CHAPTER V

CONCLUSION

In this investigation the purified asiaticoside was obtained by maceration 18.5 kilograms of fresh leaves of ***C.asiatica*** with ethanol and further extract by chloroform and buthanol then the extract was diluted with methanol and recrystallized in methanol. The white crystalline needles of **asiaticoside** were obtained with melting point of 235-237°C

High resolution liquid chromatography-mass spectrometry (LC-MS) with electrospray ionisation providing a typical finger print of chemical component in crude extract. The extract of ***C.asiatica*** illustrates the fingerprint of **asiaticoside** sodium salt of molecular weight of 980.82.

For purification of **asiaticoside**, the buthanol extract were diluted with methanol and isolated by using Sephadex LH20. The more successive extraction the more purification obtained. HPLC shows specially assay of **asiaticoside**.

The microemulsion gel formula 1-6 appeared the most transparent. Formula 1,3 and 6 show more stability. The viscosity of formula 1 was the lowest. The pH of **asiaticoside** microemulsion gel was 4.5.

The formulation of **asiaticoside** microemulsion gel was success by using capric/caprylic triglyceride as an oil phase and using polyoxyethylene 10 oleyl ether (Brij 97®) as the surfactant. The composition of oil : surfactant : water : **asiaticoside** was 15 : 70 : 14 : 1. This formula of **asiaticoside** microemulsion gel can penetrate through the shed snake skin with the flux of 0.31 $mg/cm^2/hr$ or 310 $\mu g/cm^2/hr$. The highest amount of cumulative concentration was 67.70 mg in 72 hrs.

This phenomena could be conclude that **asiaticoside** could penetrate through shed snake skin as the model membrane resulted in hypothesis of penetration through human skin by using microemulsion gel as transdermal delivery.

For the cosmetic application, microemulsion shows the aesthetic appearance with clear and transparent phenomena.