

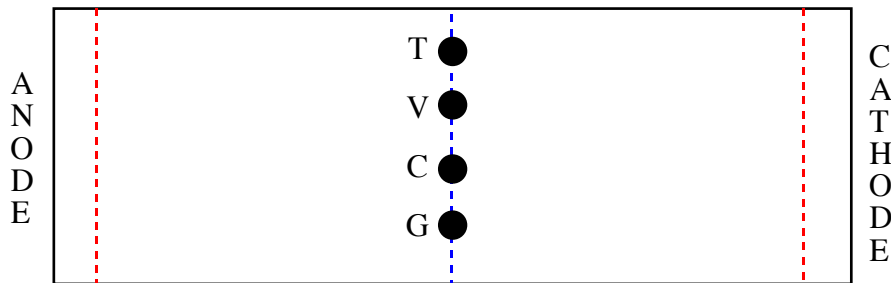
Chapter 25

Practice Problems

1. Using the isoelectric points for amino acids provided in the notes, for each of the following determine whether the amino acid would be neutral, cationic (positively charged) or anionic (negatively charged) at a pH of 6.10 and whether it would move towards the negatively charged cathode or positively charged anode on an electrophoresis plate:

- A. Serine B. Proline C. Alanine D. Aspartic Acid E. Histidine

2. Samples of Cysteine, Glutamic Acid, Valine and Tyrosine are placed on the center blue line of an electrophoresis plate with a buffer pH of 7.02. An electrical current is applied until one of the amino acids reaches one of the red lines on the plate. Which amino acid reaches the red line first and what would the approximate distribution of the other amino acids look like?



3. How many different tripeptides could be synthesized that are comprised of the three amino acids ALA, GLY, GLY?

4. Complete hydrolysis of an unknown polypeptide yielded the amino acids below, as determined by electrophoresis. Partial hydrolysis, followed by determination of the short chain peptides yielded the information below. What is the primary structure of the polypeptide?

