

**CHEMICAL SCREENING AND BIOLOGICAL PROPERTIES
OF THE AROMATIC PLANT *Polygonum minus* Huds (KESUM)**

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This Final Year Project Report entitled “**Chemical Screening and Biological Properties of the Aromatic Plant, *Polygonum minus Huds (Kesum)***” was submitted by Noor Masitah Binti Mat Rashid, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Chemistry, in the Faculty of Applied Sciences, and was approved by

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ABSTRACT

CHEMICAL SCREENING AND BIOLOGICAL PROPERTIES OF THE AROMATIC PLANT, *Polygonum minus* Huds (KESUM)

The research of an aromatic plant, *Polygonum minus* Huds or kesum has been done on their chemical screening and biological properties. Extractions by cool extraction method were done at room temperature for 72 hours successively by three different solvent which are hexane, ethyl acetate and ethanol. The highest percentage yield shown by ethanol extract which is 4.73%. The phytochemical screening analysis for ethanol extract were done and confirm the presence of alkaloids, flavonoids, glycosides, phenols, saponins, sterols, tannins and terpenoids. In thin layer chromatography (TLC) study, the combination of solvent system hexane and ethyl acetate give a good separation of compound under ultraviolet (UV) lamp short wavelength and long wavelength. The best ratio for solvent system for hexane extract and ethyl acetate extract is 8:2 while the ratio for ethanol extract is 7:3. Disc diffusion method were used to determine the antibacterial activities of crude by using four pathogenic bacteria of *Bacillus subtilis*, *Staphylococcus aureus*, *Salmonella typhi* and *Escherichia coli*. The highest inhibition zone observed was the hexane extract with the diameter of 14 mm. Meanwhile for antioxidant study, DPPH were used to define the presence of antioxidant in the crude extracts.