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Organic Chemistry I

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Experiment 6: Thin layer chromatography
Thin-layer chromatography (TLC) is an extremely valuable analytical technique in the organic lab. It provides a rapid separation of compounds, and thereby gives an indication of the number and nature of the components of a mixture. TLC can also be used to identify compounds by comparison with known samples, to check the purity of a compound, or to monitor the progress of a reaction, an extraction, or a purification procedure. This experiment will introduce you to the mechanics of TLC, and the chemical principles behind it. Researchers may employ TLC as a tool to monitor the progress of a reaction, to purify small amounts of compounds, or even to select effective solvent systems for other chromatographic procedures. College students use TLC when using the scientific method. Because of its simplicity, cost effectiveness, and efficiency, TLC functions as one of the most widely used analytical analyses in the chemistry world.

	A	B	C	D	E	F	G
1		Paper 1		Paper 2		Avg	
2	a	1.37037		0.733333		1.146296	
3	c	1.148148		1.333333			
4	extracte	0.851852		1.066667		0.978704	
5	d	1.296296		0.7			

Formula bar: b extracte

PAPER 1   Front = 2.7

$8 A = C$

Tablets $A = \dfrac{3.7 \text{ cm}}{2.7 \text{ cm}} = 1.37037$

Tablets $C = \dfrac{3.1 \text{ cm}}{2.7 \text{ cm}} = 1.148148$ Avg = 1.14629

$B = \dfrac{2.3 \text{ cm}}{2.7 \text{ cm}} = 1.06667$

$D = \dfrac{3.5}{2.7 \text{ cm}} = 0.7$

PAPER 2   Front = 3 cm

tablets $A = \dfrac{2.2}{3} = 0.7333$

$B = \dfrac{3.2}{3} = 1.3333$ Avg = 0.9787

tablets $C = \dfrac{4}{3} = 1.06667$

$D = \dfrac{2.1}{3} = 0.7$ Yield $= \dfrac{0.978704}{1.146296} \cdot 100 =$
                              $= 85\%$

APA