

Tannins

A 3D rendered microscope is positioned in the center of the slide. It is a dark-colored instrument with a prominent eyepiece at the top and a base on a blue rectangular platform. The background is a vibrant sunset or sunrise over a body of water, with a gradient from orange at the top to yellow and then blue at the bottom.

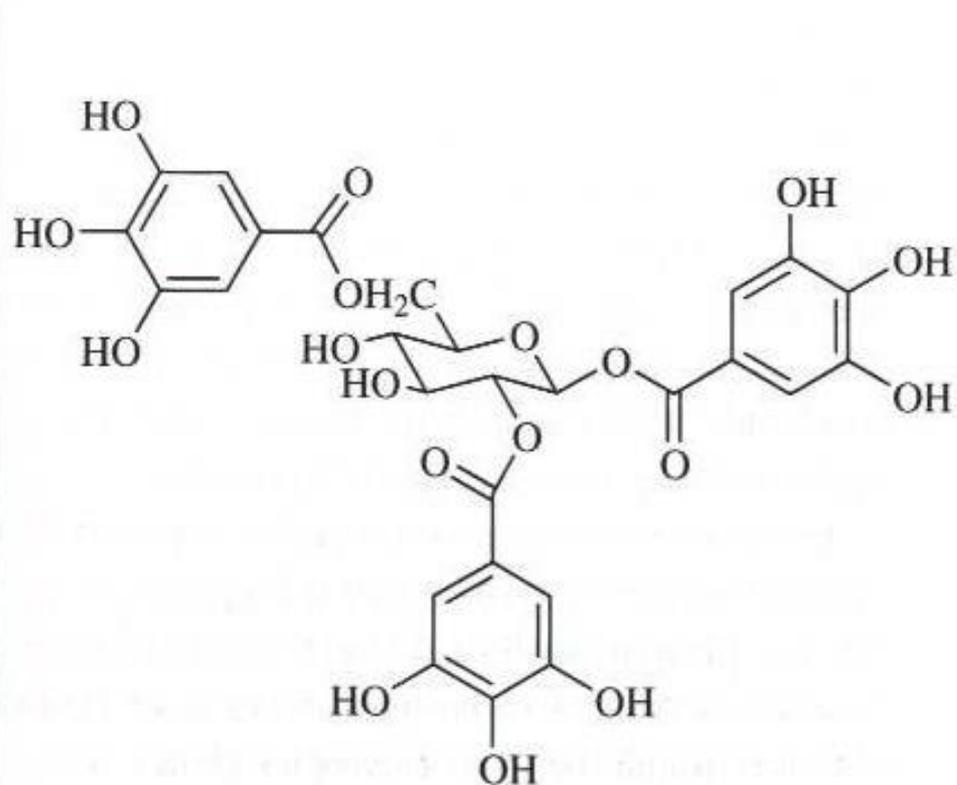
Tannins are "phenolic natural products that precipitate proteins from their aqueous solutions".

Classification:

