





## PHYTOCHEMICAL PROFILING AND *IN VITRO* ANTIOXIDANT ACTIVITY OF *DACRYODES EDULIS* SEED FLOUR METHANOL EXTRACT

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**Abstract:** The growing interest in naturally derived bioactive compounds with health-promoting properties has intensified the study on *Dacryodes edulis* seed flour methanol extract (DESME). DESME obtained by the cold extraction method using methanol was characterized by gas chromatography-mass spectrometry (GC-MS) and Fourier transform-infrared (FT-IR) spectroscopy. Antioxidant activity was assessed by 1,1-diphenyl-2-picrylhydrazyl radical and ferric reducing antioxidant power assays. Phytochemical analyses, conducted through established standard methods, identified a wide class of compounds, including saponins, alkaloids, flavonoids, tannins, phenolic compounds, coumarins, terpenoids, cardiac glycosides, carbohydrates, and free amino acids. Among the identified compounds by GC-MS, fatty acids and fatty acid esters were an abundant class, with 9-octadecenoic acid being the most dominant compound, comprising 13.66% of the total composition. FT-IR showed major absorption peaks at 1709 cm<sup>-1</sup>, 1611 cm<sup>-1</sup>, and 3276 cm<sup>-1</sup>, confirming the presence of carbonyl, aromatic, hydroxyl, and nitrogen-containing functional groups, respectively. DESME demonstrated a total phenolic content of 320.68±0.33 GAE mg/g and exhibited strong radical inhibition (92.52%).

**Keywords:** phytochemical, *Dacryodes edulis*, 9-octadecenoic acid, GC-MS, antioxidant activity.

Received: 13 May 2026/ Revised final: 25 June 2026/ Accepted: 26 June 2026

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