[Lab.3]

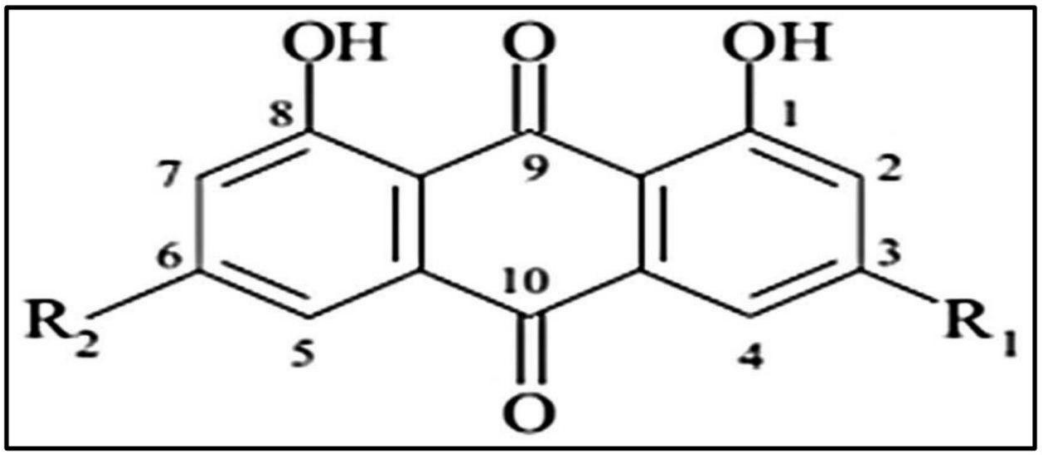
Anthraquinone Glycosides





Anthraquinone glycosides

- Anthraquinone glycosides are a group of natural compounds that consist of an anthraquinone core (a tricyclic aromatic structure with two carbonyl groups) attached to one or more sugar molecules (glycosides). These compounds are often found in plants and are known for their laxative properties

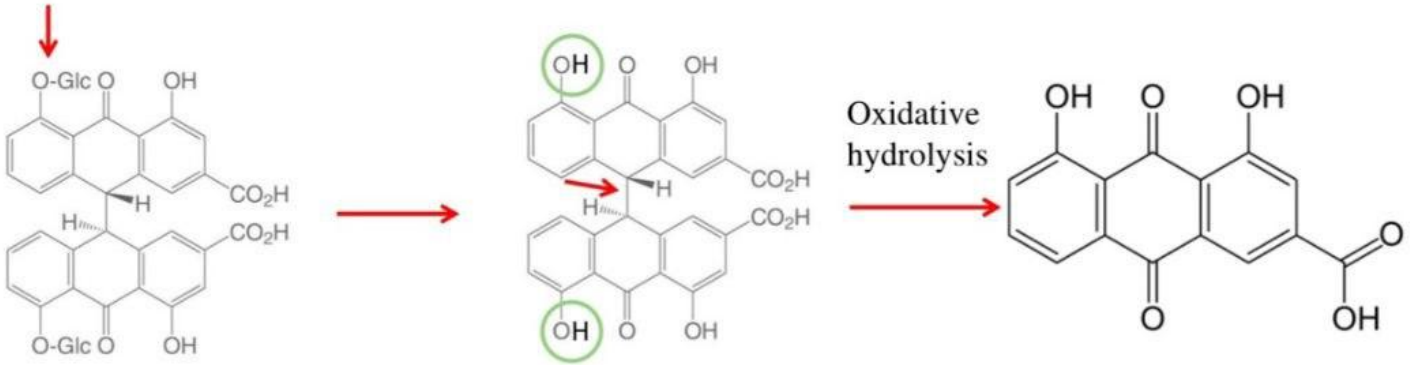


Anthraquinone and related glycosides, are stimulant cathartics, and exert their action **by increasing the tone of the smooth muscle in the wall of colon and stimulate the secretion of water and electrolytes into the large intestine.**

After the oral administration, the anthraquinone glycosides are hydrolyzed in the colon by the action of enzymes of the micro flora, to the pharmacologically active free **aglycones** which usually produce their effect in 8 -12 **hrs**. After administration, these agents are indicated for constipation in patient who do not respond to milder drugs and for bowel evacuation before investigational procedure or surgery

Stimulant laxative are habit forming so the long-term use may result in **laxative dependence** and loss of normal bowel function.

The anthraquinone hydrolyzed to give aglycone which are di, tri, or tetra **hydroxyanthraquinone** ..



Sennoside A/B
Dianthrone whole glycoside
Fraction A
Soluble in Aqueous

Dianthrone aglycon
Fraction B
Soluble in chloroform

Mono-anthrone
Fraction C
Soluble in chloroform


now
Senna
Leaves
470 mg
Herbal Laxative
•Gentle Action
•Supports Regularity*
100 Capsules
A Dietary Supplement


Nature's Way
SENNA
LEAVES
FOR OCCASIONAL CONSTIPATION*
NON GMO Project VERIFIED
100 VEGAN CAPSULES
DIETARY SUPPLEMENT


SENADE
Cipla
25 x 20 tablets


60 Tablets
Senokot
Tablets
with senna
For relief
of constipation
CONTAINS
NATURAL SENNA
Works in 8-12 hours
Predictable action
Senokot

Isolation and Identification of the Anthraquínone Glycosídes:

1. Extraction:

Aim: To isolate the anthraquinone glycosides.