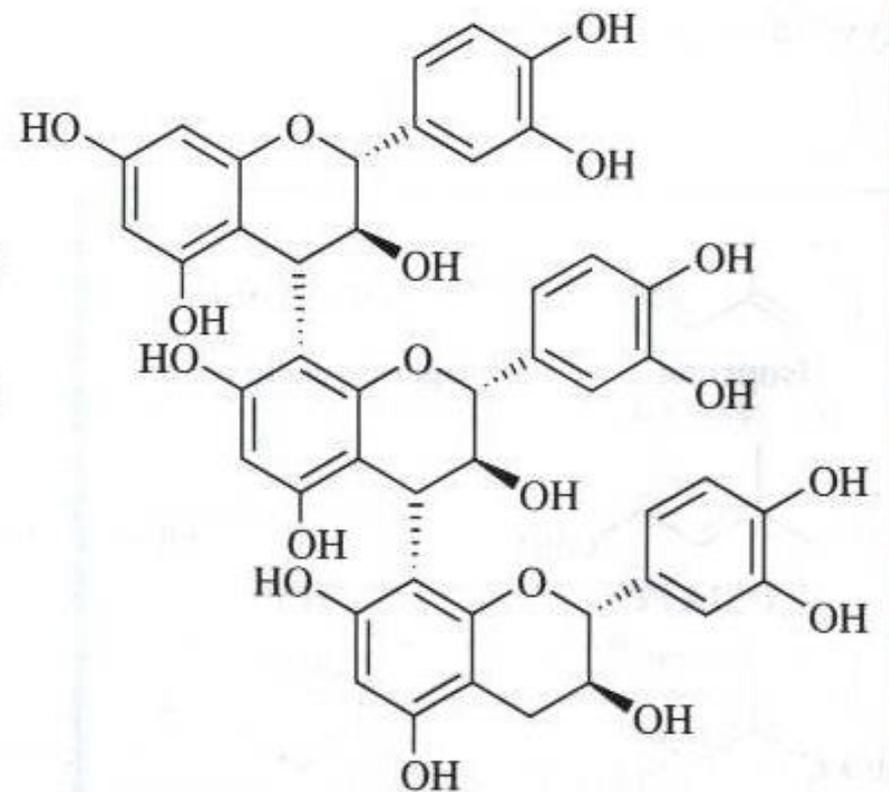
1- Hydrolysable tannin (pyrogallol tannin):

Classified into gallitannin and ellagitannin

2- Condensed tannin (catechol tannin).

