Paper Chromatography

Prelab 4

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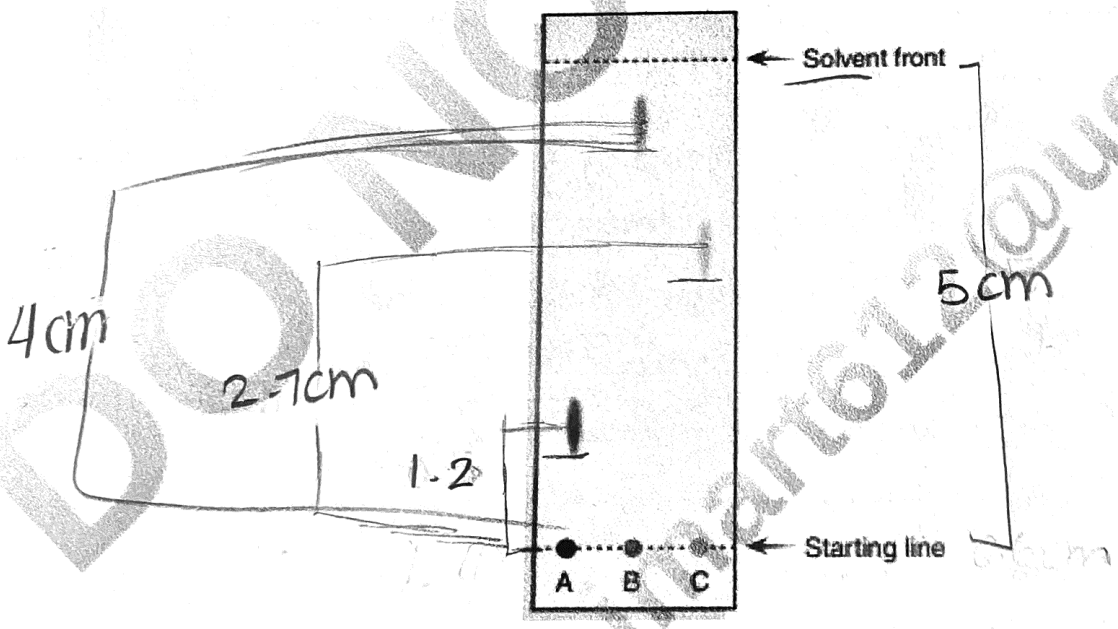
Name

1:00

Time

M T (W) R F

1. A representation of a developed paper chromatogram of a mixture of dyes is shown here:



Use a ruler to determine the R_f values for each dye in the mixture. Show your calculations.

$(R_f)_1 = \frac{1.2}{5} \rightarrow 0.24$

$(R_f)_2 = \frac{2.7}{5} \rightarrow 0.54$

$(R_f)_3 = \frac{4}{5} \rightarrow 0.8$

2. Explain why all R_f values should be between 0 and 1.

The R_f values should be between 0 & 1 because the mixture must move but the solution cannot travel more than the solvent. The solvent is never 0 but is never found to be more than 1 since it can't move much.

3. Provide names or formulas for the following species. Include any charges on ions.

a. water H_2O

b. Co^{2+} Cobalt dioxide

c. nickel Ni

d. copper(II) ion Cu^{2+}

e. ammonia NH_3 → nitrogen trihydrogen