سامية محمد مصطفى

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

سامية محمد مصطفى

شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

سامية محمد مصطفى

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

سامية محمد مصطفى

شبكة المعلومات الجامعية

بعض الوثائق الأصلية تالفة

سامية محمد مصطفى

شبكة المعلومات الجامعية

بالرسالة صفحات لم ترد بالأصل

SIDE CHAIN DEGRADATION AND SOME BIOLOGICAL TRANSFORMATIONS OF PROGESTERONE BY FUNGI

A THESIS

Submitted for the degree of Ph.D. in Botany (Microbiology)

Presented By

Mahmoud Samy Mohamed Abd-El-Galil
M.Sc. (Microbiology) Assiut University

Supervised By

Prof. Dr. I.A. El-Kady
Prof. of Microbiology
Head Of
Botany Department
Faculty of Science
Assiut University

Prof. Dr. S.S. El-Maraghy
Prof. of Microbiology
Botany Department
Faculty of Science
Assiut University

Dr. A.A. Zohri
Assistant Prof. of Microbiology
Botany Department
Faculty of Science
Assiut University

Botany Department, Faculty of Science,
Assiut University, Assiut, Egypt.

2000

بسم الله الرحمن الرحيم

TO MY FAMILY AND MY WIFE

THIS THESIS HAS NOT PREVIOSULY BEEN SUBMITTED FOR ANY DEGREE AT THIS OR AT ANY OTHER UNIVERSITY.

ACKNOWLEDGMENT

Acknowledgement

I do thank God for all gifts which given me.

I wish to express my deepest appreciation and sincere gratitude to Prof. Dr. I. A. El-Kady, Professor of Microbiology and Head of Botany Department, Faculty of Science, Assiut University, not only for his suggesting and supervising this work, but also for his significant encouragement and unfailing help.

I would also like to take the opportunity to express my appreciation and very grateful to Dr. S. S. El-Maraghy Professor of Microbiology, and Dr. A. A. Zohri Assistant Professor, Botany Department, Faculty of Science, Assiut University for supervising this work and excellent research facilities.

All the members of the Botany Department and all who have given hand during the progress of this work are gratefully acknowledged.

I must also offer my gratitude to the members of my family for their help and moral support.

M. S. M. Abdel-Galil

THE AIM OF THE PRESENT INVESTIGATION

THE AIM OF THE PRESENT INVESTIGATION

The clinical use of the adrenal cortical steroids originally aimed at combating and relieving the symptoms of rheumatic arthritis, anti-inflammatory conditions such as allergic, dermatologic and ocular diseases, besides they are used as anesthetics and antifertility agents. The second large group of steroid drugs of interest are male and female sex hormones. Current interest is focused on the microbial side-chain degradation of 4-dehydro-3,20-diketosteroids of pregnene series, leading to the production of androgene series which may be further used as intermediates for the preparation of the estrogens.

The objectives of the present investigation were designed to study each of the following:

1- It was intended to screen fungal cultures to perform the desired bioconversion as a prelude to select the most active one.

2- The second goal of the experimentations involved the study of some physiological factors that might lead to maximize the formation of the more useful derivatives namley: Δ^4-androstene-17β-ol-3-one (testosterone) and Δ^4-androstene-3,17-dione (androstenedione).

3- The final experiment of this work was a trial of a large scale production of testosterone and one of the biological active derivative 11β-hydroxytesto-sterone using a laboratory fermentor and the active experimental organism hoping that it might be useful in any future project pertaining the technical production of these substances which represents the most important steroid derivatives.

CONTENTS

CONTENTS