Paper Chromatography Instructions

1. Before doing your first test, read these instructions completely.
2. Remove everything from the jar. This is your test chamber.
3. Place paper on clean, dry surface with the marked arrow (on the paper package) pointing away from you.
4. Lightly draw a pencil line about an inch from the bottom edge of the paper.
5. Place tic marks about an inch apart along this line.
6. Label the tic marks Tartaric, Malic, Citric, Lactic and wine 1, 2 etc.
7. Draw about ¾ of an inch of the tartaric acid standard into a capillary tube.
8. Slip the paper over the edge of the work surface so that the penciled line is unsupported.
9. Lightly touch the capillary tube containing the tartaric standard to the tic mark labeled "tartaric" to form a spot no larger than ¼ of an inch.
10. In the same manner draw (in separate capillaries) and spot the other standards and the wines on their tic marks.
11. Allow the spots to dry and then repeat steps 8 & 9 until the capillaries are empty. Discard the empty capillary tubes.
12. Place about ½ an inch of the Chromatography solvent in the test chamber and cover.
13. When the spots are dry, form a cylinder of the paper and staple the upper corner together but do not let the edges overlap. Place into the test chamber. There should be enough solvent in the chamber to reach about half way to the spots.
14. Re-cover the test chamber and allow the solvent to migrate to within an inch or so of the top of the paper.
15. When the solvent front is within an inch of the top of the paper, remove the paper and dry in a well-ventilated area.
16. Return the solvent to its original container and tightly seal.
17. When the paper is dry the acids will be visible as yellow spots against a blue background.

Suggestions:

The solvent may be reused until the developed spots become elongated and no longer identifiable.

A small amount of water may appear in the solvent bottle. This is not a problem as long as the water is kept out of the test chamber.

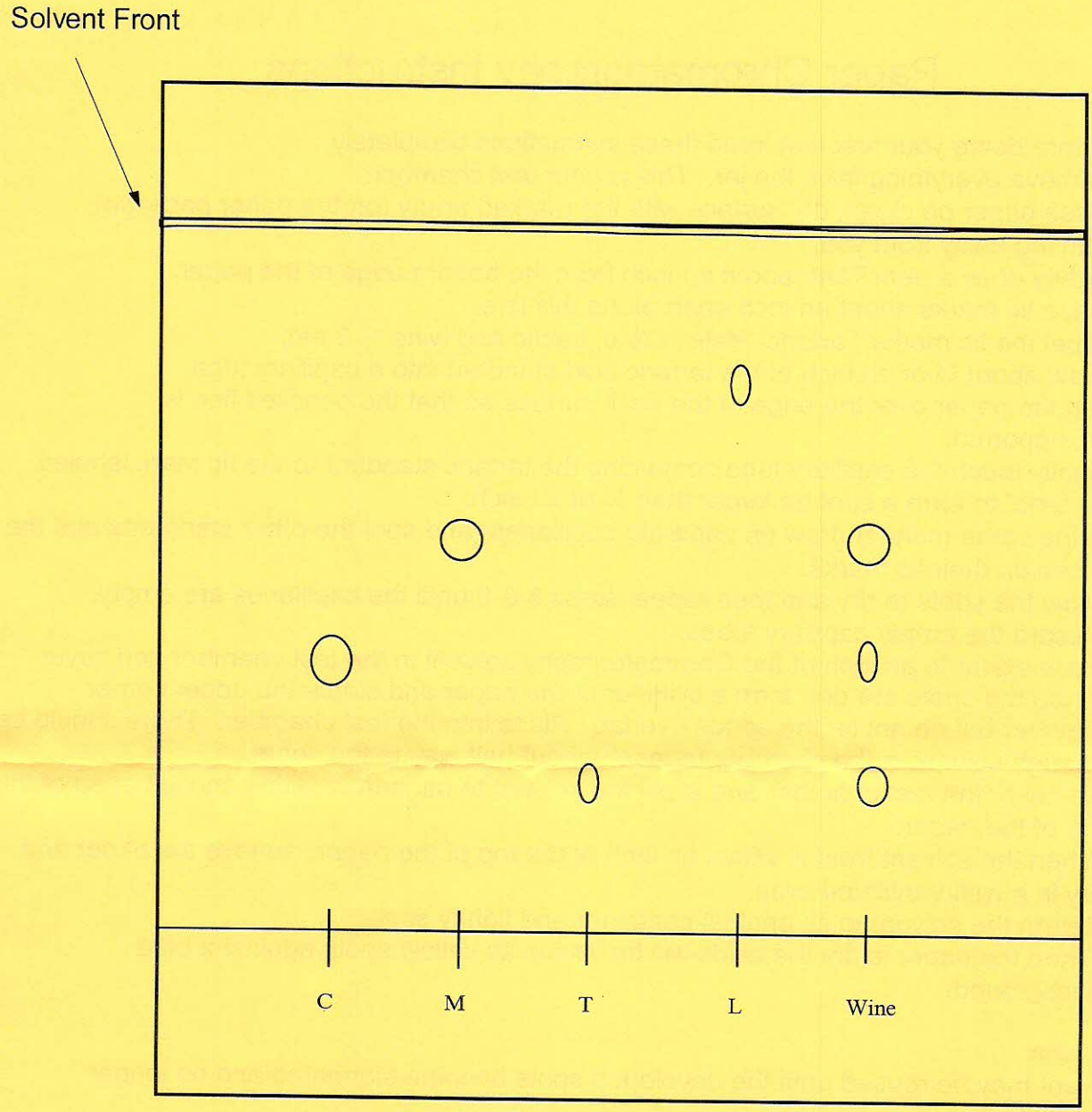
This is a sensitive test, handle the paper as little as possible and make sure your work surface is clean.

The smaller and more compact the spots the better the resolution.

The careful use of a hair dryer will speed the drying of the spots.

Over time the spots on the chromatogram will fade. It is advisable to circle the spots if the chromatogram is to be kept.

If the spots are not clearly visible or have faded, place 125 mL of clear ammonia solution in a glass pie plate and hold the chromatogram in the vapors. The blue color will quickly darken making the yellow acid spots more visible.



Typical chromatogram