ACKNOWLEDGEMENT

I would like to express my deep and sincere gratitude to all those who gave me the possibility to complete this thesis. First of all, most of credits in this thesis should justifiably go to my advisor, Associate Professor Dr. Supa Hannongbua, for her valuable guidance, continuous support, kindness, inspiration, and encouragement value assistance throughout the course of my graduate. I would like to express my deep appreciation to Dr. Didier Rognan who always provides me for considerably valuable suggestions, comments and discussion on various aspects to my work.

Furthermore, I would like to thank my committees, Associate Professor Dr. Supanna Techasakul and Assistant Professor Dr. Apinya Duangchan for their very valuable comments and suggestions of this work. I am grateful to Professor Dr. Peter Wolschann for helpful comments and suggestions in qualify examination. I would like to acknowledge Dr. Chak Sangma for the valuable comments and discussion during the study.

I would like to acknowledge Assistant Professor Dr. Arunee Thitithanyanont, Assistant Professor Dr. Suda Louisirirotchanakul, Miss Phattaraporn Orataiwun, Miss Suwimon Wiboon-ut for their kindness for biological testing. I would like also to thank Mr. Theerachart Leepasert for his help for preparing the compounds. Special thanks are due to Dr. Pornpan Pungpo for their valuable assistance and continuing supports in various ways.

The Royal Golden Jubilee Ph. D. program, The Development and Promotion of Science and Technology Talent Project (DPST) and The Graduated School Kasetsart University are gratefully acknowledged for financial support for the entire study. The French embassy of Thailand is also gratefully acknowledged for research support.

The Postgraduate Education and Research Programs in Petroleum and Petrochemical Technology (ADB-MUA), Computing Research and Development Division (CRDD) of the National Electronics and Computer Technology (NECTEC), Laboratoire de Pharmacochimie de la Communication Cellulaire, UMR CNRS 7081, and Laboratory for Computational and Applied Chemistry (LCAC) at Kasetsart University are also gratefully acknowledged for research facilities and computing resources.

My colleagues at Laboratory for Computational and Applied Chemistry (LCAC) at Kasetsart University and Laboratoire de Pharmacochimie de la Communication Cellulaire, UMR CNRS 7081 are sincere thanked for their providing considerable helpful assistance during my study.

Finally, I would like to particularly gratitude my family for their great encouragement during this work.

Patchreenart Saparpakorn

September, 2006