

CHAPTER 5

CONCLUSIONS

In this research, the alkaloids of *D. glaucum* and their acetylcholinesterase inhibitory activity were investigated. The alkaloids from the leaves of *D. glaucum* were isolated by chromatographic techniques and gave DG1 (3 mg), DG2 (5 mg), DG3 (2 mg), DG4 (6 mg), DG5 (6 mg) and DG6 (4 mg). From the ^1H NMR data indicated that DG1 and DG6, DG3 and DG4 were the same compounds. However, DG1 and DG3 were more pure than DG4 and DG6. It can be concluded that four alkaloids were isolated from the leaves of *D. glaucum*. The result was well agreed with the previous study. However, the structures of compounds have to be confirmed by 2D-NMR data and mass spectrometry.

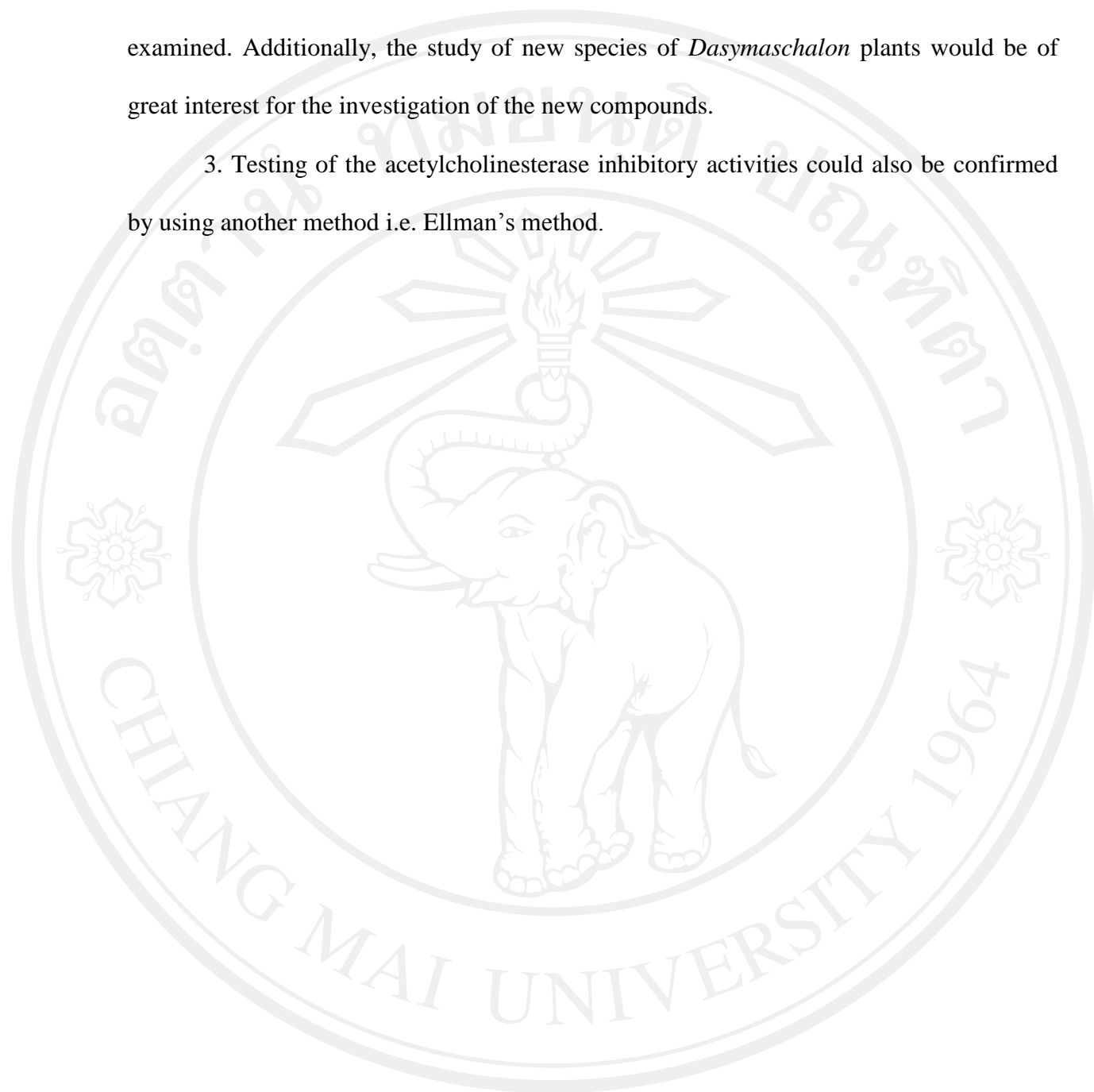
The acetylcholinesterase inhibitory activity of the alkaloids from *D. glaucum*, was studied using TLC bioautographic technique. The results showed that acetylcholinesterase was inhibited by these compounds with minimum inhibitory requirements of 100-250 ng. DG2 and DG5 were the most active compounds with a minimum inhibitory requirement (MIR) of 100 ng. All of these compounds exhibited weak inhibitory activities against acetylcholinesterase compared with galanthamine (MIR = 5 ng).

Recommendation for Future Work

1. The structures of all compounds should be confirmed with 2D-NMR data and mass spectrometry.
2. Isolation and purification of non-alkaloid compounds from the leaves and compounds from the other part of *D. glaucum* such as fruits, flower etc. could be

examined. Additionally, the study of new species of *Dasymaschalon* plants would be of great interest for the investigation of the new compounds.

3. Testing of the acetylcholinesterase inhibitory activities could also be confirmed by using another method i.e. Ellman's method.



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