

Alkaloids Identification Reactions-2

1. Cortex Chinae Alkaloids
2. Solanaceae Alkaloids
3. Semen Strychni Alkaloids
4. Xanthine Derivative Alkaloids

- It is necessary to prepare a pigment-free extract to apply the color reactions.

Pigments are color substances in plants. They may mask the reaction result due to their colors.

- For this purpose, the powder drug is boiled with 10% Na_2CO_3 (10% NH_3 for Cortex Chinae alkaloids) and then the filtrate is extracted with chloroform.
- Chloroform phases are taken and color reactions are applied.

1. Cortex Chinae Alkaloids

- The most important alkaloids isolated from Cortex Chinae are quinine and quinidine.
- They are diagnosed by the Talleokine reaction.

2. Solanaceae Alkaloids

- The alkaloids from the drugs of the Solanaceae family (Folia Belladonnae, Folia Stramonii, Folia Hyoscyami, etc.) have tropane structure.
- The Vitali - Morin Reaction is used for the detection of tropane alkaloids.

3. Semen Strychni Alkaloids

- **The most important alkaloids isolated from Semen Strychni are strychnine and brucine.**

4. Xanthine Derivative Alkaloids

- Purine Structure

• For the detection of xanthine derivative alkaloids, the Murexide test is used.

Pigment Recovery Process

DRUG

(The same procedure is repeated for 4 separate drugs.)
+ 10% Na_2CO_3 (10% NH_3 for Cortex Chinae)

↓ Boiling (gas burner)

↓ Cooled and filtered through cotton

↓ The filtrate is taken to the separatory funnel.

↓ + Chloroform

↓ 2 times extraction

↓ Chloroform phases are put in the capsule.

Talleokine R.

Vitali-Morin R.

Murexide R.

Cortex Chinae

Folia Belladonnae

Folia Theae

Chloroform phases are evaporated to dryness in the water bath.

Residual
+ dilute H_2SO_4
+ 1 ml water

Residual
+ Smoky HNO_3

Residual
+ HCl
+ $KClO_3$

+Until the color remains constant

It is evoporated in the water bath.

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Brominated water

+ 1 ml %10 NH_3

+Drop by drop Alcoholic Potash
+ Acetone

Ammonia vapor

Emerald Green

Purple

Purple-red

**QUININE
QUINIDINE**

ATROPINE

CAFFEINE

Concentrated sulfuric acid is 98%. It's irritating!

Concentrated nitric acid is 69-71% and smoky nitric acid is $\geq 86\%$.

Bromine Water Preparation: Br_2 is added to 50 ml of water until the solution is saturated until the excess bromine is dissolved.

Semen Strychni

The chloroform phase is divided into 2 capsules and evaporated on the water bath.

Capsule 1
+ Mandelin R.
(Sulfovanadic acid)

Violet- Red

STRYCHNINE

Capsule 2
+ Conc. HNO_3

Blood Red

BRUSIN

The image features a decorative background with a variety of floral and abstract patterns. At the top, there is a dark blue horizontal bar with a pink rectangular cutout on the right side. The main background is a light, textured pattern of flowers, leaves, and butterflies in muted colors like blue, green, and yellow. The word "THANKS..." is written in a bold, pink, sans-serif font across the center of the image.

THANKS...