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## Cytotoxic xanthenes isolated from *Calophyllum depressinervosum* and *Calophyllum buxifolium* with antioxidant and cytotoxic activities (Article)

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### Abstract

The stem bark of *Calophyllum depressinervosum* and *Calophyllum buxifolium* were extracted and examined for their antioxidant activities, together with cytotoxicity towards human cancer cells. The methanol extract of *C. depressinervosum* exhibited good DPPH and NO scavenging effects. The strongest BCB inhibition and FIC effects were shown by dichloromethane and ethyl acetate extracts of both species. Overall, DPPH, FRAP and FIC assays showed strong correlation with TPC. For cytotoxicity, hexane extract of *C. depressinervosum* possessed the strongest anti-proliferative activities towards SNU-1 cells while the hexane extract of *C. buxifolium* showed the strongest activity towards LS-174T and K562 cells with the IC<sub>50</sub> values ranging from 7 to 17 µg/mL. The purification of plant extracts afforded eight xanthenes, ananixanthone (1), caloxanthone B (2), caloxanthone I (3), caloxanthone J (4) xanthochymone B (5), thwaitesixanthone (6), 1,3,5,6-tetrahydroxyxanthone (7) and dombakinaxanthone (8). All the xanthenes, except 1 were reported for the first time from both *Calophyllum* species. The xanthenes were examined for their cytotoxic effect against K562 leukemic cells. Compounds 1 and 2 showed strong cytotoxicity with the IC<sub>50</sub> values of 2.96 and 1.23 µg/mL, respectively. The molecular binding interaction of 2 was further investigated by performing molecular docking study with promising protein receptor Src kinase. © 2019 Elsevier Ltd

### SciVal Topic Prominence

Topic: Calophyllum | Coumarins | Stem bark

Prominence percentile: 81.678

### Author keywords

[Caloxanthone B](#) [K562 cells](#) [Molecular docking](#) [Radical scavenging activities](#)

### Indexed keywords

EMTREE drug terms: [1,3,5,6 tetrahydroxyxanthone](#) [ananixanthone](#) [caloxanthone B](#) [caloxanthone I](#) [caloxanthone J](#) [dombakinaxanthone](#) [thwaitesixanthone](#) [unclassified drug](#) [xanthochymone B](#) [xanthone derivative](#) [antineoplastic agent](#) [antioxidant](#) [plant extract](#) [protein binding](#) [protein tyrosine kinase](#) [xanthone derivative](#)

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MeSH:

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Antineoplastic Agents, Phytogetic; Antioxidants; Plant Extracts; src-Family Kinases; Xanthones


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