Equipments:

- Large beaker & two medium size beakers.
- Two conical flasks.
- Separatory funnel.
- Water bath.
- Filter paper.
- Reagent bottle.

Reagents:

- Conc.HCl acid
- Chloroform
- 60% w/v ferric chloride solution

Procedure:

Method of extraction: Decoction.

Plant used: Senna **Cassia acutifolia** , **Cassia angustifolia**

Family Leguminosaea.

Part used: Dry leaves



Senna

Place 0.5 gm of powdered dry eaves of Senna in 50 ml of water

↓ Boiling (15 mins)

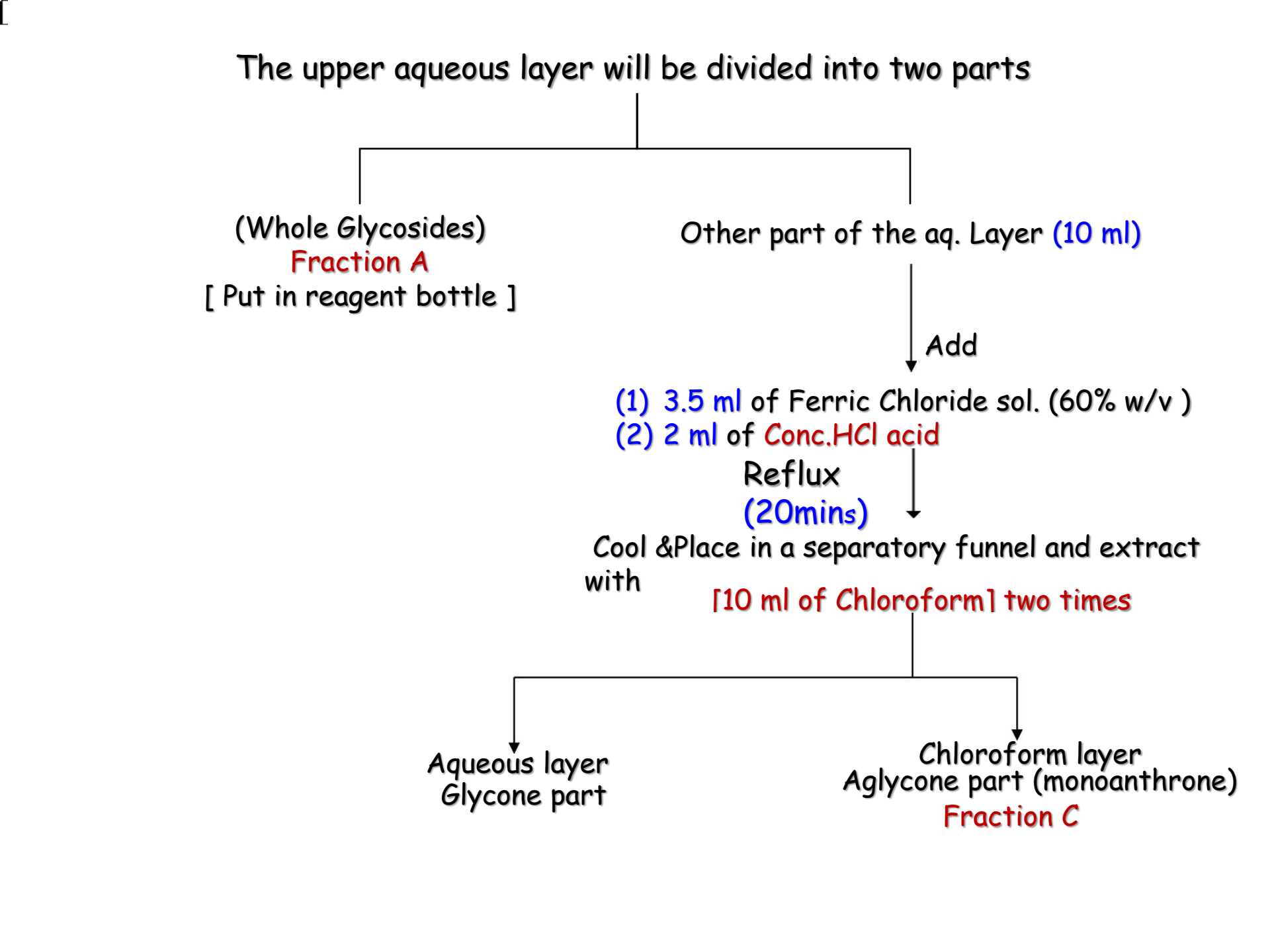
Cool & filter

↓

Place the filtrate in separatoryfunneland extract by shaking with [10 ml of Chloroform] two times

Upper layer
(Aqueous layer)
Devided into two portions

Combine lower layer
(Chloroform layer)
[Free aglycone (dianthrone)]
Fraction B


The upper aqueous layer will be divided into two parts
(Whole Glycosides)
Fraction A
[Put in reagent bottle]
Other part of the aq. Layer (10 ml)
Add
(1) 3.5 ml of Ferric Chloride sol. (60% w/v)
(2) 2 ml of Conc.HCl acid
Reflux
(20mins)
Cool &Place in a separatory funnel and extract with
[10 ml of Chloroform] two times
Aqueous layer
Glycone part
Chloroform layer
Aglycone part (monoanthrone)
Fraction C

2.Resu1ts:

Fraction A . Contain the whole glycosides.

Fraction B Contain the aglycone

(dianthrone)

Fraction C: Contain the aglycone part

(monoanthrone).


thank
you!