

การศึกษาทางพฤกษเคมีของเนื้อไม้ขนุนสำปะลอ



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**PHYTOCHEMICAL STUDY**

**OF**

***ARTOCARPUS ALTILIS* (PARK.) FOSB. WOOD**



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A Thesis Submitted in Partial Fulfilment of Requirements  
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พิมพ์ต้นฉบับบทคัดย่อวิทยานิพนธ์ภายในกรอบสี่เหลี่ยมนี้เพียงแผ่นเดียว



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การศึกษาทางพฤกษเคมีของเนื้อไม้ขนุนลำปะลอส (Moraceae) ได้ทำการแยกสารประกอบฟลาโวน ซึ่งมีหมู่ฟีนอลในสูตรโครงสร้าง 3 ชนิด จากสิ่งสกัดในเฮกซานอล ได้แก่ artocarpin, cycloartocarpin, และ isocyclomorusin การพิสูจน์เอกลักษณ์ และสูตรโครงสร้างทางเคมีของสารประกอบที่แยกได้นี้ อาศัยการวิเคราะห์ข้อมูล จากสเปกตรัมของ UV, IR, MS และ NMR ร่วมกับการเปรียบเทียบข้อมูลของสารที่พบสูตรโครงสร้างแล้ว

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The three prenylated flavones, artocarpin, cycloartocarpin, and isocyclomorusin, were isolated from the ethanol extract of *Artocarpus altilis* (Park.) Fosb. wood (Moraceae). The identification and structure elucidation of the isolated compounds were accomplished by analyses of the UV, IR, MS and NMR spectral data, as well as comparison with previously reported data.



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## ABBREVIATIONS

$\epsilon$	=	Molar absorptivity
br d	=	Broad doublet (for NMR spectra)
br s	=	Broad singlet (for NMR spectra)
br t	=	Broad triplet (for NMR spectra)
$^{\circ}\text{C}$	=	Degree Celsius
cm	=	Centimeter
$^{13}\text{C-NMR}$	=	Carbon-13 nuclear magnetic resonance
COLOC	=	Correlation <i>via</i> Long-range Coupling
COSY	=	correlated spectroscopy
1D	=	One dimensional
2D	=	Two dimensional
DEPT	=	Distortionless Enhancement by Polarization Transfer
d	=	Doublet (for NMR spectra)
dd	=	Doublet of doublets (for NMR spectra)
$\delta$	=	Chemical shift
EIMS	=	Electron impact mass spectroscopy
eV	=	Electron volt
g	=	Gram
HMBC	=	$^1\text{H}$ -detected Heteronuclear Multiple Bond Coherence
HMQC	=	$^1\text{H}$ -detected Heteronuclear Multiple Quantum Coherence
$^1\text{H-NMR}$	=	Proton nuclear magnetic resonance
Hz	=	Hertz
$\text{IC}_{50}$	=	50 % Inhibition concentration
IR	=	Infrared spectrum
$J$	=	Coupling constant
Kg	=	Kilogram

$\lambda_{\max}$	=	Wavelength at maxima absorption
$M^+$	=	Molecular ion
m	=	multiplet (for NMR spectra)
MeOH	=	Methanol
mg	=	Milligram
MHz	=	Megahertz
MIC	=	Minimum inhibitory concentration
ml	=	Milliliter
MLC	=	Minimum lethal concentration
mm	=	Millimeter
$\mu\text{m}$	=	Micrometer
$m/z$	=	Mass to charge ratio
MS	=	Mass spectroscopy
NMR	=	Nuclear magnetic resonance spectrum
No.	=	Number
nm	=	Nanometer
$\nu_{\max}$	=	Wave number at maximum absorption
s	=	Singlet (for NMR spectra)
spp.	=	Species
t	=	Triplet (for NMR spectra)
TLC	=	Thin layer chromatography
TMS	=	Tetramethylsilane
UV	=	Ultraviolet spectrum