



THESIS APPROVAL
GRADUATE SCHOOL, KASETSART UNIVERSITY

Doctor of Philosophy (Agricultural Biotechnology)

DEGREE

Agricultural Biotechnology

FIELD

Interdisciplinary Graduate Program

PROGRAM

TITLE: Production of Plumbagin by Hairy Root, Callus and Cell Suspension
Cultures of *Plumbago indica* L.

NAME: Miss Petcharut Chuntaratin

THIS THESIS HAS BEEN ACCEPTED BY

_____ **THESIS ADVISOR**

(Assistant Professor Sermsiri Chanprame, Ph.D.)

_____ **COMMITTEE MEMBER**

(Assistant Professor Sontichai Chanprame, Ph.D.)

_____ **COMMITTEE MEMBER**

(Assistant Professor Ratchanee Hongprayoon, Ph.D.)

_____ **GRADUATE COMMITTEE
CHAIRMAN**

(Associate Professor Pongthep Akranakul, Ph.D.)

APPROVED BY THE GRADUATE SCHOOL ON _____

_____ **DEAN**

(Associate Professor Vinai Artkongharn, M.A.)