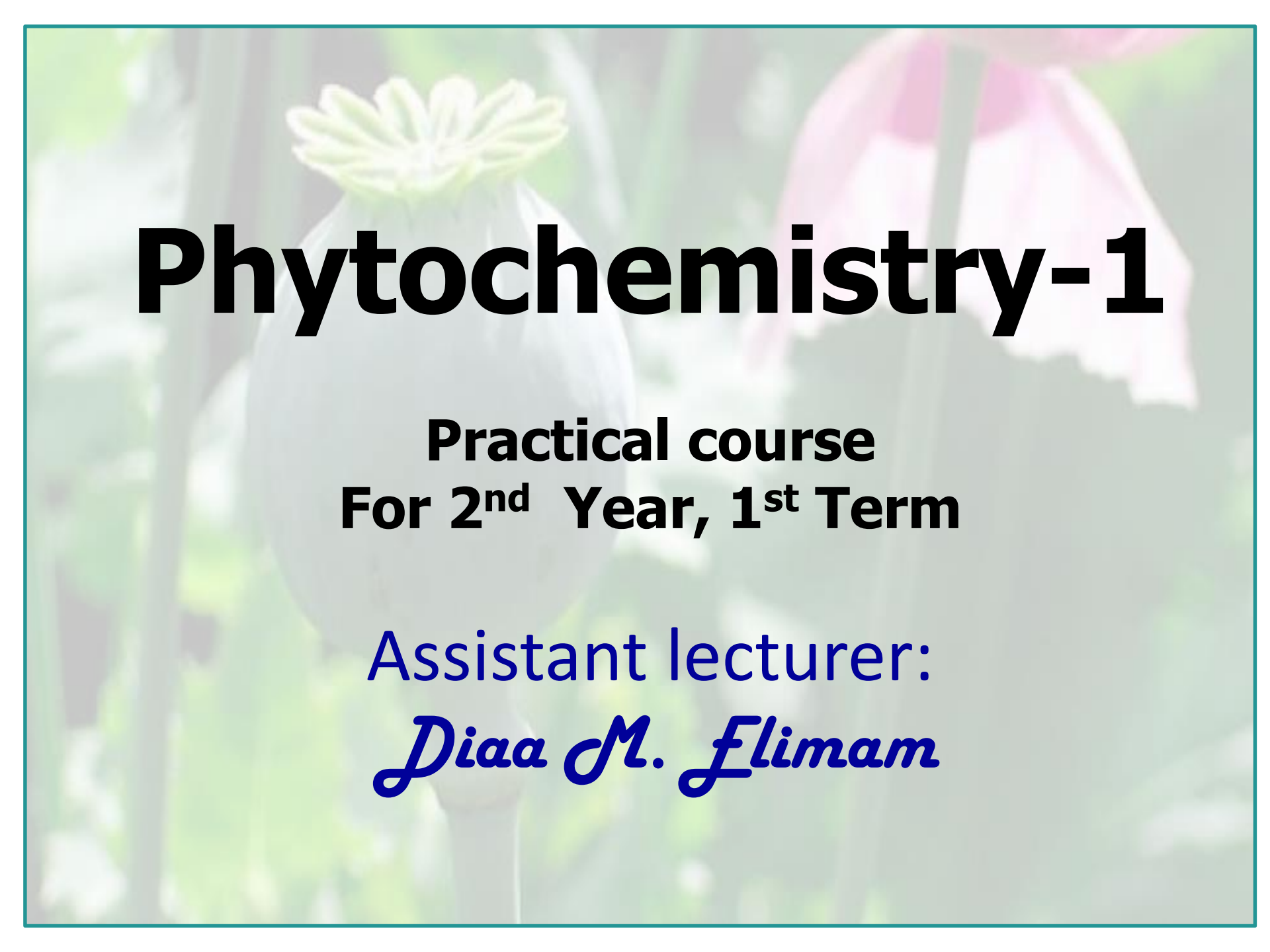


بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

The background of the slide features a soft-focus photograph of flowers. On the left, there is a light green flower with many small, pointed petals. To its right, a pink flower is partially visible, showing its petals. The overall background is a mix of green and pink hues, creating a natural and pleasant aesthetic.

