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Der Pharmacia Lettre, 2015, 7 (3):153-156  
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## Isoprenylated flavanone derivatives from *Macaranga hosei* King ex Hook.F.

Eva Marlina<sup>1,2</sup>, Tjitjik Sri Tjahjandarie<sup>2</sup> and Mulyadi Tanjung<sup>2</sup>

<sup>1</sup>Department of Chemistry, Faculty of Mathematics and Natural Science, Mulawarman University, Samarinda, Indonesia

<sup>2</sup>Natural Products Chemistry Research Group, Organic Chemistry Division, Department of Chemistry, Faculty of Science and Technology, Airlangga University, Surabaya, Indonesia

### ABSTRACT

Two isoprenylated flavanones, 4'-O-methyl-8-isoprenylnaringenin (**1**) and lonchocarpol A (**2**) have been isolated from the leaves of *Macaranga hosei* King ex Hook.f. The structure of both compounds have been elucidated based on its spectroscopic data, including UV, 1D and 2D NMR, and HREISMS spectra. Compounds **1-2** were evaluated for their radical scavenging against 2,2-diphenyl-1-picrylhydrazyl (DPPH), showing their IC<sub>50</sub> were 1298.0 and 1115.7 μM, respectively.

**Keywords:** *Macaranga hosei* King ex Hook.f., isoprenylated flavanones, antioxidant.

### INTRODUCTION

The genus *Macaranga* is one of family Euphorbiaceae which contains about 300 species which are distributed besides in Indonesia, also found in Asia, Africa, Madagascar in the West to tropical Asia, North Australia, and the Pacific Islands in the East. From the literature research known that *Macaranga* produces phenolic compounds, particularly flavonoids and stilbenoids. The unique of flavonoids and stilbenoids compounds from this plant is terpenyl side chain, among isoprenyl (C<sub>5</sub>), geranyl (C<sub>10</sub>), farnesyl (C<sub>15</sub>) and geranyl geranyl (C<sub>20</sub>) [1,2,3]. Isoprenylated flavonoid compounds that found in *Macaranga* such as flavanone derivatives in *M. triloba* [4]. The flavonol derivatives were isolated in *M. gigantea*, *M. pruinosa*, and *M. rizhinoidea* [5,6,7]. The dihydroflavonol derivatives were found in *M. conivera* [8]. From this research has been isolated two isoprenylated flavanones, 4'-O-methyl-8-isoprenylnaringenin (**1**) and lonchocarpol A (**2**) from the methanol extract of the leaves of *M. hosei*. The antioxidant properties of compounds **1-2** against DPPH is also briefly described.

### MATERIALS AND METHODS

#### General

UV spectra was measured with a Shimadzu 1800 spectrometer, respectively. <sup>1</sup>H and <sup>13</sup>C NMR spectra were recorded with a JEOL ECS 400 spectrometer operating at 400 (<sup>1</sup>H) and 100 (<sup>13</sup>C) MHz in CDCl<sub>3</sub> using TMS as the internal standard. Mass spectra were obtained with a Waters LCT Premier XE. Vacuum liquid chromatography (VLC) and radial chromatography were carried out using Si gel 60 GF<sub>254</sub> and Si gel 60 PF<sub>254</sub>, for TLC analysis, pre-coated silica gel plates (Merck Kieselgel 60 GF<sub>254</sub>, 0,25 mm thickness) were used.