

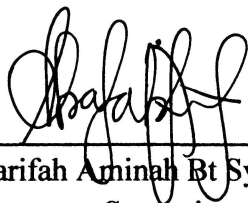
ANTIMICROBIAL STUDY OF ESSENTIAL OIL FROM *Pogostemon cablin*

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**Final Year Project Report Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons.) Applied Chemistry
in the Faculty of Applied Sciences
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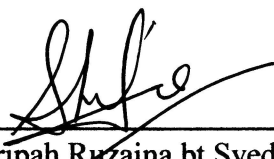
This Final Year Project Report entitled “Antimicrobial Study of Essential Oil from *Pogostemon cablin*” was submitted by Wan Izyan Bt Wan Mahmud Sabri, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Applied Chemistry, in the Faculty of Applied Sciences and was approved by



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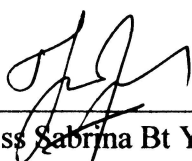
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ABSTRACT

ANTIMICROBIAL STUDY OF ESSENTIAL OIL FROM *Pogostemon cablin*

Pogostemon cablin or Patchouli is a bushy herb of the mint family which grows in tropical climate. It is a herbal that shown interesting pharmacological activities such as antifungal and antibacterial. The scent of Patchouli is heavy and strong and the major constituent that responsible for the typical aroma is patchoulol. It also has therapeutic properties such as antidepressant, febrifuge and antiphlogistic. In this study, leaves of *Pogostemon cablin* were ground and the powdered leaves were extracted by using hydrodistillation method to obtain essential oil known as Patchouli oil. The percentage yield of essential oil obtained is 1.68%. It was used to evaluate the antimicrobial activity by using disc diffusion method with various concentrations ranging from 150 mg/ml to 5 mg/ml. Patchouli oil was diluted with hexane and was tested against microorganisms such as *E. coli*, *S. aureus*, *S. pyogenes* and *C. albicans*. The results showed that Patchouli oil demonstrated good antimicrobial activity against *E. coli* at all concentrations and moderate antimicrobial activity towards *S. pyogenes* above 25 mg/ml of concentrations. *C. albicans* possess weak antimicrobial activity and no antimicrobial activity against *S. aureus*. Therefore, Patchouli is very effective to inhibit the growth of *E. coli* but failed to inhibit the growth of *S. aureus*.