

## **Comparison between conventional and microwave-assisted hydrodistillation methods towards extraction of essential oils from *Murraya koenigii* (Curry leaves)**

### **ABSTRACT**

Study on the extraction of essential oils from leaves of *Murraya koenigii* had been carried out by conventional hydrodistillation (HD) and microwave-assisted hydrodistillation (MAHD) methods. Time of the first oil droplet, percentage yield of the extracted oils and the chemical components of the extracted essential oils from both methods were compared. The running time for MAHD was set at one and half hour while running time for HD was 5 hours. The major components from the essential oils obtained from HD method were  $\beta$ -copaene (41.5%),  $\alpha$ -selinene (10.0%) and  $\alpha$ -humulene (8.4%). Meanwhile, major chemical components extracted from MAHD method were  $\beta$ -caryophyllene (19.5%), terpine-4-ol (17.6%) and linalool (9.8%). A total of 79.6% of chemical components were identified from essential oil extracted through HD method while MAHD method was 75.7%. The first oil droplet for HD method was found to be at 34 minutes and 20 minutes for MAHD method. MAHD is more preferable method for extracting essential oils from *Murraya koenigii* as it provides high extraction efficiency with less time taken.

**Keyword:** Curry leaves; Essential oils; Hydrodistillation; Kovats indices; Microwave assisted; *Murraya koenigii*