

องค์ประกอบทางเคมีของน้ำมันระเหยจากพืชในวงศ์  
LAMIACEAE ของไทย

นางสาวดาวจันทร์ ชูโชติ



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**CHEMICAL COMPOSITION OF ESSENTIAL OILS  
FROM THAI LAMIACEOUS PLANTS**

**MISS DAOJAN CHOOCHOAT**

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for the Degree of Master of Science in Pharmacy**

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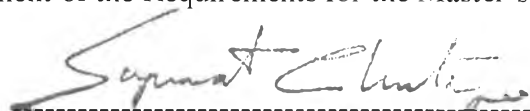
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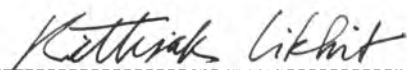
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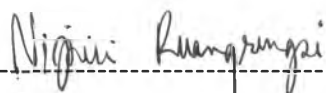
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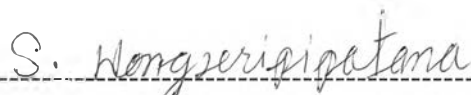
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จากการศึกษาพืชในวงศ์ Lamiaceae ของไทย จำนวน 10 ต้น ในแง่ของปริมาณและชนิดของ  
องค์ประกอบของน้ำมันระเหย โดยใช้วิธีการกลั่นด้วยไอน้ำและเทคนิคทางโครมาโทกราฟี/แมสสเปกโทเมตรี  
ผลการศึกษาพบว่ามีความหลากหลายขององค์ประกอบทางเคมีและปริมาณโดยพบว่าองค์ประกอบส่วนใหญ่อยู่  
ในกลุ่มออกซิเจนเตตโรไฮโดรพีนและในแง่ปริมาณจะอยู่ในช่วงร้อยละ 0.01-0.9 นอกจากนี้ยังได้ทำการศึกษา  
พืชต่างประเทศในวงศ์ Lamiaceae ที่นำมาปลูกในไทยอีกจำนวน 10 ต้น ซึ่งได้ทำการเปรียบเทียบในด้าน  
ปริมาณและองค์ประกอบ พบว่าองค์ประกอบส่วนใหญ่ที่วิเคราะห์ได้ไม่มีความแตกต่างกันมากนักแต่ปริมาณ  
จะต่ำกว่า และเมื่อนำน้ำมันระเหยไปทดสอบฤทธิ์ในการต้านจุลชีพ พบว่าน้ำมันระเหยส่วนใหญ่มีฤทธิ์ต้าน  
แบคทีเรียและไม่มีฤทธิ์ต้านเชื้อรา

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Contents and compositions of essential oils from ten species of Thai Lamiaceous plants were investigated. The results obtained from GC/MS analysis showed diversity of their components. In this study, oxygenated monoterpenes are commonly found in essential oils of these particular species. Variations of the contents were found to be between 0.01 to 0.9 %. Essential oils of ten species of Western Lamiaceous plants cultivated in Thailand were also studied. Results have shown similarity of their constituents, but with less amount. Screening for antimicrobial activity of essential oil from particular plants against *Staphylococcus aureus* ATCC 29213, *Enterococcus faecalis* ATCC 29212, *Escherichia coli* ATCC 25922, *Pseudomonas aeruginosa* ATCC 27853, *Bacillus subtilis* ATCC 6633, *Candida albicans* ATCC 27853 and *Microsporum gypseum* was carried out, and it was found that most of the essential oils from Thai Lamiaceous plants exhibited antibacterial activity, but none of them demonstrated antifungal activity.

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## ABBREVIATIONS

AOAC	=	Association of official analytic chemists
cm	=	Centimeter
°C	=	Degree celsius
Fig	=	Figure
g	=	Gram
GC	=	Gas chromatography
GC-MS	=	Gas chromatography-Mass spectrometry
h	=	hour
HPLC	=	High performance liquid chromatography
i.d.	=	Internal diameter
m	=	Meter
MeOH	=	Methanol
mg	=	Milligram
min	=	Minute
μl	=	Microliter
ml	=	Milliliter
mm	=	Millimeter
MW	=	Molecular weight
No.	=	Number
RT	=	Retention time
sp	=	Species
v/w	=	Volume by weight
wt	=	Weight