

**EXTRACTION AND PARTIAL PURIFICATION
OF ANTIMICROBIAL COMPOUNDS FROM
LEAVES OF *HIBISCUS ROSA SINENSIS* LINN.**

FENDY YUANTO

**B. Sc. (Hons.) FOOD SCIENCE & NUTRITION
FACULTY OF APPLIED SCIENCES
UCSI UNIVERSITY**

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ABSTRACT

Hibiscus rosa sinensis Linn. has been broadly used as traditional medicinal herb or folk medicine and has gained much attention due to its wide-spectrum of antimicrobial activity. This experiment was done to screen for antimicrobial activities through MIC (minimum inhibitory concentration), to partial purify the compounds and to characterize the antimicrobial compounds present. 70% methanolic *Hibiscus rosa sinensis* Linn. leaves extract at 24 hours maceration time and ratio of 1:10 (w/v) was tested against four Gram-positive bacteria (*B. cereus*, *B. subtilis*, *S. aureus*, *S. epidermidis*) and four Gram-negative bacteria (*E. coli*, *Klebsiella*, *Pseudomonas*, *Serratia*). The initial MIC values of the crude extracts ranged from 3.125mg/mL to 25mg/mL for Gram-positive bacteria and 25mg/mL to 100mg/mL for Gram-negative bacteria. The crude extracts were subjected to partial purification where similar R_f value compounds were grouped together. The partial purified fractions showed unpromising antimicrobial activities against the tested microorganism compared to the methanolic crude extracts. On the phytochemical tests conducted for both crude extracts and purified fractions, alkaloids, flavonoids and phlobatannin were detected in crude extracts and all purified fractions while saponins, terpenoids, and cardiac glycosides could only be found in some pooled fractions. In total phenolic content determination, crude extract was found to have moderate total phenolic content with $32.8 \pm 0.1 \mu\text{g}/\text{mg}$ of GAE as compared with the pooled fractions while there are some pooled fractions were found to have higher total phenolic content. These results suggest that *Hibiscus rosa sinensis* Linn. leaves have more antimicrobial activities on the crude extract rather than the partial purified extracts of the leaves.