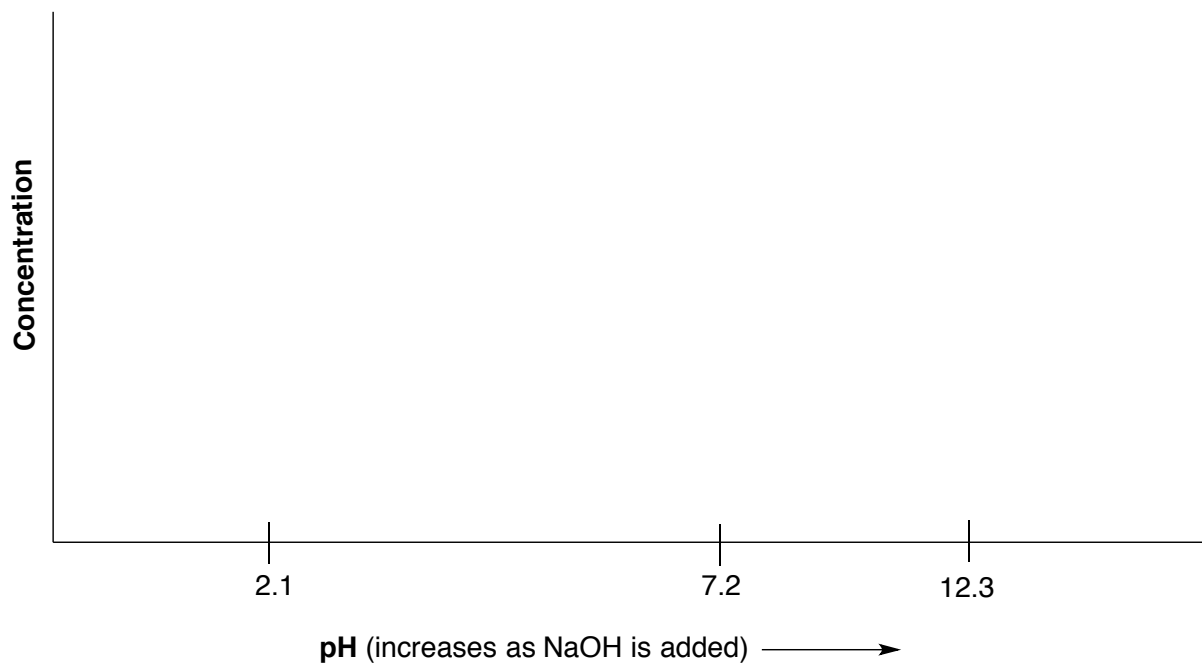


CHEM 8B, LECTURE 17

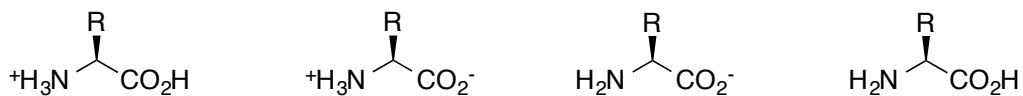
What is a pKa?

Titration of Phosphoric Acid (pK_{a1} 2.1; pK_{a2} 7.2; pK_{a3} 12.3)Indicate the charge of the *dominant* ionic phosphate species at...

