

**PHYTOCHEMICAL AND ANTIBACTERIAL ACTIVITY  
OF THE LEAVES EXTRACT OF *Ziziphus mauritiana***

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## ABSTRACT

### PHYTOCHEMICAL AND ANTIBACTERIAL ACTIVITY OF THE LEAVES EXTRACT OF *Ziziphus mauritiana*

*Ziziphus mauritiana* belongs to a family of Rhamnaceae. The leaves of *Z. mauritiana* was selected because of its numerous benefits in traditional folk practices such as healing minor wound, curing asthma and many more. This study was done to investigate the antibacterial properties of *Z. mauritiana* and to identify the phytochemical compounds that present in the leaves of *Z. mauritiana*. The method used to in this study started by obtaining the crude extracts through successive extraction method using three solvents of different polarity such as petroleum ether (non-polar solvents), chloroform and methanol (most polar solvents). The antibacterial activity of each extract was tested against *E. coli* and *S. aureus* using disc diffusion method. The detection and identification of the phytochemical compound was performed through phytochemical screening. Thin Layer Chromatography (TLC) analysis was developed to detect the number of compounds that present in each extract. The highest percentage yield was recorded in methanol extract with 6.13%, followed by chloroform (0.57%) and petroleum ether with 0.30%. The antibacterial activity of *Z. mauritiana* showed that methanol extract gave larger zone of inhibition (4.4 cm) followed by petroleum ether (1.6 cm) when tested against *E. coli*, while chloroform extract showed inhibition zone with 0.5 cm when tested against *S. aureus*. The phytochemical screening showed the presence of saponins, tannins, glycosides and also phenols in the methanol extract while glycosides was present in petroleum ether extract and phenols in chloroform extract. Each of the phytochemical compounds present is responsible for the antibacterial activity exhibit by *Z. mauritiana*. The TLC analysis revealed that chloroform extract has the most number of compound present with 14 compounds, petroleum ether extract with 8 compounds and methanol extract with 5 compounds respectively