

## ABSTRACT

**Thesis Title** : *Curcuma xanthorrhiza* : Chemical  
Constituents and Some Biological  
Activities

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**Degree Sought** : Master of Science

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**Advisory Committee** :

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Study on the chemical constituents of the rhizome of *Curcuma xanthorrhiza* Roxb. (Zingiberaceae) has led to the isolation of the following new diarylheptanoids *trans*-1,7-diphenyl-6-hepten-3-one (**66**), *trans*-5-acetoxy-1,7-diphenyl-1-heptene (**67**), *trans*-5-hydroxy-7-(4-hydroxyphenyl)-1-phenyl-1-heptene (**74**) and *trans*-7-(3,4-dihydroxyphenyl)-5-hydroxy-1-phenyl-1-heptene (**75**), together with the known diarylheptanoid *trans* -1,7-diphenyl-5-hydroxy-1-heptene (**65**). In addition, a mixture of two isomers of *trans* -3,5-dihydroxy-1,7-diphenyl-1-heptene (**70**), one isomer of which is a new diarylheptanoid, was also isolated. Two glucosides 4,6-dihydroxy-2-O-( $\beta$ -D-glucopyranosyl)acetophenone (**77**) and  $\beta$ -sitosteryl-3-O- $\beta$ -D-

glucopyranoside (79) were also isolated, the former of which was reported to be a naturally occurring compound for the first time.

The hypolipidemic action of compounds 65, 74, 75, 77 was evaluated in Triton-induced hyperlipidemic hamsters and it was found that the last three compounds significantly inhibited the hepatic triglyceride secretion rate. The order of potency was  $75 > 77 > 74$ . The compound 65 had no effect in this bioassay.