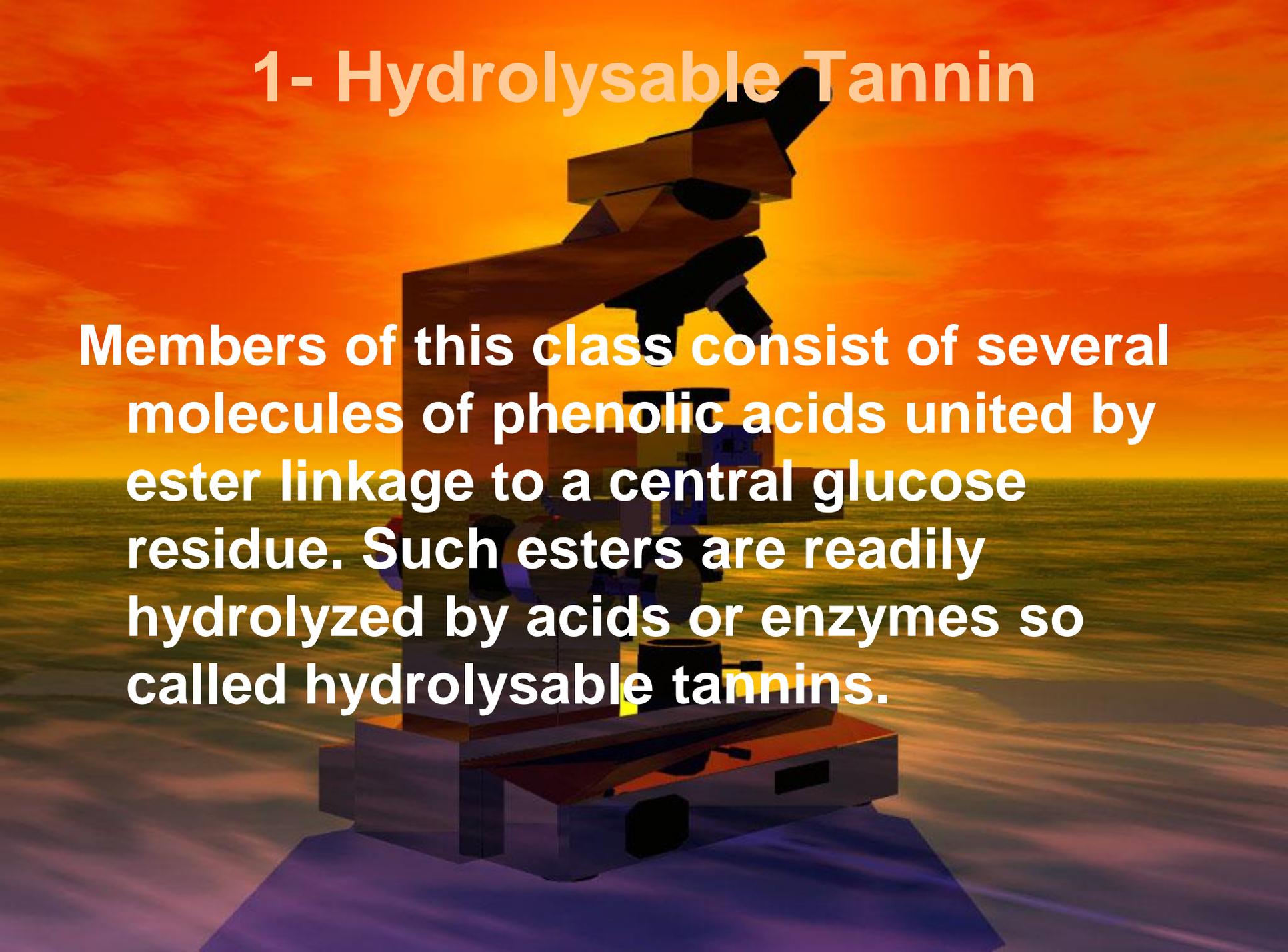


Hydrolysable tannin (trigalloyl glucose)

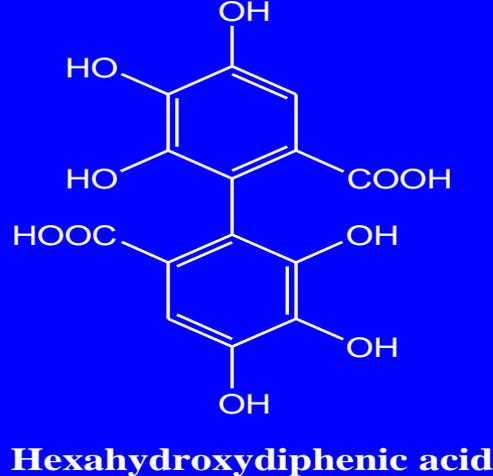
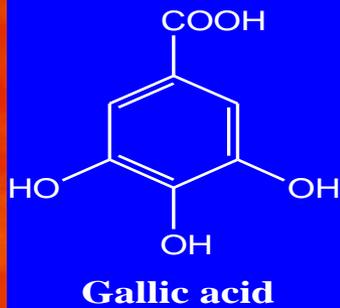


Non-hydrolysable tannin (flavonoid trimer)

1- Hydrolysable Tannin

A 3D rendered microscope is positioned in the center of the frame. It is a dark, metallic-looking instrument with a prominent eyepiece at the top and a base on a blue rectangular platform. The background is a vibrant sunset or sunrise over a body of water, with a gradient of orange, yellow, and red in the sky and a darker, blueish-green in the water. The overall scene is stylized and serves as a background for the text.

Members of this class consist of several molecules of phenolic acids united by ester linkage to a central glucose residue. Such esters are readily hydrolyzed by acids or enzymes so called hydrolysable tannins.



Types of hydrolysable tannin:

A- Gallitannin

On hydrolysis, it gives gallic acid and glucose.
Present in rhubarb, galls, clove, hamamelis.

B- Ellagitannin

On hydrolysis it gives ellagic acid and glucose
Present in pomegranate and eucalyptus.

2- Condensed tannin

On dry distillation they give catechol.
They differ from pyrogallol tannin where their structures are related to flavonoids and they lack sugar in their structures

Present in cinnamon, cinchona, tea.

▪

Pseudotannins

- They are compounds of lower molecular weight than true tannins
- Examples of drugs containing Pseudotannins are:

