

Chromatography Lab

I. Purpose:

The purpose of this lab is to use chromatography to separate colors into their components.

II. Materials:

Chemicals

Water
Ethanol
Permanent Markers
Water markers
Ink Pens

Equipment

Beakers
Pencil
Watch Glass

III. Procedure:

Trial

1. Cut chromatography paper into two pieces so that they fit into the beakers without bending or falling.
2. Using a pencil, draw a line approximately one inch from the bottom going across the width of each section of paper.
3. Make three to four small vertical lines along the horizontal line.
4. Place approximately 50 ml of water into a beaker. The water level must not rise above the pencil line.
5. Choose six washable markers for the water sample and six other writing utensils for the ethanol sample. Place a small sample of each color on each of the vertical lines.
6. Place each piece of paper into separate beakers. [Do not let the paper touch the sides or bottom of the beaker.]
7. The liquid will drag the colors up the paper at different speeds. Let this continue at least halfway up the paper.
8. Remove each piece of paper. Draw a line just above the point where the water has drawn to.
9. Place the pieces of paper in the heater for about five minutes. Then calculate R_f values for each.

Unknown

1. Repeat this same procedure using an unknown and the chosen unknown samples. The unknown may consist of any combination of the samples available.
2. Predict what samples are present in your unknown.

IV. Observations:

Trial:

Unknown:

V. Data Table

Trial:

Writing Utensil	Component Colors	Rf Values

Unknown:

Writing Utensil	Component Colors	Rf Values

VI. Sample Calculation

VII. Conclusion:

What did you learn?

What would you do different if you had the chance to do this lab over?/What warnings would you give someone else who has to do this lab?

Where is this kind of lab, data, and/or experiment used in the real world?