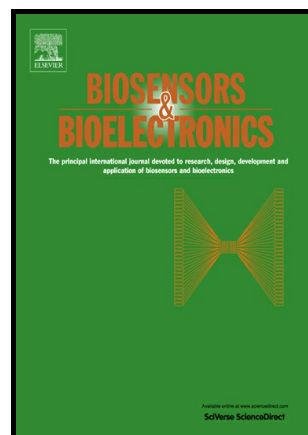


Author's Accepted Manuscript

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PII: S0956-5663(16)30985-X
DOI: <http://dx.doi.org/10.1016/j.bios.2016.09.101>
Reference: BIOS9213

To appear in: *Biosensors and Bioelectronic*

Received date: 5 July 2016
Revised date: 22 September 2016
Accepted date: 27 September 2016

Cite this article as: Ming Li, Haijian Liu and Xueqin Ren, Ratiometric fluorescence and mesoporous structured imprinting nanoparticles for rapid and sensitive detection 2,4,6-trinitrophenol, *Biosensors and Bioelectronic* <http://dx.doi.org/10.1016/j.bios.2016.09.101>

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Ratiometric fluorescence and mesoporous structured imprinting
nanoparticles for rapid and sensitive detection 2,4,6-trinitrophenol

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Abstract

The present study reports the fabrication of mesoporous-structured ratiometric molecularly imprinted sensors using a combined surface-imprinted and ratiometric fluorescence method. The sensors were subsequently examined in the selective and sensitive determination of 2,4,6-trinitrophenol (TNP). In the preparation of the ratiometric system, the reference dye CdTe quantum dots were embedded in silica core particles via the Stöber method; the functional target sensitive dye AAMBT&SiO₂, which was obtained via polymerization of 2-acrylamide-6-methoxybenzothiazole (AAMBT) with allyltriethoxysilane, was embedded in the mesoporous silica shell. In the surface imprinting process, cetyltrimethylammonium bromide was

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