



Bioactive Compounds From Majapahit Fruit (*Crescentia cujete*) As a Potential Natural Antibacterial

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Abstract : The source of active ingredients that are commonly used in treating or preventing diseases, and are thought to play a beneficial role in health, for example are plants. Majapahit (*Crescentia cujete*) plant is one of such plants, whose leaves, barks, fruits, or roots have medicinal and preservative properties. These studies are needed to ascertain the compound of Majapahit fruit as a Natural Antibacterial and Identification of active ingredients using various characterisation techniques. The methanol, ethyl acetate, and, n-hexane extract of these fruit were prepared, and agar diffusion method with paper disc to investigate antimicrobial activity. Identification of active ingredients with; Phytochemicals Test, UV-VIS Spectrophotometry, FTIR spectrophotometer and Gas Chromatography-Mass Spectrometry (GC-MS). Results of the phytochemical test revealed the presence of flavonoids, saponins, and triterpenoid in the Majapahit fruit. The methanol extract was the most effective (17.29 mm) in antibacterial activity. Ultraviolet spectrum is with maximum peaks at 407.0,- 396.9 nm and 313.0, - 219 nm, result of FTIR spectroscopy are wave numbers 3662 cm^{-1} , - 518 cm^{-1} that indicates of; OH bending, -CH- (SP3), OH, -C=C-, -CH₂-, -CH₃-, and -C=CH-. The GC-MS chromatogram indicating the presence of 12 phytochemical constituents from 5 peaks highest. Majapahit (*Crescentia cujete*) fruit which implies that the extracts have a potential natural antibacterial. The phytochemical test revealed the presence of flavonoids, saponins, and triterpenoids, and The bioactive constituents of the plant extract were analysed by FTIR, UV-VIS spectrophotometry and GC-MS spectrometry, and they revealed varied and wide compounds.

Keywords: Majapahit (*Crescentia cujete*) fruit, antibacterial, flavonoids, saponins, triterpenoids.