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## Characterization of Bioactive Metabolites from *Albizia lebbeck*, *Eurycoma longifolia*, and Marine-derived Fungi

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Kyaw Thet Oo

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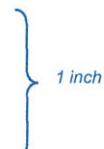
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A thesis submitted in partial fulfillment of the requirements for the degree of  
**Doctor of Philosophy (Chemical Biology)**  
 Chemical Biology Program  
 Chulabhorn Royal Academy  
 Chulabhorn Graduate Institute  
 Thailand  
 Academic Year 2009

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## Characterization of Bioactive Metabolites from *Albizia lebbeck*, *Eurycoma longifolia*, and Marine-derived Fungi

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## **Characterization of Bioactive Metabolites from *Albizia lebbeck*, *Eurycoma longifolia*, and Marine-derived Fungi**

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Mr. Kyaw Thet Oo  
Student

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Assoc. Prof. Dr. Prasat Kittakoop  
Thesis Advisor

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Dr. Montakarn Chittchang  
Thesis Co-Advisor

*3 blank lines (Single-spaced)*

Assoc. Prof. Dr. Piniti Ratananukul  
Program Director

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## **Characterization of Bioactive Metabolites from *Albizia lebbeck*, *Eurycoma longifolia*, and Marine-derived Fungi**

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was submitted to Chulabhorn Graduate Institute  
for the degree of Doctor of Philosophy (Chemical Biology)

*Single-spaced*

on June 30, 2008

*Defense Examination Date*

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Mr. Kyaw Thet Oo  
Student

*3 lank lines (Single-spaced)*

Prof. Emeritus Dr. Somsak Ruchirawat  
Chairperson

*3 lank lines (Single-spaced)*

Assoc. Prof. Dr. Prasat Kittakoop  
Committee

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Dr. Montakarn Chittchang  
Committee

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*Times New Roman, 14 points, Bold* → **Acknowledgements**

I would like to express my indebtedness to the individuals who have been involved in this research. Many thanks to.....

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I would also like to thank .....

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Kyaw Thet Oo  
Defense Examination Date ← June 2008

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**Thesis Title:** Characterization of Bioactive Metabolites from *Albizia lebbeck*,  
*Eurycoma longifolia*, and Marine-derived Fungi

**By:** Kyaw Thet Oo 012345678 Ph.D. (Chemical Biology)

**Thesis Advisor:** Assoc. Prof. Dr. Prasat Kittakoop

**Thesis Co-Advisor: (Input if you have Co-Advisor)**

85 P. → (The number of page from Chapter 1 to Biography)

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**ABSTRACT** ← *Times New Roman, 12 points, Bold*

The purpose of this research was to study.....

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The results of this study suggested that.....

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**Keywords:** Bioactive, DC-SIGN receptor, .....

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**Proceedings: / Publication(s):** .....

**Proceedings: / Publication(s):** (According to a list of proceedings/ publication(s))

for graduation requirement informed by Thesis Advisor)

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Program ... Chemical Biology.....

Student's Signature.....

Academic Year ..... 2009.....

Advisor's Signature .....

## รูปแบบการเขียนข้อมูลการตีพิมพ์เผยแพร่ผลงานวิจัยในเล่มวิทยานิพนธ์

ด้วยงานส่งเสริมวิชาการ ได้รับข้อเสนอแนะเพิ่มเติมจากคณะกรรมการวิชาการว่า ควรมีการใส่ชื่อผลงานวิจัยที่ได้รับการตีพิมพ์เผยแพร่ผ่านวารสารวิชาการระดับนานาชาติ (Publication) และผ่านรายงานสืบเนื่องจากการประชุมวิชาการ (Proceedings) ในหน้า Abstract ของเล่มวิทยานิพนธ์ต่อจากรายการ Keywords ดังนั้น งานส่งเสริมวิชาการ จึงขอแจ้งตัวอย่างการแสดงชื่อผลงานวิจัยในรูปแบบต่างๆ ดังนี้

### รูปแบบสำหรับการแสดงชื่อผลงานวิจัยที่ได้รับการตีพิมพ์เผยแพร่ผ่านวารสารวิชาการระดับนานาชาติ (Publication)

Kullapanich C, Dubbs JM, Mongkolsuk S. Inactivation of the *Agrobacterium tumefaciens* ActSR system affects resistance to multiple stresses with increased H<sub>2</sub>O<sub>2</sub> sensitivity due to reduced expression of *hemH*. *Microbiology*. 2019;165(10):1117-34.

