



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكرو فيلم

بسم الله الرحمن الرحيم



HANAA ALY



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شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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جامعة عين شمس التوثيق الإلكتروني والميكروفيلم

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Phytochemical, Biological, Total Phenol, Antioxidant And HPLC Studies Of Some Medicinal Plants in Libya.

Thesis

Thesis for the degree of Doctor of Philosophy of science in chemistry
Inorganic and Analytical Chemistry

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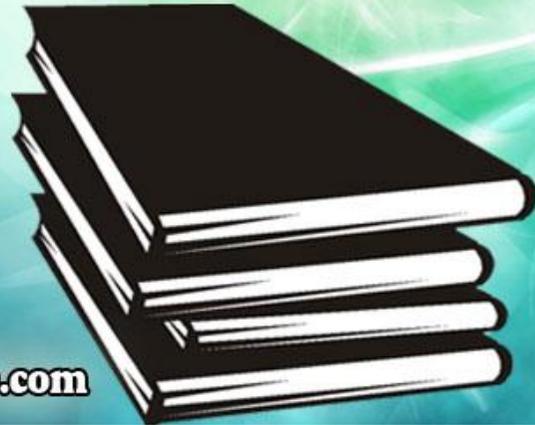
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قال الله تعالى :

يَرْفَعُ اللَّهُ الَّذِينَ آمَنُوا
مِنْكُمْ وَالَّذِينَ
أُوتُوا الْعِلْمَ
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In the Name of Allah, the Most Merciful, the Most Compassionate all praise be to Allah, the Lord of the worlds; and prayers and peace be upon Mohamed His servant and messenger.

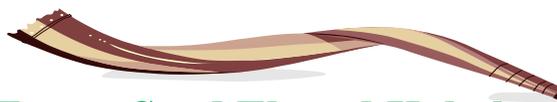
First and foremost, I must acknowledge my limitless thanks to Allah, the Ever-Magnificent; the Ever-Thankful, for His help and bless. I am totally sure that this work would have never become truth, without His guidance.

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Fatma Saad Ehmed Kahal

Dedication

This thesis is dedicated to:

The sake of Allah, my Creator and my Master.

*My great teacher and messenger, Mohammed
(May Allah bless and grant him). who taught
us the purpose of life.*

My beloved brothers and sisters.

*To all my family, the symbol of
love and giving.*

*My friends who encourage and
support me.*

*All the people in my life who
touch my heart.*

I dedicate this research.

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Abstract

This study involves phytochemical screening, Antibacterial activity, antioxidant, total phenolic content, HPLC of the Phenolic Acids and HPLC of the sugar, for the medicinal indigenous plants from Libya (Ruta Chalepensis, Lycium shawii, Cymbopogon Citratus, Euphorbia lathyris and Plantago major leaves). Leaves extracts of the selected medicinal plants

Phytochemical screening: The results of phytochemical screening of methanolic and chloroform extracts obviously show that presence of each tannin, phenols, flavonoids, alkaloids, saponins, cardiac glycosides and carbohydrates,

Antibacterial Activity: Through Disk Diffusion Method, extracts were examined against the activity of Gram-negative pathogenic bacteria *Escherichia coli*, where, the methanolic extracts revealed a good inhibition effect result, Whereas chloroform extracts revealed a vulnerable inhibition effect result against *Escherichia coli*,

Antioxidant Activity: Antioxidant potential of the extracts was analyzed as contents of total phenols and free radical scavenging activity extract were assessed by the declaration of a methanolic solution of 2, 2- diphenyl-1-picrylhydrazyl DPPH. Results of antioxidant activities were determined in three concentrations: 50mg/ml, 100 and 200 mg/ml of each extract. And showed that at increasing the concentration, the susceptibility extracts tending to increase also for DPPH, whereas sample *Cymbopogon Citratus* was the highest concentration is 200 ml, e sample. And at the concentration 200 ml was a sample of *Cymbopogon Citratus*.

Total Phenolic compounds: The phenolic content was determined by using Folin-Ciocalteu assay, the results obtained showed for methanolic extracts that 3.164, 3.385, 16.737, 0.529 and 6.142 mg/g, was for each plant

HPLC Analysis:

- a) HPLC analyses for the quantitative of phenol's compounds present in the extracts of selected medicinal plants leaves: The HPLC analysis of the plant's extracts revealed the presence of phenolic compounds which are Caffeic, Vanillin, Ellagic, Ferulic and Rutin found in different concentrations of the plant leaves extracts. Used the SPSS program exhibited a strong significant positive relationship, between Antioxidant and concentration of all plants leaves extracts.

B) HPLC analyses for the quantitative of sugar's compounds present in the extracts of selected medicinal plants leaves:

The HPLC analysis of the plant's extracts revealed the presence of sugar's compounds as the following: *Ruta Chalepensis* contained Glucose and Galactose, *Lycium shawii* contained Fructose, *Cymbopogon Citratus* contained Sucrose and Glucose, *Euphorbia lathyris* contained Maltose, Glucose, Fructose, and *Plantago major* contained Sucrose, Glucose, Galactose were found in different concentrations in the plant leaves extracts.

Keywords: Medicinal Plants, HPLC, Phytochemical screening, Antibacterial Activity, Antioxidant Activity.