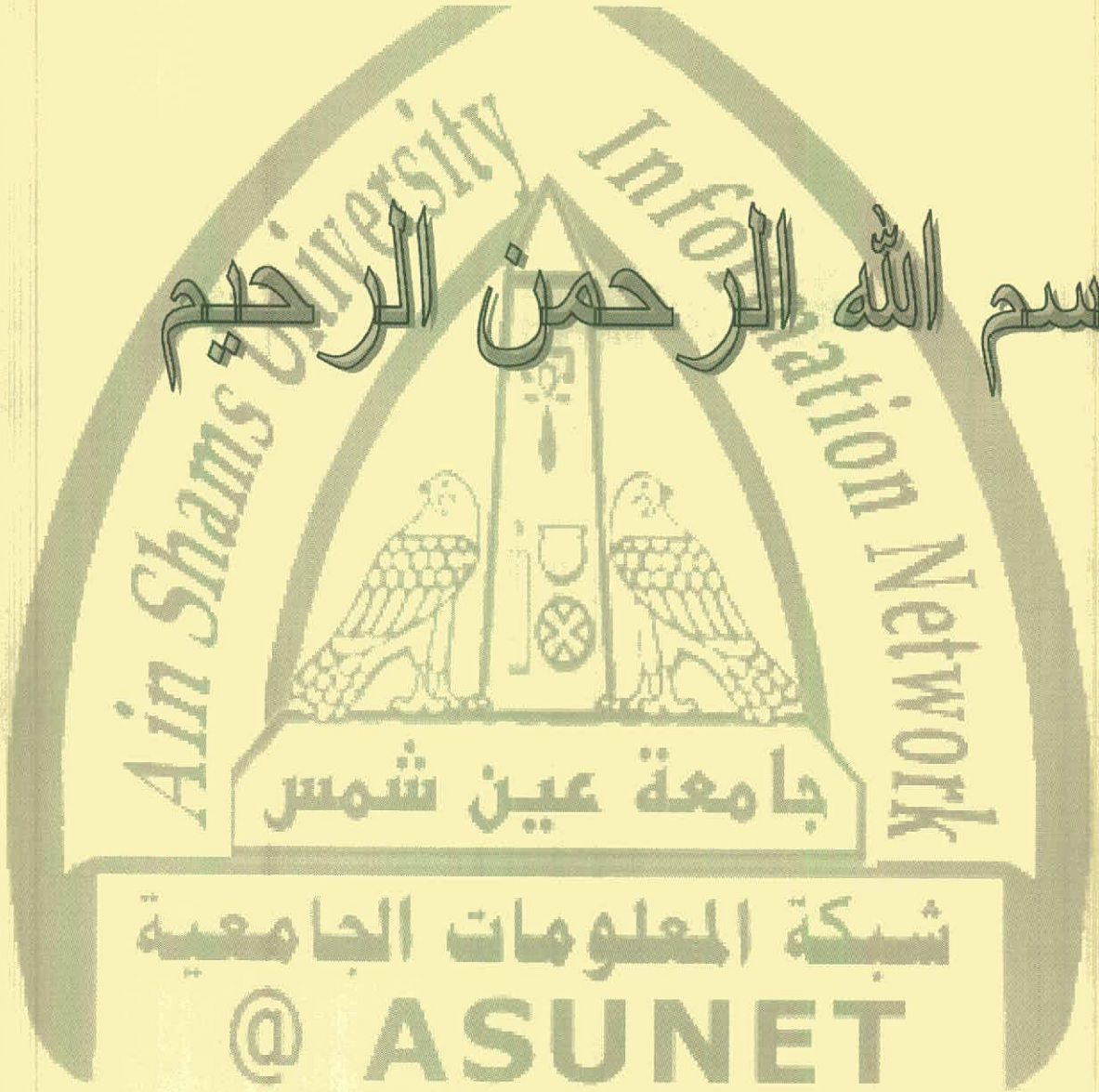
شبكة المعلومات الجامعية



بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

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نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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بالرسالة صفحات لم ترد بالاصل

Cairo University
Faculty of science
Chemistry Depart.

