## A Guide to performing the Thin Layer Chromatography technique

In today's practice task, you will be performing the technique of Thin-Layer Chromatography. Let us come directly to the way this technique is carried out.

**Readying the Developing Chamber:**

1. The container where the TLC will be developed can either be a proper chamber with a lid like the one which has been provided to you, or just be a simple beaker covered with a watchglass.
2. To begin, pour the supplied Solvent System for today's TLC into the clean chamber, **to a height of NOT MORE THAN 5 mm.**
3. Immediately close the container with the lid, and keep the container safely in a corner. Allow the chamber to stand till you prepare your TLC. During this time, the vapors of the solvent will saturate the chamber well.

**Loading the sample on the TLC:**

1. At your table, you have been provided with very small containers called **eppendorfs** containing your reactants for today: aniline and b-naphthol. Collect a pre-coated silica TLC plate and a fine-tip capillary from the lab attendant. The silica coating will act as your stationary phase.
2. **You must handle the plate carefully holding only the edges of the plate. Otherwise, the silica coating will be damaged.**
3. Dissolve the content of the eppendorfs using **Acetone** with the help of a dropper and shake the vial gently.
4. Using a ruler, measure 1 cm from the bottom of the plate. With a pencil, gently draw a line across the plate at the 1 cm mark. This will be your baseline: the origin on which your sample will be loaded. Mark a point with the pencil on the baseline where you will load the sample. **Do it gently**, otherwise the silica will come off. Mark the name of the sample (eg. Letter 'A' for Aniline) under the spot.
5. Dip the fine-tip capillary into the vial to pick some sample onto it, and carefully spot the plate on the spot you have marked. Don't load too much of the sample. Let the plate dry for a minute.

Your loading is now done and it is time to place the plate in the chamber. Carefully place it in the chamber and close the lid immediately. You will see the solvent slowly rising on the plate by capillary action. Do not disturb the chamber while the solvent rises on the TLC. Keep a watch on the solvent rise and let it rise until the solvent is about 1 cm away from the top of the plate. At this time, remove the plate from the beaker and **quickly and immediately mark the solvent front** with a pencil.

Allow the plate to dry. If your samples are colored, you can view them directly, and in other cases where the samples are not visible, you may need different ways such as an Ultraviolet Chamber. **Encircle your spot(s).**

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