



CHAPTER V

CONCLUSIONS

The conclusion from this study can be summarized as the followings:

1. *Andrographis paniculata* Nees. microcapsules could be prepared by a complex coacervation technique and the optimum conditions, which provided grey powder-like microcapsules, were 50:50 gelatin to acacia ratio, 1:2 core to wall ratio, 120 minutes of hardening time and 5 ml of formaldehyde solution of andrographolide as a core material. In addition, this condition provided high yield and percentage of drug entrapped.
2. For the effect of negative charge polymer, the microcapsules could be provided only by using acacia with the negative charge polymer.
3. For the particle size of microcapsules, which were prepared by all formulations, there was no significant difference. This is because the microcapsules were prepared at the same stirring speed for each batch.
4. The release rate from 1:1 core to wall ratio microcapsules increases to greater than 1:2 core to wall ratio microcapsules. The higher core to wall ratio yielded a thinner film coating of polymer on the drug particles while the effects of hardening time and amounts of hardening agent did not affect the drug release rate significantly.
5. The percentage of drug remaining in the nonprotected from light condition is less than material in the protected from light condition. Nonetheless, it was still stable.
6. Microencapsulation of *Andrographis paniculata* Nees. could mask the bitter taste.

Suggestion for Further work:

This work should be further extended in order to scale up the process to produce the *Andrographis paniculata* Nees. microcapsules in large quantity for field applications.