Titration Classwork name

20 points

The burettes contain_____ M $H_2SO_{4(AQ)}$ at left, and on the right is $KOH_{(AQ)}$ of unknown molarity

Your job is to determine the strength of this base. You will titrate two times in a row, starting with different volumes of acid, and do titration math twice, and average your results. We actual value will be given later.

Get about 5 mL of acid into a small beaker, add 1 drop of phenolphthalein to this beaker. Carefully drip in base, until the solution turns PINK.

When it's turns pink, you went too far, which is okay. You put in too much base, and now the beaker is basic. You need to "back titrate" with acid, until it turns clear, using ONE DROP at a TIME. Once it turns clear, titrate it with the base again, ONE DROP at a time until just one drop of the base makes the solution light PINK. That is as close to neutral as you can get. At this point it is time to get the final readings of the burets. Wash out the beaker 3X with water and start again. The ending volume for acid and base are the new starting volumes. Use a different total volume of acid in the second trial.

trial	Starting Acid volume mL	Ending Acid volume mL	mL of H_2SO_4 used in this trial	Starting Base volume mL	Ending Base volume mL	mL of KOH used in this trial
1						
2						

Calculate molarity of the base in the 1st trial. Write a formula! (4)

Calculate molarity of the base in the 2nd trial. Write a formula! (4)

Calculate the average base molarity
Use a formula.

Questions to be done right on this page please. (two points each on this side)

1. If you were to titrate 74.3 mL of 2.25 M H_2SO_4 to neutral with exactly 134.5 mL of NaOH, calculate the molarity of the base. Write a formula, and then on the 2nd line, write in the numbers in the proper place.

2. Write out the balanced acid base neutralization reaction between sulfurous acid and ammonium hydroxide.

3. Write out the balanced acid base neutralization reaction between phosphoric acid and rubidium hydroxide.

4. Compare the strength of solution with pH of 2.0 with another with pH of 5.0.

5. Write the simple chemical equation that shows why $NH_{3(AQ)}$ is a base, Include 2 clear sentences that state the obvious important points here (check your notes, or flash cards, and use the curvy arrows too)

6. Write strong acid, strong base, weak acid, weak base, and neutral on top of this number line near the appropriate pH values. Below, add 5 real life examples of solutions that correspond to these pH values.