



Phytochemical Screening

Lab No. 4

Divide your unknown powder into **three portions** and follow the given scheme, report your results in the following table:

Tests	Positive	Negative
Test for free flavonoids		
Test for saponins		
Test for tannins		
Test for carbohydrates		
Test for anthraquinone glycosides		
Test for sterols and triterpenes		
Test for alkaloids		
Test for cardiac glycosides		

Aqueous Extract

(Soak the sample in water for 10 min., filter)

HCl Extract

(Soak the sample in dil. HCl for 10 min., filter)

Test for flavanoids

(rutin or hisperdin):

▶ Extract+dil NaOH → yellow

▶ Blank: extract+H₂O

Test for Saponins

(liquorice)

▶ Shake the extract →
Permanent froth more than 10 min.

Test for Tannins

(Tea)

▶ + FeCl₃

→ blue: Hydrolysable tannin
(gall), Pyrogallol

→ green: Condensed catechol
tannin

Molish test:

(CHO)

▶ Extract + alcohol alpha
naphthol + conc. H₂SO₄ on
wall → Violet ring

Test for anthraquinone

(rhubarb, cascara, senna):

▶ Extract with chloroform in a
separating funnel → Take the
chloroformic layer
+NH₄OH(shake) → Rose pink
color in ammonia layer.

Ethanol Extract

(Soak the sample in ethanol for 10 min., filter)

Lieberman-Burchard test

(Sterols & Triterpens)

▶ Extract (w.b.) → Residue+CHCl₃ (transfer it to a
test tube)

+acetic anhydride +conc. H₂SO₄ on wall of t.t.
→ Reddish brown ring (sterol) between 2 layers
with greenish blue color in upper layer
(triterpenes).

Test for Alkaloids

▶ Dragendorff's Reagent test: Spot of extract on
filter Dragendorff's Reagent → Orange.

▶ Mayer's Reagent → White ppt.

Baljet Reagent test

(for Cardiac glycoside)

▶ Baljet Reagent (1ml of picric acid+1ml NaOH)

▶ Extract+1 ml baljet Reagent → Orange to red.

▶ Blank: Reagent+H₂O