

## **Optimization model of total phenolic compounds in zingiber officinale via ultrasound-assisted extraction technique**

### **ABSTRACT**

Ginger (*Zingiber Officinale*) as a medicinal herb is frequently neglected for other possible applications and usually only be consumed as spices. It shows unpredictable potentialities in both food and pharmaceutical industries. This study aims to provide the comprehensive view on the optimization model of extraction of polyphenols from ginger as well as the antioxidant and antimicrobial capacity of ginger extracts. Extraction parameters screening of various parameters assessed the influence of these parameters against the efficiency of recovering polyphenols from ginger. This includes the extraction temperature (60-80 °C), quantity of spice which represent the concentration of ginger (200-600 mg/20 ml solvent) and the solvent concentration (60-80 %) for the extraction of polyphenols from ginger. The optimum parameters were found to be at 80 °C, 468 mg/20 ml solvent and the solvent concentration at 70 % and the extraction time was found to have minimal influence on the extraction process. The total yield of phenolic content under optimum condition were found to be at  $22.333 \pm 0.2462$  mg GAE/g of dry weight of ginger extract.