Synthesis of New Heterocyclic Steroids as a Novel Class of Potent Anti-Inflammatory, Anti-Nociceptive and Anti-Ulcerogenic Agents

Presented by

Marian George William Amin

A Thesis Submitted to
Faculty of Science

In Partial Fulfillment of the
Requirements for the Degree of
Master of Science (Organic Chemistry)

Chemistry Department
Faculty of Science
Cairo University

2010

APROVAL SHEET FOR SUMISSION

Thesis Title: Synthesis of New Heterocyclic Steroids as a Novel Class of Potent Anti-Inflammatory, Anti-Nociceptive and Anti-Ulcerogenic Agents

Name of candidate: Marian Jorge William Amin

This thesis has been approved for submission by the supervisors:

1- Prof. Dr: Hussein Fouad Zohdi

Signature:

2- Ass. Prof. Dr: Gamal Abd Elmegeed Abd Elghany

Signature:

Prof. Dr. Mohamed Badwy
Chairman of Chemistry Department
Faculty of Science- Cairo University

Chairman of Chemistry Department
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Addendum

Beside the work carried out in this thesis, the candidate ***Marian George William Amin*** has attended Post-graduate courses during the academic year 2006-2007 in the following topics:

- Biochemistry
- New Trends in Analytical Chemistry
- Carbohydrate Chemistry
- Chemistry of Natural Products
- Designing Organic Chemistry
- Applied Organic Chemistry
- Organic Photochemistry
- Polymer Chemistry
- Quantum Chemistry
- Organic Microanalysis
- Heterocyclic Chemistry
- Techniques of Molecular Structure Determination
- German language
- Selected Topics

She has also passed successfully an examination in the above mentioned topics.

Prof. Dr. Mohamed Badawy

Chairman of Chemistry Dept.
Faculty of Science, Cairo University.

ABSTRACT

Student Name: Marian Gorge William

Title of the thesis: Synthesis of New Heterocyclic Steroids as a Novel Class of Potent Anti-Inflammatory, Anti-Nociceptive and Anti-Ulcerogenic Agents

Degree: M. Sc. **Specialist: Organic Chemistry**

The identification of compounds able to treat both pain and inflammation with limited side effects is one of the prominent goals in biomedical research. This study aimed at the synthesis of new steroidal heterocyclic derivatives with structures justifying anti-inflammatory and anti-nociceptive activities. The steroidal heterocyclic derivatives were synthesized via straightforward and efficient methods and their structures were established based on the analytical and spectral data. The *in vivo* anti-inflammatory, anti-nociceptive and anti-ulcerogenic activities of some of these compounds were studied. The novel synthesized derivatives **8b, 19b, 24, 31a, 37**, and **41a** showed anti-inflammatory, antinociception and anti-ulcerogenic activity with various intensities. Oedema was significantly reduced by both doses (25 and 50 mg/kg) of all tested compounds at 3 and 4h post-carrageenan. Compounds **19b**, **37** and **46a** were most effective in alleviating thermal pain. The analgesic activity of either dose of the compounds **8b**, **24**, **31a** as well as the high dose **19b** was significantly higher than indomethacin (IND). Gastric mucosal lesions caused in the rat by the administration of 96% EtOH and IND were inhibited by all tested compounds administered at (50 mg/kg) dose in the study.

Keywords: Steroids, Azoles, Oxarine, Pyrrole. Anti-inflammatory, Anti-nociceptive, Anti-ulcerogenic

Supervisors:
1- Prof. Dr: Hussein Fouad Zohdi

2- Ass. Prof. Dr: Gamal Abd Elmegeed Abd Elghany

Signature:

Prof. Dr. Mohamed Badwy
Chairman of Chemistry Department
Faculty of Science- Cairo University

Acknowledgement

I would like to express my deepest thanks to ***Prof. Hussain Fouad Zohdi****, Professor of Organic Chemistry, Chemistry Department, Faculty of Science, Cairo University, for kindly supervising this work and helping to finish it. His great scientific help and kind cooperation are greatly appreciated.*

I wish to express my cordial thanks and deepest feeling of gratitude to ***Dr Gamal Abd Elmegeed Abd Elghany****, Associated Professor of Hormones, Hormones Department, Medical Research Division, National Research Centre, for planning, reading and criticizing the Thesis. I feel deeply indebted to him not only for his valuable advice, guidance, kind cooperation, hand by hand support and continuous encouragement but also for his inestimable facilities which lead to the emergence of this work in its current form.*

I wish to express my deepest and sincere appreciation to ***Prof. Omar M. E. Abdel-Salam****, Professor of Pharmacology, Pharmacology Department, Medical Research Division, National Research Centre, for kindly supervising the pharmaceutical study. His great scientific help and kind cooperation are greatly appreciated.*

I wish to express my deepest and sincere appreciation to ***Prof. Dr. Rafat M Mohareb****, Professor of Organic Chemistry, Chemistry Department, Faculty of Science, Cairo University, for suggesting the chemistry idea, kindly supervising the present work and criticizing the Thesis.*

I express my appreciation to Prof.Dr. ***Senot H Doss*** *Professor of Hormones, Hormones Department, Medical Research Division, National Research Centre, and all my professors and my colleagues in Hormones Department for continues help and support*

And finally, from depth of my heart, many thanks to my ***Father,*** *my* ***Mother*** *and my* ***husband,*** *they done all of their best to support me to complete this work,*

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