



شبكة المعلومات الجامعية  
التوثيق الإلكتروني والميكروفيلم

# بسم الله الرحمن الرحيم



**MONA MAGHRABY**



شبكة المعلومات الجامعية  
التوثيق الإلكتروني والميكروفيلم



# شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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# جامعة عين شمس التوثيق الإلكتروني والميكروفيلم

## قسم

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



## يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



**MONA MAGHRABY**



**Faculty of Science  
Biochemistry Department**

# **Evaluation of the efficacy of bone marrow derived- mesenchymal stem cells co-cultured with nanomaterials in the management of osteoporosis in rat model**

A Thesis

*Submitted for the degree of Ph.D. in Biochemistry*

*Submitted By*

**Nadia Samy Mahmoud Ibrahim**

Assistant Researcher - National Research Centre

(M.Sc. in Biochemistry, Faculty of Science, Helwan University, 2014)

*Under the supervision of*

**Prof. Dr. Mohamed R. Mohamed**

Professor of Biochemistry & Molecular Biology  
Faculty of Science  
Ain Shams University

**Prof. Dr. Hanaa H. Ahmed**

Professor of Hormones  
Medical Research Division  
National Research Centre

**Dr. Mohamed A. M. Ali**

Assistant Professor of Biochemistry  
Faculty of Science  
Ain Shams University

**Dr. Hadeer A. A. Aglan**

Researcher of Biochemistry  
Medical Research Division  
National Research Centre

**Faculty of Science  
Ain Shams University**

**2020**



بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

" قَالُوا سُبْحٰنَكَ لَا عِلْمَ لَنَا اِلَّا مَا عَلَّمْتَنَا  
اِنَّكَ اَنْتَ الْعَلِیْمُ الْحَكِیْمُ "

صدق الله العظيم

(البقرة - ۳۲)

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ



I declare that this thesis has not been submitted before to this or any other university

*Nadia Samy Mahmoud Ibrahim*





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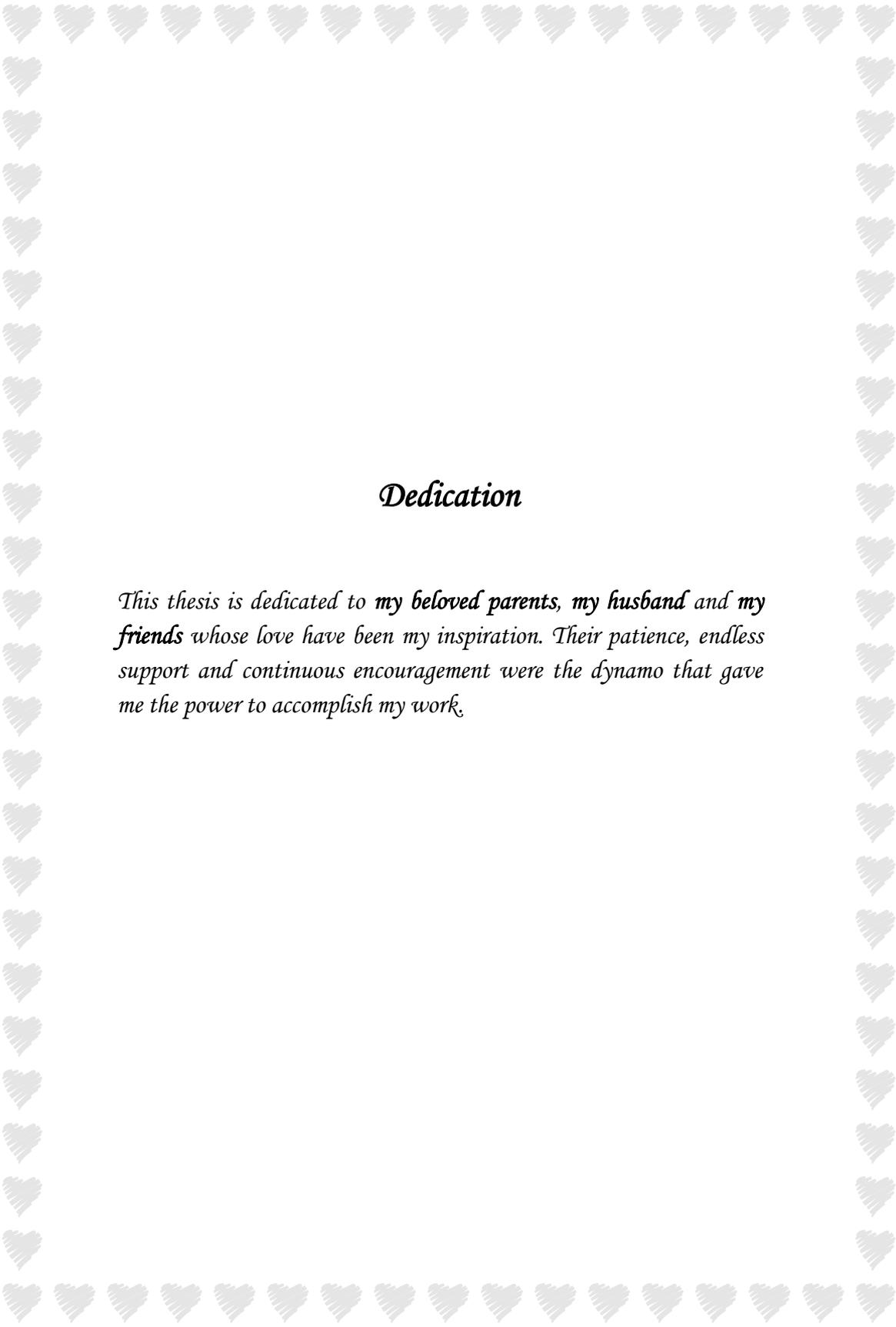
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*Nadia Samy Mahmoud Ibrahim*



## *Dedication*

*This thesis is dedicated to my beloved parents, my husband and my friends whose love have been my inspiration. Their patience, endless support and continuous encouragement were the dynamo that gave me the power to accomplish my work.*



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