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Compatibility studies of the methanolic extract of the *Dillenia philippinensis* (Katmon) Rolfe. (Dilleniaceae) bark as a pharmaceutical red colorant on Acetaminophen syrup using differential scanning calorimetry

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Endemic in the Philippines, *Dillenia philippinensis* (Katmon) has been known to produce red dye from its bark as mentioned by Quisumbing (1978). This study aims to produce a red dye extracted from katmon bark that is a safer and more compatible alternative to the synthetic dyes like Allura Red in pharmaceutical syrup formulations since most synthetic dyes are reported to cause hazardous effects to humans and the environment. The air-dried, ground bark will be extracted using 95% methanol in a Soxhlet apparatus for 4 hours and concentrated in a rotary evaporator in order to obtain the crude extract which will be suspended in 0.5% aqueous carboxymethyl cellulose for the acute toxicity testing in female Swiss mice following the OECD 425 guideline. On the other hand, UV-visible spectrophotometry and differential scanning calorimetry will be employed for the color comparison and compatibility of katmon dye against Allura Red in Acetaminophen syrup, respectively. The mice treated with 500 mg/kg Allura Red died within the 14 days of observation, also showing heart lesions upon histopathology. Using UV-Vis, the statistical result presented a p-value of 0.000009, showing a significant difference in terms of color characteristics. While in the DSC, both colorants have shown compatibility in Acetaminophen syrup.

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