

Kinetics study of microwave assisted extraction of hypoglycemic active compounds from *Ceriops Decandra* sp. leaves using ethanol: Comparison with the Soxhlet extraction

Abstract

Microwave-Assisted Extraction (MAE) was used to extract total triterpenoids from *Ceriops Decandra* sp. The extraction procedure was optimized and compared with the Soxhlet extraction technique. Triterpenoids were quantified by UV-VIS Spectrophotometer via colorimetric method without any further treatment. MAE shows the highest extraction efficiency with lower time compared with Soxhlet extraction method. MAE requires 20 min to get the yield of triterpenoids at 1.1785% while the Soxhlet extraction methods need several hours and gives lower yield. The other factors affecting the MAE extraction rate were also discussed, such as extraction time, temperature and ratio of solvent to material. Optimal conditions of MAE from this research can be concluded as follows: 20 min at 80°C, the ratio of solvent to material is 15 by using 95% ethanol as the solvent. The developed MAE method provided a good alternative for the extraction of triterpenoids in *Ceriops Decandra* sp. as well as other herbs species.