

CONCLUSION

4.2 Conclusion

From the results several conclusions can be made.

- ❖ From the I_{50} , DDVP possessed the lowest value, so DDVP is an insecticide with the highest toxicity level to *Rattus rattus diardii* esterase enzyme, followed by Fenitrothion and malathion.
- ❖ DDVP exposure can bring about cross resistance toward malathion and Fenitrothion .
- ❖ DDVP shows the highest K_i , followed by Fenitrothion and malathion .
- ❖ Retardant EI complex of DDVP is the most difficult to be separated to form free enzyme and yield (E and P) compared to malathion and Fenitrothion .
- ❖ Esterase enzyme of *Rattus rattus diardii* erythrocytes shows that it is resistant to malathion, fenitrothion and DDVP insecticide after exposure to those insecticides .

- ❖ Starch gel electrophoresis of rat esterases resolved esterase bands, *i.e.*, all hydrolysing α -naphthyl acetate, in both esterases (α - β). The bands were characterized by inhibition with a discriminating dose of malathion, fenitrothion and DDVP.

- ❖ There was a slightly higher CarE activity in α -esterases and β -esterase. The rest of the bands showed similar activities thus making correlation between in vitro inhibition studies and electrophoresis studies difficult.

- ❖ No significant intra-esterase differences in the electrophoretic patterns or mobilities of the esterase bands were detected between the two esterases.

REFERENCES