

ALKALOID EXTRACTION FROM LEAVES OF
Dasymaschalon obtusipetalum **BY**
ELECTROCOAGULATION

NATTAYAPORN RATTANAWIJIT

A THESIS SUBMITTED TO CHIANG MAI UNIVERSITY IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE
IN CHEMISTRY

GRADUATE SCHOOL, CHIANG MAI UNIVERSITY

APRIL 2014

**ALKALOID EXTRACTION FROM LEAVES OF
Dasymaschalon obtusipetalum BY
ELECTROCOAGULATION**

NATTAYAPORN RATTANAWIJIT

THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL FULFILLMENT OF
THE REQUIRMENTS FOR THE DEGREE OF MASTER OF SCIENCE
IN CHEMISTRY

Examination Committee:

A. Jatis Chairman

(Assoc. Prof. Dr. Araya Jatisatiern)

Pitchaya Member

(Dr. Pitchaya Mungkornasawakul)

Thunwadee Ritthiwigrom Member

(Dr. Thunwadee Ritthiwigrom)

Advisory Committee:

Pitchaya Advisor

(Dr. Pitchaya Mungkornasawakul)

Thunwadee Ritthiwigrom Co-advisor

(Dr. Thunwadee Ritthiwigrom)

23 April 2014

Copyright © by Chiang Mai University

ACKNOWLEDGEMENT

My deepest sincere appreciation my thesis advisor, Dr. Pitchaya Mungkornasawakul, for her practical training, valuable suggestions and excellent encouragement throughout this work from the beginning until completion of the thesis. Without her encouragement, I would not have been able to complete this research.

I am also deeply grateful to Dr. Thunwadee Ritthiwigrom, my co-advisor for her kindness advice, help, practical training and valuable suggestions until completion of this work.

I would like to thank Assoc. Prof. Dr. Araya Jatisatienr for kind advice, reviewing the manuscript and offering many useful suggestions until completion of this work.

I would like to thank Dr. Kongkiat Trisuwan for his useful help in NMR analysis and kind assistance.

I would like to thank Asst. Prof. Dr. Sunanta Wangkarn and Mr. Chinnapat Sirithanyarote for their useful help in HPLC analysis and kind assistance.

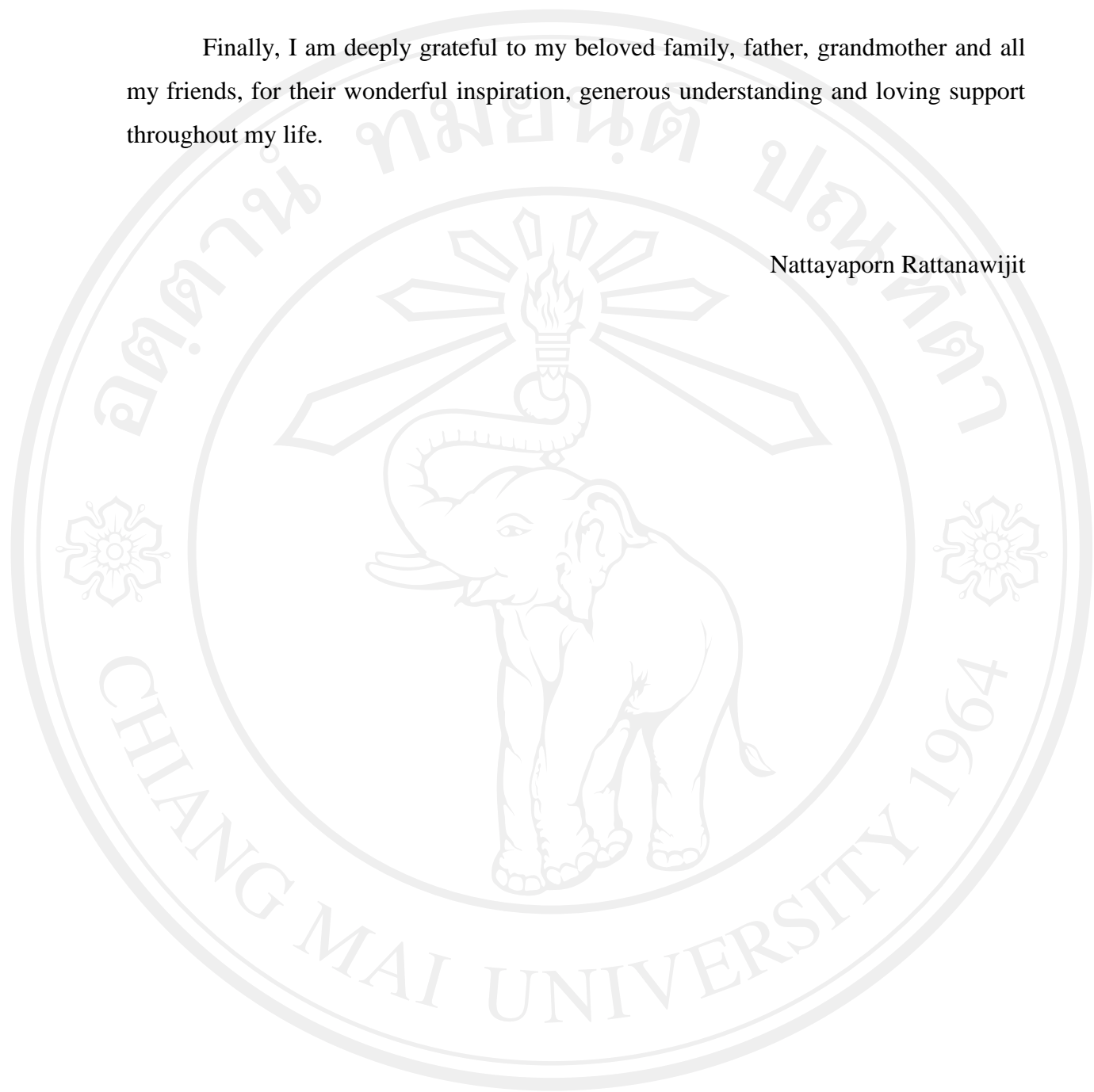
Likewise, I wish to phrase my appreciation to Mr. Jame F. Maxwell at Department of Biology, Faculty of science, Chiang Mai University for collection of plant materials.

I also would like to thank the members of Dr. Pitchaya and Dr. Thunwadee research groups for their help and warm friendship. I would like to thank the staffs in the Department of Chemistry, Faculty of science, Chiang Mai University.

I like to emphasize my grateful to Centre for Innovation in Chemistry (PERCH-CIC) and The graduate school, Chiang Mai University for financial support.

Finally, I am deeply grateful to my beloved family, father, grandmother and all my friends, for their wonderful inspiration, generous understanding and loving support throughout my life.

Nattayaporn Rattanawijit



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright© by Chiang Mai University
All rights reserved