

**SINTERING MECHANISM OF  $\text{CaCO}_3$  AND  $\text{NH}_4\text{H}_2\text{PO}_4$   
POWDERS FOR SYNTHESIS OF HYDROXYAPATITE  
CERAMICS AND ANIMAL TESTING**

**RUNGSARIT KOONAWOOT**

**DOCTOR OF PHILOSOPHY  
IN MATERIALS SCIENCE**

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**GRADUATE SCHOOL  
CHIANG MAI UNIVERSITY  
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**RUNGSARIT KOONAWOOT**

**A THESIS SUBMITTED TO CHIANG MAI UNIVERSITY IN PARTIAL  
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**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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