

Aim of the experiment

Systematic extraction and identification of **plant poison** by colour test.

Requirements

- a) **Test sample:** Oleander (leaves and fruits), Datura (fruit seeds), Calotropis (flowers).
- b) **Materials:** Beakers, test-tubes, test-tube holder, test-tube, stands, Dropper, Pipette, Mortar-pestle, funnel, tripod, conical flask, filter paper sheet.
- c) **Instrument:** Hot plate
- d) **Chemicals:** Methanol, activated charcoal, ferric chloride, potassium hydroxide, sulfuric acid, hydrochloric acid, glacial acetic acid.

Procedure

Extraction:

- a) Extraction can be carried out by using total methanolic extraction procedure.
- b) Crush the plant sample in a mortar pestle and then keep it in a beaker dipped with methanol.
- c) To be it overnight and then filter the mixture. The filtrate is then passed through activated charcoal for discoloration.
- d) The obtained decolourised filtrate to be kept for evaporation using hotplate to obtain a dry residue of extract.
- e) The extract is then reconstituted with methanol for colour test.

Preparation of saturated alcoholic potassium hydroxide solution: To the 10 ml of methanol potassium hydroxide (solute) is added and mixed using glass rod till no more solute can be dissolved at a given temperature.

Color test:

	Procedure	Observation	Inference
1.	Concentrated residue is taken in a porcelain dish and heated on hot plate on addition of A. 2 ml of concentrated hydrochloric acid	Bluish-green colour appears	Indicates presence of oleander.

	B. 1 drop furfural reagent in 1 ml concentrated sulfuric acid	Violet colour appears	
2	Keller Kiliani Test: - Extract to be dissolved in with 2 ml of glacial acetic acid with 1 ml of ferric chloride solution. Then heat and further cool. Then mix with concentrated sulfuric acid in another test tube.	Brown colour ring appears.	Indicates presence of oleander.
3	Concentrated residue is taken in a porcelain dish and heated on hot plate on addition of A. 1 drop of dilute hydrochloric acid B. 1 drop of concentrated sulfuric acid	Immediate Bluish green color Pink purple color after 2-3 min	Indicates presence of Calotropis
4.	Vitalis Test:- Concentrated residue is taken in a porcelain dish + 2 ml of 5% acetic acid solution. Heated in the oven to get dry residue. + 1 drop of concentrated sulfuric acid Heated in a water bath to get concentrated residue. + 1 drop of saturated alcoholic potassium hydroxide	Violet to red is obtained and disappears. (Further addition of saturated alcoholic potassium hydroxide color reappears and persists)	Indicates presence of datura.

Conclusion:

On the basis of observation, it was concluded that the test samples _____.