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## Optimization of Extraction Method and Qualitative FT-NMR Analysis on *Andrographis Paniculata* Leaves

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A study was conducted to optimize the extraction conditions of *Andrographis paniculata* leaves. Four different solvents, methanol (MeOH), dichloromethane (DCM), ethyl acetate (EtOAc) and water ( $H_2O$ ) were used in a period of 1, 3, 5 or 7 hours at set water-bath temperature of 25, 30, 40 or 60°C. The extraction dried mass yield of about  $200 \pm 0.1$  mg fresh cut leaves was measured, and 1D-Nuclear Magnetic Resonance (NMR) profiles were employed to correlate the crude extract weight to the percentage of the main compound, andrographolide, present. Methanol was shown to be the best solvent with 13.75% yield in 3 hours extraction at 40°C. The NMR peak intensity analysis of the major compound (andrographolide) also in support of these obtained parameters.

Keywords: Andrographis paniculata, methanol, andrographolide, NMR.