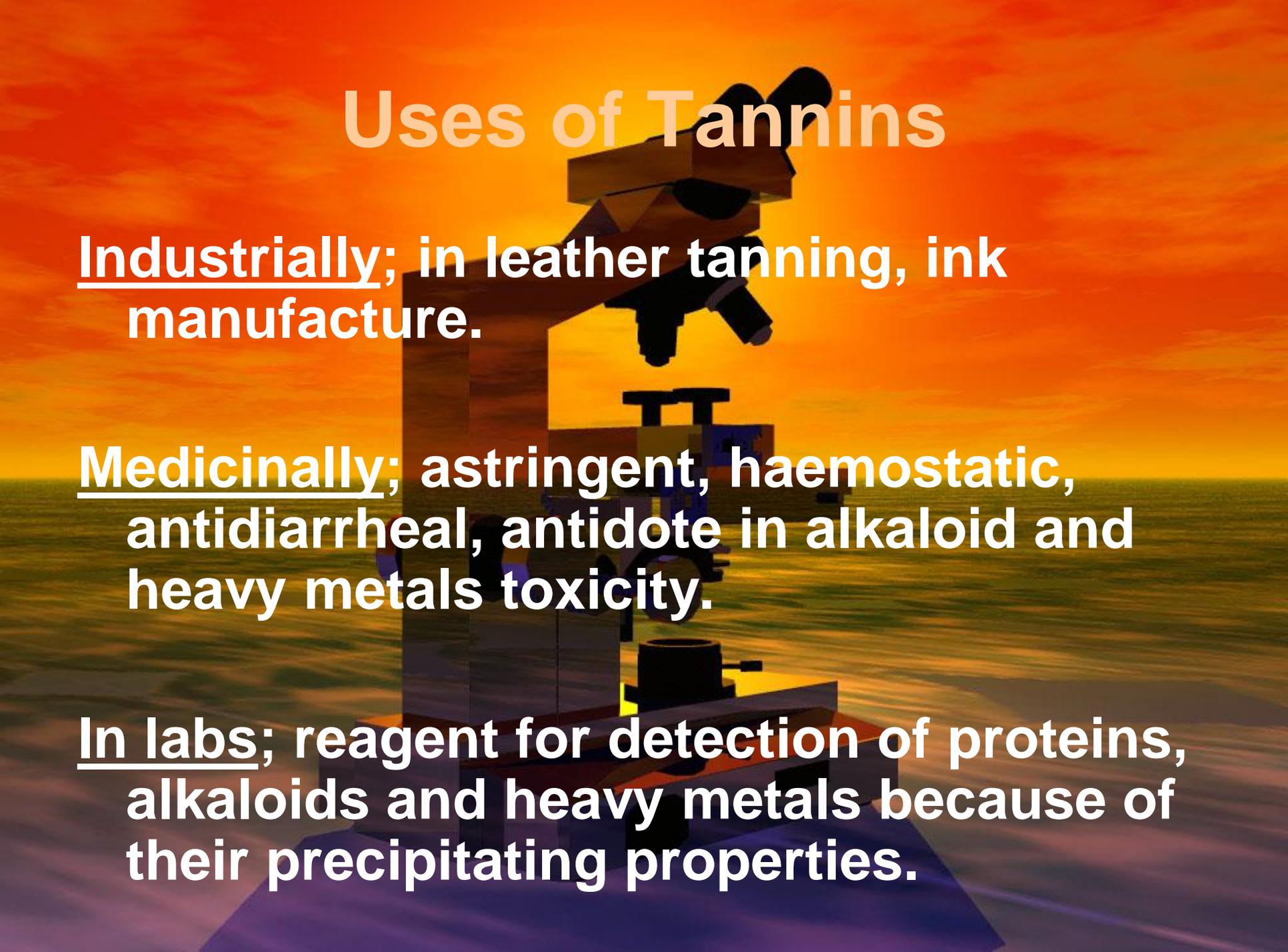
Gallic acid: Rhubarb

Catechins: Guarana, Cocoa

Chlorogenic acid: Mate, Coffee

Ipecacuanhic acid: ipecacuanha

Uses of Tannins

A 3D rendered microscope is positioned in the center of the frame, set against a vibrant sunset background with a gradient from orange to yellow to blue. The microscope is dark-colored with a prominent eyepiece and objective lenses. The background features a horizon line over a body of water, with the sun low on the horizon, creating a soft glow.

Industrially; in leather tanning, ink manufacture.

Medicinally; astringent, haemostatic, antidiarrheal, antidote in alkaloid and heavy metals toxicity.

In labs; reagent for detection of proteins, alkaloids and heavy metals because of their precipitating properties.