Lab -1- Identification of tannins

Large group of complex substances that are widely distributed in the plant Kingdom (almost every plant family embodies species that contain tannins). They are localized in the (leaves, fruits, barks, and stems). Tannins are complex polyphenolic compounds occur as mixture that are difficult to separate because they cannot be crystallized. Based on the identity of the phenolic nuclei involved and the way they are joined; tannins are categorized into two chemical classes: -

1-Hydrolyzable tannins. Formed from Gallic acid or, Hexahydroxydiphenic acid.

2-Nonhydrolyzable Tannins (condensed tannins). Formed from Proanthocyanidin.
Tannins precipitate proteins from solution and can combine with protein, rendering them resistant to enzymes (called astringent action) and basis the therapeutic application of tannins.

**Nutgall**
Obtained from *Quercus infectoria* Olivier (Fam. Fagaceae). The gall is caused by the puncture of hymenopterous insect (*Cynips tinctoria*), and the presence of the deposited ovum.

**Medicinal and commercial uses:**
1. In the treatment of burns.
2. Gastrointestinal tract disorders.
3. Tanning and dyeing industry.
4. Preparation of inks.

**Procedure…**

- Powder the nutgall to coarse powder.
- Prepare a suspension of powdered nutgall in water by dissolving 2.5gm of the powdered drug in hot water 50ml and acetone 5 ml with stirring in a water bath for 15 minutes.
- Filter with Buchner funnel.
- Dilute the filtrate
- Treat the filtrate with:
  - A. A saturated solution of potassium dichromate plus a trace of acetic acid.
  - B. 1% solution of sodium carbonate.
  - C. 5% Ferric sulfate solution.
  - D. 5% ferric chloride solution.