

Optimization of total monomeric anthocyanin (TMA) and total phenolic content (TPC) extractions from mangosteen (*Garcinia mangostana* Linn.) hull using ultrasonic treatments.

ABSTRACT

The extraction yields of anthocyanins (TMA) and total phenolics (TPC) from mangosteen hull were optimized by varying the amplitude and time of ultrasonic treatment. The highest TMA recovery of 2.92 mg cy-3-glu/g hull powder was achieved using methanol aqueous solvent when direct ultrasonic treatment was applied for 15 min at 20% amplitude. For the TPC, 245.78 mg GAE/g hull powder was obtained in ethanol with sonication time of 25 min and at 80% amplitude. These TMA and TPC yields obtained are respectively 45.6% and 8.8% higher ($p < 0.05$) when compared to those without ultrasonic treatment. The ultrasonic treatment is able to improve anthocyanin extraction more effectively than the total phenolics from mangosteen hull.

Keyword: Mangosteen hull; Total monomeric anthocyanin; Total phenolic content; Sonication time; Amplitude.