ISOLATION OF CHEMICAL CONSTITUENTS FROM ZINGIBERACEAE PLANTS FOR INSECTICIDAL ACTIVITY

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Lihat sebelah

ISOLATION OF CHEMICAL COMPOUND FROM *ETLINGERA ELATIOR* FLOWER SHOOTS

By

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PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:
Isolation of Chemical Compounds from *Etlingera elatior* Flower Shoots oleh **Mohd Hadzwan Bin Zulkefle,** No. Matrik **UK 6914** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Kimia sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Sains (Sains Kimia), Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

CC	-	Column Chromatography
GC-MS	-	Gas Chromatography Mass Spectroscopy
IR	-	Infrared
NMR	-	Nuclear Magnetic Resonance
TLC	-	Thin Layer Chromatography
UV	-	Ultra-violet

LIST OF APPENDICES

ABSTRACT

This study was focused on *Etlingera elatior* flower shoots or locally known as 'Bunga Kantan' which was taken from Kuala Berang, Terengganu. The chemical composition from the dried *Etlingera elatior* flower shoots was extracted three times using chloroform as the extracting solvent. After going through an evaporation process, the chloroform crude extract went through an isolation process, using the thin layer chromatography (TLC) and column chromatography techniques (CC). In the chromatographic technique, hexane and diethyl ether were used as the solvent system. The isolated compounds were labelled as EE 1, EE 2, EE 3, EE 4 and EE 5. Each of the compounds isolated were analyzed and characterized using spectroscopic methods, infrared (IR) and ultra-violet (UV). EE 1, EE 2, EE 3 and EE 4 could possibly be suggested as a long alkyl group, a steroidal ketone compound or a labdane diterpene. Although not pure enough, EE 5 could also be a long alkyl group or steroidal ketone compound. However, the exact structures for the compounds were not assignable.

ABSTRAK

Kajian ini dijalankan ke atas *Etlingera elatior* atau lebih dikenali sebagai Bunga Kantan yang diambil dari Kuala Berang, Terengganu. Komposisi kimia *Etlingera elatior* yang kering telah diekstrak tiga kali menggunakan kloroform. Setelah melalui proses pemekatan, ekstrak pekat itu telah melalui proses pemisahan yang melibatkan teknik kromatografi lapisan nipis (TLC) dan kromatografi turus (CC). Heksana dan diethyl ether telah digunakan sebagai sistem pelarut di dalam teknik kromatografi itu. Sebatian-sebatian yang telah dipisahkan telah berjaya dipisahkan adalah EE 1, EE 2, EE 3, EE 4 dan EE 5. Sebatian-sebatian ini kemudiannya dianalisa dan dicirikan dengan menggunakan kaedah spektroskopi inframerah (IR) dan ultra lembayung (UV). Sebatian EE 1, EE 2, EE 3 dan EE 4 adalah berkemungkinan sebatian rantai panjang alkil, sebatian steroidal keton ataupun labdane diterpene. Sebatian EE 5 yang tidak begitu bersih juga mungkin merupakan sebatian rantaian panjang alkil atau sebatian steroidal keton. Walaubagaimanapun, stuktur sebenar sebatian-sebatian ini tidak dapat ditentukan.