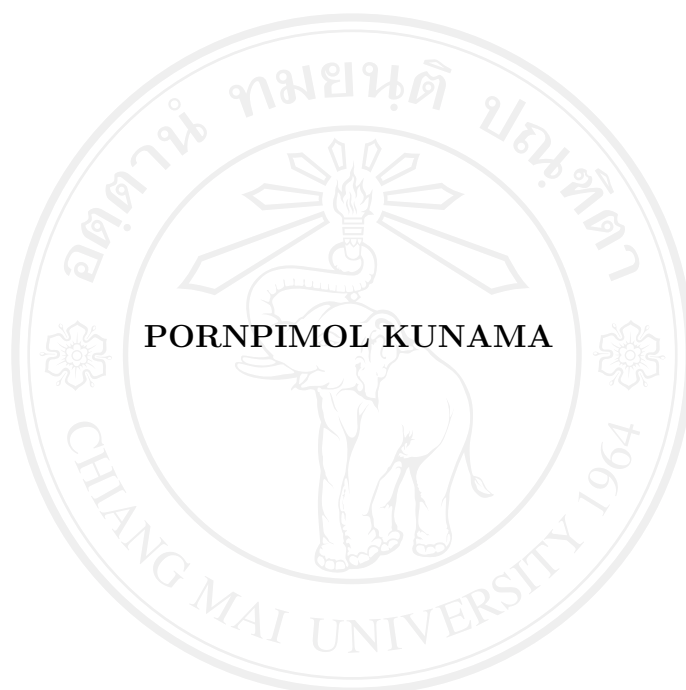


**ALL MAXIMAL COMPLETELY REGULAR
SUBMONOIDS OF GENERALIZED
HYPERSUBSTITUTIONS
OF TYPE (n)**

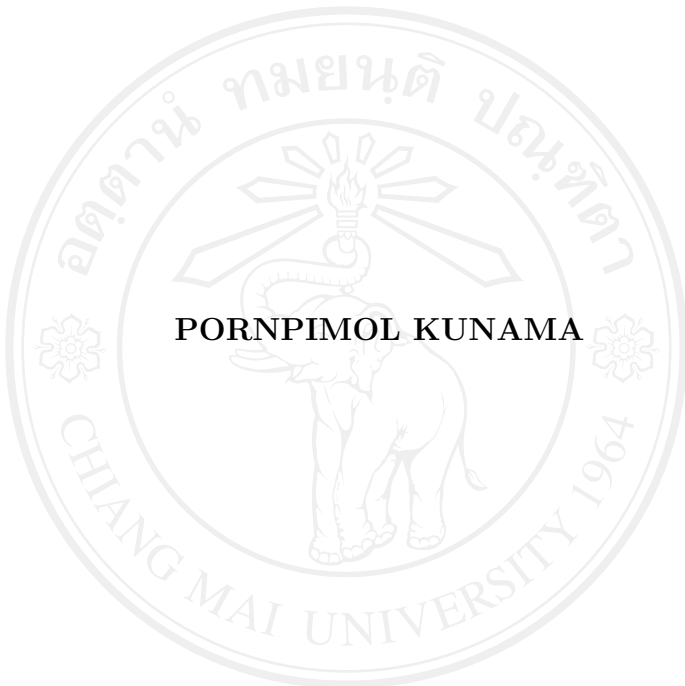


PORNPIMOL KUNAMA

**MASTER OF SCIENCE
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**GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
JUNE 2017**

**ALL MAXIMAL COMPLETELY REGULAR
SUBMONOIDS OF GENERALIZED
HYPERSUBSTITUTIONS
OF TYPE (n)**

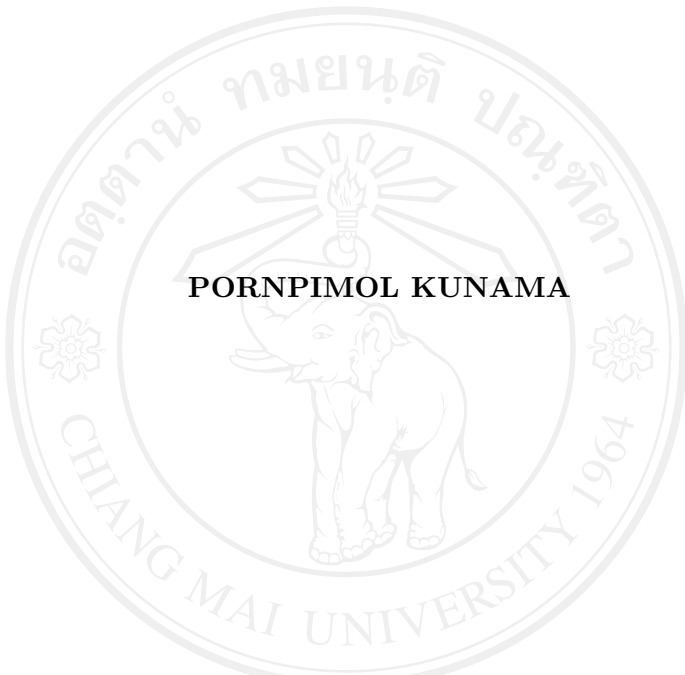
The seal of Chiang Mai University is a circular emblem. It features a central figure of an elephant standing and facing left. Above the elephant is a five-pointed star with a flame-like center. The Thai text "มหาวิทยาลัย เชียงใหม่" (Mahavithayalai Chiang Mai) is written in a circular path around the top of the seal. Below the elephant, the English text "CHIANG MAI UNIVERSITY 1964" is written in a circular path. The seal is rendered in a light gray, semi-transparent style.

