

CHAPTER 5

Conclusions

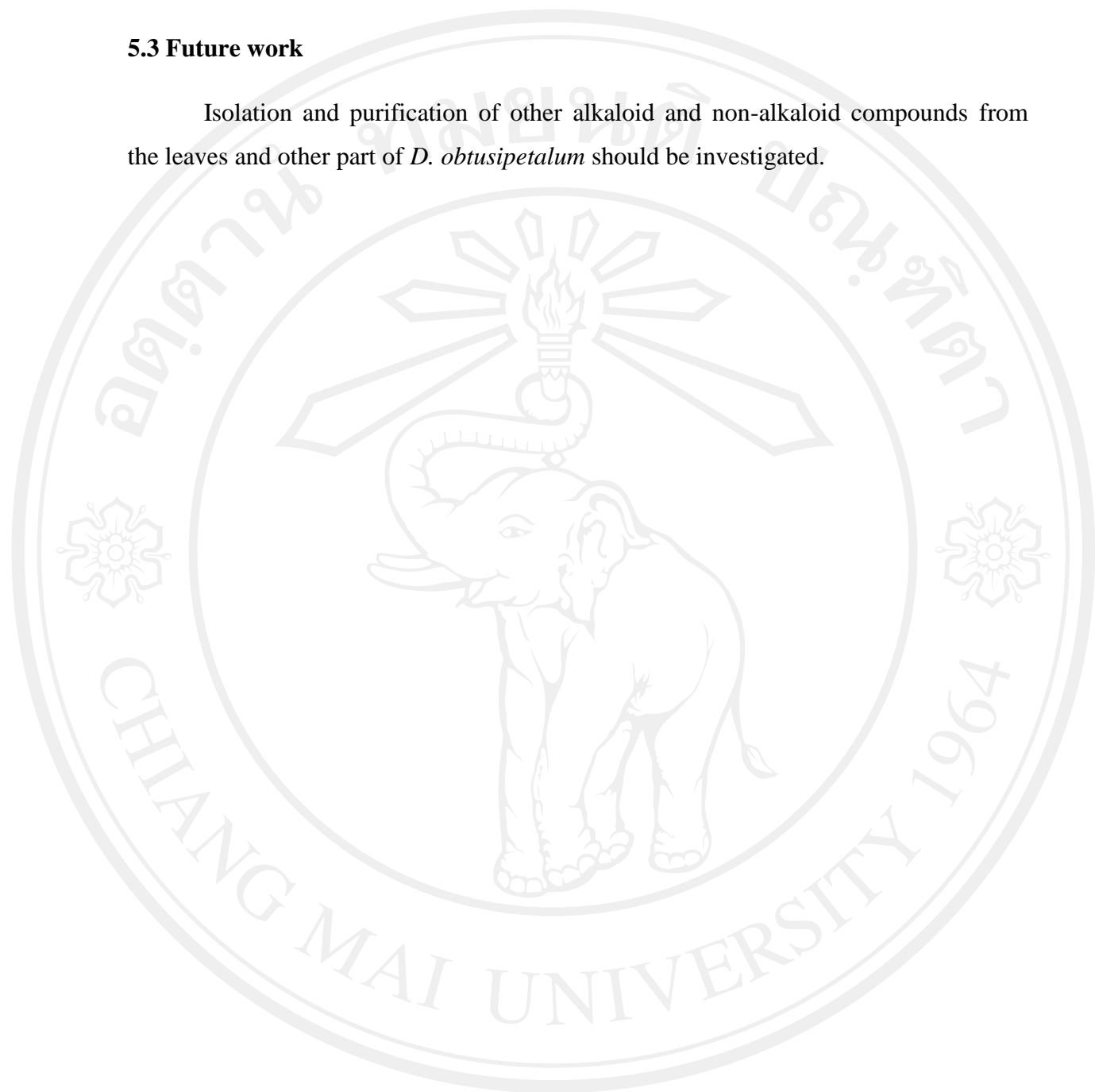
These results showed that a known alkaloid namely dicentrine was obtained from the leave of *D. obtusipetalum* in the first time of this genus. The percentage yield of dicentrine from EC technique (0.9%) was higher than conventional technique (0.5%). Comparison of the number of organic solvents used, isolation of alkaloid indicated that EC technique used less chemical and organic solvents than conventional technique, especially those that are harmful to human and environment.

The study of acetylcholinesterase inhibitory activity and brine shrimp lethality activity test showed that conventional extract had the highest inhibitory activity towards AChE with a minimum inhibitory requirement (MIR) of 50 ng and had the highest activity against brine shrimp with LC_{50} value of $24.646 \pm 0.227 \mu\text{g.mL}^{-1}$, followed by EC extract and dicentrine with MIR of 100-500 ng for acetylcholinesterase inhibitory activity and LC_{50} value of 33.124 ± 0.217 - $56.69 \pm 0.360 \mu\text{g.mL}^{-1}$ for brine shrimp lethality activity test.

In addition, dicentrine showed cytotoxicity against vero cells (American green monkey kidney), anticancer activities against oral cavity cancer (KB), small lung cancer (NCI-H187) and breast cancer (MCF-7) with IC_{50} value of 2.72, 8.66, 4.36 and 8.42 $\mu\text{g.mL}^{-1}$, respectively. Moreover, this compound had antimalarial activity with IC_{50} value of 0.32 $\mu\text{g.mL}^{-1}$ and antimycrobaerium activity with minimum inhibitory concentration (MIC) value of 50 $\mu\text{g.mL}^{-1}$.

5.3 Future work

Isolation and purification of other alkaloid and non-alkaloid compounds from the leaves and other part of *D. obtusipetalum* should be investigated.



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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