### รูปแบบสำหรับการแสดงชื่อผลงานวิจัยที่ได้รับการตีพิมพ์เผยแพร่ผ่านรายงานสืบเนื่องจากการประชุมวิชาการ(Proceedings) ให้เรียงลำดับการแสดงข้อมูลดังนี้

Author. Title of paper. Proceedings of the Title of Conference; Year Month Date of Conference; Location of Conference, Place of publication. p. first-last page.

### ตัวอย่าง

e.g. *The Annual Conference of the Center of Excellence on Environmental Health and Toxicology (EHT)*

Saensuk S, Sureram S, Ruchirawat S, Kittakoop P. ชื่อเรื่อง. Proceedings of the Annual Conference of the Center of Excellence on Environmental Health and Toxicology; 2019 Nov 2; Chulabhorn Research Institute, Bangkok. p. first-last page.

e.g. *Thai Neuroscience Society Conference (TNS)*

Chaopae W, Nopparat C, Govitrapong P. ชื่อเรื่อง. Proceedings of the 23rd Thai Neuroscience Society Conference; 2019 Dec 11; Chulabhorn Graduate Institute, Bangkok. p. first-last page.

e.g. *Protein Society of Thailand (PST)*

Dang CB, Ruangjaroon T, Saharat K, Svasti J, Paricharttanakul NM. ชื่อเรื่อง. Proceedings of the 14th International Symposium of the Protein Society of Thailand; 2019 Jul 22-23; Maruay Garden Hotel, Bangkok. p. first-last page.

*Times New Roman, 14 points, Bold* → **Table of Contents** ↗ *1 blank line (Single-spaced)*

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	1.2 Statement of the problem 1.3 .....	11 20
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\* Methodology can be divided into sub-topics, as appropriate for each research study.

\*\* Results and Discussion can be combined into one chapter.

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1.2	Evaluation of ....	20
2.1	The .....	.....

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Table	Title	Page
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3.2	The .....	

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<b>Figure</b>	<b>Title</b>	<i>Times New Roman, 12 points, Bold</i>
<b>1.1</b> Compounds isolated from <i>Albizia lebbeck</i>		
<b>2.1</b> The comparisons of ...		
<b>2.2</b> Compounds isolated from <i>Eurycoma longifolia</i>		
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K. Thet Oo

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Chapter 1

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→ Introduction

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The molecular biology revolution and the advent of genomic and proteomic technologies are facilitating rapid advances in our understanding of the molecular details of cell and tissue function. These advances have the potential to transform toxicological and clinical practice, and are likely to lead to the supplementation or replacement of traditional biomarkers of cellular integrity, cell and tissue homeostasis, and.....

