

UNIVERSITI TEKNOLOGI MARA

FORMULATION AND CHARACTERISATION STUDY OF COSMETIC  
BODY LOTIONS CONTAINING OLIWAX AND OLIWAX LC

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## ABSTRACT

The objectives of the study were to formulate the body lotions containing Oliwax LC and Oliwax, to characterize the texture of the body lotions containing Oliwax LC and Oliwax and also to investigate the differences in rheology analysis, texture analysis and sensory profiles between both of the body lotions containing Oliwax LC and Oliwax. Oliwax LC was able to re-organize the O/W emulsion microscopically structure and provided sebum control benefits make it less oiliness, glossiness, stickiness and slipperiness. Oliwax was a lipophilic ingredient and it was a medium melting point waxy substances. Thus, it enhanced the stability of the body lotions. Body lotions containing Oliwax showed much higher values of  $G'$  (storage modulus) and  $G''$  (loss modulus) than the body lotions containing Oliwax LC. Besides that, complex viscosity of the body lotion containing Oliwax was higher compared to the body lotion containing Oliwax LC. Moreover, body lotions containing Oliwax LC showed much higher values in firmness (g), consistency (g.sec), and cohesiveness (g) values. Sensory evaluation showed that the body lotions containing Oliwax LC was likely had lotions characteristics and they were less glossiness, stickiness, slipperiness and oiliness compared to the body lotions containing Oliwax. Thus, differences ingredients showed differences value in rheology and texture measurement as well as in sensory profiles. Body lotions containing Oliwax showed higher values in rheology and texture analysis however in sensory profiles it showed that it was more oiliness, glossiness, slipperiness and stickiness as compared to

# CHAPTER ONE

## INTRODUCTION

### 1.1 Cosmetic applications

Cosmetic products are on the rise and widely used nowadays especially in female and it is directly applied to human skin. Cosmetic cream and body lotions are examples of the cosmetic products that are popularly used by the people (Loretz et al., 2005). Both of these products are cosmetic emulsions that usually used as bases for skincare products to produce healthy and affected skin. Cosmetic emulsions usually have a short expiry date, therefore manufacturer of cosmetic products need to respond quickly to new market demands to produce cosmetic product with long lived and high quality product without the need of long time testing (Kita et al., 1977). Recently, micro and nano-emulsions has been the subject of extensive research work, because of the vast possibilities they offer. They have the properties like it can improved drug solubilization and bioavailability. Therefore, it makes them to be very attractive for application in personal care and cosmetic as well as in health care products.

Because of emulsion the small droplets size, they can penetrate well through the body membranes and finally enables transport of active substances. In addition, the small droplet size enhances its stability since Brownian motion may be sufficient to overcome the gravity. Therefore, creaming or sedimentation can be avoided in