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ORIGINAL ARTICLE

Cynometra cauliflora L.: An indigenous tropical fruit tree in Malaysia bearing essential oils and their biological activities

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KEYWORDS

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Fabaceae;
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Cytotoxicity

Abstract *Cynometra cauliflora* L., locally known as "*nam-nam*" or "*katak puru-puru*" in Malaysia is belonging to the Fabaceae family. The tree is native to Malaysia and has been used traditionally as folk medicine. Limited works have been conducted on *C. cauliflora* regarding its chemical composition. In view of this, the present study aimed to identify the essential oil (EO) composition of the leaf, twig and fruit of *C. cauliflora* and evaluate their antioxidant, antimicrobial and cytotoxic activities. EOs obtained from different parts of the tree were analyzed using capillary GC and GC/MS. Twenty-six, seventeen and fifty constituents were identified in the leaf, twig and fruit EOs of *C. cauliflora*. Results demonstrated the dominance of monoterpenes hydrocarbons in the leaf oil and oxygenated monoterpenes in the twig oil. On the contrary, fruit oil was abundant in oxygenated sesquiterpenes. Different chemical profiles were found in different parts of EOs which have contributed to varied biological activities. Twig oil (IC_{50} 37.12 ± 2.84 μg/mL) showed better antioxidant power than the leaf (IC_{50} 207.17 ± 2.95 μg/mL) and fruit oils (IC_{50} 461.88 ± 12.61 μg/mL) in DPPH assay. Additionally, twig oil inhibited an entire range of microorganisms tested with inhibition zones ranging 10.3 ± 0.4 to 29.7 ± 0.4 mm. The twig oil displayed low MIC and

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