

**OPTIMIZATION OF SOLVENT RATIO, EXTRACTION TIME
AND TEMPERATURE FROM *CLITORIA TERNATEA* L
PETALS**

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ABSTRACT

OPTIMIZATION OF SOLVENT RATIO, EXTRACTION TIME AND TEMPERATURE FROM *CLITORIA TERNATEA* L. PETALS

Nowadays, natural dyes and pigment gain public attention because of their non-toxic and eco-friendly characteristic. *Clitoria Ternatea* L. petals is the flower that can produce colour as it is rich with anthocyanin pigment. Anthocyanin have been used as natural colorant in food industry, cosmetic and pharmaceutical as it also contain antioxidant properties. Moreover, toxicity of synthetic dyes that can affect the environment was the reason why it is needed to be substituted with the natural colorant. Therefore, this experiment was designed to find the optimum condition for extraction of natural pigment from the *Clitoria Ternatea* L. petals and to characterize the natural dye extract using Fourier Transform Infrared (FTIR) and Ultraviolet-Visible Spectrometry (UV-Vis). The *Clitorea ternatea* L. petals was dried in the oven at 30 °C for 5 hours and kept in the room temperature. Three parameters was applied to evaluate the optimum condition namely solvent ratio of acidified methanol and water (0-100%), extraction time (30-270min) and extraction temperature (30-100 °C). The value of absorbance was measured using UV-Vis spectroscopy in order to determine the anthocyanin content extracted from flower petals. From the results, the optimum extraction condition that maximize the extracted natural pigment were found to be 60% methanol, 180 min extraction time and 90 °C extraction temperature. For characterization by FTIR the functional group presence indicate that the pigment in the *Clitoria Ternatea* L. petals was anthocyanin compound.