

PL6: TLC Analysis of Drug Components

Name:

Lab Section (circle one): 4 / 2 / 3

1. Three known molecules **A**, **B**, and **C** have R_f values in hexane reported as 0.25, 0.50, and 0.75, respectively. Draw a diagram that shows how a TLC plate would look if two spots were run up the same TLC plate with hexane. The first spot is a mixture containing **A** and **C**. The second spot is a mixture containing **B** and **C**. Show the starting line, the solvent front, and each spot after development.

2. What problems would each of the following errors cause?

(a) The spot was too light.

(b) The spot was too heavy.

(c) The starting line (spots) were lower than the solvent level.

(d) The solvent ran to the top of the plate for a while before the TLC was stopped.

3. A mixture of two compounds is not separated in cyclohexane (both have a low R_f) and they're not well separated in ethyl acetate or ethanol (both have a high R_f). What pure solvent might separate the two components?

4. After development, how many spots would you expect from each of the tablets listed in Table 1?

5. Describe the use of a filter tip pipet.