Phytochemistry-1

**Practical course
For 2nd Year, 1st Term**

Assistant lecturer:

Diaa M. Flimam

Alkaloids

SEC-4

(Dil. Ephed, Papav, Eserine) - (13 slides)

Qualitative estimation of alkaloids

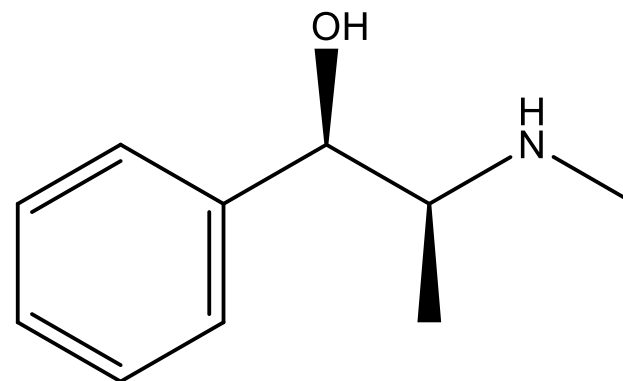
dil. Ephedrine

Papaverine

Eserine

dil. Ephedrine

- * Nucleus ?
- * Natural source ?
- * Pharmacological effects?
- * Uses / abuses ?



Ephedrine

**phenyl alkyl amine
nucleus**

Ephedra species

**Use: Decongestant &
bronchodilator**

dil. Ephedrine

1. Mayer's test:

1ml Alkaloid + 1-2 dps. Mayer's reagent (or maximum till eq. vol)

→ - Ve: no white nor yellowish white p.p.t



N.B: Concentrated solution of ephedrine may give +ve result

dil. Ephedrine

2-CuSO₄ test:

Shaking

1 dp NaOH
1 dp CuSO₄
+
2 ml Alkaloid solution

Strong shaking

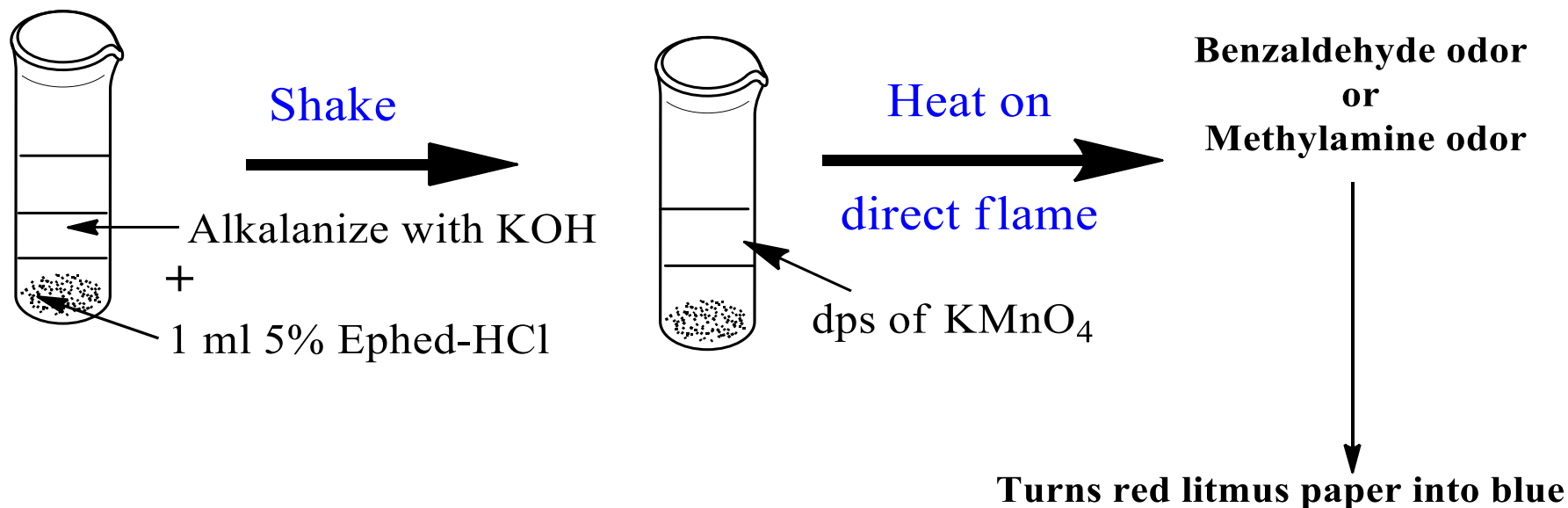
0.5 ml CHCl₃

Faint blue color in aqueous layer
(you can add water to quench its color)

