EXTRACTION OF ESSENTIAL OIL FROM ROSE

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ABSTRACT

The study was conducted to determine the present of essential oil in different mass quantity of roses by using hydrodistillation and steam distillation. In addition, the study reveals the characteristic of volatile component and its composition in the rose essential oil. The samples used in this study were the mixture of rose species from the Cameron Highlands. The petals were allowed to dry between 6-7 days. The moisture content of rose calculated was 77.7%. The masses quantities of petals manipulated for extraction were 30g, 40g and 50g. The extraction time was kept constant at 6 hours. The percentage by mass of essential oil yield from hydrodistillation was ranging from 0.09-0.1% while steam distillation ranging from 0.024-0.097%. The obtained oils were analysed by using GC-MS. From the analysis result, *9-Nonadecene, á-Pinene, Eicosane and Heneicosane* were the major components of the rose oil. The study indicated that the hydrodistillation is more suitable for extracting the essential oils compare to the steam distillation. Hydrodistillation gave high amount of components compare to steam distillation. The main component of rose oil which is *Citronellol* was not found in this study. However, the others volatile component can be used in cosmetic industries instead of perfume industries.

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CHAPTER 1

INTRODUCTION

1.1 Research background

Rose is a common name flower that has been around the world for a thousand year ago. Rose (Rosaceae) is a large family of herbs, shrubs, and trees distributed over most of the earth and also the true rose, Rosa.

The family is particularly can be found in East Asia, Europe, and North America. Large portions of the Rosaceae are thorny, by blossoms having five arrangements of petals, by a fruity, like a rose hip or an apple.

The true roses, Rosa is the most popular ornamental plant and usually can be found at North Temperate Zone and in tropical mountain areas, usually as erect or climbing shrubs with five-petal fragrant flowers. The hybrid process of this flower is done from long time ago and produces new species of the Rosa. Thus, the identification of the species is hard to be done as the variation of this flower and they can be hybridized easily. [31]

Rose essential oil is commonly used as main ingredient to manufacture perfume. It is also used for emotional balance and skin health such as for antioxidant and sunscreen. Rose has a very high commercial value due to the aromatic properties. This essential oil mainly contain in the rose petals.