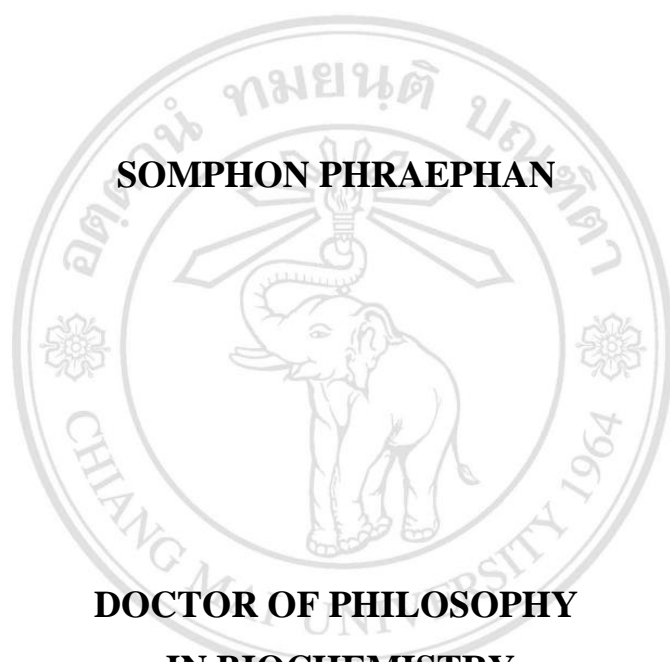


**GENERATION OF RECOMBINANT SCFV  
ANTIBODY TO HEMOGLOBIN BART'S**

**SOMPHON PHRAEPHAN**



**DOCTOR OF PHILOSOPHY  
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**GRADUATE SCHOOL  
CHIANG MAI UNIVERSITY  
MARCH 2015**

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**SOMPON PHRAEPHAN**

**A THESIS SUBMITTED TO CHIANG MAI UNIVERSITY IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY  
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THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF  
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**Examination Committee:**

**Advisory Committee:**


  
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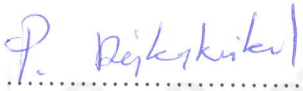
  
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19 March 2015

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**Dedicate to my parents, my wife and my daughter who  
beloved and supporting me to make the thesis successful.**



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Somphon Phraephan