

Effect of solvent pH, microwave power and extraction time on microwave-assisted extraction of *Hibiscus rosa-sinensis*

ABSTRACT

The objectives of the study were to evaluate the effect of solvent extraction pH, microwave extraction power and time on the yield of total anthocyanin and colour of *Hibiscus rosa-sinensis* (*H. rosa-sinensis*) extract and to evaluate the storage stability of total anthocyanin content and antioxidant activity of these extracts during storage. The factors studied were solvent pH (1.0 and 4.0), microwave power (400 W and 800 W) and extraction time (1 min and 3 min). Results showed that the highest total anthocyanin extracted was 9.56 ± 0.001 g cyanidin-3-glucoside when extraction was performed using solvent of pH 4 at 800 W and 3 min and followed by 8.33 ± 0.001 g cyanidin-3-glucoside using solvent of pH 2 at 800 W and 3 min. *H. rosa-sinensis* extract in pH 2 was in red while the extract in pH 4 was in dark red. For the 10 d storage stability analysis, *H. rosa-sinensis* extract of pH 2 and pH 4 at 800 W and 3 min were selected. During storage, the extract in pH 4 showed an increase in total anthocyanin content and radical scavenging inhibition percentage. On contrary, the total anthocyanin content and radical inhibition percentage for pH 2 extraction sample decreased during storage.

Keyword: Solvent extraction Ph; Microwave power; Microwave extraction time; *Hibiscus rosa-sinensis*