VOLATILE OIL COMPOSITION OF RHIZOME FROM *CURCUMA LONGA*

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ABSTRACT

Turmeric is the rhizome of the plant *Curcuma longa*. It is primarily used for colouring because of its yellow colour and its associated medical properties. The present work is to determine the percent yield and chemical composition of volatile oil from fresh and dried rhizome in solvent extract which are chloroform and petroleum ether by using hydro distillation method. Fresh rhizome in chloroform extract gave the highest yield of volatile oil with 0.48% than dried rhizome oil, 0.06% because chloroform has the highest polarity. While, in petroleum ether extract also fresh rhizome oil with 0.16% has higher yield than dried rhizome oil 0.05%. Percent yield of the volatile oil can be increased by using more polar solvent such as ethyl acetate. GC-MS was used to determine the chemical composition in volatile oil. Major components found were ar-turmerone and β-turmerone. Other chemical compound also was found are zingiberenol, 2-cyclohexene-1-propanal-ymethyl-4-,ethylene-α-(2-methyl-1-propen-1-yl)-(αr,γs,1s) , α-zingibrene, β-curcumene, (6R-7R)-bisabolone in fresh rhizome and 2,6-Octadienal,3,7-dimethyl-(Z)-, and (1R-4R)-1-1methyl-4-(6-methylhept-5-en-2-yl)cyclohex-2-enol where are not reported in any previous study. These chemical constituents are might useful for medical purposes as anti-fungal, antibacterial and anti arrhythmic activities. The chemical composition of the rhizome oil depends on the genotype, field conditions and post-harvest processing of the rhizomes.

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