

Chem201 Self Quiz - 7 (Chromatography)

- Solvent passes through a column in 3 minutes, but solute requires 9 minutes.
 - Calculate the capacity factor k'
 - What fraction of time is the solute in the mobile phase in the column?
 - The volume of stationary phase is one-tenth of the volume of the mobile phase in the column ($V_s = 0.10 \cdot V_m$). Find the partition coefficient, K , for this system.
- The retention volume of a solute is 76.2 mL for a column with $V_m = 16.6$ mL and $V_s = 12.7$ mL. Calculate the partition coefficient and capacity factor for this solute.
- What is the electroosmosis?
- State three different methods to reduce electroosmotic flow.
- A particular solution in a particular capillary has an electroosmotic mobility of $1.3 \cdot 10^{-8}$ m²/Vsec at pH 2, and $8.1 \cdot 10^{-8}$ m²/Vsec at pH 12. How long will it take a neutral solute to travel 52 cm from the injector to the detector if 27 kV are applied across the 62-cm-long capillary tube at pH 2? And pH 12?