**Dougherty Valley HS AP Chemistry Name:**

**Buffers Virtual Lab - Data Table Member:**

**Member:**

**Member:**

**Member:**

**Date:**

**Period:**

Refer to [THIS](https://drive.google.com/file/d/1TnWDzj6ZtWZBq8i0BCfaPHP0GjJ6S_eI/view?usp=sharing) Lab Protocol and your data set by Breakout Room Number

|  |  |  |
| --- | --- | --- |
| **Data Table:** [Title you fill in] | | |
|  | **Buffer A** | **Buffer B** |
| Mass of NaC2H3O2 used to prepare buffer (g) |  |  |
| Volume of buffer prepared (mL) | 100.0 | 100.0 |
| Molar concentration of HC2H3O2 in buffer (M) | 0.1 | 1.0 |
| Initial pH of buffer |  |  |
| Volume of 0.5 M NaOH to raise pH by 2 units (mL) |  |  |
| Volume of 0.5 M HCl to lower pH by 2 units (mL) |  |  |
| Volume of 0.5 M NaOH at equivalence point (mL) |  |  |

discussion questions [One member shares this google doc with their group so that all can work on it together]

|  |  |
| --- | --- |
| Directions: Answer each question in the space provided. Color your text BLUE, NOT BOLD. All group members must contribute. | |
| 1. Write reaction equations to explain how your acetic acid-acetate buffer reacts with an acid and reacts with a base. |  |
| 1. Buffer capacity has a rather loose definition, yet it is an important property of buffers. A commonly seen definition of buffer capacity is: “The amount of H+ or OH– that can be neutralized before the pH changes to a significant degree.” Use your data to determine the buffer capacity of Buffer A and Buffer B. |  |
| Say, for example, that you had prepared a Buffer C, in which you mixed 8.203 g of sodium acetate, NaC2H3O2, with 100.0 mL of 1.0 M acetic acid. | |
| * 1. What would be the initial pH of Buffer C? |  |
| * 1. If you add 5.0 mL of 0.5 M NaOH solution to 20.0 mL each of Buffer B and Buffer C, which buffer’s pH would change less? Explain. |  |