

สารที่มีฤทธิ์ทางชีวภาพจากต้นกล้วยเขียว



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BIOACTIVE CONSTITUENTS OF *Strychnos nitida* G.Don STEM

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for the Degree of Doctor of Philosophy in Pharmaceutical Chemistry and Natural Products
Program in Pharmaceutical Chemistry and Natural Products**

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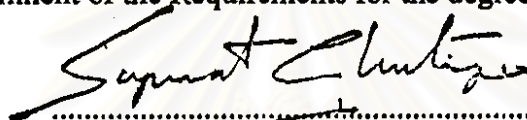
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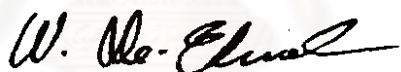
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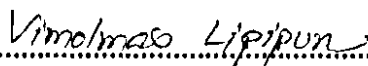
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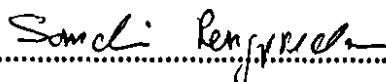
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ได้สารแปดชนิดจากส่วนลำต้นของกล้วยเครือ (*Strychnos nitida* G.Don) โดยวิธีทางรังสี สารดังกล่าวประกอบด้วยสารจำพวกอินโดลแอลคาลอยด์สี่ชนิด ได้แก่ retuline, 11-methoxyretuline, normacusine B และ 3-hydroxy-19(Z)-normacusine B, สารจำพวกกลีโคไซด์สองชนิด ได้แก่ rac-lyoniresinol และสารผสมของ (+) lyoniresinol glucopyranoside กับ (-) lyoniresinol glucopyranoside สารอีกสองชนิดจัดอยู่ในกลุ่มของอิริโคไซด์และสเตียรอยด์ ซึ่งได้แก่ loganin และ β -sitosterol ตามลำดับ ในจำนวนนี้ 3-hydroxy-19(Z)-normacusine B จัดเป็นสารใหม่ในกลุ่มของอินโดลแอลคาลอยด์ประเภท corynanthean type ซึ่งยังไม่เคยมีรายงานการพบในธรรมชาติหรือจากการสังเคราะห์มาก่อน การพิสูจน์เอกลักษณ์ของสารที่แยกได้ทำโดยอาศัยข้อมูลจากวิธีทางสเปกโตรสโกปี จากการตรวจสอบเบื้องต้นเพื่อศึกษาฤทธิ์ทางชีวภาพของสารเหล่านี้พบว่า สารบางชนิดแสดงฤทธิ์บางประการที่น่าสนใจ

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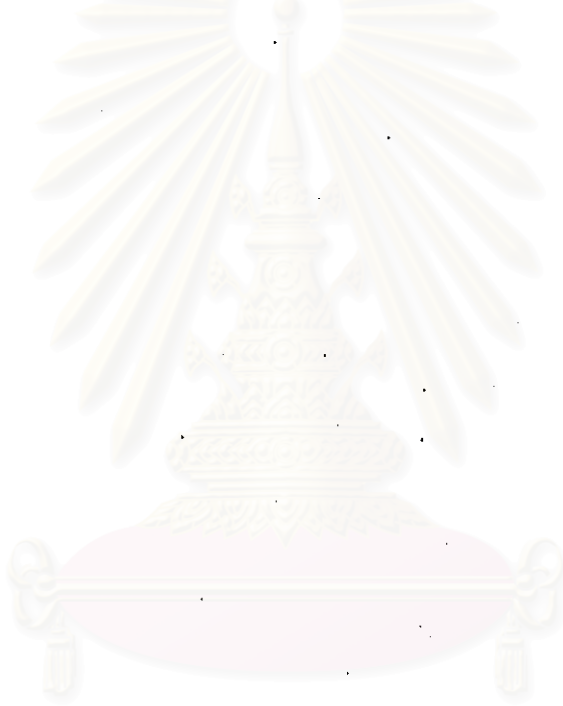
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ASSOC. PROF. EKARIN SAIFAH, Ph.D. , ASSOC. PROF. VIMOLMAS LIPIPUN, Ph.D.
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Eight compounds have been isolated from the stems of *Strychnos nitida* G. Don by means of chromatographic techniques. Four of them belong to the group of indole alkaloids: retuline, 11-methoxyretuline, normacusine B and 3-hydroxy-19(Z)-normacusine B. Two are lignans : *rac*-lyoniresinol and the isomeric mixture of (+) and (-) lyoniresinol glucopyranosides. The others are the iridoid loganin and β -sitosterol. Of these, 3-hydroxy-19(Z)-normacusine B has been identified as a new alkaloid of the corynanthean type. The structure elucidation of the compounds was performed on the basis of spectroscopic evidences. The determination of their biological activities was also undertaken; some of them have been indicated to possess certain bioactivities.



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ABBREVIATION

cm	=	centimeter
mm	=	millimeter
nm	=	nanometer
g	=	gram
mg	=	milligram
Hz	=	hertz
MHz	=	megahertz
M	=	molar
ppm	=	part per million
eV	=	electron volt
s	=	singlet
d	=	doublet
t	=	triplet
sh	=	shoulder
COSY	=	correlation spectroscopy
NOESY	=	nuclear overhauser effect spectroscopy
HETCOR	=	¹ H-detected heteronuclear chemical shift correlation
HMBC	=	heteronuclear multiple quantum coherence <i>via</i> multiple bond coupling
HMQC	=	heteronuclear multiple quantum coherence <i>via</i> direct coupling
EIMS	=	electron impact mass spectroscopy
° C	=	degree Celcius
hR _f	=	rate of flow in chromatography multiple of 100
λ _{max}	=	wavelength at maximum absorption
m/z	=	mass to charge ratio
M ⁺	=	molecular ion
J	=	coupling constant
Glc	=	glucose
BPM	=	beats per minute