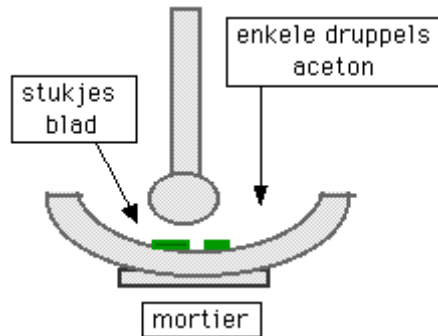



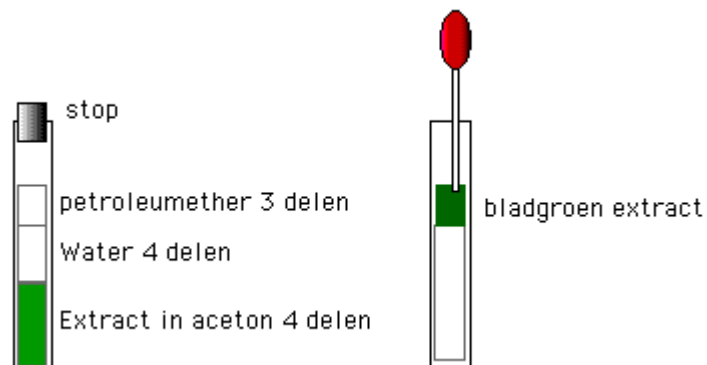
Extraction of chlorophyl



This method is convenient to make extract for the photospectrometre.

- Polish a couple of leaves in a mortar. Spinach is very suitable, but other leaves are possible as well.





- Pipette 4 parts (for example 4 ml) aceton .
- Let it for 5 minutes in teh dark (cover up because of the vapour)
- Pour the liquid into a test-tube.

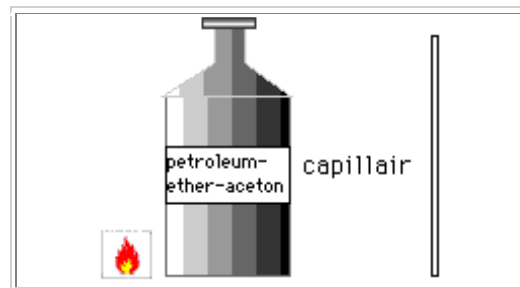



- Add 4 parts (ml) of water and 3 parts of petroleumether  (be carefull benzine!!)
- Put a rubber stopper on the tube and shake powerful.
- The watersoluble matters are mainly in the aceton-watermixture. The fatsoluble matters in the layer of petroleumether.
- Pipette the layer with chlorophyl.
- Evaporate the petroleumether  in de sourceif the chlorophyl is not concentrated enough (explosion danger!! Ask the assistent)

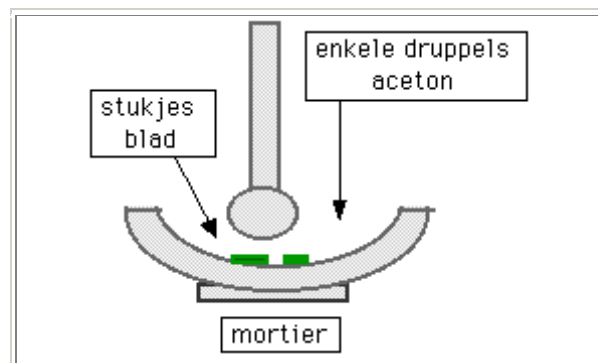
[papierchromatografie of chlorofyl](#)

Material:

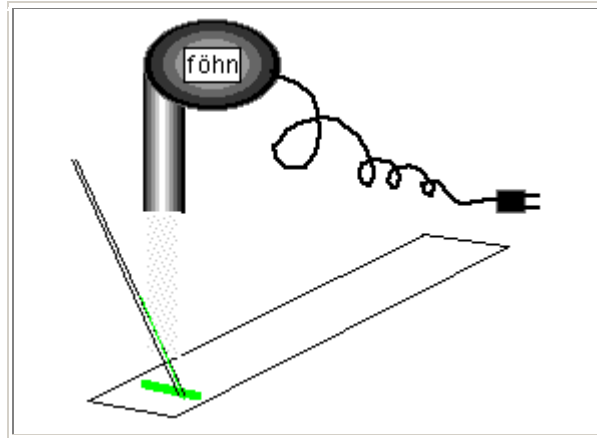
- Some leaves
- Mortar met pestle
- Clean silversand
- aceton? 
- petroleumether 40-60°C? 
- liquid (petroleumether 40-60°C - aceton 9:1)
- chromatograficpaper
- capillair
- pencil



- Do everything in a fire free room . 
- Put the leave partikels in the mortar.



- Add a little silversand and polish them.
- Add a little acetone. [Zie ook techniekkaart 2.8](#)
- Polish again until a green liquid arises. (extract).
- Take a slip of chromatografiepaper.
- Just touch the edges.
- Draw a line down below at 2 cm of the edge with a pencil (= startline)
- Put the filtreerpapier on a clean background and draw with the capillair a line of chlorophyll on the start line



- Dry the spot with a föhn. Repeat this 10 to 20 times.
- Try to keep the spot as small as possible.
- Pour the liquid into a cylinder glass. Not more than 1.5 cm high.
- Hang the paper on the cork with the bottom in the liquid
- De chlorophyllspot must be above the liquid and the edges of the paper must not touch the side of the glass..
- When the liquid is almost above (after 25 minutes), remove the chromatogramme
- Mark with the pencil the front and the place of the coloured spots.

The distance (rF-value) is calculated for every spot by dividing the distance (A) by the distance between start and front(B). De rF- value is by a certain T and a certain liquid characteristic for a matter. The rF- values of the chlorophyll can be looked up.

