

การวิเคราะห์สูตร โครงสร้างสารประกอบไคเทอร์ปีนอยด์จากเปลือกต้นเปล้าใหญ่  
(*Croton oblongifolius* Roxb.)

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STRUCTURE ANALYSIS OF DITERPENOID COMPOUNDS FROM STEM  
BARKS OF *Croton oblongifolius* Roxb.

Mr. Damrong Sommit

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for the Degree of Master of Science in Chemistry

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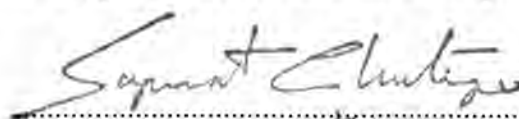
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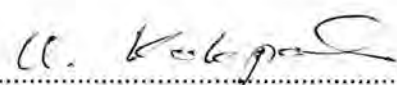
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**By**                         Mr. Damrong Sommit  
**Department**           Chemistry  
**Thesis Advisor**       Associate Professor Dr. Sophon Roengsumran

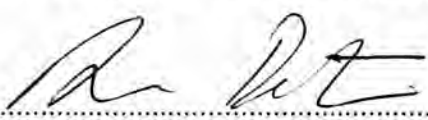
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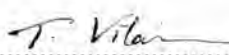
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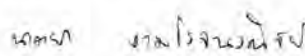
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..... Chairman  
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..... Thesis Advisor  
(Associate Professor Sophon Roengsumran, Ph.D.)

..... Member  
(Assistant Professor Amorn Petsom, Ph.D.)

..... Member  
(Tirayut Vilaivan, D.Phil.)

..... Member  
(Nattaya Ngamrojanavanich, Ph.D.)

คำรงค์ สมมิตร : การวิเคราะห์สูตร โครงสร้างสารประกอบไดเทอร์ปีนอยด์จากเปลือก  
ต้นเปล้าใหญ่ (*Croton oblongifolius* Roxb.) STRUCTURE ANALYSIS OF  
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ได้มีการสกัดแยกสารประกอบแลบเดนไดเทอร์ปีนอยด์ใหม่สี่ชนิดคือ labda-7,12(E),  
14-triene (1), labda-7,12(E),14-triene-17-al (2), labda-7,12(E),14-triene-17-ol (3) และ labda-  
7,12(E),14-triene-17-oic acid (4) จากเปลือกต้นเปล้าใหญ่ และได้ทำการพิสูจน์สูตร โครงสร้าง  
ของสารใหม่นี้โดยอาศัยข้อมูลทางสเปกโทรสโกปี ซึ่งได้แก่ IR, MS, 1D และ 2D NMR เทคนิค  
คือ DEPT, COSY, NOESY, HMBC และ HMQC และโดยการสังเคราะห์ อนุพันธ์ทางเคมีของ  
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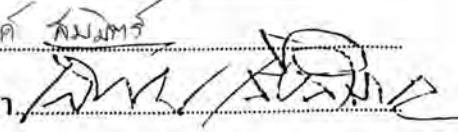
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Four new labdane diterpenoid compounds, labda-7,12(*E*),14-triene (1), labda-7,12(*E*),14-triene-17-al (2), labda-7,12(*E*),14-triene-17-ol (3) and labda-7,12(*E*),14-triene-17-oic acid (4) were isolated from the stem bark of *Croton oblongifolius* Roxb., the structure of the new compounds were established by spectroscopic data (IR, MS spectra, 1D and 2D NMR techniques including DEPT, COSY, NOESY, HMBC and HMQC) and by chemical transformation.

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## LIST OF ABBEVIATIONS

TMS	Tetramethylsilane
Hz	Hertz
ppm	parts per million
$\delta$	Chemical shift
s	singlet (NMR)
d	doublet (NMR)
t	triplet (NMR)
q	quartet (NMR)
dd	double doublet
dt	double triplet
$\text{cm}^{-1}$	unit of wave number
$M^+$	molecular ion
$m/z$	mass to charge ratio
M.W.	molecular weight
$\lambda_{\text{max}}$	the wavelength at maximum absorption
br	broad
s	strong
m	medium
w	weak
%	percent
m.p.	melting point
Fig.	Figure
$^{\circ}\text{C}$	degree celsius
ml	milliliter (s)
mg	milligram

g	gram (s)
TLC	Thin Layer Chromatography
wt	weight
$R_f$	rate of flow in chromatography
DEPT	Distortionless Enhancement by Polarisation Transfer
HMQC	Heteronuclear Multiple Quantum Correlation
HMBC	Heteronuclear Multiple Bond Correlation
COSY	Correlated Spectroscopy
NOESY	Nuclear Overhauser Enhancement Spectroscopy