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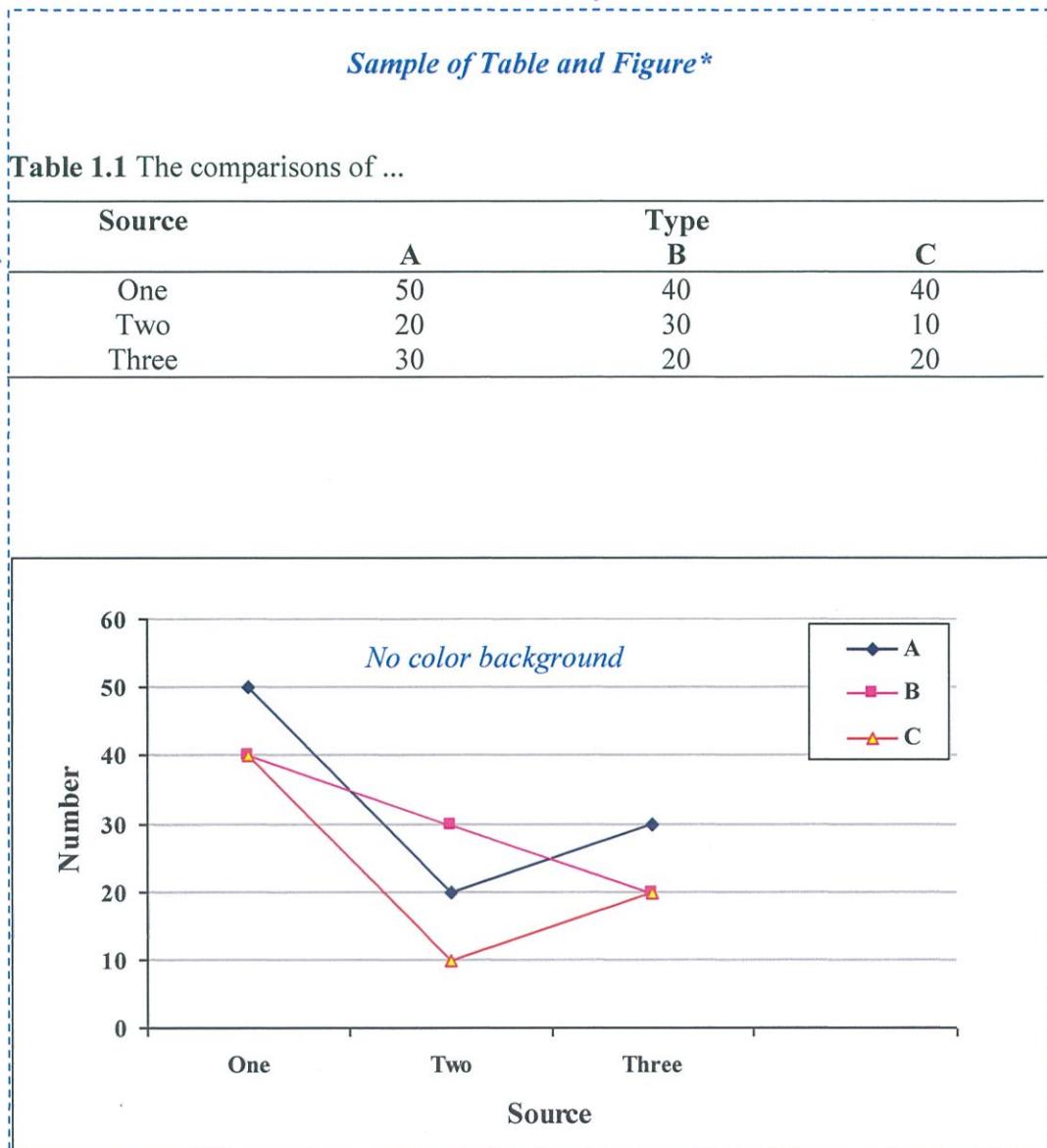
1.2 Statement of the problem

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\* Tables and figures can be added between the texts or placed on a separate page (without texts)

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**Table 1.1** The comparisons of ... (cont.)

## **How to write “References”**

You can choose writing references in 3 styles

1. Vancouver Style
2. ACS Style
3. APA Style

[As detailed on next page;](#)

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## References

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### *Example for article with 1 to 6 authors*

1. Rahimi M, Sharifi-Zarchi A, Zarghami N, Geranpayeh L, Ebrahimi M, Alizadeh E. Down-regulation of miR-200c and up-regulation of miR-30c target both stemness and metastasis genes in breast cancer. *Cell Journal.* 2020;21(4):467-78.

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### *Example for article with more than 6 authors*

2. Shi X, Shi C, Ye W, Wang L, Zhan Y, Song F, et al. Targeted fluorescence imaging and biological effects of peptide conjugated quantum dots on pancreatic cancer cells. *Journal of Nanoscience and Nanotechnology.* 2020;20(3):1351-7.

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### *Example for Books*

3. Kaseb H, Gupta G. Cancer, Lymphoblastic lymphoma. 4th ed. Treasure Island (FL): StatPearls Publishing; 2019. 3001 p.

### *Example for Book Chapters*

4. Belter B, Haase-Kohn C, Pietzsch J. Biomarkers in malignant melanoma: Recent trends and critical perspective. In: Ward WH, Farma JM, editors. *Cutaneous Melanoma: Etiology and Therapy.* 2nd ed. Brisbane (AU): Codon Publications; 2017. p. 501-99.

