

**ANTI-ARTHRITIC AND GASTROPROTECTIVE  
ACTIVITIES OF THE ETHANOL EXTRACT  
FROM *Murdannia loriformis***

**PHRAEPAKAPORN KUNNAJA**

**DOCTOR OF PHILOSOPHY  
IN PHARMACOLOGY**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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**GRADUATE SCHOOL  
CHIANG MAI UNIVERSITY**

**MARCH 2014**

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THE ETHANOL EXTRACT FROM *Murdannia loriformis***

**PHRAEPAKAPORN KUNNAJA**

**A THESIS SUBMITTED TO CHIANG MAI UNIVERSITY IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY**

**IN PHARMACOLOGY**

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THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY  
IN PHARMACOLOGY

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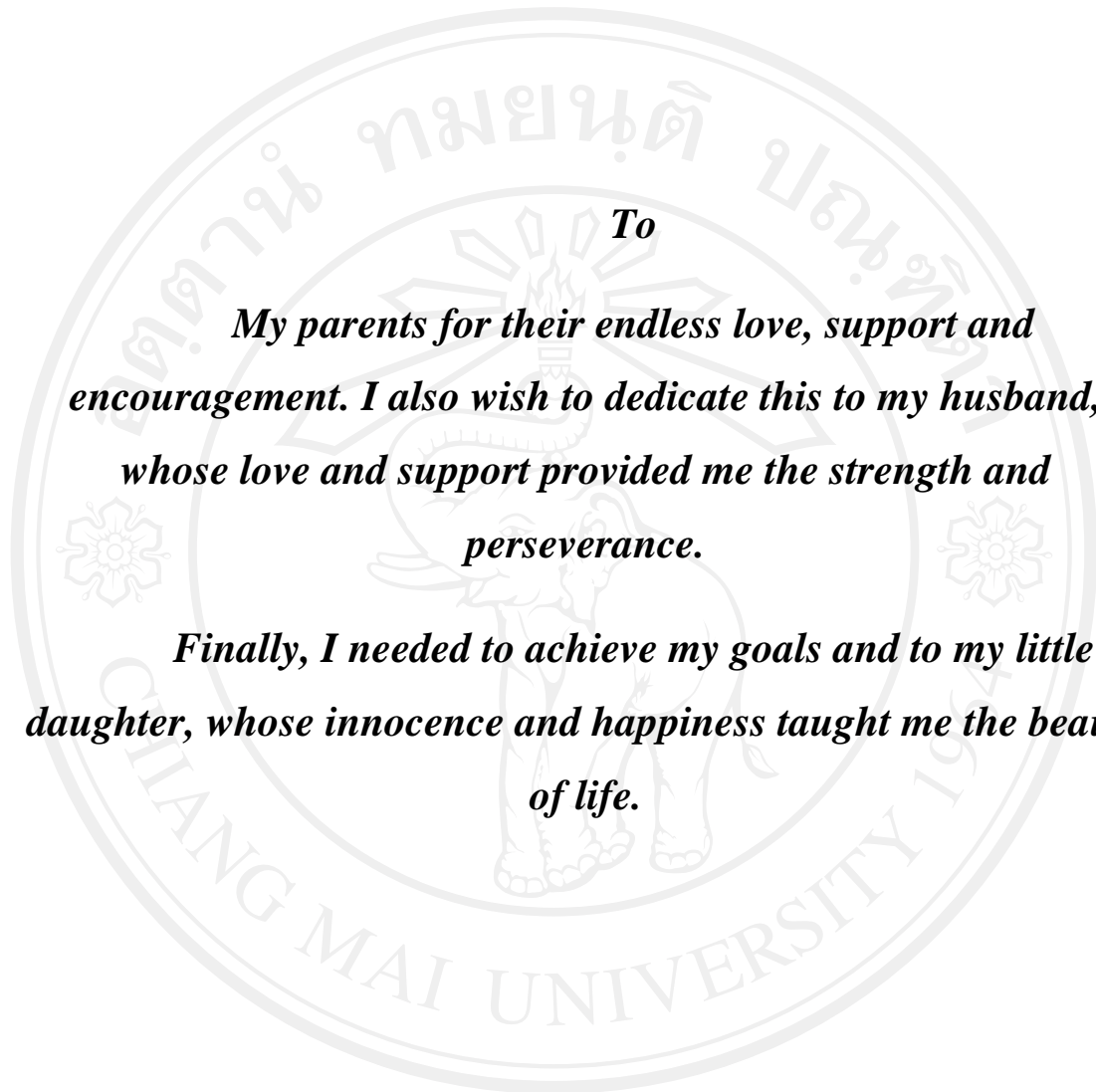
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24 March 2014

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**To**

***My parents for their endless love, support and encouragement. I also wish to dedicate this to my husband, whose love and support provided me the strength and perseverance.***

***Finally, I needed to achieve my goals and to my little daughter, whose innocence and happiness taught me the beauty of life.***

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