

***Zingiber officinale* (GINGER) AS A POTENTIAL
MODULATOR ON ANTIOXIDANT ACTIVITY**

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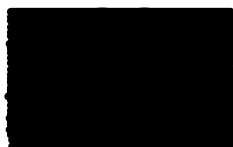
***Zingiber officinale* (GINGER) AS A POTENTIAL MODULATOR ON
ANTIOXIDANT ACTIVITY**

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This Final Year Project Report entitled “*Zingiber officinale* (Ginger) as a Potential Modulator on Antioxidant Activity” was submitted by Siti Norathirah Binti Md Shafei in partial fulfillment of the requirements for the Degree of Bachelor of Sciences (Hons.) Applied Chemistry, in the Faculty of Applied Sciences, and was approved by



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ABSTRACT

***Zingiber officinale* (GINGER) AS A POTENTIAL MODULATOR ON ANTIOXIDANT ACTIVITY**

Zingiber officinale, commonly referred to as ginger, is a spice widely used in culinary and medicine because of the phytochemicals including phenolics, flavonoids, and terpenoids that possess antioxidant properties. This research evaluates the percentage yield of ginger, its phytochemical content, and the antioxidant properties of ginger. Soxhlet extraction method yielded an extraction efficiency of ginger of 11.02%. The FTIR analysis identified functional groups such as hydroxyl (-OH) and C=C aromatic, suggesting the presence of phenolic compound in the extract. Since phenolic compounds are known for their antioxidant properties, further assay such as TPC and DPPH were conducted. Phytochemical screening showed that the extracts contained terpenoids, phenolics, and saponins were not detected. The percent inhibition of antioxidant activity was found to be 35.35% and 37.39% for sample 1 and 2, respectively. The value of IC₅₀ was 16.10 ppm. This suggests moderate antioxidant properties. Moreover, the total flavonoid content was found as 20,498.5 mg QE/g extract, and the total phenolic content was 9,824.4 mg GAE/g extract. In summary, this study suggests that ginger can be a modulator of antioxidant activity.

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