

การศึกษาทางพุทธเคมีของกันจ้ำ



นางสาว กรกนก อิงคนินันท์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาเภสัชศาสตรมหาบัณฑิต

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PHYTOCHEMICAL STUDIES
OF
BIDENS BITERNATA MERR. & SHERFF

Miss Kornkanok Ingkaninan

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science in Pharmacy

Department of Pharmacognosy

Graduate School

Chulalongkorn University

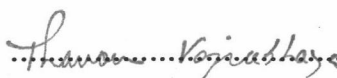
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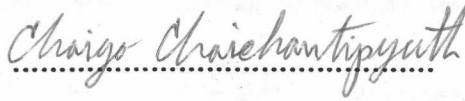
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พิมพ์ต้นฉบับบทคัดย่อวิทยานิพนธ์ภายในกรอบสี่เหลี่ยมนี้เพียงแผ่นเดียว

กรรณก อิงคินันท์ : การศึกษาทางพฤกษเคมีของกันจ้ำ (PHYTOCHEMICAL STUDIES OF *BIDENS BITERNATA* MERR. & SHERFF) อ.ที่ปรึกษา : รศ. ชัยโย ชัยชาญพิทยุทธ.
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จากการใช้วิธีการทางโครมาโตกราฟี และการตกผลึก ทำให้สามารถแยกสารประกอบจาก
สิ่งสกัดในเมธานอลจากกันจ้ำ (*Bidens biternata* Merr. & Sherff) ได้สี่ชนิด ได้แก่ (Z)-6-O-
(4,6-O-diacetyl- β -D-glucopyranosyl)-6,7,3',4'-tetrahydroxyaurone ซึ่งเป็นสาร
ชนิดใหม่, (Z)-6-O-(6-O-acetyl- β -D-glucopyranosyl)-6,7,3',4'-tetrahydroxyaurone
ซึ่งเป็นสารที่มีการศึกษามากแล้ว, ของผลัมแอลกอฮอล์ไซ่ตรง (C_{26} - C_{30}) และของผลัมสเตียรอยด์
(stigmasterol และ β -sitosterol) การพิสูจน์เอกลักษณ์ และสูตรโครงสร้างทางเคมีของสารทั้งสี่
ชนิดนี้พิสูจน์โดยการวิเคราะห์ข้อมูลจากสเปกตรัมของ UV, IR, MS, 1-D NMR และ 2-D NMR ร่วมกับ
การเปรียบเทียบข้อมูลของสารที่ทราบสูตรโครงสร้างแล้ว

ภาควิชา ภาสัชเวท
สาขาวิชา ภาสัชเวท
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ลายมือชื่อนิสิต กรรณก อิงคินันท์
ลายมือชื่ออาจารย์ที่ปรึกษา ชัยโย ชัยชาญพิทยุทธ
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By means of chromatographic and crystallization techniques, a new aurone glycoside, (Z)-6-O-(4,6-diacetyl- β -D-glucopyranosyl)-6,7,3',4'-tetrahydroxyaurone, a known aurone glycoside, (Z)-6-O-(6-O-acetyl- β -D-glucopyranosyl)-6,7,3',4'-tetrahydroxyaurone, a mixture of C₂₆-C₃₀ aliphatic long chain alcohols and a mixture of stigmaterol and β -sitosterol were isolated from the methanol extract of *Bidens biternata* Merr. & Sherff. The identification and structure elucidation of the isolated compounds were executed by analyses of the UV, IR, MS, 1-D NMR, 2-D NMR spectral data, as well as comparison with other known compounds.

ภาควิชา..... เกสซ์เวท.....

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ABBREVIATIONS

APCI	= Atmospheric pressure chemical ionization
ϵ	= Molar absorptivity
br.d	= Broad doublet (for NMR spectra)
$^{\circ}$ C	= Degree celsius
^{13}C NMR	= Carbon-13 nuclear magnetic resonance
cm	= Centimeter
COSY	= Correlated spectroscopy
1-D	= One dimensional
2-D	= Two dimensional
d	= Doublet (for NMR spectra)
dd	= Doublets of doublet (for NMR spectra)
ddd	= Doublets of doublets of doublet (for NMR spectra)
δ	= Chemical shift
<i>E</i>	= Entgegen : against
EIMS	= Electron impact mass spectrum
eV	= Electron volt
g	= Gram
GC	= Gas chromatography
^1H -NMR	= Proton nuclear magnetic resonance
HMBC	= ^1H -detected multiple bond heteronuclear multiple quantum coherent
Hz	= Hertz
IR	= Infrared
<i>J</i>	= Coupling constant
Kg	= Kilogram
LD ₅₀	= 50% Lethal dose
λ_{max}	= Wavelength at maxima absorption
M^+	= Molecular ion
m	= Mutiplet (for NMR spectra)
MeOH	= Methanol
mg	= Miligram
MHz	= Mega Hertz
ml	= Millilitre
mm	= Millimeter

μm	= Micrometer
m/z	= Mass to charge ratio
MS	= Mass spectrum
NMR	= Nuclear magnetic resonance
No.	= Number
nm	= Nanometer
ν_{max}	= Wavenumber at maximum absorption
s	= Singlet (for NMR spectra)
spp.	= Species
t	= Triplet (for NMR spectra)
TLC	= Thin layer chromatography
TMS	= Tetramethylsilane
UV	= Ultraviolet
Z	= Zusammen : together