



Exp 02

Paper Chromatography

<http://www2.thu.edu.tw/~orglab>

1. Gas-Chromatography (GC)

Liquid- Chromatography (LC)

2. Absorption- desorption equilibrium:

**Different partition within two phases
(mobile phase & stationary phase)**

3. Mobile phase – 3M HCl + EtOH + n-butanol (1:7:2)

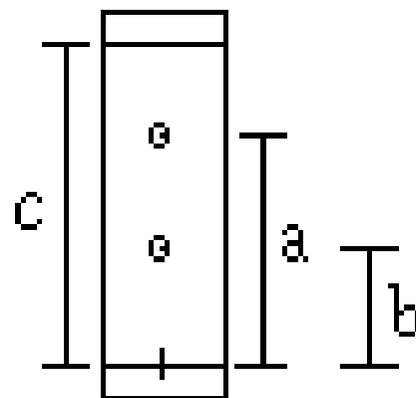
Stationary phase – filter paper



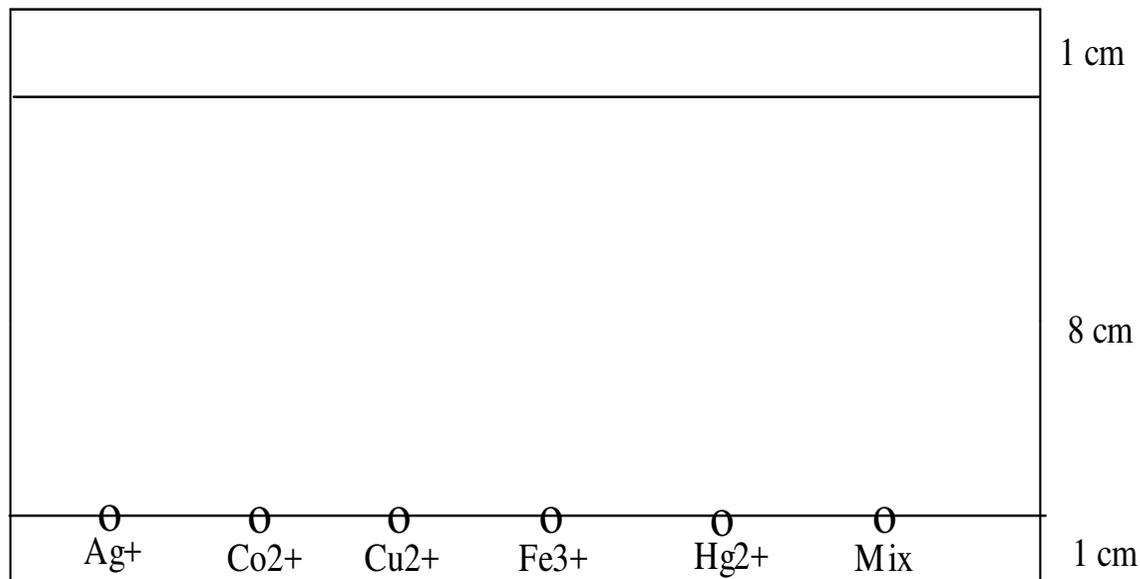
calculate the Rf (Retardation factor) value

$$Rf(A) = a/c$$

$$Rf(B) = b/c$$



20 cm



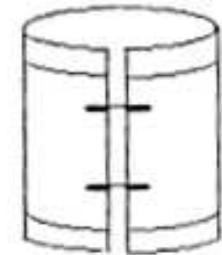
Use a pencil and ruler to make the mark on the filter paper. The sample interval is 2cm. Draw a circle with a diameter of 0.8cm around the center of the interval. Label the sample or ion name below.

↓
In accordance with the label, each ion is spotted on the filter paper, the diameter can not exceed the circle range

↓
After spot, use a hair dryer to blow dry, the capillary can not be mixed to avoid contamination

↓
The sample concentration is dilute, need to repeat 3~4 times

↓
Roll the filter paper into a cylinder with the mark facing outward leave a gap, and fix it with a staple



↓
Put the filter paper to 250ml beaker (**add 10ml elution solution first**)

↓
The cling film covers the mouth of the beaker to prevent the development fluid from overflowing



When the elution liquid rises to the straight line marked by the top pencil, remove the filter paper and dry it



Remove the staples and mark the shape of the colored dots with a pencil



spray the entire filter paper with Ammonia, if color appears, trace the shape(in hood)

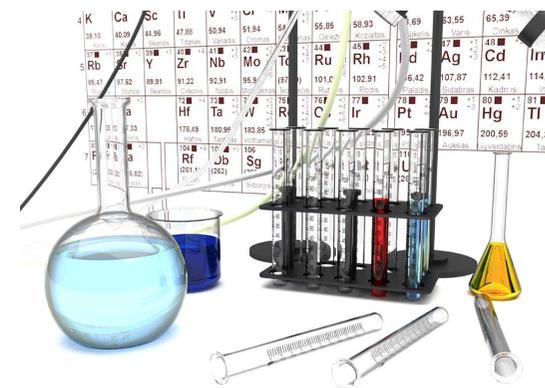


Also spray the entire filter paper with amine sulfide. If color appears, trace the shape(in hood)



Calculate the R_f value

1. Ag^+ (colorless), Co^{2+} (pink), Cu^{2+} (blue), Fe^{3+} (yellow),
2. Do not pollute the shared drugs, capillary tube can not be confused ◦
3. Spot should add 3~5 times, the diameter of spot is as smaller as possible.





Thank you !

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