

Indole alkaloids

Lab.5 28-2-2024

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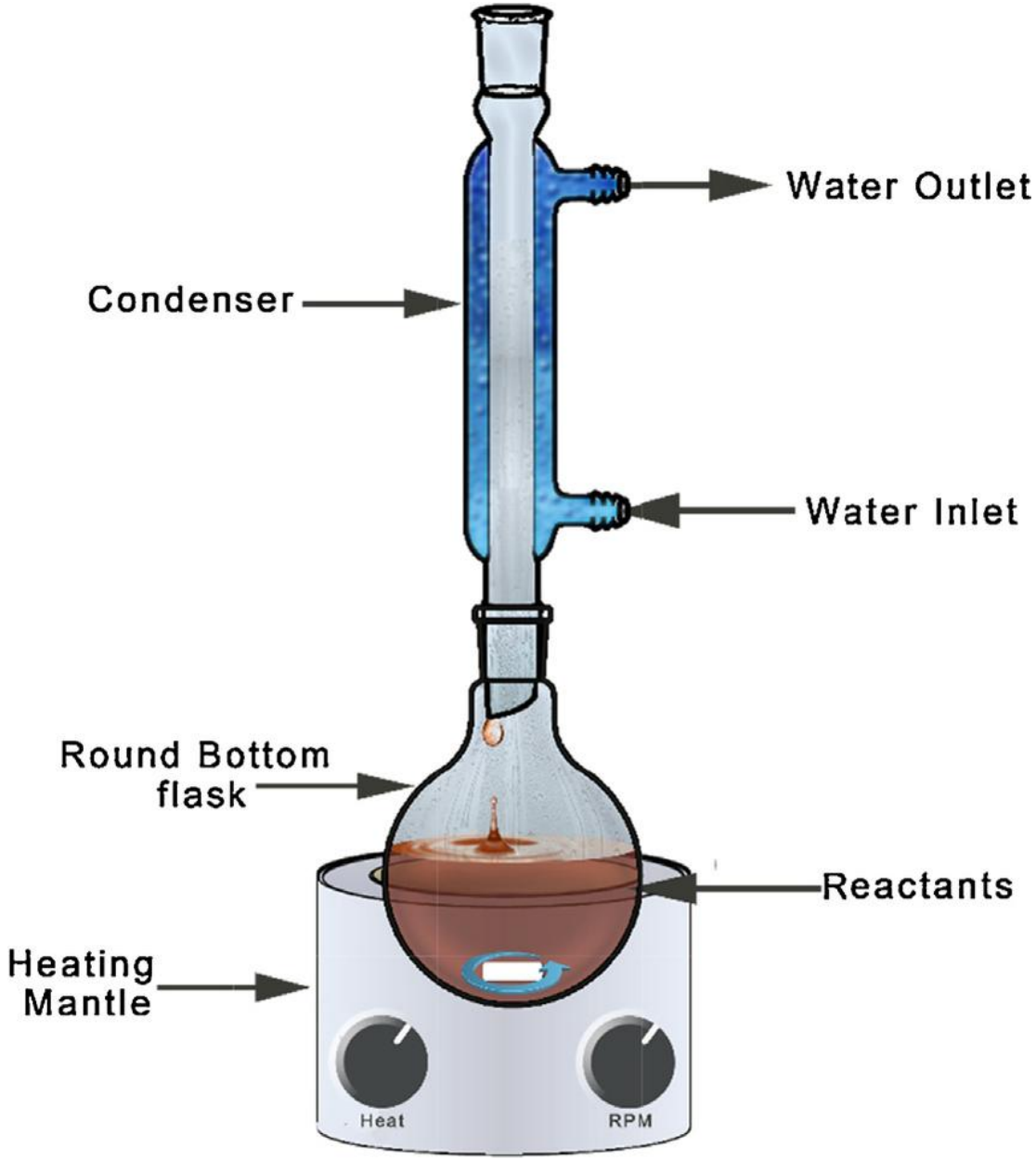
Procedure:

- Method of extraction: Reflux.
- Plant used: Peganum harmala
- Part used: Seeds



Procedure:

Maceration *50 gm* of the harmala seeds in *500 ml* of *petroleum ether* for **24 hrs (over night)**.

↓

Filter

↓

Reflux with **90%** *ethanol* for **1 hr**.

↓

Cool & Filter

↓

Take *10 ml* of Extract in conical flask

↓

Evaporate the filterate on water bath to about *1 ml*

↓

Add

↓

2.5ml of *4%* *HCl*

(Filter if necessary)

Procedure:

Partition with ***Chloroform*** (***5 ml*** x 2), take the acidic layer (upper layer)

↓ Add

Potassium hydroxide solution (check by litmus paper) Place the basic solution in the reparatory funnel

↓ Add

[***5 ml*** of ***Chloroform***] two times

↓ (Shake & stand)

Take the organic upper layer and put it in the conical flask

↓ Add

Small amount of ***Anhydrous sodium Sulphate*** & allow standing for few minutes until get a clear solution , decant and concentrate by evaporation to give the product crude alkaloids.

Identification of Harmala Alkaloids

- **Quantitative Analysis:**
- By weighing the residue obtained.

- **Qualitative Analysis:**
- The General Chemical Tests :
- The same as for other alkaloids.

The Identification of Harmala Alkaloids By Chromatography :

- By the use of thin layer chromatography (T.L.C)
- The stationary phase = Silica gel GF254.
- The mobile phase = Chloroform : Methanol: Acetone (35:15:10)
- The standard compound = any harmala alkaloids.
- The spray reagent = Dragendorff's reagent.
- Mechanism of separation = Adsorption.
- Developing = Ascending.
- Other mobile phases :
- Chloroform: Acetone: Diethyl amine (50:40:10),
- UV instrument.

Procedure:

- Prepare mobile phase, and place it in the glass jar.
- Cover the jar with glass lid and allow standing for ***45 minutes*** before use.
- Apply the sample and the standard spots on the silica gel plates, on the base line by the use of capillary tube.
- Put the silica gel plate in the glass jar and allow the mobile phase to rise to about *two-third* the plate.
- Remove the plate from the jar, dry and identified first by U.V. 254 ,366 nm**.**
- Spray the plate with spraying reagent ***(Dragendorff's reagent)*** and then calculate the Rf values.

Results:

- Fluorescence spot appears under the U.V. while an orange spots are seen when sprayed with the sprayer.








الحرمل
Peganum harmala
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