## ANTIOXIDANT ACTIVITY OF CHEMICAL CONSTITUENTS FROM KAEMPFERIA PARVIFLORA WALL EX BAKER

KAMOLPORN PANYAKARD

A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN
PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF SCIENCE
IN PHARMACEUTICAL SCIENCES

GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
MARCH 2007

# ANTIOXIDANT ACTIVITY OF CHEMICAL CONSTITUENTS FROM KAEMPFERIA PARVIFLORA WALL EX BAKER

## KAMOLPORN PANYAKARD

A THESIS HAS BEEN APPROVED TO BE A PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN PHARMACEUTICAL SCIENCES

### **EXAMINING COMMITTEE**

Since Chambre.	CHAIRPERSON
Asst. Prof. Dr. Sunee Chansakaow	
and and	MEMBER
Asst. Prof. Dr. Chaiyavat Chaiyasut	
Ampai Phnetivoraponghul	MEMBER
Dr. Ampai Phrutivorapongkul	
Dr. Mayuree Kanlayavattanakul	MEMBER

28 March 2007

© Copyright by Chiang Mai University

#### ACKNOWLEDGEMENT

The author would like to express sincere thanks and appreciation to supervisor, Asst. Prof. Dr. Sunee Chansakaow and co-supervisor, Asst. Prof. Dr. Chaiyavat Chaiyasut for their supervision, guidance, continual encouragement and assistance on this research work.

Grateful appreciation is also due to Dr. Ampai Phrutivorapongkul and Dr. Mayuree Kanlayavattanakul for serving on the examining committee.

Considerably thanks go to Graduate school and Department of Pharmaceutical Sciences, Faculty of Pharmacy, Chiang Mai University for research fund and provision of excellent laboratory facilities.

Special thanks go to all of author's friends and Chiang Mai University officers for their uncountable help and friendship throughout this work.

Finally, I would like to express my gratitude with the highly indebtedness to my family for their love, understanding and encouragement. I would like to dedicate it to their wish.

adams um omenaelle elolmu Copyright by Chia Kamolporn Panyakard niversity All rights reserved