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Anti-Inflammatory Activity of Calophyllum inophyllum Fruits Extracts

Muhamad Bin Zakaria\textsuperscript{a*}, Vijayasekaran\textsuperscript{a}, Zul Ilham\textsuperscript{a}, Nur Airina Muhamad\textsuperscript{a}

\textsuperscript{a}Institute of Biological Science, University of Malaya 50603 Kuala Lumpur, Malaysia

Abstract

In the present work, we are reporting the isolation, characterisation and bioactivity of inophyllums, xanthes and other compounds found in the fruits of Calophyllum inophyllum. In-vitro assays demonstrated that the crude extract at concentration of 50 \( \mu \)g/ml inhibited 77% and 88% cyclooxygenase and lipoxygenase activities, respectively, indicating its potential as anti-inflammatory agent. Phytochemical studies was also conducted on the fruits. Inophyllum A, inophyllum C, inophyllum E, calophylloide, calophylic acid, 11,12-anhydroinophyllum A, 1,7-dihydroxy-6-methoxyxanthone, potocatechuic acid, gallic acid, n-nonacosane, \( \beta \)-sitosterol and sitosterol-3-O-\( \beta \)-D-glucopyranoside were isolated and idetified. On the HPLC chromatogram, at least 18 compounds can be detected.

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Keywords: Calophyllum inophyllum; antiinflammatory; xanthone; isoprenylated coumarin, sitosterol

1. Introduction

Bintangor is the local Malaysian name for Calophyllum species and this large bitter-sweet kernel afforded greenish oil is used as liniment and valued for those who suffered from rheumatism, pains in the joints and bruises\textsuperscript{1}. The oleoresin from the bark of \textit{C. inophyllum}is known as balsamand used as cicatrisant\textsuperscript{2}. The decoction of the leaves has traditionally been used to relieve eye irritation and conjunctivitis\textsuperscript{3,4}.

In addition, Kashman \textit{et al.}\textsuperscript{5} reported that the anti-HIV activity from Calophyllum lanigerum was shown to be attributed to the presence of calanolides. Isoprenylcoumarins isolated from the leaves of \textit{C. lanigerum} and \textit{C.