



MICROWAVE-ASSISTED EXTRACTION OF PHENOLIC COMPOUNDS FROM GINGER (*ZINGIBER OFFICINALE* ROSC.)

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<https://doi.org/10.34302/crpfst/2020.12.1.16>

Article history:

Received:

25 April 2019

Accepted:

10 January 2020

ABSTRACT

The main purpose of this study is to determine the best microwave-assisted extraction conditions such as type of solvent, solvent concentration, material/solvent ratio, microwave of power and extraction time. These factors affect strongly total polyphenol content (TPC) and antioxidant activity (AC). The achieved best parameters for the extraction process were aqueous ethanol concentration of 50%, material/solvent ratio of 1/40 (w/v), extraction time of 3 minutes and microwave power of 127 W. TPC and AC peaked at 22.79 ± 0.29 mg GAE/g DW and 9.85 ± 0.03 mmol Fe/g DW, respectively. Besides, the treatment by microwave can affect the cell structure of material which was observed by scanning electron microscope (SEM).
