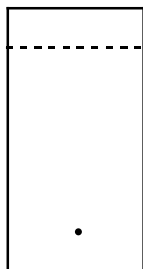




<http://goo.gl/PZSCpb>

Follow instructions to explore the TLC simulator and answer the questions below.

1) Click "Start Experiment" to run the simulator with a **50:50 mixture** of Hexane and Ethyl Acetate. Sketch the plate below (label the spots red and blue)



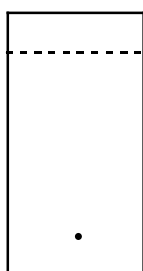
Is silica gel polar?

Which compound is more polar, red or blue? Explain briefly.

Draw the structures for ethyl acetate (EtOAc):

and hexane:

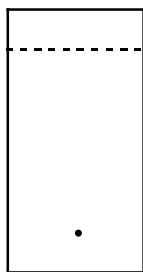
2) Click on "reset experiment" and change the solvent system on one of the plates to be **75% Ethyl Acetate**. Sketch the plate below (label spots) and answer the given questions.



Is the new solvent (compared to 50:50) more or less polar? Explain briefly.

What happened to the R_f of the spots in the new solvent? Explain briefly.

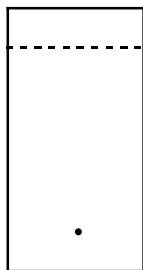
3) Click on "reset experiment" and change the solvent system on one of the plates to be **25% Ethyl Acetate**. Sketch the plate below (label spots) and answer the given questions.



Is the new solvent (compared to 50:50) more or less polar? Explain briefly.

What happened to the R_f of the spots in the new solvent? Explain briefly.

4) Click on "reset experiment" and change the solvent systems to be **100% Ethyl Acetate** on one plate and **100% Hexane** on the other. Sketch the plates below and describe the R_f of the spots.



100% EtOAc
 $R_f =$



100% hexane
 $R_f =$

Conclusions about silica gel TLC (circle the correct answers)

A **more polar compound** has a higher/lower R_f .

A **less polar compound** has a higher/lower R_f .

A **more polar solvent** causes a higher/lower R_f .

A **less polar solvent** causes a higher/lower R_f .

To increase the R_f of a spot, you should add more hexane/EtOAc.