SOLVENT EXTRACTION OF JASMINE FLOWER ESSENTIAL OIL AND ITS CHARACTERISTICS

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BACKGROUND :
The jasmine plant is a plant that is easy to grow in tropical areas and its flowers have quite high economic value. Apart from being an ornamental flower, jasmine is also a raw material for various industries, especially the essential oils contained in the flowers. Jasmine flower essential oil can be obtained by solvent extraction process. The aim of this research is to study the effect of extraction time on the yield of jasmine flower essential oil and its characteristics.
METHOD : Jasmine flowers that have been reduced to a uniform size of 50 grams are soaked using n-hexane solvent with a ratio of the weight of jasmine flowers (grams) and the volume of n-hexane solvent (ml) of 1:4 in a three-neck flask. The three neck flask was heated for 2 hours, 3 hours, 4 hours and 5 hours. The filtrate was then taken to be evaporated using a vacuum rotary evaporator at a temperature of 40˚C for 35 minutes. The products than was analyzed for its yield, color testing, refractive index analysis, density and solubility in ethanol. The composition of jasmine essential oil was carried out using Gas Chromatography-Mass Spectrophotometry.
RESULTS & DISCUSSION: The research results showed that the best time for the jasmine essential oil extraction process was 4 hours with a yield of 11.87%. The essential oil obtained is yellow in color. The essential oil dissolves in ethanol with a clear yellow color. The oil has a refractive index of 1.3370 and a density of 0.8546 kg/L. The results of analysis using GC-MS can identify the constituent substances of jasmine oil, namely oleic acid 29.12%, linalool 2.02%, Glycidyl Palmitate 19.36%, Vitamin C 4.15%, and Stearic acid 3.15%.
CONCLUSION : N-hexane can be used as a solvent in the extraction of jasmine flower essential oil.

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KEYWORDS : extraction time, jasmine flower essential oil, n-hexane, solvent extraction