

**ANTIBACTERIAL ACTIVITY OF *Citrus sinesis* PEEL  
EXTRACT AGAINST GRAM NEGATIVE BACTERIA**

**MARINI BINTI WIRASARI**

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This Final Year Project entitled “**Antibacterial Activity of *Citrus sinensis* Peel Extracts against Gram Negative Bacteria**” was submitted by Marini Binti Wirasari, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

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Dr. Nor' Aishah Binti Hasan  
Supervisor  
Faculty of Applied Sciences  
Universiti Teknologi MARA  
Negeri Sembilan, Kampus Kuala Pilah  
Pekan Parit Tinggi, 72000 Kuala Pilah,  
Negeri Sembilan

---

Lili Syahani binti Rusli  
Coordinator FSG661 AS201  
Faculty of Applied Sciences  
Universiti Teknologi MARA  
Negeri Sembilan, Kampus Kuala Pilah  
Pekan Parit Tinggi, 72000 Kuala Pilah,  
Negeri Sembilan

---

Dr. Aslizah binti Mohd Aris  
Head of Biology School  
Faculty of Applied Sciences  
Universiti Teknologi MARA  
Negeri Sembilan Kampus Kuala Pilah  
Pekan Parit Tinggi, 72000 Kuala Pilah,  
Negeri Sembilan

Date: \_\_\_\_\_

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## **ABSTRACT**

### **ANTIBACTERIAL ACTIVITY OF *Citrus sinensis* PEEL EXTRACT AGAINST GRAM NEGATIVE BACTERIA**

Sweet orange (*Citrus sinensis*) is a common fruit source of vitamins and fibers. It contains phytochemicals and phenolic compound that are proved to act as an antimicrobial agent. However, a lot of waste produced by their peel has become a concern to the environment. Therefore, our prime aim was to evaluate the antibacterial activity of peel sweet orange against Gram negative bacteria as an alternative natural antibiotics. Methanol and aqueous extract were used to measure the antibacterial activity of sweet orange peel. Four different concentration (25, 50, 100 and 200) of both extract were evaluated against three different Gram negative bacteria which were *Escherichia coli*, *Salmonella sp.*, and *Shigella sp.* Both extracts were prepared in a concentration of 25, 50, 100 and 200 mg/ml and findings showed that, both extracts does not exhibit any antibacterial activity against Gram negative bacteria tested. However, MIC of methanol extract was at 100 mg/ml while aqueous extract was above 100 mg/ml. Findings also showed that at lower concentration of 200 mg/ml, methanol and aqueous extract of peel sweet orange did not have any antibacterial activity against *Escherichia coli*, *Salmonella sp.*, and *Shigella sp.* For further study, it could be improved by increasing the concentration of each extract and use other solvents extract such as ethanol and chloroform.