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Ain shams university  
Faculty of science  
Chemistry department

## **Nanomaterials For Analytical Uses and Their Applications to Environmental Analysis**

**Thesis Submitted for the requirement of PhD Degree of Science in  
Chemistry**

*Presented by*

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*B.Sc. (First class honor) (2015), M.Sc. (2019)*

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Department of Chemistry

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**2022**



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Applications to Environmental Analysis"**

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*Mahmoud Abdelwahab Fathy Sayed*

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1. Novel Magnetic Nickel Ferrite Nanoparticles Modified with Poly(aniline-co-o-toluidine) for the Removal of Hazardous 2,4-Dichlorophenol Pollutant from Aqueous Solutions, RSC Advances, 2022, Accepted.
2. A Novel Screen-Printed Potentiometric Sensor with Carbon Nanotubes/Polyaniline Transducer and Molecularly Imprinted Polymer For The Determination of Nalbuphine In Pharmaceuticals and Biological Fluids, Submitted.
3. All-Solid-State Paper-Based Potentiometric Sensors Modified With Reduced Graphene Oxide (rGO) For Monitoring Losartan Potassium In Pharmaceutical Products And Biological Samples, Submitted.
4. Fabrication and Characterization of Bismuth Oxide Film Deposited on a Fluorine Doped Tin Oxide Glass Substrate (FTO) Using Spray Pyrolysis Technique and its application as a Miniaturized Potentiometric Sensor for pH Monitoring, Submitted.

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**Arabic Summary**