

**OPTIMIZATION OF pH AND TEMPERATURE STABILITY FROM
EXTRACTION OF NATURAL ANTHOCYANINS FROM SEED OF
BUAH KUNDANG (*Bouea Macrophylla*) FOR POTENTIAL FOOD
COLORANT PURPOSES**

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This Final Year Project entitled “**Optimization of pH And Temperature Stability from Extraction of Natural Anthocyanins from Seed of Buah Kundang (*Bouea Macrophylla*) for Potential Food Colorant Purposes**” was submitted by Nurfarah Nadia Binti Abdul Mutalib, 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

OPTIMIZATION OF pH AND TEMPERATURE STABILITY FROM EXTRACTION OF NATURAL ANTHOCYANINS FROM SEED OF BUAH KUNDANG (*Bouea Macrophylla*) FOR POTENTIAL FOOD COLORANT PURPOSES

'Buah Kundang' (*Bouea Macrophylla*) is one of the abundance fruits in Malaysia comes from the family Anacardiaceae. The seed of 'buah kundang' is a potential sources of anthocyanin which responsible for the bright purple color. Anthocyanin also is a cell antioxidant activities which play vital part in the counteractive action of different illness such as cardiovascular sickness, diabetes, and cancer. The objectives of this study was to assess the stability of anthocyanin extract from the 'buah kundang' seeds. In this study, the anthocyanin was extracted from the seeds by sequential soxhlet extraction using hexane and ethanol. The total anthocyanin content was determined by using T80+ UV/VIS Spectrometer (PG Instruments Ltd) according to (Lee, Durst, & Wrolstad, 2005) and the concentration was estimated to be 112.56 mg/100g measured at wavelength of 419 nm. As for the stability study, the effect of pH towards the anthocyanin extract was studied at pH range from 2 until 12. The data indicated that the anthocyanin extract was only stable in acid condition as its showed deterioration pH<5. Temperature stability study on the anthocyanin extract at ten different temperatures started at 10°C and 10°C stepwise increments till 100°C. The result showed that, the anthocyanin was stabled within temperature range of from 10°C to 30°C. In conclusion, the purple color extracted from the 'buah kundang' was not suitable for food coloring since it is no ability to withstand high temperature and only stable in quite an acidic condition.