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### *Example for Patents*

5. Brager B, inventor; PERCEPTION PARTNERS Inc, assignee. Method for marketing rights to intellectual assets. United States patent US 2005/0222959 A1. 2005 Oct 6.

### *Example for Reports*

6. Rowe IL, Carson NE. Medical manpower in victoria: Report. East Bentleigh (AU): Monash University Department of Social & Preventive Medicine; 1979. Report No.: 4.

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7. Leelayuwapan H, Ruchirawat S. Rapid synthesis and biological studies of the lipomannan backbone glycans found on the surface of mycobacterium tuberculosis [Dissertation]. Bangkok: Chulabhorn Graduate Institute; 2017.

*Example for Theses*

8. Tachachartvanich P, Satayavivad J. The effects of chlorpyrifos on neuronal and non-neuronal cholinergic cancer cells [Master's thesis]. Bangkok: Chulabhorn Graduate Institute; 2012.

*Example for Web Sites*

9. Chulabhorn Graduate Institute. Academic Programs [internet]. 2016 [cited 2019 Sep 11]. Available from: <https://www.cgi.ac.th/programs>.

*Example for Conference Paper*

10. Chaopae W, Nopparat C, Govitrapong P. Melatonin attenuates  $\beta$ -amyloid production in SH-SY5Y cells under hyperglycemic condition. Proceedings of the 23rd Thai Neuroscience Society Conference; 2019 Dec 11; Chulabhorn Graduate Institute, Bangkok. p. 26-31.

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## References

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1. ↔ Rahimi, M.; Sharifi-Zarchi, A.; Zarghami, N.; Geranpayeh, L.; Ebrahimi, M.; Alizadeh, E. Down-regulation of miR-200c and up-regulation of miR-30c target both stemness and metastasis genes in breast cancer. *Cell J.* **2020**, *21*, 467-478.

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### *Example for Books*

3. Kaseb, H.; Gupta, G. *Cancer, Lymphoblastic lymphoma*. 4th ed.; StatPearls Publishing: Treasure Island (FL), 2019; p 3001.

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### *Example for Patents*

5. Brager, B. Method for marketing rights to intellectual assets. US Patent Application 2005/0222959 A1, Oct 6, 2005.

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### *Example for Reports*

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7. Leelayuwan, H.; Ruchirawat, S. Rapid synthesis and biological studies of the lipomannan backbone glycans found on the surface of mycobacterium tuberculosis. Dissertation, Chulabhorn Graduate Institute, Bangkok, 2017.

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8. Tachachartvanich, P.; Satayavivad, J. The effects of chlorpyrifos on neuronal and non-neuronal cholinergic cancer cells. Master's thesis, Chulabhorn Graduate Institute, Bangkok, 2012.

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9. Chulabhorn Graduate Institute. Academic Programs Home Page.  
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	Rahimi, M., Sharifi-Zarchi, A., Zarghami, N., Geranpayeh, L., Ebrahimi, M., and Alizadeh, E. (2020). Down-regulation of miR-200c and up-regulation of miR-30c target both stemness and metastasis genes in breast cancer. <i>Cell Journal</i> , 21(4), 467-478. doi:10.22074/cellj.2020.6406	
<b>Example for article with more than 6 authors</b>		
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<b>Example for Book Chapters</b>		
	Belter, B., Haase-Kohn, C., and Pietzsch, J. (2017). Biomarkers in malignant melanoma: Recent trends and critical perspective. In W. H. Ward and J. M. Farma (Eds.), <i>Cutaneous Melanoma: Etiology and Therapy</i> (2nd ed., pp. 501-599). Brisbane (AU): Codon Publications.	
<b>Example for Patents</b>		
	Heyer, G. E. (2004). <i>United States Patent No. US 8,775,322 B2</i> . Retrieved from <a href="https://patentimages.storage.googleapis.com/66/e3/92/23ee4cb1b47d9a/US8775322.pdf">https://patentimages.storage.googleapis.com/66/e3/92/23ee4cb1b47d9a/US8775322.pdf</a>	
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→ Biography

Name

Mr. Kyaw Thet Oo

Date of Birth

March 3, 1985

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Place of Birth

....., Myanmar

Degree(s) obtained

B.Eng. (Chemical Engineering)

Mandalay Technological University, 2005

Position & Office

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