

# Optimization of Ultrasonic-Assisted Extraction of Polyphenolic and Flavonoids from *Labisia pumila*

## Abstract:



This work presents an optimization study of polyphenol extraction from *L. pumila* with aid of sonication. The polyphenol content was evaluated using Singleton's method and aluminium chloride colorimetric assay. The two level factorial design [2LF] was used to screen the significance of the extraction parameters. The results proposed that the polyphenols extraction are mainly affected by the total solid ratio [TSR] and residence time. The highest flavonoid content of 31.79 mg QE/ g DW and phenolic content of 19.65 mg GA/g DW was obtained from 80% and 10% aqueous ethanol [EtOH], respectively via 2LF design. Three most important parameters [TSR, residence time and amplitude] were then further optimized thru central composite design. The highest simultaneous flavonoid [21.77 mg QE/ g DW] and phenolic [21.86 mg GA/g DW] extraction yield were attained from the probe sonicator

extraction with desirability of 0.998 at 10% aqueous EtOH with TSR 0.01, residence time of 13 min and amplitude of 55%.

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