

**EVALUATION OF CHINESE CINNAMON
(*Cinnamomum cassia*) AND CLOVE (*Syzygium
aromaticum*) EXTRACTS AS NATURAL
ANTIOXIDANTS FOR COSMETICEUTICALS
APPLICATIONS**

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This Final Year Project entitled “**Evaluation of Chinese Cinnamon (*Cinnamomum cassia*) and Clove (*Syzygium aromaticum*) Extracts as Natural Antioxidants for Cosmetics Applications**” was submitted by Fatin Nur Syafiqah Binti Khairuddin in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Applied Chemistry, in the Faculty of Applied Sciences, and was approved by

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ABSTRACT

EVALUATION OF CHINESE CINNAMON (*Cinnamomum cassia*) AND CLOVE (*Syzygium aromaticum*) EXTRACTS AS NATURAL ANTIOXIDANTS FOR COSMETICEUTICALS APPLICATIONS

In recent times, there has been a growing interest in compounds that possess antioxidant properties, particularly in their ability to inhibit reactions caused by free radicals. A study was conducted to examine the antioxidant activity of extracts derived from *Cinnamomum cassia* and *Syzygium aromaticum*. Various extracts, including methanol, ethanol, and acetone extracts, were obtained from each sample and the extraction yield, total phenolic content (TPC), and scavenging ability of these extracts were investigated.

The total phenolic content (TPC) serves as an indicator of the number of phenolic compounds present in the extract. The study found that extracts with higher TPC values contained a greater quantity of phenolic compounds. On the other hand, the DPPH assay was used to evaluate the radical scavenging activity (RSA) of the extracts. A higher percentage RSA value indicated a higher ability to scavenge radicals. Specifically, the methanol extracts of *Cinnamomum cassia* and *Syzygium aromaticum* demonstrated higher radical scavenging activity.

Based on these findings, extracts with a greater antioxidant activity are considered to be the most suitable choice for the production of cosmeceuticals.

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