SYNTHESIS AND SPECTRAL STUDIES ON HETEROCYCLIC NITROGEN COMPOUNDS.

Thesis

Submitted for The Degree of (Ph.D)

By

NADIA YOUSSEF MEGALLY.

(M.Sc.)

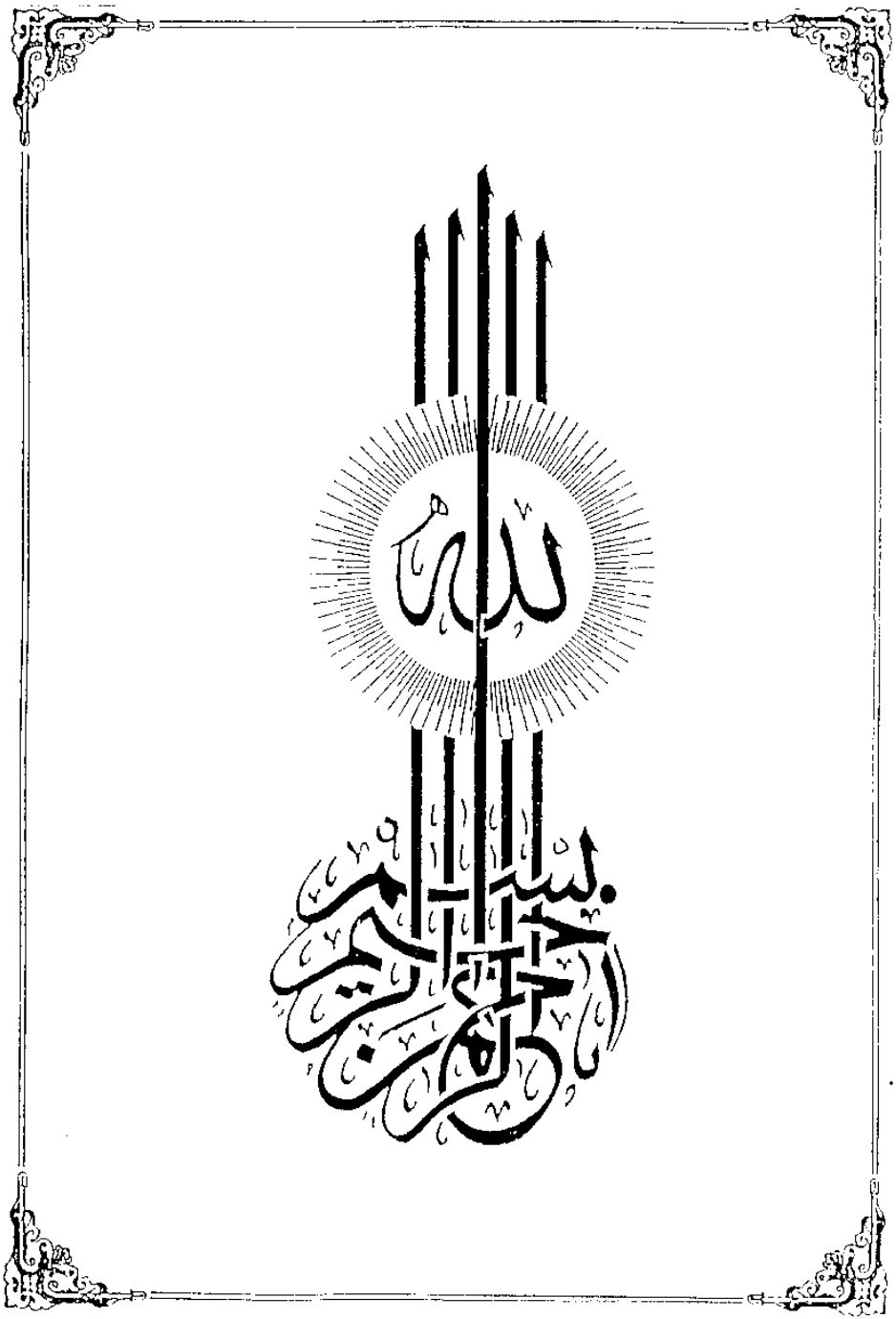
Supervised By.

Prof.Dr. A.F.M.Fahmy
Prof.Dr. H.A.Abd.El-Hamid
Prof.Dr. G.A.Mina

Chemistry Department
Faculty of Science
Ain Shams University

Cairo

1996



SYNTHESIS AND SPECTRAL STUDIES ON HETEROCYCLIC NITROGEN COMPOUNDS.

Thesis Advisors

Prof.Dr. A.F.M.Fahmy
Prof.Dr. H.A.Abd.El-Hamid
Prof.Dr. G.A.Mina

Approved

A.F.M.Fahmy
H.A.Abd.El-Hamid
G.A.Mina

Head of The Chemistry Department

A.F.M.Fahmy

Prof.Dr. A.F.M.Fahmy

Acknowledgment

The author wishes to express her deep thanks and gratitude to ***Prof.Dr.A.F.Fahmy***., head of chemistry department and professor of organic chemistry, Chemistry department, Faculty of Science, Ain Shams University, for suggesting the problem, valuable discussion and criticism.

The author also wishes to express her gratitude to ***Prof.Dr. Hoda Abdel-Hamid***, Prof of organic chemistry, Faculty of Science, Ain Shams University, for her encouragment, valuable help, and criticism during the progress of the work.

Thanks to ***Prof.Dr.G.A.Mina***, Prof. of organic chemistry, Faculty of Education, Alexandria university, for his supervision and encouragement.

Thanks to ***Prof.Dr. Raifa.A.Hassanein*** Prof. of physiology, Botany department. Faculty of Science, Ain Shams University, for the great help in the biological part.

Abstract

Synthesis and spectral studies on Heterocyclic Nitrogen Compounds

Nadia Youssef Megally

Unpublished Doctor of Philosophy Dissertation,
Ain Shams University, Abbassia,
Cairo, Egypt

The main purpose of this work is to synthesise heterocyclic rings like benzoxazones, oxadiazoles, imidazolidines, triazolines, thiadiazoles, quinazolines, and pyrimidines starting from :-

2-Cyano-4'-hydroxy-3'-methoxy cinnamoyl-azide, acid chloride and isothiocyanate were used as precursors for the synthesis of these heterocyclic systems.

A full spectral study using Infrared, ^{1}H NMR and Mass spectroscopy on all the synthesised heterocyclic systems, was performed.

Biological activity of some of the prepared heterocycles such as pyrimidines, imidazolidines, triazolines, as well as diaryl urea and diaryl thiourea were studied and prove that, all of them have hormonal nature.

List of Tables

CONTENTS