



## **Dedication**

To our parents for their love, support, encouragement and dedication.

## **Acknowledgement**

Our praise and thanks to Allah, who gave us the strength to conduct such work. We are greatly indebted to our supervisor **Dr Essa Esmail MohammedAhmed** For his close supervision, advice and encouragement. We wish also to express our appreciation to our colleagues and friend **Ahmed Abdu ElAzeem U.Reem, Sara, Hashim Said and Mohammad El jawad** for their continuous support, and all those who helped and encouraged us to do this work.

## Abstract

The aim of this study is to extract and characterize curcuminoids pigment from *turmeric curcuma longa L.* grown in Comoros. The extraction of curcuminoids from turmeric was carried out using a solvent extraction technique with dichloromethane as a solvent which followed by a recrystallization step with methanol. FT-IR spectroscopy, UV, melting point and TLC were used to characterize the isolated pigment. The IR analysis confirmed the presence of the characteristics absorption peaks of curcuminoids. Two distinctive absorption bands were noticed in UV with maximum absorption peak at 420 nm. The melting point of the product was found to be equal to 173°C. Three different overlapped-colored zones were observed in TLC using two different solvent systems (methanol/ethylacetate and ethylacetate/toluene).

## ملخص البحث

هدفت هذه الدراسة لاستخلاص وتشخيص صبغة الكركم من نبات الكركم الذي جمع من جزر القمر. أجريت عملية الاستخلاص بالمذيب لهذه الصبغة باستخدام ثنائي كلورو ميثان ثم تمت بلورتها بالميثانول. استخدمت تقنية الأشعة تحت الحمراء، وتقنية الأشعة فوق البنفسجية، ونقطة الانصهار، وكروماتوغرافية الطبقة الرقيقة للتعرف على خصائص هذه الصبغة. بينت نتائج الأشعة تحت الحمراء قيم الامتصاص الأساسية وأوضح طيف الأشعة فوق البنفسجية أعلى طول موجي عند 420 نانومتر، كما أكد قياس نقطة الانصهار ذلك والذي وجد أنه يساوي 173 وتم الحصول في كروماتوغرافية الطبقة الرقيقة على ثلاثة مكونات باستخدام نوعين مختلفين من المذيبات (إيثايل أسيتات / تولوين) - (إيثايل أسيتات / ميثانول).

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