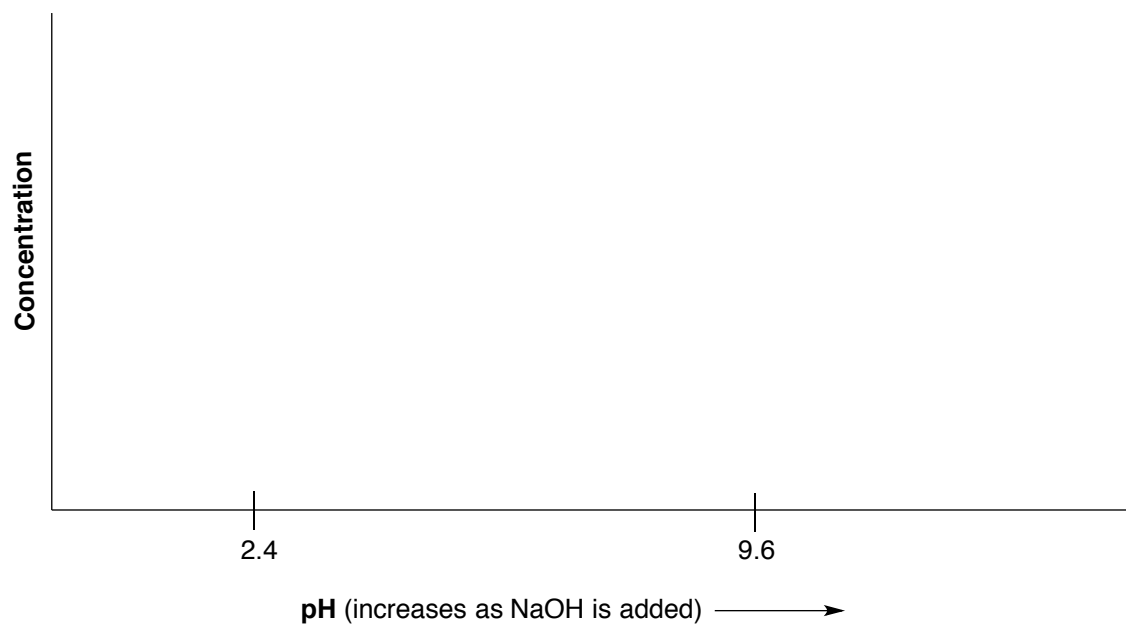
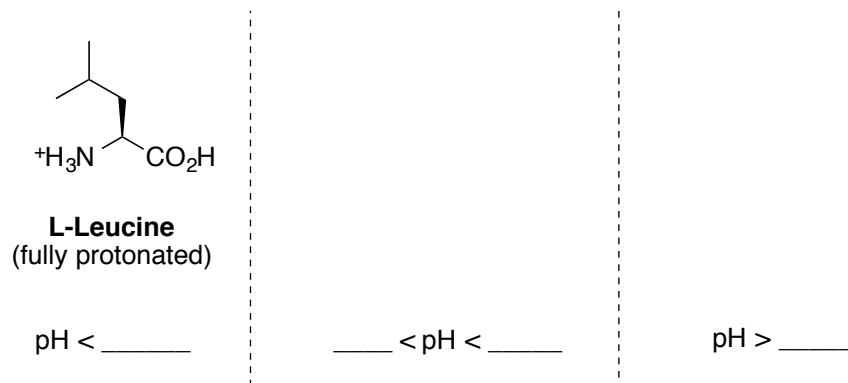
pH 1 _____ pH 2.1 _____ pH 5 _____ pH 7.2 _____

Physiological pH (7.4)? _____ pH 12.3 _____ pH 13 _____

Amino Acids – which is the least likely representation?

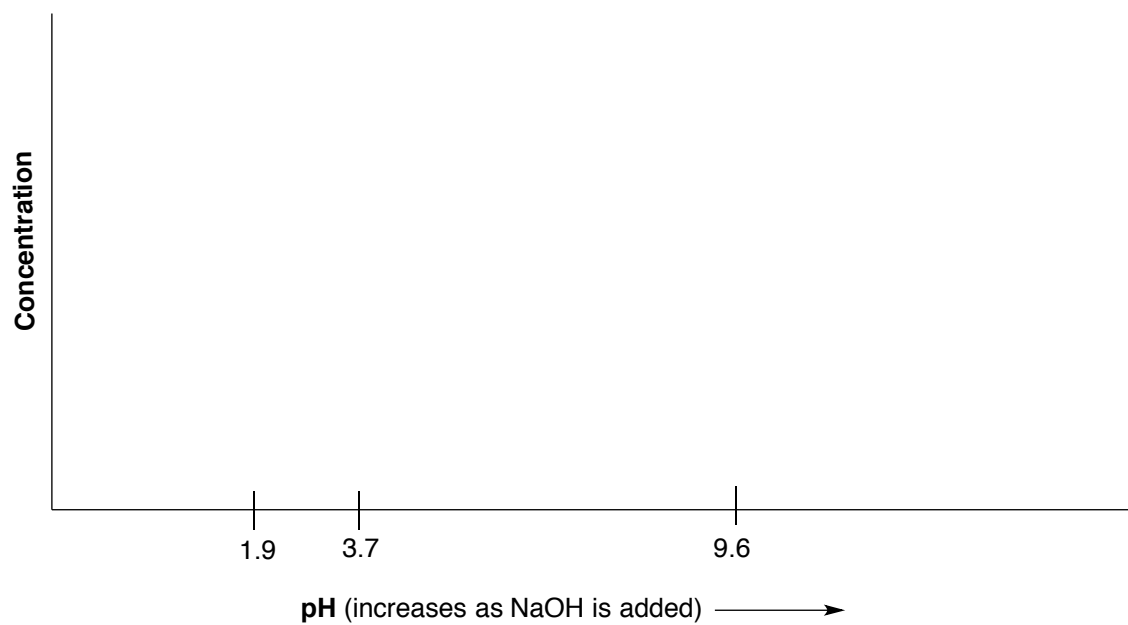
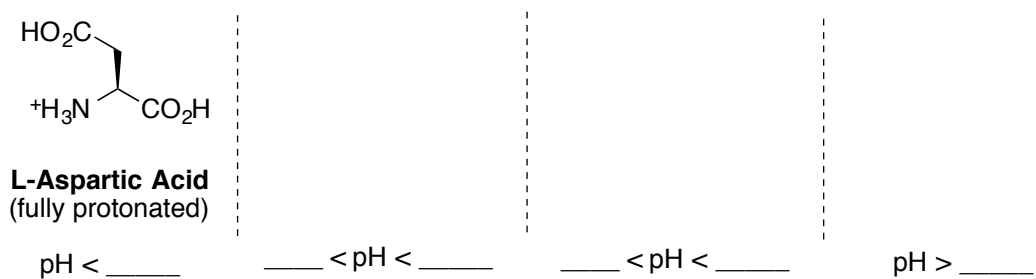


