

Chapter 10 - Monoprotic Acid-Base Equilibria *Problems*

What is the pH of a solution containing 0.0045 M HCl?

What is the pH of a solution containing 0.0045 M NaOH?

What is the pH of a solution containing 0.0045 M acetic acid? pK_a 4.757

What is the pH of a solution containing 0.0045 M hydroxylamine (HONH_2)? pK_b 8.04

What is the α of acid for the solution of 0.0045 M acetic acid (from last slide)?

What is α of base for the solution of 0.0045 M hydroxylamine (HONH_2) (from last slide)?

What is the pH of a solution prepared by dissolving 1.23 g of 2-nitrophenol (FM 139.110) in 0.250 L? pK_a 7.21

What is the pK_a of a 0.010 M solution of *o*-cresol if the pH is 6.05?

What is the ratio of $[\text{HNO}_2] / [\text{NO}_2^-]$ in a solution of NaNO_2 ($\text{pK}_b 10.85$) at:

a) pH 2

b) pH 10

What is the pH of a solution prepared by dissolving 1.00 g of glycine amine hydrochloride (pK_a 8.2) plus 1.00 g of glycine amide (FM 74.081) in 0.100 L.

How many grams of glycine amide should be added to 1.00 g of glycine amide hydrochloride to give 100 mL of solution with pH 8.00?