

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT OF ANTI-INFLAMMATORY SOAP
ENHANCED BY GREEN COFFEE BEAN OILS**

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ABSTRACT

Green coffee contains a large quantity and variety of polyphenols and flavonoids. The composition of the polyphenols in coffee, due to the formation of compounds generated by Maillard reaction, which can have anti-inflammatory potential. Inflammatory skin illnesses are the most well-known issue in dermatology. This type of illness has been known one of the biggest illness in Malaysia for the past few years. Thus, in this study shows the reliable on Green Coffee Bean oils extracted using Soxhlet extraction to be applied in commercial soap for the anti-inflammatory effect. A simple method for the determination of chlorogenic acids content in green coffee bean was reported. The method was based on the use of UV/Vis absorption. It is relevant that the quantification of and chlorogenic acids was performed without their preliminary chemical separation despite their spectral overlap in the range 200–400 nm. Themolar extinction coefficients chlorogenic acid in ethanol solution was calculated by using the chemical standards; the estimated values were $\epsilon(272\text{nm}) = 12159 \pm 97\text{M}^{-1} \text{ cm}^{-1}$ for chlorogenic acids molecules. The anti-inflammatory effects extracts of GCB applied in soap was investigated in animal models and using a DPPH radical scavenging test. In the formalin test the extracts reduced licking activity.

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CHAPTER 1

INTRODUCTION

1.1 Research Background

Inflammatory skin illnesses are the most well-known issue in dermatology. They come in numerous structures, from infrequent rashes joined by skin tingling and redness, to perpetual conditions, for example, (dermatitis), rosacea, seborrheic dermatitis, and psoriasis. Skin irritation can be portrayed as intense or ceaseless. Intense aggravation can result from presentation to UV radiation (UVR), ionizing radiation, allergens, or to contact with synthetic aggravations (cleansers, hair colors, and so on.). This kind of aggravation is commonly settled inside 1 to about fourteen days with small going with tissue obliteration. Interestingly, interminable irritation results from a continued safe cell intervened provocative reaction inside the skin itself. This irritation is enduring and can cause critical and genuine tissue devastation. Fiery skin conditions influence more than 7 million Malaysian who every year spend over RM 1 million to treat their manifestations (World Health Organization, 2017) .

Anti - inflammatory, for example, Phenolic Compound that comprise of Chlorogenic Acid are required for human skin and body to fix the aggravation response. Phenolics are a heterogenic gathering of mixes got from the auxiliary digestion of plants. Basically, phenolic mixes have somewhere around one sweet-smelling ring to which at least one hydroxyl bunches are clung to sweet-smelling or aliphatic structures. Phenolic mixes can be assembled into flavonoids and non-flavonoids (Bravo, 1998) .

Flavonoids are one of the polyphenolic intensifies that happen pervasively in plants having an assortment of organic impacts both in vitro and in vivo. They have been found to have mitigating exercises. They have been found to have mitigating movement in both