

# الآية

بسم الله الرحمن الرحيم

قال تعالى :

نمّني

ثمّ ألتخ لم ليّ لي

( سورة طه ، الآية 114 )

صدق الله العظيم

## Dedication

Dedicated to .....

The Soul of my father,

my mother ,

my brothers and sister

# Acknowledgement

First of all, praise is to Almighty Allah whose benevolent blessings enabled me to accomplish this work.

I would like to express my deep gratitude and thanks to my supervisor Dr. Kamal Mohammed Saeed for his keen interest, priceless help, fruitful and expert guidance, personal support, valuable comments and advice and continuous encouragement during the period of this research work.

I am very grateful to the Department of chemistry staff, Sudan University of Science and Technology for all facilities and unlimited help they have given to me.

Finally, I would like to extend my hearty and special thanks to my family and friends for their patience, assistance and support and all those who assisted me to complete this work.

## Abstract

The leaves of *Camellia sinensis* were extracted with 95% ethanol at room temperature.

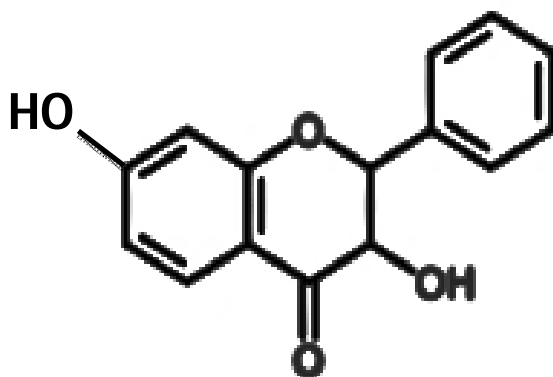
Phytochemical screening (qualitative tests) of the alcoholic extract of the leaves of *Camellia sinensis* revealed the presence of flavonoids, alkaloids, steroids, tannins, and absence of glycosides.

The main flavonoid of *Camellia sinensis* was investigated due to its medicinal value and relative abundance in this plant species.

The main flavonoid was isolated and purified by thin – layer chromatography (TLC) on silica gel using the solvent system chloroform: methanol 3:2 (v:v) from the ethanolic extract , where one flavonoid was obtained in the pure state.

The behavior of this isolate under the UV light and its colour reactions indicates that it is a dihydroflavonol.

The flavonoid was subjected to spectral studies, and the following partial structure was proposed on the basis of its IR, UV-Vis spectra:



## المستخلص

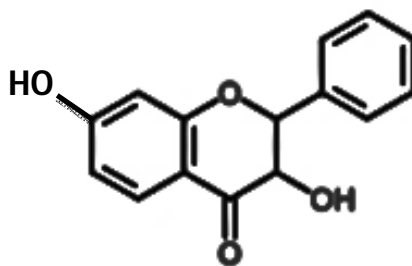
لقد أستخلصت أوراق نبات الشاي الاخضر بواسطة الكحول ( إيثانول 95%) عند درجة حرارة الغرفة .

أجريت إختبارات فيتوكيميائية ( تجارب نوعية ) للمستخلص الكحولي لأوراق نبات الشاي الاخضر حيث أتضح أنه يحتوى على فلافونويدات ، ألكالويدات ( قلويدات)، تانينات ، أسترويدات ولايحتوى على جلايكوسيدات.

بدأت دراسة تفصيلية لأحد الفلافونويدات التي يحتويها النبات لوفرتها ولاهميتها الطبية . تم فصل الفلافونويد الرئيس وتنقيته بواسطة كروماتوغرافيا الطبقة الرقيقة من المستخلص الإيثانولي بإستخدام المذيب كلوروفورم : ميثانول بنسبة 2:3 (V: V) حيث تم فصل مركب واحد من الفلافونويدات في الصورة النقية.

وقد أتضح من التفاعلات اللونية للفلافونويد وسلوكه تحت الأشعة فوق البنفسجية أنه ثنائي هيدروفلافونول.

بعد أن أخضع الفلافونويد لدراسات طيفية وبناءاً على اطياف الأشعة تحت الحمراء والأشعة فوق البنفسجية – المرئية ، أقترح التركيب الجزئي التالي:



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