

**THERMAL DEGRADATION OF ANTHOCYANINS FROM BUTTERFLY
PEA FLOWER (*Clitoria ternatea*) ADDED WITH SODIUM DODECYL
SULFATE AT VARIOUS PH**

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgment is made in the thesis.

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ABSTRACT

EXAMPLE OF BACHELOR THESIS TITLE WITH LENGTH OF TWO LINES

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Butterfly pea is a potential source of natural food colorant. However, it is still relatively unstable and SDS can help to improve color stability. The objective of this study is to test the effectivity of SDS in protecting the color stability of anthocyanin extract of butterfly pea in several pH condition (pH 4, pH 5, pH 6, and pH 7) and various storage temperature (30°C, 45°C, 60°C, and 75°C). The control is made by diluting the extract in a buffer solution with DF20. Meanwhile, the sample is made by adding 1% of 5% SDS solution to the diluted extract. The extracts are then stored in a 5ml bottle with 50% headspace. The color stability is observed in terms of color intensity, violet index, browning index, and also kinetic parameters. SDS is found to have increased the color stability of butterfly pea extract at temperature 30°C and 45°C only. Whereas at temperature 60°C and 75°C, SDS did not work to increase the color stability of CTAE. Moreover, sample shows higher activation energy (E_a) value than control at pH 4 (77.97 & 60.19 kJ mol⁻¹), pH 5 (62.26 & 37.85 kJ mol⁻¹), pH 6 (74.50 & 21.89 kJ mol⁻¹), and pH 7 (78.85 & 18.35 kJ mol⁻¹). The higher Activation value means that it is more sensitive to temperature change.

Keywords: Anthocyanin, Butterfly pea, SDS, Color stability, Effect of pH, Effect of temperature, Activation energy.



DEDICATION

I dedicate this work for all my beloved family and friends

To the future of butterfly pea

And also to my beloved country: Indonesia



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