

Chapter VI

Conclusion

Eleven Thai medicinal plants were extracted and tested for antibacterial activity against five tested microorganisms which caused respiratory tract infection. They provided various spectrum against each tested organism. Most of them showed good activity against gram positive bacteria except the extract of *Dendrothoe pentandra* Miq. which showed no activity against all tested organisms. All of the extracts showed no activity against *K. pneumoniae* ATCC 10031. The inhibition against *P. aeruginosa* ATCC 27853 was shown by the extract of *Croton crassifolius* Geisel. and *Terminalia citrina* Roxb. ex. Flem. The petroleum ether extract of *E. palmifolia* (L.) Merr. was selected for determination and isolation of antibacterial substance because it showed the highest activity against *S. aureus* ATCC 25923, *S. pyogenes* A 6/49 and *H. influenzae*.

The pure yellow crystal of EP₂ was isolated. It was 1,4-naphthoquinone derivative and the structure was identified by mean of UV, IR, NMR and MS spectroscopy. This chemical compound has never been found in plants .

In clinical laboratory evaluation by agar dilution technique, the minimal inhibitory concentration of EP₂ against *S. aureus* and *S. pyogenes* were 40 µg/ml and 60 µg/ml. However, the MIC₅₀ values of EP₂ were only 29.2 µg/ml against *S. aureus* and 39.0 µg/ml against *S. pyogenes*.

Further study for this constituent is strongly recommended in the field of other biological and pharmacological properties. The study will review many informations which would be beneficial to treatment.



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