Chromatography Worksheet

1. Do you think that chromatography would be useful for separating a large quantity of a mixture? Explain.

2. If the mobile phase in a chromatography experiment moves 15 centimeters and the Rf value of one of the compounds in the mixture was 0.85, how far would the compound move on the paper?

3. We can frequently enhance the effectiveness of chromatography by altering the polarity of the solvent. Do you think we could make similar enhancements by changing the polarity of the stationary phase? Explain.

4. Gill did an experiment to separate the colors in purple ink. She set up the experiment and left it going for a while. The first time she recorded her results the water had soaked up the paper 5 cm past the baseline where the spot of purple ink was placed. The red colour had travelled 3 cm up from the line at that time. Later, the water had soaked up the paper 10 cm past the baseline (a further 5 cm from the first time).
   a. How far would the red color be above the baseline now?
   b. Calculate the Rf for red.
   c. The Rf for the blue dye is 0.4. How far did the blue dye travel while the water soaked up to 5 cm past the baseline?