

**MOLECULAR INVESTIGATIONS OF PHYTOCHEMICALS HAVING  
EFFECTS ON HUMAN CHONDROCYTE METABOLISM**

**THANYALUCK PHITAK**

**DOCTOR OF PHILOSOPHY**

**IN BIOCHEMISTRY**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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**THE GRADUATE SCHOOL**

**CHIANG MAI UNIVERSITY**

**AUGUST 2010**

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**A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN  
PARTIAL FULFILLMENT OF THE REQUIRMENTS  
FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY  
IN BIOCHEMISTRY**

**THE GRADUATE SCHOOL  
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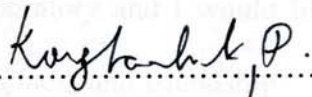
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TO BE A PARTIAL FULFILLMENT OF THE REQUIREMENTS  
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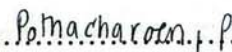
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.....CO-ADVISOR

Prof. Dr. Bruce Caterson

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