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Isolation and structural modifications of ananixanthone from *Calophyllum teysmannii* and their cytotoxic activities

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ABSTRACT

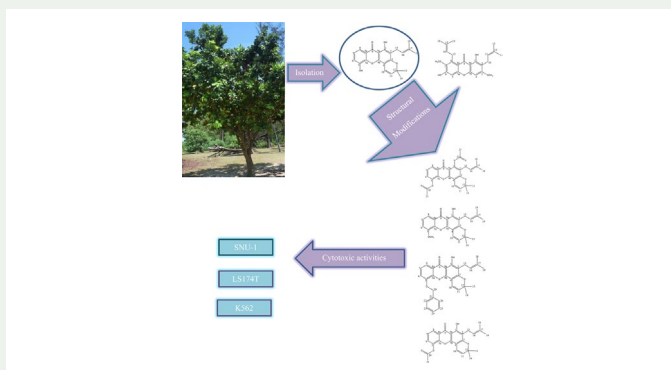
Two naturally occurring xanthenes, ananixanthone (**1**) and β -mangostin (**2**), were isolated using column chromatographic method from the *n*-hexane and methanol extracts of *Calophyllum teysmannii*, respectively. The major constituent, ananixanthone (**1**), was subjected to structural modifications via acetylation, methylation and benzylation yielding four new xanthone derivatives, ananixanthone monoacetate (**3**), ananixanthone diacetate (**4**), 5-methoxyananixanthone (**5**) and 5-*O*-benzylananixanthone (**6**). Compound **1** together with its four new derivatives were subjected to MTT assay against three cancer cell lines; SNU-1, K562 and LS174T. The results indicated that the parent compound has greater cytotoxicity capabilities against SNU-1 and K562 cell lines with IC_{50} values of 8.97 ± 0.11 and 2.96 ± 0.06 $\mu\text{g/mL}$, respectively. Compound **5** on the other hand exhibited better cytotoxicity against LS174T cell line with an IC_{50} value of 5.76 ± 1.07 $\mu\text{g/mL}$.

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KEYWORDS


Calophyllum teysmannii;
ananixanthone; modification;
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1. Introduction

Calophyllum, a genus of the Clusiaceae (Guttiferae) family, is well-known for its diversity of secondary metabolites, such as xanthenes, coumarins, triterpenoids, flavonoids and

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