PORNPIMOL KUNAMA

**MASTER OF SCIENCE
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JUNE 2017**

**ALL MAXIMAL COMPLETELY REGULAR
SUBMONOIDS OF GENERALIZED
HYPERSUBSTITUTIONS
OF TYPE (n)**

The seal of Chiang Mai University is a circular emblem. It features a central figure of an elephant standing and facing left. Above the elephant's head is a five-pointed star with a flame-like center. The Thai text "มหาวิทยาลัย เชียงใหม่" (Mahavithayalai Chiang Mai) is written in a circular path around the top of the seal. Below the elephant, the English text "CHIANG MAI UNIVERSITY 1964" is written in a circular path. The author's name, "PORNPIMOL KUNAMA", is printed in bold capital letters across the center of the seal, over the elephant.

PORNPIMOL KUNAMA

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

**GRADUATE SCHOOL, CHIANG MAI UNIVERSITY
JUNE 2017**

ALL MAXIMAL COMPLETELY REGULAR
SUBMONOIDS OF GENERALIZED
HYPERSUBSTITUTIONS
OF TYPE (n)

PORNPIMOL KUNAMA

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

Examination Committee :

Advisor :

Bundit Pibajommee Chairman

Sorasak Leeratanavalee

(Asst. Prof. Dr. Bundit Pibajommee)

(Assoc. Prof. Dr. Sorasak Leeratanavalee)

Sorasak Leeratanavalee Member

(Assoc. Prof. Dr. Sorasak Leeratanavalee)

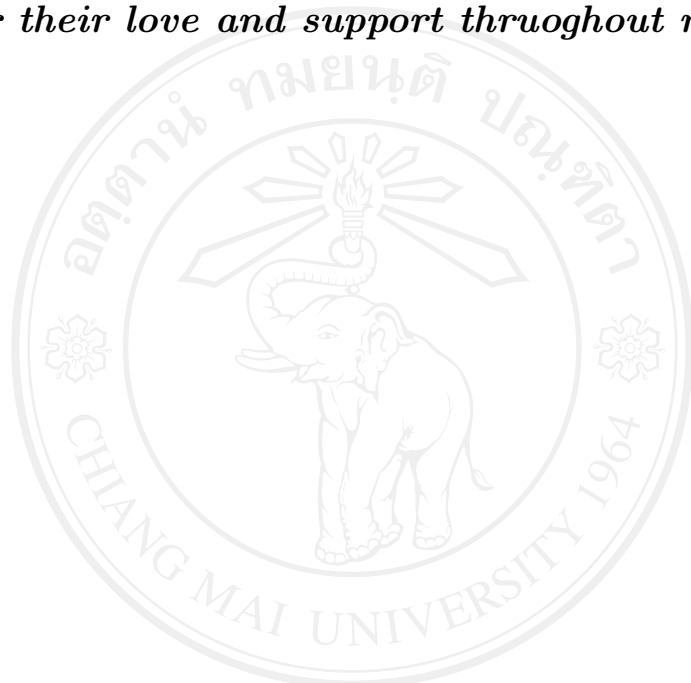
Sayan Panma Member

(Asst. Prof. Dr. Sayan Panma)

19 June 2017

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*This work is dedicated to my parents
for their love and support throughout my life.*



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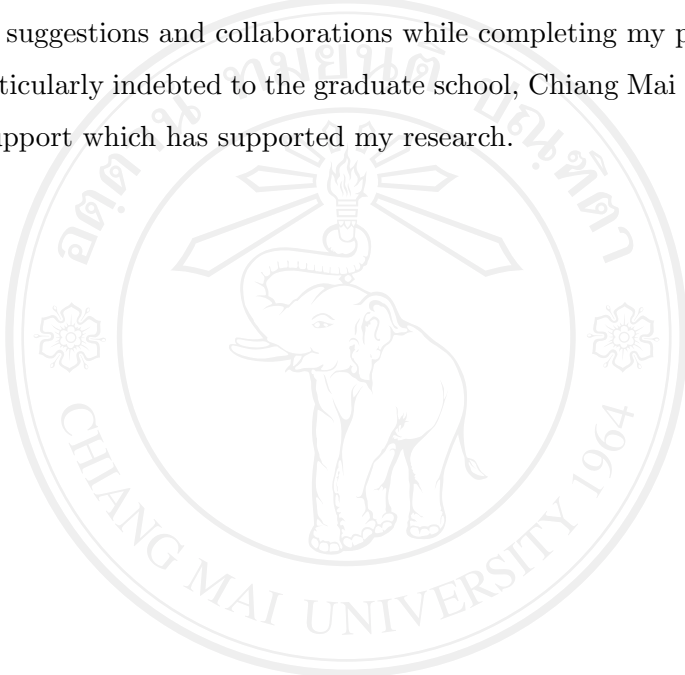
ACKNOWLEDGEMENT

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I am particularly indebted to the graduate school, Chiang Mai University, Thailand for financial support which has supported my research.

Pornpimol Kunama

The seal of Chiang Mai University is a circular emblem. In the center is a stylized elephant facing left, with a flame-like symbol above its head. The text "CHIANG MAI UNIVERSITY 1964" is written in a circle around the elephant. Thai script is also present in the upper part of the seal.

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