**Lab sheet #5**

**Method:**

1. You are provided with two acetate buffer (pH=5), 0.1 M acetate buffer and 0.2 M acetate buffer.
2. In one beaker add 8ml of the 0.1 M acetate buffer, and in another beaker add 8ml of 0.2 M acetate buffer.
3. Start the titration by adding 0.5 ml of 2 M HCl from the burette and determine the pH of the solution after each addition.
4. Continue adding acid in until pH falls to about 2 pH units from your starting pH.
5. Plot a Curve of pH against ml of HCl added.
6. Calculate the buffer capacity (which one has higher buffer capacity. why?)

**Results:**

|  |  |
| --- | --- |
| **Measured pH value** | **Amount of 2M HCl added [ml]** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**Calculations:**

……………………………………………………………………………………………………………………………………………………………………………………………………………………..

……………………………………………………………………………………………………………………………………………………………………………………………………………………..

……………………………………………………………………………………………………………………………………………………………………………………………………………………..

……………………………………………………………………………………………………………………………………………………………………………………………………………………..

1. Titration of 0.2M acetate buffer by 2M HCl:

|  |  |
| --- | --- |
| **Measured pH value** | **Amount of 2M HCl added [ml]** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**Calculations:**

……………………………………………………………………………………………………………………………………………………………………………………………………………………..

……………………………………………………………………………………………………………………………………………………………………………………………………………………..

……………………………………………………………………………………………………………………………………………………………………………………………………………………..

……………………………………………………………………………………………………………………………………………………………………………………………………………………..

……………………………………………………………………………………………………………………………………………………………………………………………………………………..

What do you conclude finally about the relationship between, Buffer concentration and buffer capacity?