

STUDY ON CHEMICAL AND BIOLOGICAL ACTIVITIES OF *HYDNOPHYTUM FORMICARUM* EXTRACTS AND THEIR APPLICATIONS IN BISCUITS

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Abstract:

Hydnophytum formicarum is a medicinal plant that has a variety of bioactive compounds and has been traditionally used for therapeutic purposes. *Hydnophytum formicarum* grows on the stems of large trees and in a symbiosis with a type of ants. This study investigates the effects of technological factors on the extraction process of *Hydnophytum formicarum* in n-hexane, ethyl acetate, and ethanol solvents by using the Soxhlet method. Our study also identified the best extraction conditions for each solvent. Several major constituents present in the extracts were identified by using the GC-MS. In addition, investigation results about the biological activity showed that all of the three extracts had high antioxidant and antimicrobial activity. Therefore, in order to produce new biscuits that would be healthy for adults and have long preservation duration, we added *Hydnophytum formicarum* ethanol extract. The amount of *Hydnophytum formicarum* ethanol extract used in biscuit formula was 1 gram of condensed extract/100 grams of dough. In sensory evaluation of the produced biscuits using consumer acceptance tests, 50 students in Danang University evaluated their preferences for color, flavour, taste, and general acceptance. The obtained results have shown that statistically consumers will be likely to accept the produced biscuits.

Key words: Sensory evaluation; Antioxidant activity; Antimicrobial activity; Hydnophytum formicarum; Acceptance test.