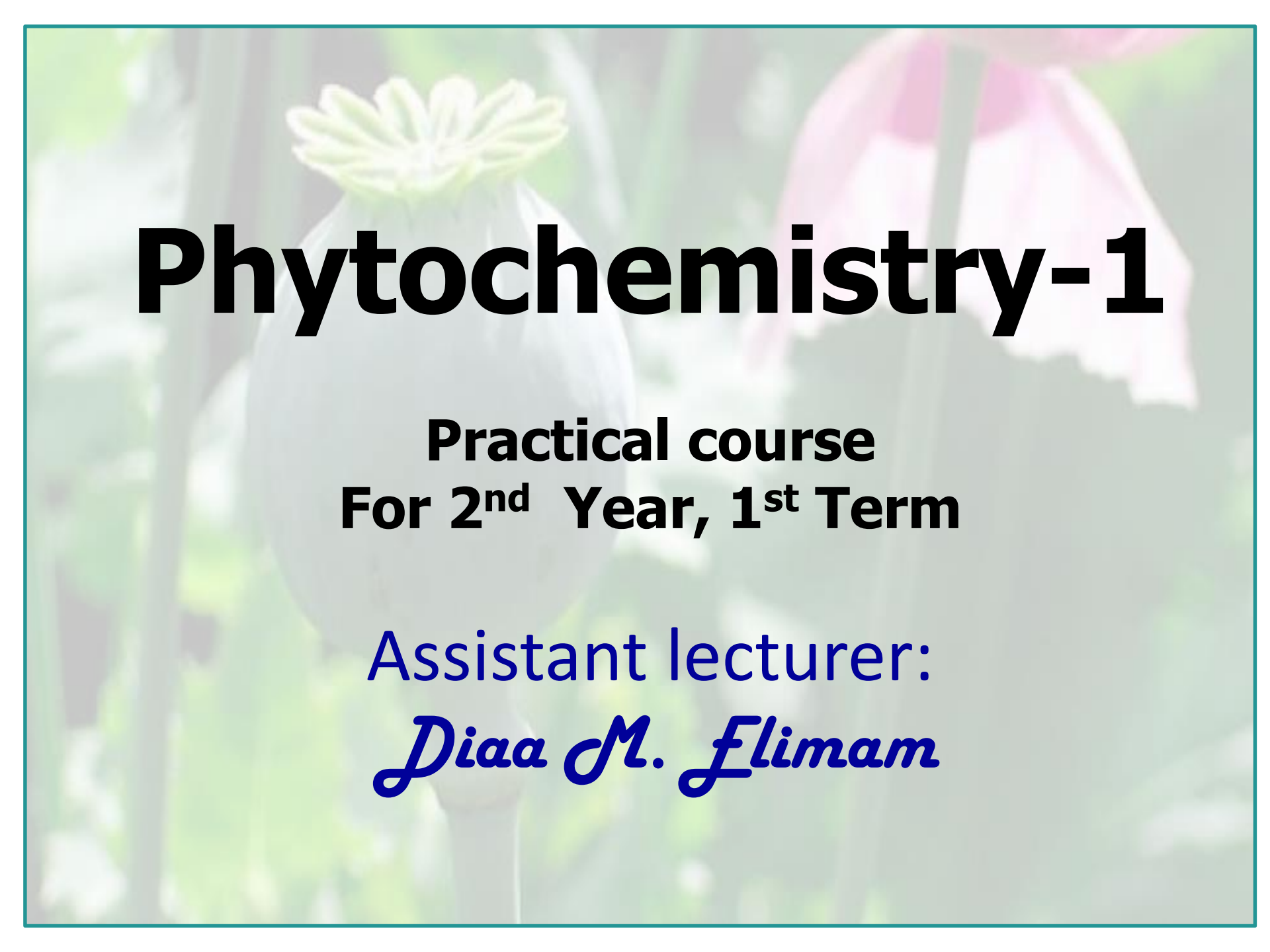


بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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-3

(Colchi, Strych, Brucine) - (12 slides)