Purple color in lower CHCl₃ layer

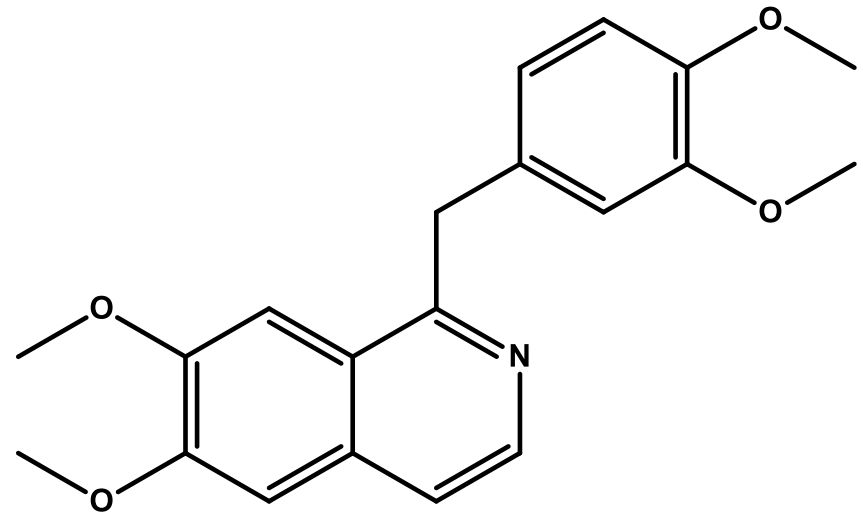
dil. Ephedrine

3- Benzaldehyde test:



Papaverine

- * Nucleus ?
- * Natural source ?
- * Pharmacological effects?
- * Uses / abuses ?



Papaverine

Isoquinoline nucleus

Papaver somniferum

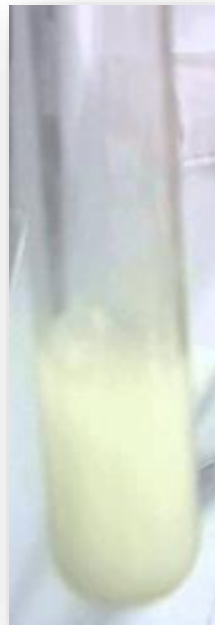
Smooth muscle relaxant

Papaverine

1. Mayer's test:

1ml Alkaloid + 1-2 dps. Mayer's reagent (or maximum till eq. vol)

→ +Ve (Turbidity, or White to yellowish-white ppt).



