

Title : Isolation of Bioactive Natural Products from *Dalbergia candenatensis* (Dennst.) Prain for Biological Activity Evaluation

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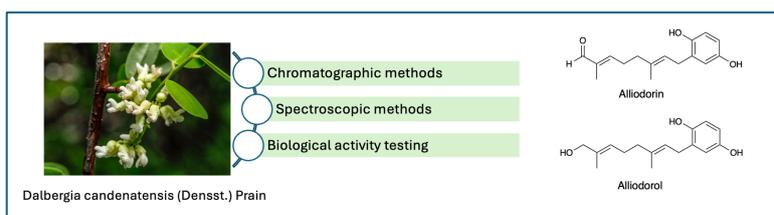
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ABSTRACT

Natural products are a rich source of bioactive compounds that drive drug discovery, offering solutions to antimicrobial resistance and new therapeutic opportunities. *Dalbergia candenatensis* (Dennst.) Prain, commonly known in Thailand, belongs to the legume family and is valued for its red heartwood, traditionally used as a dye and in local medicinal applications. This study aims to isolate and elucidate the structures of new bioactive natural products from *D. candenatensis* and to evaluate their antimicrobial activities. The heartwood was extracted using methanol and dichloromethane, followed by Chromatographic separation techniques, including Column Chromatography, Thin-layer Chromatography, and High-Performance Liquid Chromatography (HPLC). Structural elucidation of the isolated compounds was conducted using Nuclear Magnetic Resonance (NMR) Spectroscopy and Mass Spectrometry (MS). As a result, four compounds were identified, including (2*E*,6*E*)-8-(2,5-dihydroxyphenyl)-2,6-dimethylocta-2,6-dienal or Alliodorin (**1**) and 2-((2*E*,6*E*)-8-hydroxy-3,7-dimethylocta-2,6-dien-1-yl)benzene-1,4-diol or Alliodorol (**2**), which had been previously reported but were identified in *D. candenatensis* for the first time, along with two newly discovered compounds (undisclosed). Finally, the antimicrobial activities of the isolated compounds were evaluated using the Broth microdilution method against *C. albicans*, *E. faecalis*, *E. coli*, and *S. aureus*. The results indicated that Alliodorin (**1**) and Alliodorol (**2**) exhibited the minimum inhibitory concentration (MIC) of 50 µg/mL against *S. aureus*.



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