



New nano probes for the assessment of some diuretics in different body fluids

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(Chemistry Department)**

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2007

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Statement

This thesis is submitted in partial fulfillment of the M.Sc Degree, Faculty of Science, Ain Shams University.

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Highly sensitive Eu³⁺ doped in sol-gel matrix optical sensor for the assessment of Ciprofloxacin in different real samples

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Abstract

The efficiency of excited-state interaction between Eu³⁺ doped in sol- gel matrix and the industrial product ciprofloxacin of (CFX) has been studied in different solvents and pHs. A high luminescence intensity peak at 617 nm of europium- ciprofloxacin complex at $\lambda_{\text{ex}}=365$ nm in acetonitrile was obtained. The photophysical properties of the red emissive Eu³⁺ complex doped in sol-gel matrix have been elucidated, the europium was used as optical sensor for the assessment of ciprofloxacin in the pharmaceutical tablets and serum samples at pH 8.0 and $\lambda_{\text{ex}} = 365$ nm with a concentration range of 5.0×10^{-9} - 1.0×10^{-6} mol L⁻¹ for ciprofloxacin, correlation coefficient of 0.99 and detection limit of 1.65×10^{-9} mol L⁻¹.

Keywords: Ciprofloxacin; Europium (III); Enhancing; Luminescence; Optical sensor ; Sol-Gel.

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