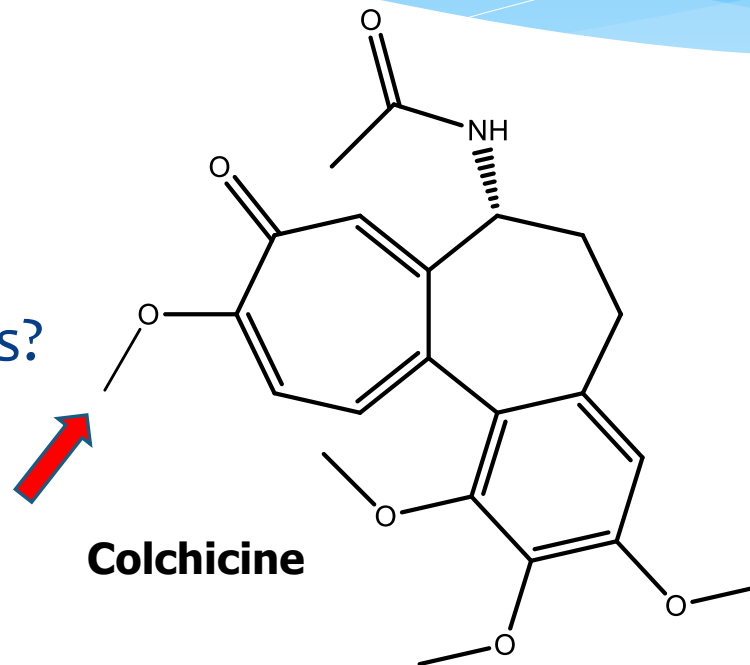
Qualitative estimation of alkaloids

Colchicine

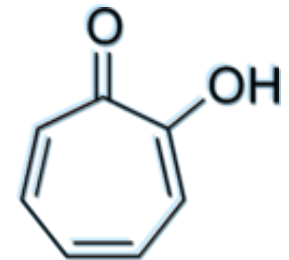
Strychnine / Brucine

Colchicine

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



Colchicine



Tropolone

Tropolone nucleus

Colchicum autumnale

Use: Treatment of Gout &
mediterranean fever

Colchicine

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



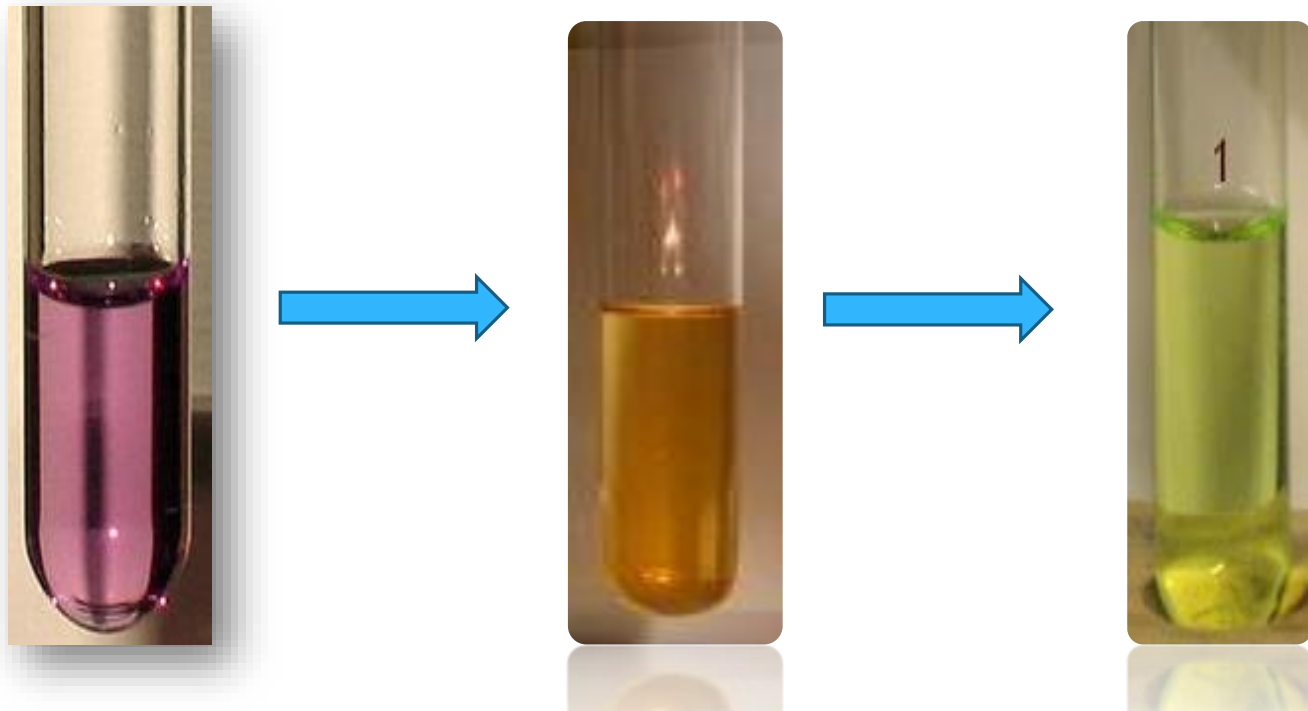
Colchicine

11

2. Conc. HNO_3 :

1ml Alkaloid + 1-2 dps. C. HNO_3 with shaking (or maximum till eq. vol)

