

Dedication

To

my parents

my husband and sons

brothers and sisters

Acknowledgement

I am grateful to **Almighty Allah** for the will and blessings in completing this work.

I would like to express my thanks to Professor Mohamed Abdel Karim Mohamed ,my supervisor, who gave me the chance to do this wonderful research. He also helped me in being engaged with up-to-date literature in the field of research. I would also like to thank my family and friends who helped me a lot in finalizing this research within the limited timeframe.

My special thanks are extended to the staff of Chemistry Department, Sudan University of Science and Technology, for their support and encouragement throughout my study.

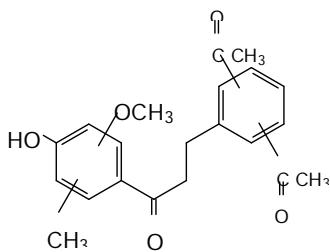
Thanks are extended to The Institute of Medicinal and Aromatic Plants for the facilities.

Thanks for the National Research Center , Cairo , for the spectral data.

Abstract

The roots of *Acacia nilotica* subspecies *tomentosa* were screened for major secondary metabolites. Phytochemical screening revealed the presence of flavonoids, tannins, steroids and alkaloids.

From the roots a flavonoid-compound I- was isolated by TLC in a chromatographically pure form. The structure of this flavonoid was elucidated by a combination of spectral tools (UV, ¹HNMR and MS). It was assigned the following tentative structure:



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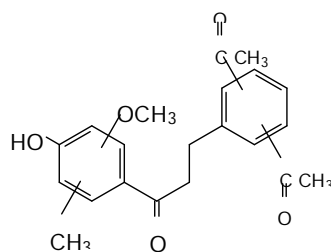
Furthermore, the total extract, chloroform ethyl acetate and n-butanol fractions of roots were evaluated for their antimicrobial activity and excellent results were obtained for some fractions.

The oils from two key species in Sudanese ethnomedicine- *Cassia fistula* and *Eucalyptus camaldulensis* were analyzed by GC-MS. The analysis showed 29 components for *Eucalyptus camaldulensis* and 25 components for *Cassia fistula*. The oils were assessed for antimicrobial activity and promising results were obtained.

المستخلص

اوضحت نتائج المسح الفيتوكيميائى لجذور نبات القرص وجود الفلافونيدات ,
الاسترويدات , القلويدات والتينينات.

استخلصت جذور القرص بالاثانول ثم نقى الناتج الخام بكروماتوغرافيا الطبقة
الرقيقة وتم فصل مركب فلافونيدى – مركب I. حدد تركيب هذا المركب بعدد من
الطرق المطيافية (مطيافية الاشعة فوق البنفسجية- المرئية , مطيافية الرنين النووى
المغناطيسى وطيف الكتلة). وقد اقترح التركيب المبدئى التالى:



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كذلك اجرى اختبار مضاد البكتريا لمستخلصات الاثانول , كلورفورم , اثيل استات
والبيوتانول الغادى وكانت النتائج جيدة جدا.

ثم استخلصت زيوت نباتى الكافور وشمار عنبر ودرست بالكروماتوغرافيا
الغازية الملحقة بطيف الكتلة حيث اوضحت النتائج وجود 29 مكونا لزيت الكافور و
25 مكونا لزيت شمار عنبر. ايضا اجراختبار مضاد البكتريا لهذة الزيوت وكانت
النتائج اعدة.