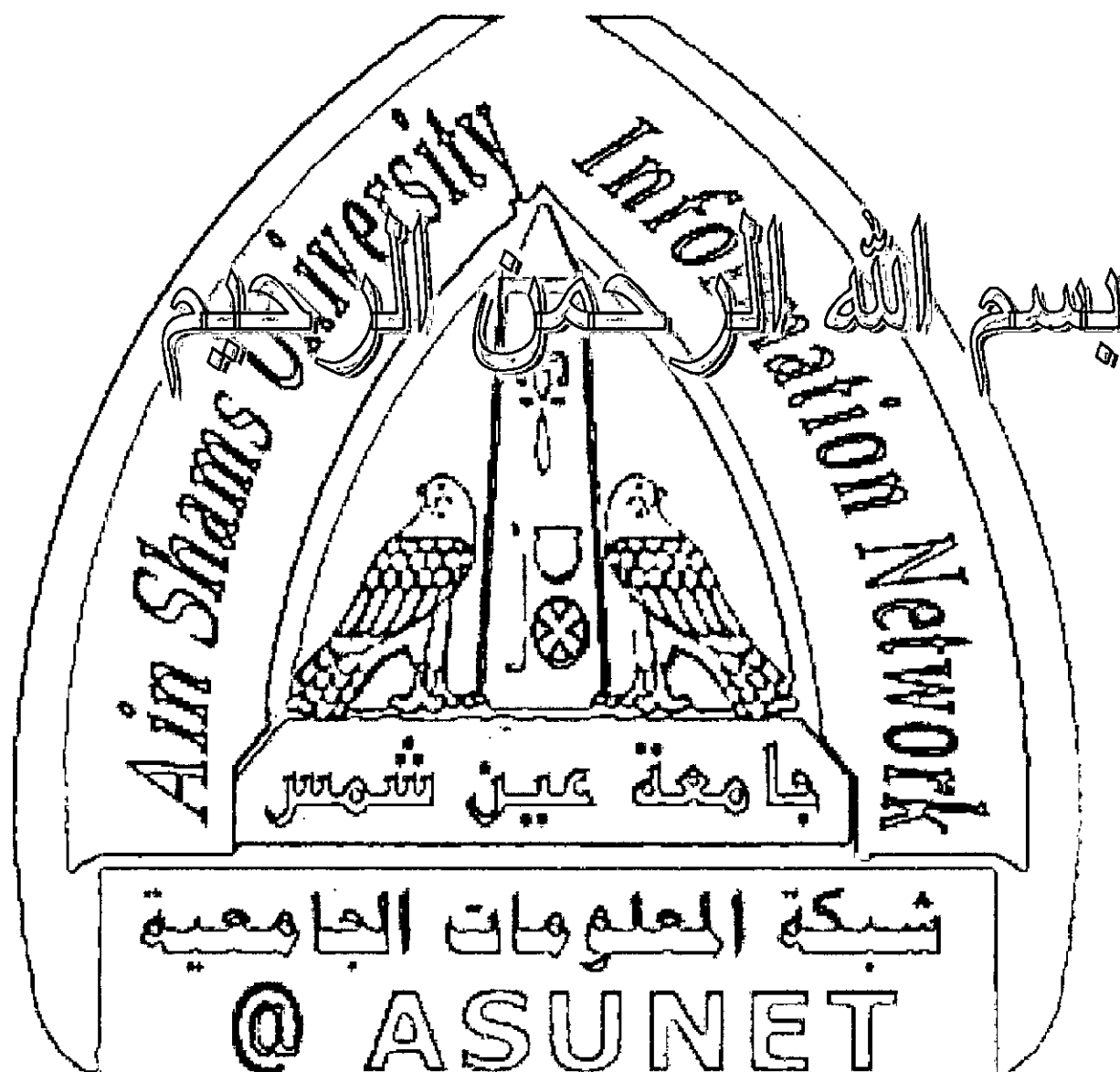




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*Analytical Studies on Thrombin in Pure Samples,
Pharmaceutical Preparations and Biological Fluids*

615, 19

Submitted by

Fatma El Zahraa Ahmed Mohamed Hafez

(B.Sc. Degree, Chemistry-Physics 2001)

For

The Partial Fulfillment of Degree of Master (M .Sc.)

