**BCH 333** Paper and Thin Layer Chromatography

**Lab Sheet #4**

**Materials:**

**Chemicals:**…………………………………………………………………………………………………………………………………………………………………………………….………..

**Instruments: :**……………………………………………………………………………………………………………………………………………………………………………………….

**Method:**

**You are provided with** silica gel Thin Layer Chromatography [TLC] plate and paper chromatography[PC].

**1.**Draw a sample starting line (base-line)about 2.5 cm from the bottom of the TLC plate and PC paper, divide it uniformly then apply one small drop of each sample, allow to dry.

**3.**Label your TLC plate and PC, then place them in the solvent chamber. Do not forget to cover the solvent chamber.

**4.**Leave them for 45 min ( or until the level of the solvent is 2 cm from the top).

**5.** Remove TLC plate and PC paper from the solvent chamber draw a line to mark the solvent front.

**6.**Spray the TLC plate and PC paper with ninhydrin, Wear gloves be very careful ninhydrin is carcinogenic.

**7.**Put the TLC plate and PC paper, In the oven until color develops.

**Results:**

Rf value is =…………………………………………………………

**1.** **paper chromatography[PC].**

Distance migration by solvent front = ……………………

|  |  |  |
| --- | --- | --- |
| **Sample** | **Distance**  (unit) | **Rf** |
| **Phe standard** |  |  |
| **cys standard** |  |  |
| **U1** |  |  |
| **U2** |  |  |

**2.Thin Layer Chromatography [TLC] plate**

Distance migration by solvent front =……………………………

|  |  |  |
| --- | --- | --- |
| **Sample** | **Distance**  (unit) | **Rf** |
| **Phe standard** |  |  |
| **cys standard** |  |  |
| **U1** |  |  |
| **U2** |  |  |

**Answer with [T] or [F] and correct the false ones:**

-Silica gel is one of the stationary phases used in TLC which has an adsorbent property [ ].

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-Rf for solute(A) = 0.6 and Rf for solute (B)=0.3.

So, solute (A) has more affinity toward the stationary phase in compression with solute (B). [ ].

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-it fine when we leave the lid of solvent chamber opened. [ ].

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-We should choose the solvent witch is suitable for solutes in that gives us a batter separation result. [ ].

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-when the solute is more attracted toward stationary phase it will migrate further. [ ]

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-Rf is some time equal to 1. [ ].

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-Why did you draw the original line?

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-When do you think that, the Rf value will equal to the zero?

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