

องค์ประกอบทางเคมีของเปลือกต้นเปล้าใหญ่ จากชัณนาท

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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาเภสัชศาสตรมหาบัณฑิต

สาขาวิชาเภสัชเวท ภาควิชาเภสัชเวท

บัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิทยาลัย

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CHEMICAL CONSTITUENTS OF
***CROTON OBLONGIFOLIUS* STEM BARK FROM CHAINAT**

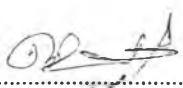
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การศึกษาองค์ประกอบทางเคมีของเปลือกต้นเปล้าใหญ่ (วงศ์ Euphorbiaceae) สามารถสกัดแยกสารบริสุทธิ์ได้ 3 ชนิด เป็นสารในกลุ่มแลบเดนไดเทอปีน 2 ชนิด คือ *ent-8(17),12E,14-labdatrien-18-oic acid* และสารใหม่ 12,15-epoxy-8(17), 12, 14-triene เป็นสารในกลุ่มเคอเรนไดเทอปีน 1 ชนิด คือ *ent-kaur-16-en-19-oic acid* นอกจากนี้ของผสมอีก 2 ชนิดที่แยกได้ เป็นของผสมสเตียรอยด์ซึ่งประกอบด้วย β -sitosterol, stigmasterol และ campesterol และของผสมแอลกอฮอล์สายยาวซึ่งมีจำนวนธาตุน้ำหนักตั้งแต่ 19-26 อะตอมเป็นองค์ประกอบ การพิสูจน์เอกลักษณ์และหาสูตรโครงสร้างทางเคมีของสารสกัดที่แยกได้ ทำโดยการวิเคราะห์ข้อมูลทางสเปกโทรสโกปีชนิดต่างๆ ร่วมกับการเปรียบเทียบข้อมูลกับสารอื่นที่มีสูตรโครงสร้างทางเคมีที่สัมพันธ์กัน

ภาควิชา เกษีฯเขต
สาขาวิชา เกษีฯเขต
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ลายมือชื่อนิติ 
ลายมือชื่ออาจารย์ที่ปรึกษา ชัยโย ชัยชาญทิพยุทธ
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Three pure compounds were isolated from the stem bark of *Croton oblongifolius* Roxb. Two of them were identified as the known labdane *ent*-8(17),12*E*,14-labdatrien-18-oic acid and a new labdane named 12,15-epoxy-8(17),12,14-labdatriene. The remainder was a kaurane, *ent*-kaur-16-en-19-oic acid. Furthermore, a mixture of steroids consisting of β -sitosterol, stigmasterol and campesterol, and a mixture of C₁₉₋₂₆ long chain alcohols were obtained. The identification and structure elucidation of the isolated compound were established by analysis of the spectroscopic data, as well as comparison with the data of other related compounds.

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ABBREVIATIONS

$[\alpha]_D^{20}$	=	Specific rotation at 20°C and sodium D line (589 nm)
br	=	Broad (for NMR spectra)
<i>c</i>	=	Concentration
°C	=	Degree Celsius
CDCl ₃	=	Deuterated chloroform
CHCl ₃	=	Chloroform
cm	=	Centimeter
¹³ C NMR	=	Carbon-13 nuclear magnetic resonance
H-H COSY	=	Homonuclear (Proton-Proton) Correlation Spectroscopy
1D	=	One dimensional
2D	=	Two dimensional
d	=	Doublet
dd	=	Doublet of doublets
ddd	=	Doublet of doublet of doublets
DBE	=	Double bond equivalent
DEPT	=	Distortionless Enhancement by Polarization Transfer
δ	=	Chemical shift
EI	=	Electron Impact
EtOAc	=	Ethyl acetate
g	=	Gram
¹ H NMR	=	Proton nuclear magnetic resonance
HMBC	=	¹ H-detected Heteronuclear Multiple Bond Coherence
HMQC	=	¹ H-detected Heteronuclear Multiple Quantum Coherence
Hz	=	Hertz
IR	=	Infrared spectrum
<i>J</i>	=	Coupling constant
kg	=	Kilogram
L	=	Liter
λ_{\max}	=	Wavelength at maximal absorption
ε	=	Molar absorptivity

M ⁺	=	Molecular ion
m	=	Multiplet
MeOH	=	Methanol
mg	=	Milligram
MHz	=	Megahertz
min	=	Minute
ml	=	Milliliter
<i>m/z</i>	=	Mass to charge ratio
MS	=	Mass spectrometry
No.	=	Number
nm	=	Nanometer
NMR	=	Nuclear magnetic resonance
P	=	Pentet
ppm	=	Part per million
q	=	Quartet
ν_{\max}	=	Wave number at maximal absorption
s	=	Singlet
t	=	Triplet
TLC	=	Thin layer chromatography
UV	=	Ultraviolet