In

Analytical Chemistry

To Chemistry Department

Faculty of Science

Cairo University

(2009)

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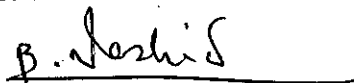
APPROVAL SHEET FOR SUBMISSION

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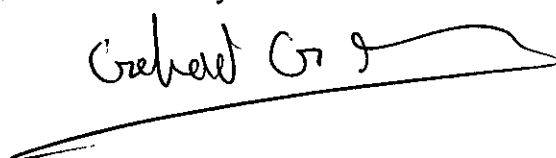
Title of [M.Sc.] Thesis: Analytical studies on thrombin in pure samples, pharmaceutical preparations and biological fluids

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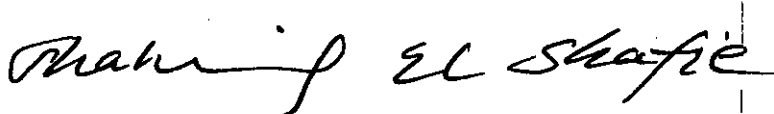
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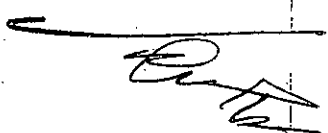
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ABSTRACT

Name: Fatma El Zahraa Ahmed Mohamed Hafez.

Title of Thesis: Analytical studies on thrombin in pure samples, pharmaceutical preparations and biological fluids

Degree: (M.Sc.) unpublished Master of Science Thesis, Faculty of Science- Cairo University, 2009

This work has been carried out to investigate the:

- 1- Spectrophotometric microdetermination of thrombin via charge-transfer reactions formation. This includes the utility of some π -acceptors as, 2,3-dichloro-5,6-dicyanobenzoquinone (DDQ), 7,7,8,8-tetracyanoquinodimethane (TCNQ) and tetracyanoethylene (TCNE) for estimation of thrombin..
- 2- These reactions were applied for determination of thrombin in its biological fluid (Poor Platelet Plasma before and after dialysis for dialysis patients).

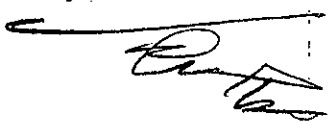
Keywords: Thrombin, DDQ, TCNQ, TCNE, Spectrophotometry, Charge transfer complexes.

Supervisors:

B. Nashed, *Gehad G. D.*, *Heba El Shafie*

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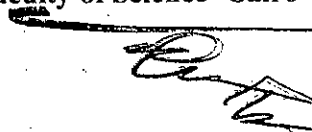
NOTE

Beside the work carried out in this thesis, the candidate had attended and successfully passed a final examination of M.Sc. courses (2004) in non organic chemistry covering the following topics:

- 1- Mechanism of inorganic reactions.
- 2- Advanced analytical chemistry.
- 3- Chelatimetry.
- 4- Statistical thermodynamics.
- 5- Quantum chemistry.
- 6- Molecular structure.
- 7- Solar energy.
- 8- X- rays thermal analysis.
- 9- Adsorption chemistry.
- 10 -Molten salts and Metallurgy.
- 11- Voltammetry.
- 12- Nuclear chemistry.
- 13- Group theory.
- 14- Electrochemistry.
- 15- Electro Kinetic phenomena.
- 16- Catalysis.
- 17- Advanced inorganic chemistry.
- 18- Physical polymer.
- 19- Statistical.
- 20- German language.

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Fatma E.L Zahraa Ahmed

Dedication

To my father's soul, my mother, and my sisters

AIM OF THE PRESENT WORK

In this work, thrombin as representative example of central coagulation enzyme, was chosen to study its properties from the analytical point of view.

The purpose of this investigation was directed to propose sensitive, accurate and reproducible methods of analysis that can be applied to determine important of coagulation enzyme, e.g. thrombin in pure, pharmaceutical preparations and biological fluids.

For this purpose the work is divided into two parts:

Part I: It deals with spectrophotometric determination of Thrombin via charge-transfer complex formation. This includes the utility of some π -acceptors as 3-dichloro-5,6-dicyanobenzoquinone (DDQ), 7, 7, 8, 8-tetracyanoquinodimethane (TCNQ), and tetracyanoethylene (TCNE) for estimation of thrombin.

Part II: It deals with the determination of thrombin for dialysis patients before and after dialysis.

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