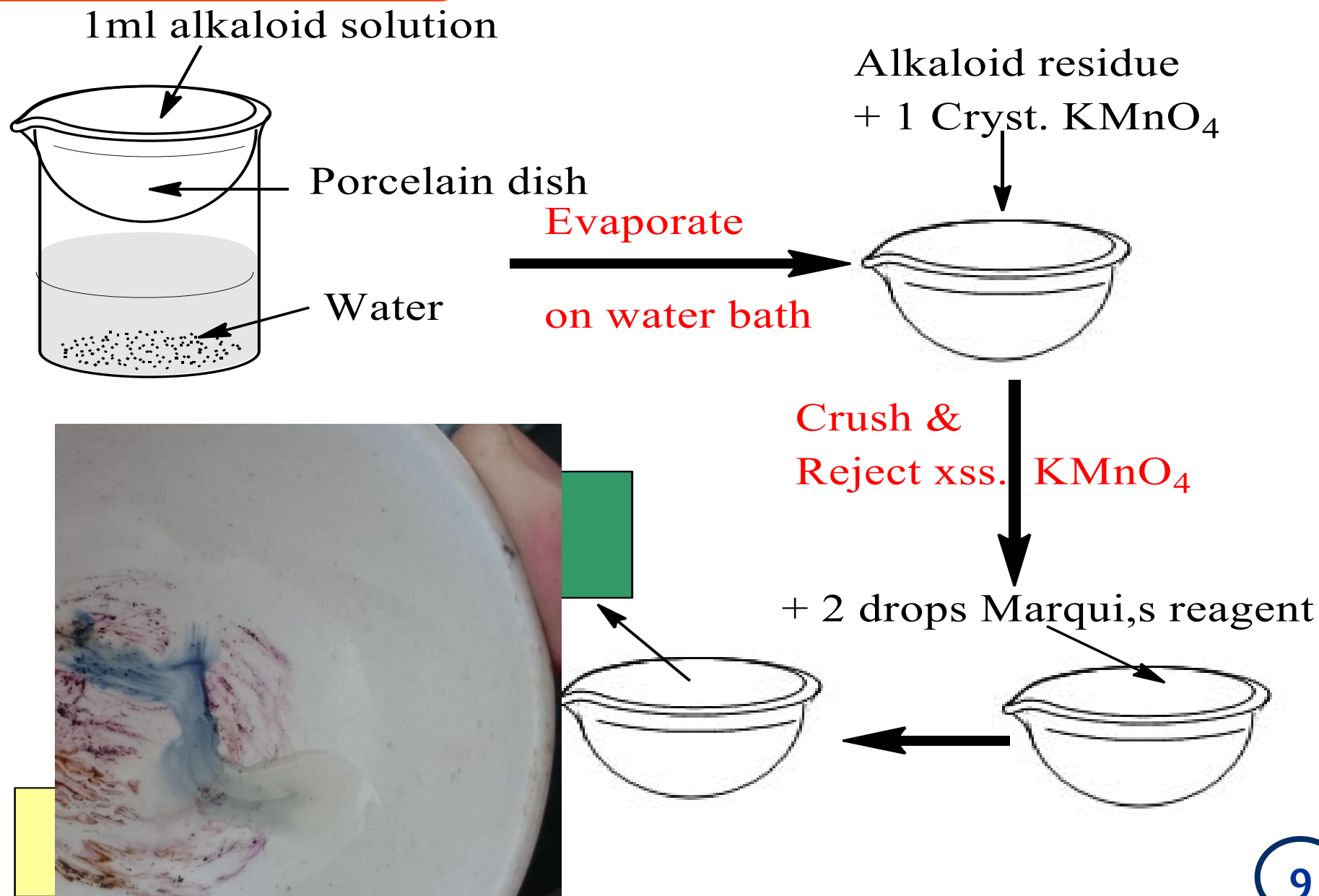
Papaverine

2-Froehd's test:



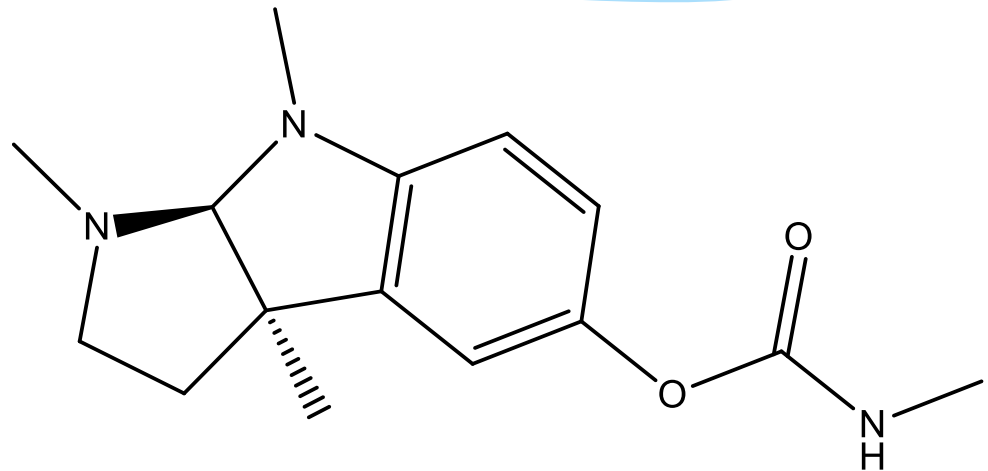
3. Waren's test

Papaverine



Eserine (Physostigmine)

- * Nucleus ?
- * Natural source ?
- * Pharmacological effects?
- * Uses / abuses ?



Eserine

Indole nucleus

(Pyrrolo-indole subtype)

Calabar bean

Choline esterase inhibitor

ttt of Glaucoma

Eserine (Physostigmine)

