



PHARMACOGNOSY 3RD CLASS

Isolation of Harmala alkaloids from *Peganum harmala*

By

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Isolation of Harmala alkaloids *Peganum harmala*

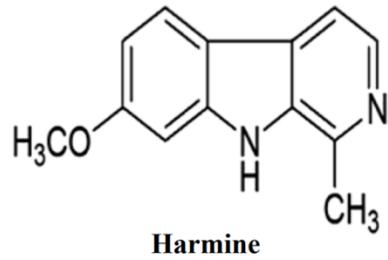
Harmala is known as a major source of alkaloids including β carbolines such as harmine, harmaline, harman and harmalol.

Scientific classification

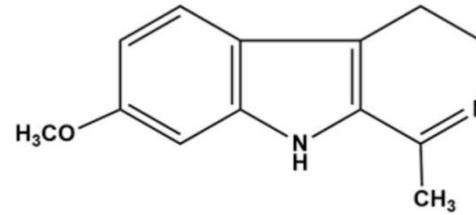
Family: zygophyllaceae

Genus: peganum

Species: *Peganum harmala* (common name Syrian rue)



C₁₃H₁₂N₂O



Harmaline

C₁₃H₁₄N₂O

Medicinal using for harmine & harmaline

1- Act as MAOI-A (monoamine oxidase inhibitor A) compounds.

2-Anticancer Activity by inhibit DNA topoisomerases and interfere with DNA synthesis.

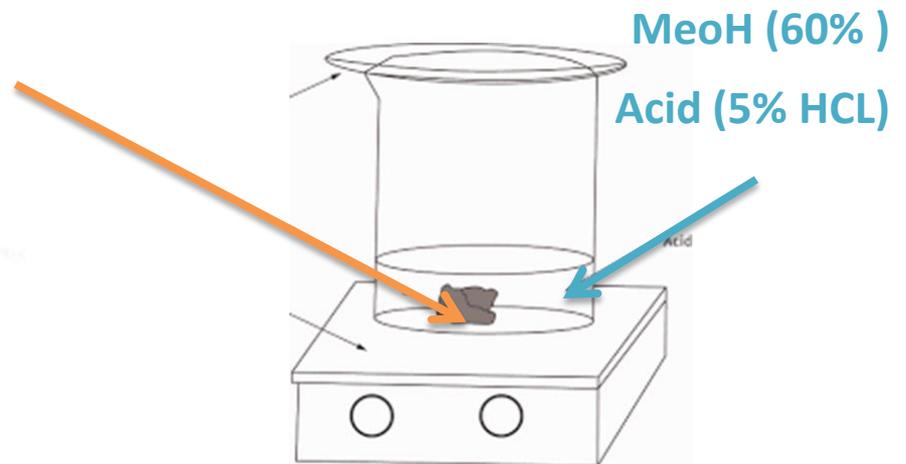
3- Antileishmanial effect.

Procedure for extraction harmala alkaloids

1- Put 30 gm of seeds powder (harmala plant) in conical flask and defat it with 65ml of hexane for 30min with stirring then filtration.

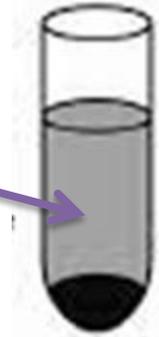


2- Extract the seeds residue with 120 ml of (5% HCL) and (60% MeoH) and heating on hot plate for 30 min (50°C).



Note:- Harmine & harmaline slightly soluble in water, alcohol & ether but soluble in hot alcohol & dilute acid

3- Centrifuge the extract and collect the filtrate.



MeOH (60%)

Acid (5% HCL)

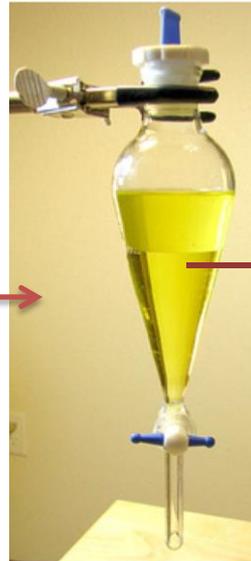
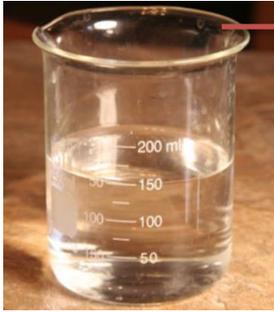
H₂O

4- Evaporate the methanol by heating the filtrate on the hot plate.

5- Aqueous extract was alkalized with NaOH (25%).



6- Chloroform adds to form two layers.



Wagner's test:- 1ml of extract (chloroform layer) + drop by drop of reagent \longrightarrow Brown ppt

