

Document Type : Thesis

Document Title : CHROMATOGRAPHIC STUDIES ON SOME OF THE CHEMICAL CONSTITUENTS OF TAIF ROSE OIL
دراسات كروماتوجرافية على بعض المكونات الكيميائية لزيت الورد الطائفي

Document Language : Arabic

Abstract : The city of Taif In the western region of the Kingdom of Saudi Arabia is characterized with its beautiful roses from the species of Rosa Damascen. Taif rose oil is very famous and considered the best in the Middle East and the world for its quality. The steam and water distillation of Taif s rose oil in laboratories starts from the middle of March to the end of April. Huge cupric pots are used for the distillation process About 16000 to 20000 rose battles are put in pots with water: the pots are covered with a concave lid which operates as a condenser These pots were subjected to heat using flame underneath. The resulting steam condenses in the concave lid and passes through a tube which passes through a barrel filled water for condensation. The oil with a large quantity of water was collected in containers. The containers were left for a while. The oil was separated on the top of the water and collected by a syringe. Samples were brought from Al _ Gadi Rose oil Laboratory in Taif. Separation and identification of chemical component have been done with Shimadzu gas chromatography mass spectrometer. GC_P 5050 the instrument supplies with spectral data for more than hundred thousand chemical compounds Comparison of mass spectrum for separated compound with those of the NIST Library. Also comparison has been done with some authentic sample injected in the instrument under the condition through its retention time and fraction mass spectra. Finally comparison with mass spectra in Robert Adams book "Identification of Essential oils by Ion_ Trap mass spectrometer". About seventy compounds were separated. Most of them have been identified. The separation has been done with fused _ silica DB_5 capillary column. With30 meter long.0.25 mm internal diameter. and film thickness of 0.25 micron From the study we found that three compounds represent 61.07% of the Taif rose oil components. They are citronellol 31.27%.geraniol 19.52.and nonadecane 10.25%. Where as phenyl ethyl alcohol which has high percentage in the other rose oil represents 3.13% About twelve compounds have percentage between 1 % and 10 %. Others compounds which are about fifty have than 1 %.

Supervisor : د/صالح بن عمر باحفي

Publishing Year : 2004