1. Mayer's test:

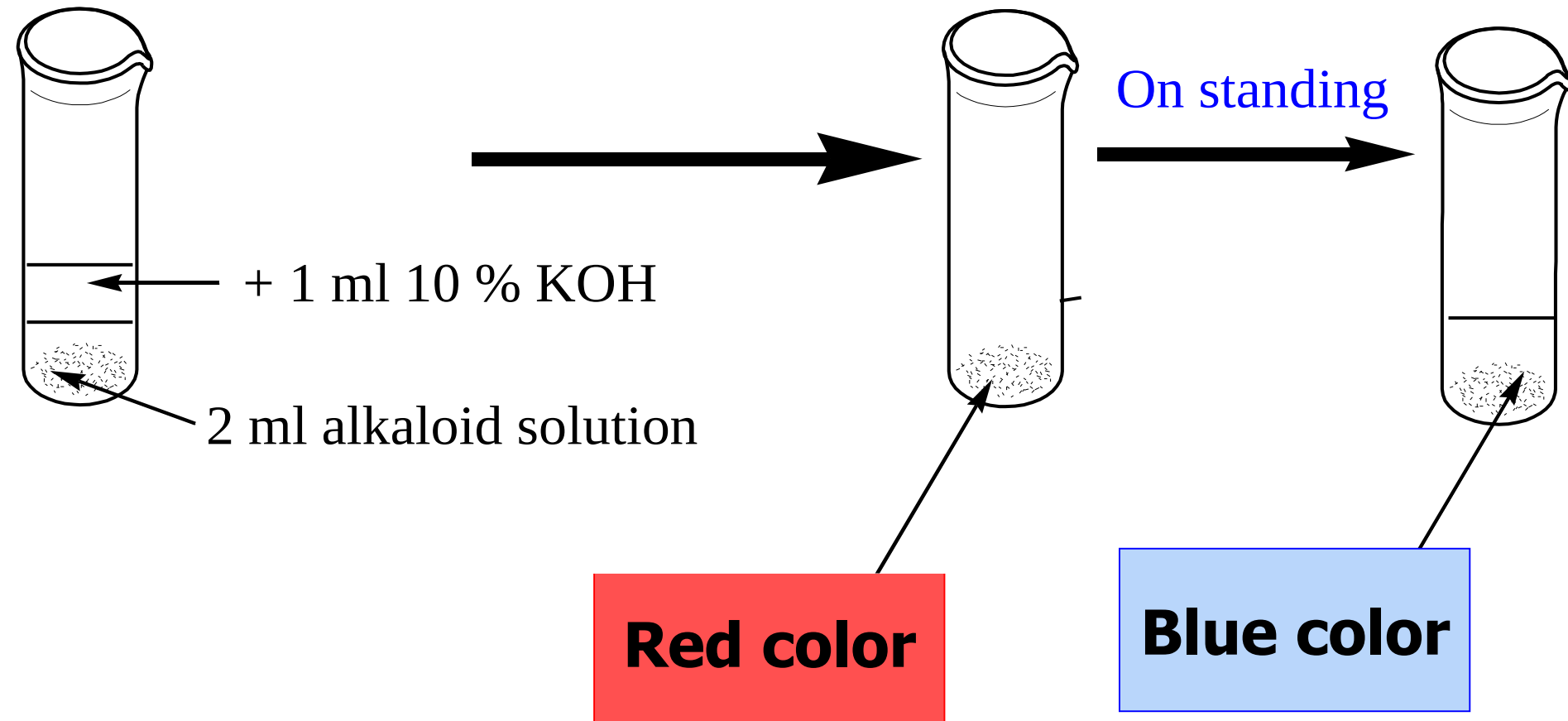
1ml Alkaloid + 1-2 dps. Mayer's reagent (or maximum till eq. vol)

→ +Ve (Turbidity, or White to yellowish-white ppt).



Eserine (Physostigmine)

2-NaOH test = Rhubreserine test = Eserine blue test:

