

**ENHANCEMENT OF MICROALGAL CONSORTIUM
CULTIVATION EFFICIENCY USING CARBON
DIOXIDE FOR BIOMASS AND
LIPID PRODUCTION**

SUNISA BOONMA

DOCTOR OF PHILOSOPHY

IN APPLIED MICROBIOLOGY

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**GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
JULY 2015**

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**A THESIS SUBMITTED TO CHIANG MAI UNIVERSITY IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN APPLIED MICROBIOLOGY**

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THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL FULFILLMENT OF
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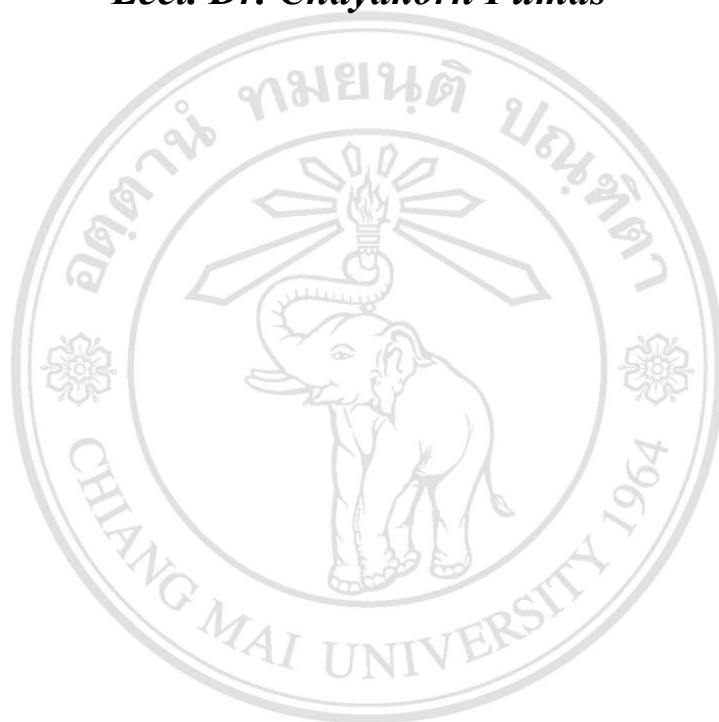
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22 July 2015

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To
My family, Assoc. Prof. Dr. Yuwadee Peerapornpisal,
Asst. Prof. Dr. Suparin Chaiklangmuang,
Lect. Dr. Chayakorn Pumas



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