

الصيدلة	الكلية
العقاقير والنباتات الطبيه	القسم
P. PharmacognosyIII	المادة باللغة الانجليزية
مختبر العقاقير III	المادة باللغة العربية
الثالثة	المرحلة الدراسية
م.م سرى باسم غضبان	اسم التدريسي
Citric acid	عنوان المحاضرة باللغة الانجليزية
حمض الستريك	عنوان المحاضرة باللغة العربية
6	رقم المحاضرة
Trease and Evans Pharmacognosy, Evans, W.C	المصادر والمراجع
Practical manual of pharmacognosy lab	
Practical Pharmacognosy, Tyler, 1996.	

محتوى المحاضرة

Exp.No. 6

[Lab.7]

Citric acid

Botanical Name: *Citrus limonum*

Synonyms and local names: Citrus Limonum, Leemoo, Limoun, Limone.

Family Name: *Rutaceae*

Genus: *Citrus*

The **lemon** is a small evergreen tree native to Asia, and produces a yellow fruit. The fruit is used primarily for its juice, though the pulp and rind (zest) are also used in cooking and baking. The juice of the lemon is citric acid, which gives lemons a sour taste. The distinctive sour taste of lemon juice makes it a key ingredient in drinks and foods such as lemonade.



Therapeutic Uses:

- 1- Aromatherapy, as it boosts the immune system and enhances the mood.
- 2-Strong antibacterial and antiviral agent
- 3-Aids in digestion and liver cleanser: As it eliminate waste more quickly from your body.
- 4-Anticancer properties.
- 5-A rich source for many vitamins and minerals mainly (5-6) % citric acid and offers 80mg of potassium. Also, calcium, vitamin C, bioflavonoids, pectin and limonene which promotes immunity and fights infections.

Extraction:

Measure 90 ml of lemon juice concentrate it to 250 ml in a beaker and carefully add a sufficient quantity of 10% NaOH solution. Filtrate by using filter paper to remove all the excess large particles and pulp.

Measure the filtrate place in a beaker and add 5 ml of 10% Calcium Chloride solution for each 10 ml of the filtrate. Then wash twice with small quantities of boiling water. Then resuspend in a minimum quantity of cold water, heat to boiling and once again collect the insoluble calcium citrate by filtration. Allow The salt to dry, weight calculate the yield and turn in the product to the laboratory instructor. Citric acid may be prepared from the citrate salt as in the following:

Weight the air-dried salt, place in a beaker and add the calculated amount of IN sulphuric acid required to convert the salt to acid. Allow the mixture to stand for few minutes, filter off the insoluble calcium sulphate and concentrate the filtrate to a small volume by steam bath. Citric acid crystallization out, because of its relatively great water solubility citric acid is somewhat difficult to recrystallize in small amounts. Collect the crystals, dry and calculate the final product what is citric acid.