Titration of L-Leucine, neutral amino acid (pK_{a1} 2.4, pK_{a2} 9.6; pK_{aR} N/A)



pI = Isoelectric point – pH at which the highest concentration of molecules are in neutral form (not necessary neutral @ pH 7)

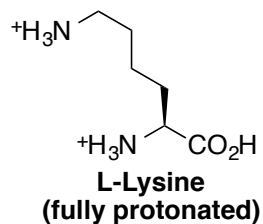
- Calculate by taking the average of the 2 pK_a 's on either side of neutral molecule

Titration of L-Aspartic Acid, an acidic amino acid (pK_{a1} 1.9, pK_{a2} 9.6; pK_{aR} 3.7)


Isoelectric Point of Aspartic Acid (without looking at the table!)

pI =

Titration of L-Lysine, a basic amino acid (pK_{a1} 2.2; pK_{a2} 9.0; pK_{aR} 10.5)

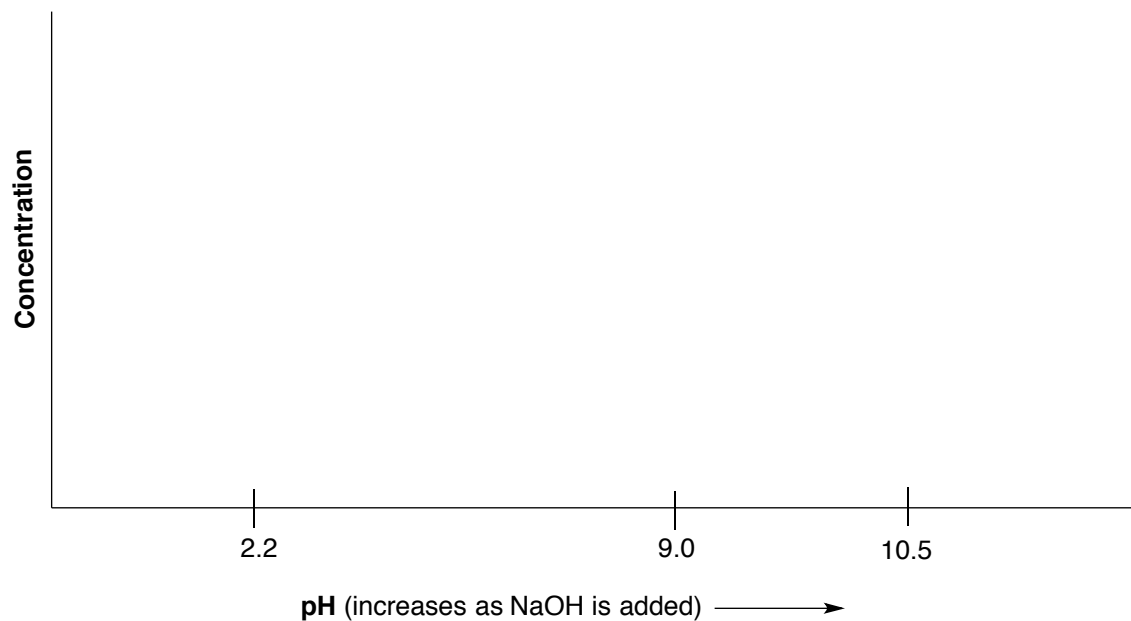


pH < _____

_____ < pH < _____

_____ < pH < _____

pH > _____



Isoelectric Point, pI =

Electrophoresis – separation of amino acids based on charge.

@ pH 5, Leu = _____; Asp = _____; Lys = _____



@ pH 9, Leu = _____; Asp = _____; Lys = _____

