INFLUENCE OF SYNTHESIS SCALE ON THE REACTION PROFILE IN THE BULK COPOLYMERISATION OF L-LACTIDE AND

从从

ε-CAPROLACTONE

WATHUKA BOONCHAROEN

MASTER OF SCIENCE
IN CHEMISTRY

adans university

Copyright by Chiang Mai University

All right School ry ed

CHIANG MAI UNIVERSITY

AUGUST 2008

INFLUENCE OF SYNTHESIS SCALE ON THE REACTION PROFILE IN THE **BULK COPOLYMERISATION** OF L-LACTIDE AND ε-CAPROLACTONE

WATHUKA BOONCHAROEN

A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE

ลิขสิทธิ์มหาวิทยาลยเชียงใหม Copyright[©] by Chiang Mai University All rights reserved

> THE GRADUATE SCHOOL CHIANG MAI UNIVERSITY **AUGUST 2008**

INFLUENCE OF SYNTHESIS SCALE ON THE REACTION PROFILE IN THE BULK COPOLYMERISATION OF L-LACTIDE AND ε -CAPROLACTONE

WATHUKA BOONCHAROEN

THIS THESIS HAS BEEN APPROVED

TO BE A PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF MASTER OF SCIENCE

IN CHEMISTRY

| EXAMINING COMMITTEE | |
|--|------|
| You thong Bainarh CHAIRPERSON | |
| Dr. Yodthong Baimark | |
| Winita Punyadam MEMBER | |
| Asst. Prof. Dr. Winita Punyodom | 171 |
| MEMBER | nIJ |
| Copyright Robert Molloy hiang Mai University | sity |
| MEMBER | e d |
| Dr. Kanarat Nalampang | Cu |

25 August 2008

© Copyright by Chiang Mai University

ACKNOWLEDGEMENTS

I would like to express my heartfelt gratitude and appreciation to my supervisor, Asst. Prof. Dr. Winita Punyodom for her kind supervision, enthusiasm, invaluable guidance, excellent proofing of all my writing and constant encouragement throughout the course of this research project.

I would like to express my heartfelt gratitude and appreciation to my coadvisor, Dr. Robert Molloy for his kind supervision, invaluable guidance and excellent proofing of my writing.

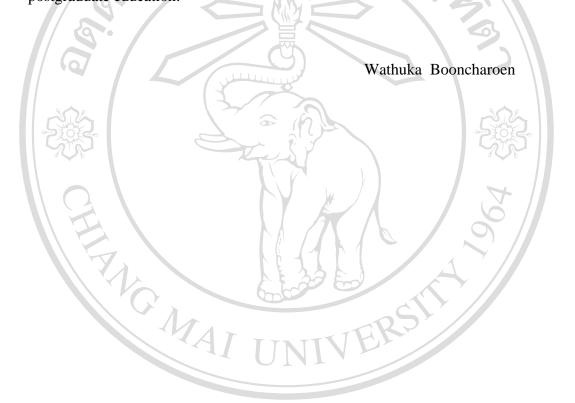
I would like to thank my co-advisor, Dr. Kanarat Nalampang for his comments and suggestions.

I am also indebted to Dr. Puttinan Meepowpan for his enthusiasm, insightful help, many useful suggestion laboratory techniques, sharing his extensive knowledge and his assistance in laboratory apparatus and his help in using MestRe-C software program for NMR analysis.

I also wish to express my sincere gratitude to the Department of Chemistry, Faculty of Science, Chiang Mai University, for kindly providing me with the laboratory and library facilities which made this study possible. All my friends in the department and the Biomedical Polymers Technology Unit, former and present are also thanked for their help and making it a great place to work. Special thanks are due to Miss Chutima Saeheng for her help with the melt rheology measurements, Miss Nantarat Suebsanit for her training in the use of the tensile and the DSC analysis equipment, Miss Butsakorn Waraegsiri for her helps with the GPC analyses.

For financial support, I am indebted to the Center for Innovation in Chemistry: Postgraduate Education and Research Program in Chemistry (PERCH-CIC) and Graduate School, Chiang Mai University for part of my general expenses.

Last and most of all, I am indebted to my family for all their tender love, care and endless encouragement which has enabled me to achieve success in my postgraduate education.



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่ Copyright[©] by Chiang Mai University All rights reserved