→ +Ve (Dirty violet color) → changes to brown → changes to yellow



Colchicine

3-FeCl₃ test:

1

0.5 ml FeCl₃ in both

1 ml dil. HCl in both

2 ml alkaloid in t.t-1 (Test)

2

2 ml H₂O in t.t-2 (Blank)

Mix

HO-

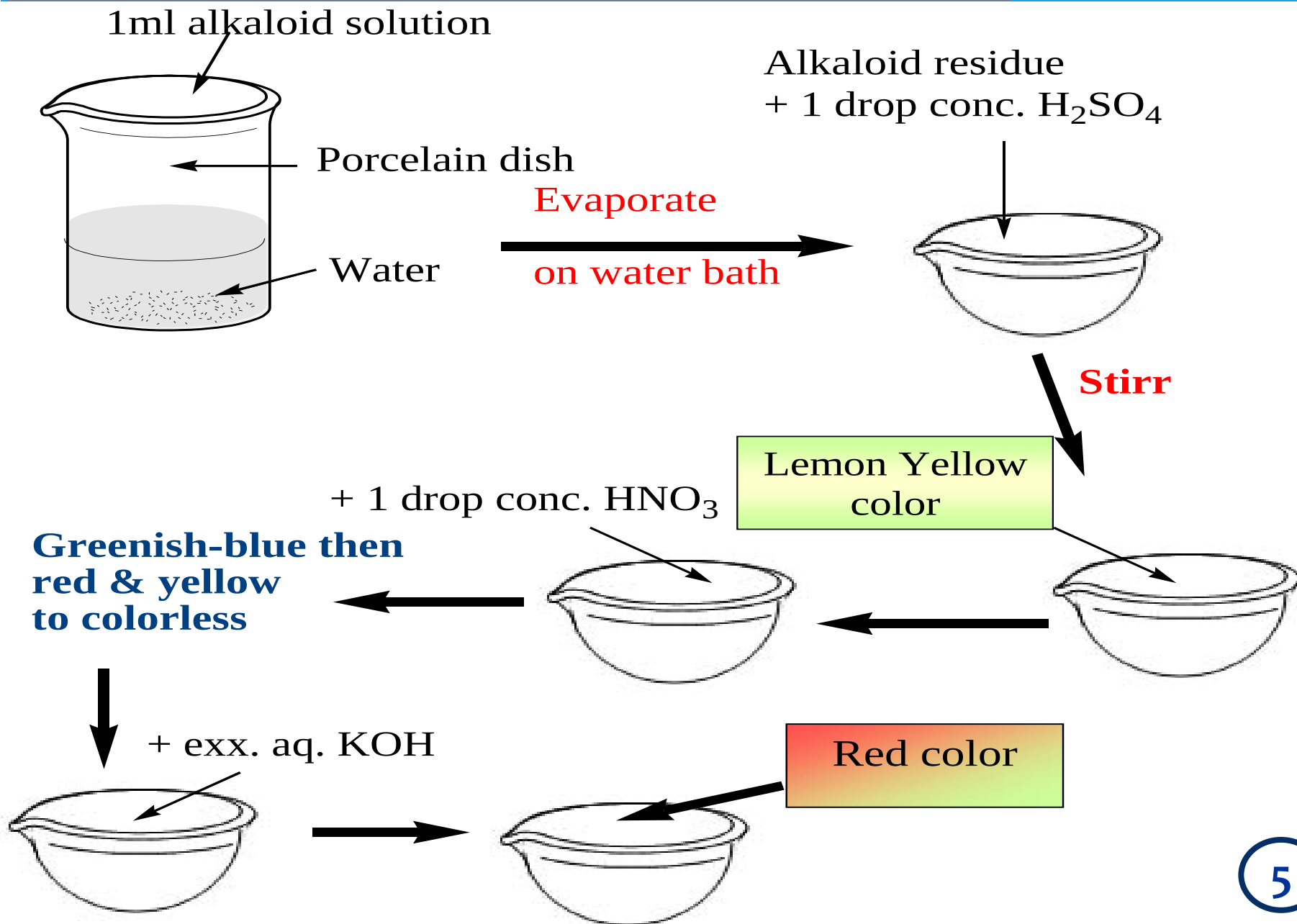


Yellow color of FeCl₃
In t.t.-2.

