

POCER 1915: Microwave-Assisted Extraction of Andrographolide, 14-Deoxy-11,12-didehydroandrographolide and Neoandrographolide from *Andrographis Paniculata*

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ABSTRACT

In this study, a central composite design was employed to optimize the process variables, i.e., microwave power (75-175 W) and ethanol concentration (20-85%) on the yield of bioactive compound extraction from *Andrographis paniculata*. The regression analysis shows a good fit between the experimental data to the second-order polynomial model with a coefficient of determination (R²) value of ≈ 0.95 . The optimum conditions to maximize the yield of andrographolide, 14-deoxy-11,12-didehydroandrographolide, and neoandrographolide were found at microwave power of 140 W and 85% ethanol. Experimental validation performed at the aforementioned conditions yielded AND (10.93 \pm 0.053 mg/gDW), DDA (4.34 \pm 0.215 mg/gDW), and NEA (5.70 \pm 0.252 mg/gDW), which are comparable to those of model prediction, i.e., 10.426 mg/gDW of AND, 4.123 mg/gDW of DDA and 5.558 mg/gDW of NEA, indicating the suitability of the developed models..

KEYWORDS

Andrographis paniculata; optimization; terpenes; central composite designDOI:

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