

องค์ประกอบทางเคมีและฤทธิ์ทางชีวภาพของเปลือกต้นเปล้าเลือด *Croton robustus* Kurz.

นางสาวสรศรี ดันเสียงสม



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CHEMICAL CONSTITUENTS OF STEM BARKS OF *Croton robustus* Kurz. AND
THEIR BIOLOGICAL ACTIVITY

Miss. Sorasaree Tonsiengsom

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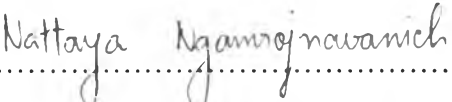

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สรสรี ต้นเสียงสม : องค์ประกอบทางเคมีและฤทธิ์ทางชีวภาพของเปลือกต้นเปลือก

Croton robustus Kurz. (CHEMICAL CONSTITUENTS OF STEM BARKS OF *Croton robustus* Kurz. AND THEIR BIOLOGICAL ACTIVITY)

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นำเปลือกต้นเปลือก *Croton robustus* ที่แห้งและบดละเอียด มาสกัดด้วยตัวทำละลาย 3 ชนิด คือ เฮกเซน คลอโรฟอร์ม และเมทานอล ตามลำดับ จากสิ่งสกัดเฮกเซนโดยเทคนิคทางคอลัมน์โครมาโตกราฟีสามารถแยกสาร ได้ 3 ชนิด การหาสูตรโครงสร้างของสารเหล่านี้อาศัยคุณสมบัติทางกายภาพ เทคนิคทางสเปกโตรสโคปี และปฏิกิริยาเคมี สามารถพิสูจน์โครงสร้างของสาร ทั้ง 3 ชนิดได้ คือ สารประกอบทราคิโลบาลซึ่งเป็นสารจำพวก pentacyclic diterpene คือ trachyloban-19-oic acid (1) และ trachyloban-19-ol (3) และสารประกอบเซมบรานอยด์ คือ poilaneic acid (2) และ เป็นครั้งแรกที่พบสาร (1) และ (3) ในพืชตระกูลเปลือก

ภาควิชา.....เคมี.....

สาขาวิชา.....เคมี.....

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ลายมือชื่ออาจารย์ที่ปรึกษา.....ดร. อมร.....

SORASAREE TONSIENGSOM: CHEMICAL CONSTITUENTS OF STEM BARKS OF *Croton robustus* Kurz. AND THEIR BIOLOGICAL ACTIVITY
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Air-dried and ground barks of *Croton robustus* Kurz. used in this study. They were extracted by hexane, chloroform and methanol, respectively. The hexane crude extracts was separated by column chromatography, and gave three compounds. The structures of these compounds were established on the basis of physical properties, spectroscopic data and chemical reaction. The three compounds were two trachylobane diterpenoids; trachyloban-19-oic acid (1) and trachyloban-19-ol (3) and one cembrane diterpenoid; poilaneic acid (2). Moreover it is the first report of a trachylobane diterpenoid from the *Croton* species.

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ลายมือชื่ออาจารย์ที่ปรึกษา.....




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Last but not least the author would like to dedicate this master thesis with great respect and love to her parents for all things that they have endured and sacrificed for her success.

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LIST OF ABBREVIATIONS

TMS	tetramethylsilane
Hz	Hertz
ppm	part per million
δ	Chemical shift
s	singlet (NMR)
d	doublet (NMR)
t	triplet (NMR)
q	quartet (NMR)
dd	double doublet
ddd	double doublet doublet
dt	double triplet
cm^{-1}	unit of wave number
M^+	molecular ion
m/z	mass to charge ratio
M.W.	molecular weight
ν_{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

HMQC	Heteronuclear Multiple Quantum Correlation
HMBC	Heteronuclear Multiple Bond Correlation
COSY	Correlated Spectroscopy
NOESY	Nuclear Overhauser Enhancement Spectroscopy