Acid hydrolysis of colchicine yields **colchicine** (des-methyl) which gives an olive green color with ferric chloride.

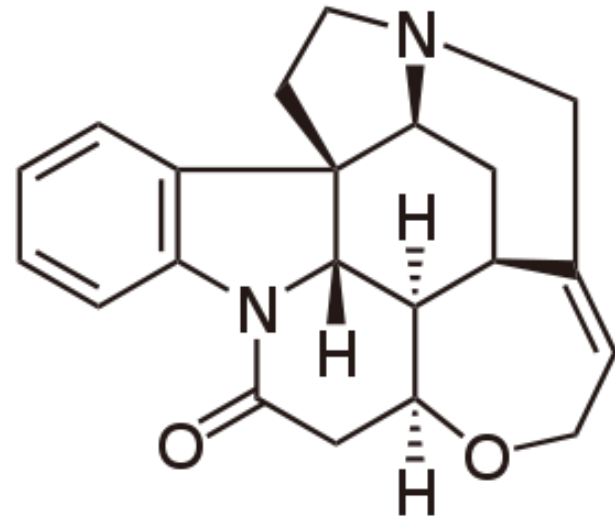
4- Conc. Sulfuric and Nitric acids test

Colchicine



Strychnine

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



Strychnine

Indole nucleus
(Terpenoid subtype)

Nux-vomica seeds

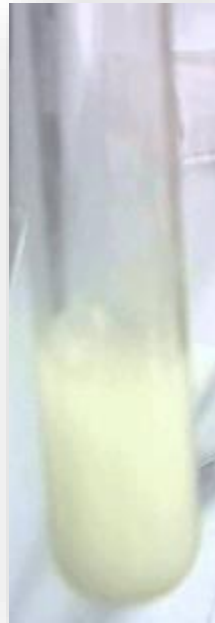
**CNS stimulant (Spinal cord),
(Convulsant)**

Strychnine

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).



Strychnine

11

2. Conc. HNO_3 :

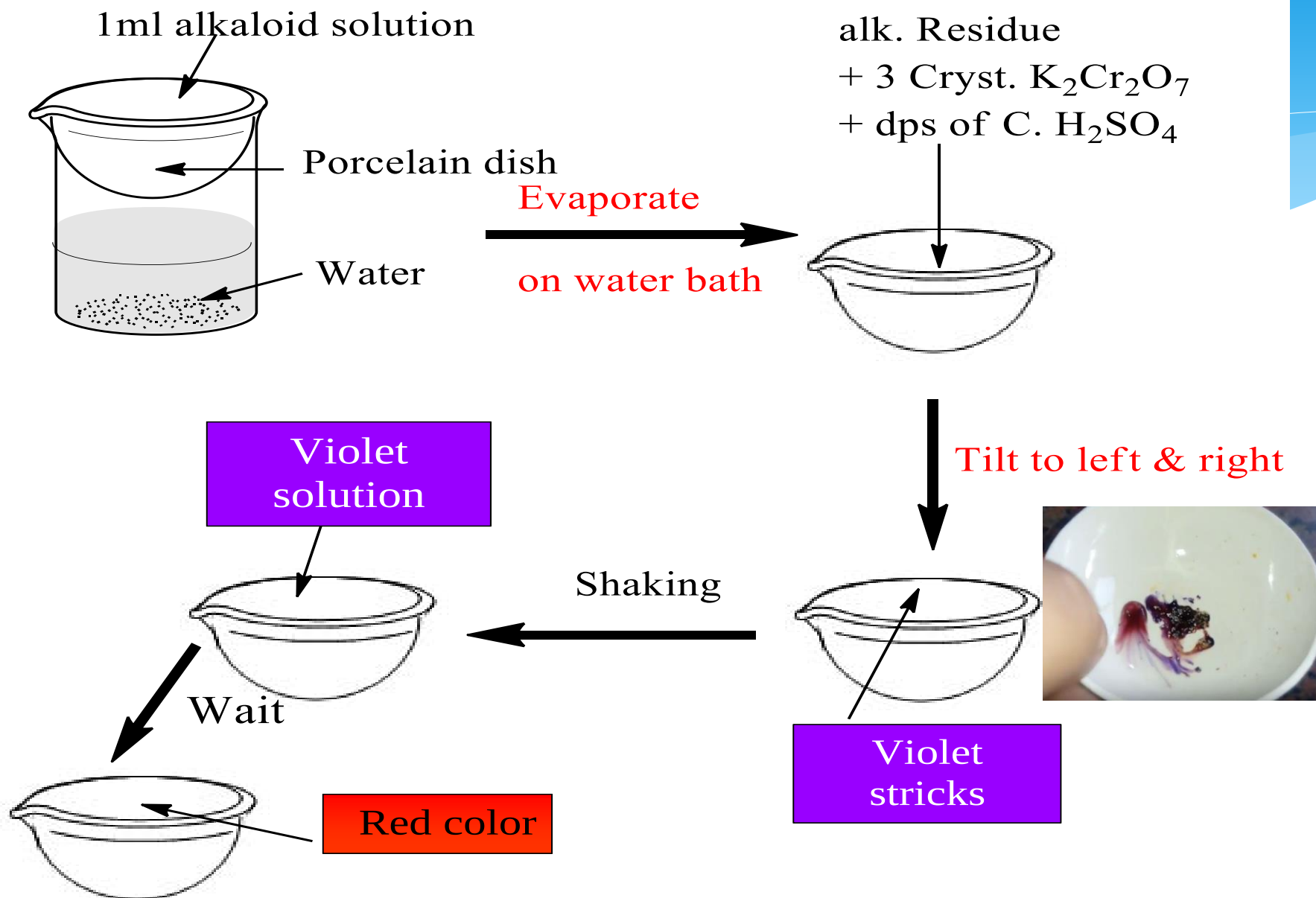
1ml Alkaloid + 1-2 dps. C. HNO_3 with shaking (or maximum till eq. vol)

