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KEY WORD : *PIPER SARMENTOSUM* ROXB./ BETA- SITOSTEROL /  
DOCOSANE / ANTIMICROBIAL

CHIRAPORN SRIHUN : DETERMINATION OF CHEMICAL  
STRUCTURES OF ACTIVE INGREDIENTS FROM *PIPER SARMENTOSUM*  
ROXB. THESIS MEMBER : CHAROON LIENGJAYETZ, Dr. rer. nat, OPA  
VAJRAGUPTA, Ph.D., WANDEE GRITSANAPAN, Ph.D., 90 p.  
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This study of hexane-extracted substances from different parts of Chaa-pluu (*Piper sarmentosum* Roxb.) sought to classify the resulting extractions into two types of substances, which are  $\beta$ -sitosterol and docosane. The substance  $\beta$ -sitosterol were extracted from leaves and stems of *Piper sarmentosum* Roxb., resulting in different quantities corresponding with the different methods of extraction. Maceration method yields were 0.022 % and percolation method yields were 0.030 % whereas the soxhlet method yields were 0.005 % from the leaves and from the stems and roots. By electrophoresis, docosane was found at 0.004 % in fresh leaves, 0.020 % in dried leaves and 0.010 % in dried branches and roots. It is worth remark here that it had never before been reports that docosane could be extracted from the *Piper* species of plants by such a method. Up till now, there were only reports of discovery of docosane from the seeds of *Vica angustifolia* Linn., which is a plant in the family of Leguminosae.

The conclusions of the toxicity test found that giving the methanol crude extracts at a dose of 222 mg/kg to mice, and observing the results over a in 72 hour period, no deaths were reported. This confirms that Chaa-pluu is non-toxic. From antimicrobial tests, using cloxacillin as the standard substance, it was found that methanol extraction from Chaa-pluu with a concentration of 0.20 to 20.0 mg/ml in normal saline solution was unable to stop the growth of *Staphylococcus aureus*.