

ACKNOWLEDGEMENT

I would like to express my very great appreciation to my advisor, Associate Professor Dr. Tasana Pitaksuteepong, who is the best guidance for my thesis and gave me invaluable help since the thesis started until successful. My co-advisor, Dr. Sudaporn Wongwan, who gave the appreciate suggestion and valuable discussion throughout completely the research work.

I would like to special thank the thesis committee Associate Professor Dr. Srisagul Sungthongjeen, Assistant Professor Anong Visavarunroj and Khun Sombat Wanauppathamkul for gainful comments.

I also thank Mrs. Sakawrat Tabthonglang, Ms. Supaporn Tuanthai, and other staffs at the faculty of Pharmaceutical Sciences for suggest the instruction of laboratories instrument and other help.

I wish to thanks Mr. Chein Yhirayha for laboratory suggestion, precious help and encouragement throughout my study.

Special thanks are also to The Sun Chemical Co., Ltd, Merck (Thailand) Ltd., and Beiersdorf (Thailand) Co., Ltd. for providing some UV filters and commercial sunscreen products.

In addition, I would like to acknowledge the financial support from the Research Grant for Graduate Student 2013 (Graduate school, Naresuan University), Yearly Budget Naresuan 2557 (P2557C178, Naresuan University) and the Center of Excellence for Innovation in Chemistry (PERCH-CIC) #14th.

Finally, my graduation would not be achieved without best wishes from my parents, Mr. Panom and Mrs. Tassanee Yuying, who always gives me the greatest love and raises me up when I feel hopeless. And the last gratefully thank for all concerned whose names are not mentioned for their helps and supports until completely my thesis.

Noppamas Yuying