→ +Ve (Yellow color).



3. $\text{K}_2\text{Cr}_2\text{O}_7 / \text{H}_2\text{SO}_4$ test (Violet streaks test):

Strychnine



Brucine

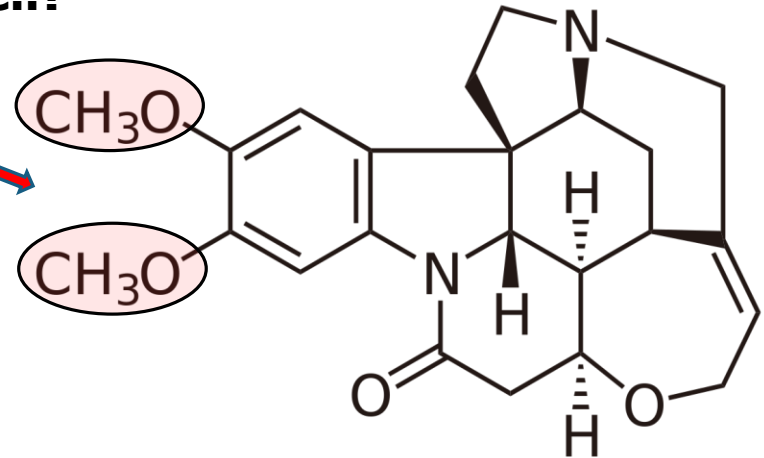
* Nucleus ?

Diff. from strychnine..?

* Natural source ?

* Pharmacological effects?

* Uses / abuses ?



Brucine

Indole nucleus
(Terpenoid subtype)

Nux-vomica seeds

**CNS stimulant (less extent than
strychnine)**

Brucine

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).



2. Conc. HNO_3 :

1ml Alkaloid + 1-2 dps. C. HNO_3 with shaking (or maximum till eq. vol)

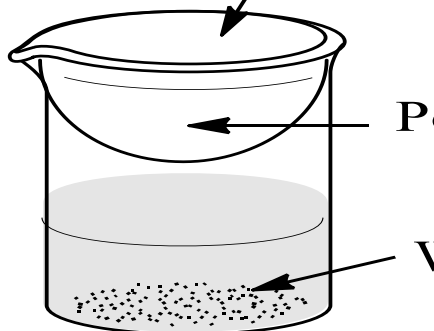
→ +Ve (Orange Red color).



3. SnCl_2 test:

12

1ml alkaloid solution

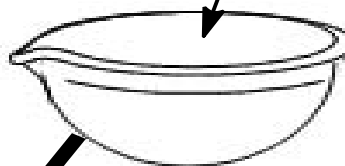


alk. Residue +
+ 1 drops conc HNO_3



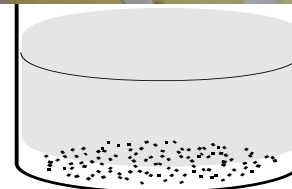
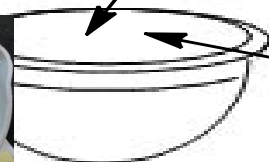
1 dryness

yellowish-red



+ 2 drops SnCl_2

Violet color



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