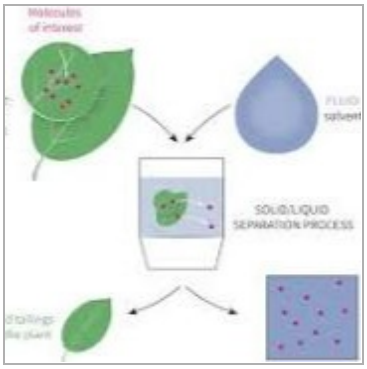

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Plant Extraction and Fractionation

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We use this protocol and it's working

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ABSTRACT

Plant extraction is **a process that aims to extract certain components present in plants**. It is a solid/liquid separation operation: a solid object (the plant) is placed in contact with a fluid (the solvent). The plant components of interest are then solubilized and contained within the solvent

MATERIALS

500g of granular powdered plant
hexane (BDH chemicals, England cat-no. BDH24575.100E) (in a ratio of (1:3) W/V
Soxhlet apparatus(BOECO, Germany)
80% ethanol (Sigma-Aldrich, Germany cat-no1070172511)
IKA RV 10 Rotary Evaporator (Germany)
5% HCl (Sigma-Aldrich cat-no. 1009861000)
ethyl acetate (Sigma-Aldrich, Germany cat-no. 319902-1L)
NaOH (Honeywell, USA cat-no. 30620)
chloroform(Honeywell, USA cat-no. C2432)
separatory funnel
methanol (Biochem Chemopharma, France cat-no. 213032500)
petroleum ether (Sigma-Aldrich, Germany cat-no. 32299)

1 A (500gm) of shade-dried for 12 days.

2 Coarsely powdered plant materials

3 Powdered plant materials were defatted with hexane in ratio 1:3 W/V for 24 hr.(500 gm of plant material with 1500 mL of hexane)

4 Allowed to dry at room temperature

5 The defatted plant materials were extracted with (2 Liters) of 80% ethanol in soxhlet apparatus until complete exhaustion.

6 The alcoholic extract was evaporated to dryness, under reduced pressure at a temperature not exceeding 40 °C by using IKA RV 10 Rotary Evaporator to give a dark greenish-yellow residue designated as a crude fraction (A)

7 Crude fraction was acidified with 300ml of 5% hydrochloric acid to pH 2

8 Crude fraction then partitioned (three times) with equal volume of ethyl acetate to get two layers (aqueous acidic and ethyl acetate layer), this step is necessary to get rid from any basic compound found in the crude extract.

9 The ethyl acetate layer of the original alcoholic extract (crude fraction) was evaporated to dryness under reduced pressure

10 Basified with 300ml of 5% sodium hydroxide to pH 10 and extracted with chloroform in the separatory funnel to get two layers

11 The aqueous basic layer which was separated, evaporated to dryness and acidified with 5% HCL to pH 2 then extracted with ethyl acetate to get fraction designated as fraction 3 (F-B)

12 The second layer-chloroform layer which was also separated and evaporated to dryness under reduced pressure then partitioned with 80% methanol and petroleum ether to get two layers petroleum ether fraction (C) and 80% methanol fraction which designated as fraction 4 (F-D)

Protocol Scheme

13 scheme plant extraction.pdf