

องค์ประกอบทางเคมีจากเปลือกต้นเปล้าใหญ่  
*Croton oblongifolius* Roxb. จากอำเภอภูเรือ จังหวัดเลย

นาย นโรดม เรืองระวีวัฒน์



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**CHEMICAL CONSTITUENTS OF *Croton oblongifolius* Roxb.  
STEM BARK FROM AMPHOE PHURUA, LOEI PROVINCE**

Mr. Narote Ruangraweewat

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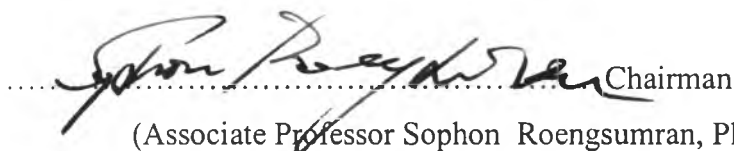
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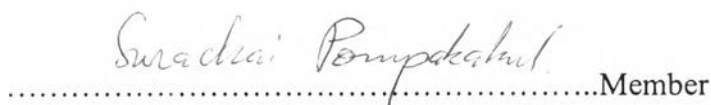
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นโรดม เรืองระวีวัฒน์: องค์ประกอบทางเคมีจากเปลือกต้นเปลือกใหญ่ *Croton*

*oblongifolius* Roxb. จากอำเภอภูเรือ จังหวัดเลย (CHEMICAL CONSTITUENTS OF *Croton oblongifolius* Roxb. STEM BARK FROM AMPHOE PHURUA, LOEI PROVINCE)

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นำเปลือกต้นเปลือกใหญ่ *Croton oblongifolius* Roxb. ที่แห้งและบดละเอียด จากอำเภอภูเรือ จังหวัดเลย มาสกัดด้วยตัวทำละลายอินทรีย์ ประกอบด้วย เฮกเซน เอธิลอะซิเตต และเมทานอล ระบายแยกตัวทำละลายออกจากสารสกัดแต่ละชนิด โดยวิธีการกลั่นลดความดันจะได้สารสกัดหยาบคือ สารสกัดเฮกเซน เอธิลอะซิเตต และเมทานอล ตามลำดับ นำสารสกัดหยาบแต่ละชนิด ไปทำการแยกด้วยเทคนิคทางคอลัมน์โครมาโทกราฟีพบสารประกอบที่เคยมีรายงานมาแล้ว 5 ชนิด ได้แก่ Crotoembraneic acid (1) Neocrotoembraneic acid (2) Kolavenol (3) Hardwickiic acid (4) และ Nasimalun A (5) ทำการหาสูตรโครงสร้างของสารที่แยกทั้งห้าชนิด โดยอาศัยสมบัติทางกายภาพ ทางเคมี และข้อมูลทางสเปกโตรสโคปี

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The ground air-dried stem bark of *Croton oblongifolius* Roxb. collected from Amphur Phurua, Loei Province was extracted subsequently with hexane, ethyl acetate and methanol. The solvents in each crude extract were evaporated by evaporation under reduced pressure to obtain crude hexane extract, crude ethyl acetate extract and crude methanol extract, respectively. Each crude extract was separated and purified using column chromatographic technique. Five compounds were found. There were Crotoembraneic acid (1) Neocrotoembraneic acid (2) Kolavenol (3) Hardwickiic acid (4) and Nasimalun A (5), respectively. The structure of these compounds were characterized using their physical and chemical properties and spectral data.

Program.....Chemistry..... Student's signature.....

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## LIST OF ABBREVIATIONS

b.p.	= Boiling point
br	= Broad (for NMR spectrum)
<i>c</i>	= Concentration
° C	= Degree Celsius
CDCl <sub>3</sub>	= Deuterated chloroform
CHCl <sub>3</sub>	= Chloroform
cm	= centimeter
<sup>13</sup> C-NMR	= Carbon-13 Nuclear Magnetic Resonance
COSY	= Correlated Spectroscopy
d	= Doublet (for NMR spectrum)
dd	= Doublet of doublet (for NMR spectrum)
ddd	= Doublet of doublet of doublet (for NMR spectrum)
DEPT	= Distortionless Enhancement by Polarization Transfer
DMSO	= Dimethylsulfoxide
δ	= Chemical shift
EI MS	= Electron Impact Mass Spectrum
EtOAc	= Ethyl acetate
g	= Gram
<sup>1</sup> H-NMR	= Proton Nuclear Magnetic Resonance
Hz	= Hertz
HMBC	= Heteromolecular Multiple Bond Correlation
HMQC	= Heteromolecular Multiple Quantum Correlation
IR	= Infrared spectrum
<i>J</i>	= Coupling constant
kg	= Kilogram
L	= Liter
M <sup>+</sup>	= Molecular ion
mg	= Milligram
MHz	= Megahertz
ml	= Milliliter
mm	= Millimeter
m.p.	= Melting point
MeOH	= Methanol
M	= Molar
<i>m/z</i>	= Mass to charge ratio
M.W.	= Molecular weight
MS	= Mass spectrometry
No.	= Number
NMR	= Nuclear Magnetic Resonance
NOESY	= Nuclear Overhauser Enhancement Spectroscopy
ppm	= Part per million
q	= Quartet (for NMR spectrum)
s	= Singlet (for NMR spectrum)
t	= Triplet (for NMR spectrum)
TLC	= Thin Layer Chromatography
wt	= Weight
R <sub>f</sub>	= Rate of flow in chromatography