

TANNINS

(Pale yellow to Red brown)

- 2° metabolites (non-cryst)
- organic, non-N₂ polyphenolic subs.
c high mol-wt.
- Antiseptics, in diarrhoea
- leather Industries, Ink, fabric.
- Phenol glycosides, Antioxidant
- Acidic & astringent taste.
- soluble in water & form colloidal sol.
- Ppt the proteins, as styphics (^{stop} haemorrhage)
- Antidote in poisoned by Heavy metals
Alk
Glycosides

- /—/—
- Inhibition of lipid peroxidⁿ, plasmin
↓ in blood urea N₂ content
lipolysis in fat cells.

Pseudotannins : Gallic acid
(low mol. wt) Flavan-3,4-diol.
chlorogenic acid in coffee &
Muxromice,
Ipecacuanic acid & Ipecacuanha, catechins
in cocoa.

① Hydrolysable tannins:

↓ OH
Gallic acid or ellagic acid.
↓ dry distillation

eg:- Gallo tannin Pyrogallol
in Nutgall, Anise → + FeCl₃ → Blue colour
Rhubarb, clove, chestnut

Ellagi → oak, Myrobalan, pomegranate bark

② Condensed Tannins

Non-hydrolyseable / Phlobaphenins /
Proanthocyanidins.

- Catechin / Flavan-3,4-diols

$\xrightarrow[\text{acids}]{\text{mineral}}$ phlobaphenes

↓ Dry distillation
Catechol

Tannins + $\text{FeCl}_3 \rightarrow$ Brownish red colour

eg:- Pale & Black catechu,
Green tea,
Wild cherry Bark
Cinchona, Cinnamon Bark

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ID Test

① Gelatin Test:

sample + 1% Gelatin + 10% NaCl

→ white Buff coloured ppt.

② Cold beater's Skin Test:

skin in 20% HCl in Tannin → washed

Brown / Black colour ← In 1% Fe_2O_4

③ Phenazone Test:

Aq. extract + Na. acid phosphate

↓ Δ
+ 2% phenazone
← Bulky ppt

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① Pale Catechu (Rubiaceae)

(Gambier, kattha)

Dried aq. extract of leaves of *Uncaria gambier*

C.C: catechins, Catechu tannic acid

Flavonoids - Quercetin

Gambier fluorescin sub.
(color ✓)

Pyrogallol

Astringent, Diarrhoeae.

② Black Catechu (*Catechu nigrum*)

Dried aq. extract of heart wood

of *Acacia catechu*
" chundra (leguminosae)

~~Q.C.C~~ (No fluorescent)

C.C: Quercetin, Catechin

Kattha - cake form
Cutch - liq form

↓ (O)

Catechu Tannic Acid

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③ Tannic acid (Fagaceae)
(Galls, Blue galls)

- 4m Nutgalls. Veg outgrowths on the young twigs of Quercus infectoria.

$\xrightarrow{\text{OH}}$ Gallic acid + Glucose

Use: Antidote for alk poisoning
In Burns

④ AMLA

Vit C \rightarrow 650-900 mg/100g

St. Tannins, pectin, Fe, P, Ca

\downarrow

G.A + E.A + Phyllembic

⑤ ARJUNA (Combretaceae) more Calcium
Co-enz Q10

Triterpene glycosides,

oleonic acid, proanthocyanids

β -sitosterol

Uses:- Heart failure, Angina,
Antidote
Diuretic

—/—/—

ASHOKA

Saraca Indica (Leguminosae)

65% Tannins
Leamotoryline
Keto Sterol
Calcium
Phlobaphenes

Uses:- Uterine infections
Astringent
Menorrhagia (excessive menstruation)
Dysmenorrhoea.

BAHERA (Beleric Myrobalan)

Terminalia Belleirica (Combretaceae)

C.C.: 30-40% fixed oil (Palmitic,
stearic, oleic
linoleic)
Tetra tricacontane, } Hydrocarbons
Di tricacontane }
Tri tricacontane }
20-25% Tannins, phyllanthin,
Mannitol, G, F.

Uses :- Hair tonic
laxative
anthelmintic

—/—/—

half ripe fruit — Purgative

full " " — Astringent

Antiemetic

Astringent

Bahera pulp - Aphrodisiac