CHAPTER VI

CONCLUSION

1. The effectiveness of the sunscreen products depened on its concentration and independed on the property of the emulsion base. The water-resistant (silicone oil viscosity 350 cps) could not significantly improve the SPF of sunscreen emulsions.

2. The permeation of sunscreen agents through the skin were investigate. Almost 87% of sunscreen agent was accumulated at stratum corneum, the remain was in epidermis and dermis, there was no sunscreen agent in receptor fluid.

3. The standard homosalate sunscreen which was used to standardize the SPF value of sunscreen products based upon the US-FDA procedure showed no significant difference in SPF values from the specified value when tested in Thai volunteers. This result indicate that the evaluation of SPF values of sunscreen products in Thai volunteers could be use homosalate as a standard sunscreen agent.

4. For *in vivo* SPF results : The sun protection factors (SPF) of the sunscreen products in Thai skin type (skin type III-IV), the protection times of the sunscreen products for Thai people were longed. This was due to the melanin responses of the darker skin people (Thais) and the longer unprotected MED of Thai skin resulted in the *in vivo* measurement of SPF was low.

5. The *in vitro* SPF data obtained from the SPF-290 Analyzer showed lower correlation with the *in vivo* SPF data obtained from the US-FDA method ($r = 0.5658$). The results indicate that the *in vitro* SPF evaluation could not replace the *in vivo* test, it can use for the preliminary test for a confirmation of the range of the SPF of the sunscreen.