

Development of microwave system for extraction of essential oils from *Mesua ferrea* L. leaves and *Jasminum sambac* flowers

ABSTRACT

A microwave extraction system (MES) was developed for the extraction of essential oils from *Mesua ferrea* L. leaves and *Jasminum sambac* flowers. The performance of MES was compared with the conventional extraction method (CEM) for dry distillation (DD), wet distillation (WD), hydro distillation (HD) and steam distillation (SD) in terms of rapidity, quality and quantity of yield and its efficiency. *Mesua ferrea* L. extracted by HD contributed 0.035% of yield, WD 0.029%, DD 0.024% and SD 0.013%. For *Jasminum sambac*, DD contributed 0.10%, WD 0.06% while SD and HD both contributed 0.02%, respectively. Although more compounds were detected in CEM extract, substantial higher amounts of odoriferous compounds were present in MES extract. The project has successfully proved that MES is more efficient than CEM in terms of rapidity, quality and quantity of yield.

Keyword: Essential oil; *Jasminum sambac* flowers; *Mesua ferrea* L leaves; Microwave extraction system (MES)