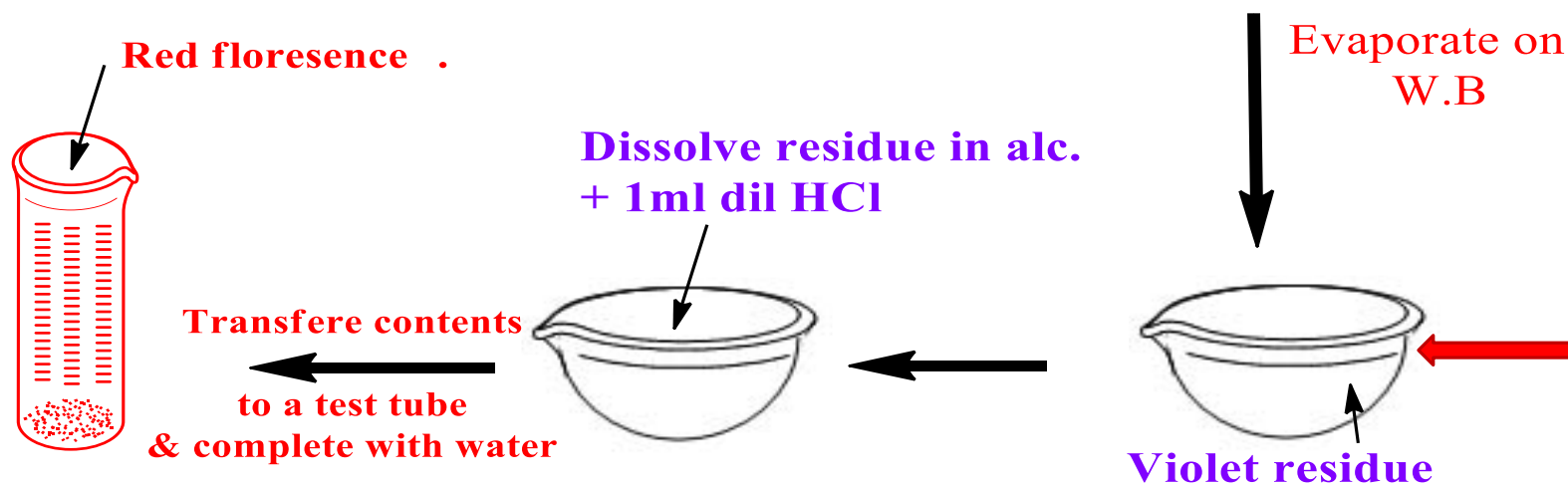
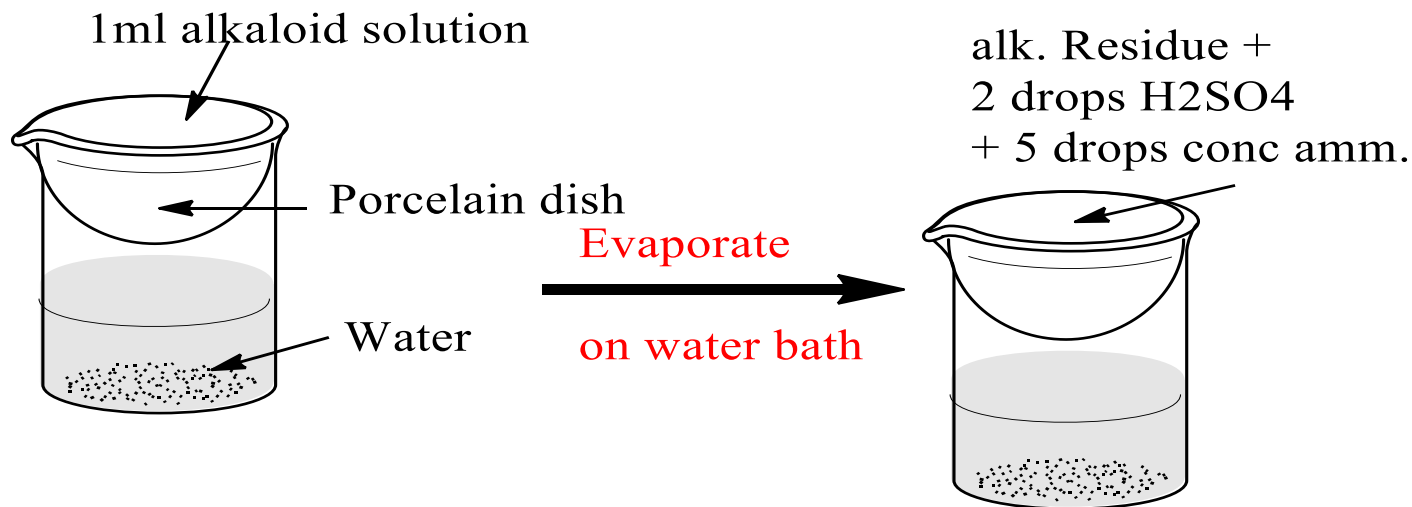


Red color is due to oxidation of Eserine to **Rubreserine**

Eserine (Physostigmine)

13

3- Mandalin's test:



If Red residue is obtained instead of violet, add more Conc. ammonia & evaporate on W.B. till violet residue

N.B: Although name, no Mandalin's reagent (Sulfovanadic acid) is used

NEEDED TOOLS

- 1) White lab Coat.
- 2) Beaker 250 ml.
- 3) Test tubes.
- 4) Rack for test tubes.
- 5) Test tubes holder
- 6) Porcelain dish.
- 7) Plastic droppers.
- 8) Lab goggles (نظارة واقية).
- 9) Lab towel (فوطه المعمل).
- 10) Lab guide (شرح العملي).



1



2



3, 4



5



6



7



8



9



That's all for today

Thanks