

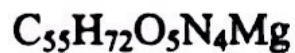
Pigments isolation and spectrum of absorption

Lab (7)

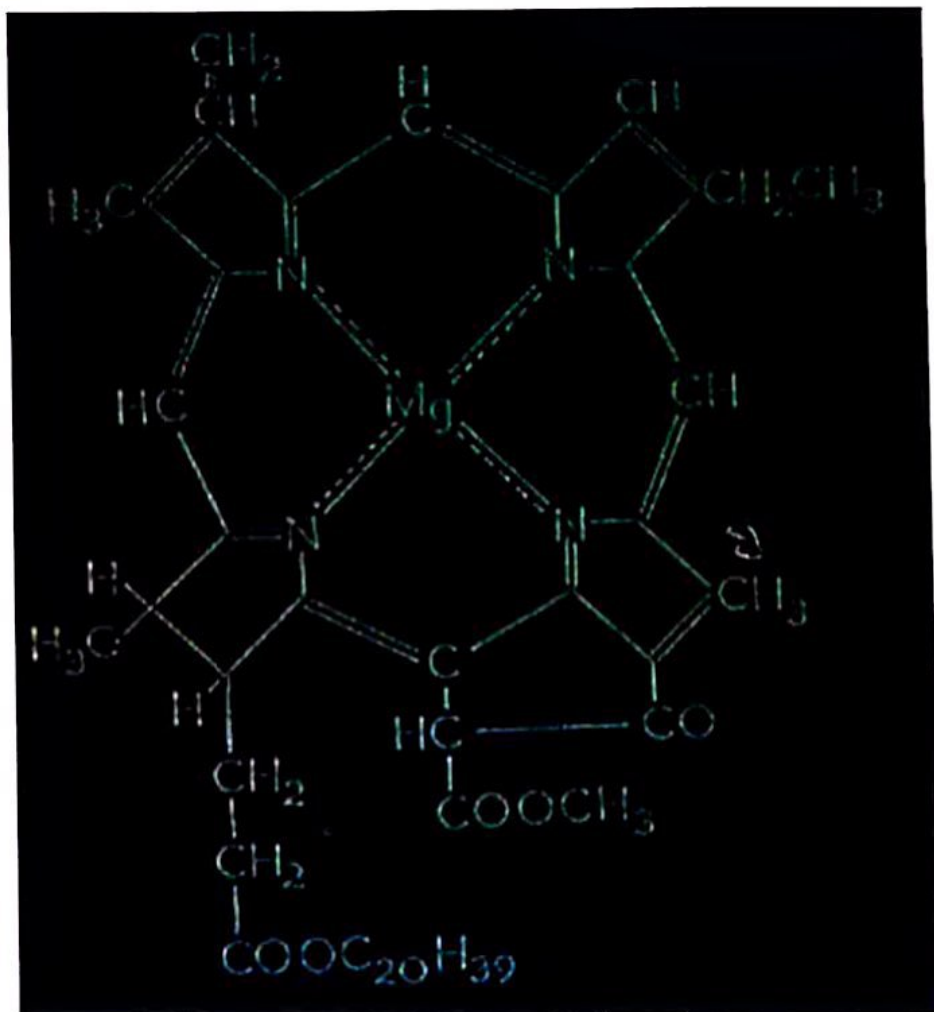
In plant there are two type of pigments :-

1- Essential pigments :- which is chlorophyll necessary for photosynthesis. We can called a (green stain), there are some types of chlorophyll in plant (a , b , c)

Chlorophyll a :- blue-green color. Existed in autotrophic organisms (except photosynthetic bacteria).



Chlorophyll b :- yellow-green color. Existed in high plant and green algae. $C_{55}H_{70}O_6N_4Mg$.



2- Assistance pigment :-

a- Carotenes :- yellow-orange (α , β , lycopene)



b- Xanthophyll :- red-orange (lutein, violoxen, zeaxanthin, neoxan) $C_{40}H_{56}O_2$.

Isolation of pigment :-

- 1- Take a leaf of (chard or lettuce) put it in porcelain bowl.
- 2- Add 10 ml of acetone (80%).
- 3- Squash the leaf well for 3 min.
- 4- After the pigments exiting from leaf, filtered the extract by layers of gauze.
- 5- Complete the extract to 100 ml, by acetone.
- 6- Then measured the extract by spectrophotometer and record the (O.D) (Optical Density) using acetone as a control.
Wave length (645, 663)
- 7- Take some extract, put it in beaker or cylinder, and put a strips of filter paper (arrow shape), waiting for 10 min and record what you see.

Spectrophotometer :- equipment for measuring the (O.D) for solutions. Depended on absorption and transmittion.

Absorption :- the light or (wave length) that absorbed by sample.

Transmittion :- the light or (wave length) that pass through the sample.

This above depended on color of sample and turbidity.