

**ALMUSTAQBAL UNIVERSITY COLLAGE PHARMACY DEPARTMANT**

**Practical pharmacognosy / Second year**

**Experiment No.8**

TLC on microscope slides

1. Preparation of slides for TLC.

Thin layer slides are prepared from slurry of the adsorbent which after spreading and drying forms a powder film over the surface of glass slide. The slurry is prepared by mixing 35gm of silica gel G with 100 ml of acetone in a jar. Three clean slides are prepared by dipping in the slurry( make sure that the slurry is well shaken before each dipping process to ensure homogenous coating of the slurry).

1. Drying of TLC slides:

Number your slides by using fine needle at the top corner then: a- Leave slide no.1 to dry at room temp.

1. Activate slide no.2by heating in an oven at 110 C for 10 min.
2. Hydrate slide no.3 by exposing it to water vapor on water bath and allow it to dry at room temperature for 5 min.
3. Application of test mixture:

The test mixture consists of 3 dyes (Crystal violet, Methyl red, Dimethl yellow). Measure 0.5 cm. above the bottom the level of the mobile phase in the jar, this is the base line of the chromatogram. Spot the test dye mixture from a capillary tube to the base line. Repeat the same spotting procedure on slide no. 2 and slide 3.

1. Preparation of tanks:

The developing solvent used is chloroform occupy about 0.5-1 cm depth of the tanks provided, then seal the tanks with a ground glass lid and leave for 15 min. to ensure saturation of atmosphere, mark the solvent front about 3/4

length of the slide and place the slides in the developing solvent. Allow the solvent to travel to the front line, then remove from the tank and allow drying at room temp.

1. Measurement of chromatographic data:
   1. Making a permanent record by examine the slides and trace them on the paper. Label the color of each spot.
   2. Calculate the RF value of the colored spots.
   3. Make a conclusion drawn from these results, state which adsorbent layer has higher order of activity? Which of the three slides give the best separation? Why?
   4. Essential experimental details of the chromatographic procedure used should be recorded on the chromatogram, i.e.:

Title: Thin layer chromatography. Technique: One way ascending.

Adsorbent: Silica gel G.

Solvent system: Chloroform.

Time: Record the time required by the solvent to travel up the slide. Temperature: Record lab. Temp.

Examination: e.g. in day light or in UV light.

* 1. Draw the chemical structure of the test dye mixture.