

ABSTRACT

Bay leaf (*Syzygium polyanthum* (Wight) Walp.) is a spice that is widely used in Indonesia with several properties as an antioxidant and antibacterial. This research aims to identify secondary metabolites, total phenolic content, determine the antioxidant and antibacterial activity of bay leaf ethanol extract, and isolate gallic acid and caffeic acid compounds from bay leaf ethanol extract. The research process included phytochemical screening, maceration, determination of total phenols using the Folin-Ciocalteu method, isolation of phenolic acids using base hydrolysis, acid hydrolysis and without hydrolysis methods, as well as identification of the structure of isolates using UV-Vis spectrophotometry and LC-MS/MS. The results showed that the ethanol extract of bay leaves contained tannins, phenols, flavonoids and saponins, with total phenols of 147.645 ± 0.362 mg GAE/g. Isolates B₁ and B₂ identified were gallic acid with a molecular weight of 170 g/mol and caffeic acid with a molecular weight of 180 g/mol. The ethanol extract of bay leaves shows strong antioxidant activity with an IC₅₀ of 36.420 mg/L, and has antibacterial activity against *Staphylococcus aureus* and *Escherichia coli*.

Keyword : Isolation, Gallic Acid, Caffeic Acid, Antioxidant, Antibacterial