

Observations and Results:

A. Determination of the pH of Vinegar

| | Molarity of HCl | pH value | Color w/ methyl violet | Color w/ methyl orange |
|----|-----------------|----------|------------------------|------------------------|
| -1 | 1.0 | a | b | c |
| 2 | 0.1 | a | b | c |
| 3 | 0.01 | a | b | c |
| 4 | 0.001 | a | b | c |
| 5 | 0.0001 | a | b | c |
| 6 | 0.00001 | a | b | c |

⑦ pH of vinegar = _____

⑧ Describe the method you developed for determining the pH of vinegar. What observations did you make using the method?

for
Vinegar

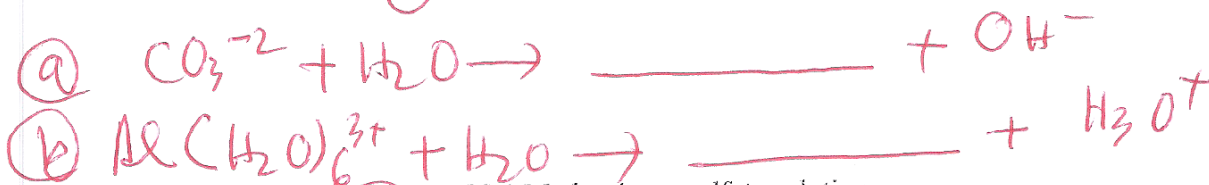
- ① pH from methyl violet _____
- ② pH from methyl orange _____

B. Hydrolysis of Salts.

1. Observations and explanation:

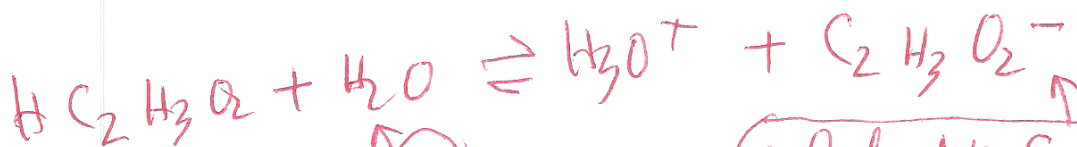
- ① Na_2CO_3 pH _____
- ② $Al_2(SO_4)_3$ pH _____

2. Procedure, observations, and explanation:



③ pH of 0.1 M aluminum sulfate solution = _____

EXPERIMENT 18



C. Common Ion Effect.

Observations and explanation:

(add $\text{NaC}_2\text{H}_3\text{O}_2$)

with added $\text{NaC}_2\text{H}_3\text{O}_2$

pH [(more) or (less)] acidic

D. Buffer Action.

Observations and explanation:

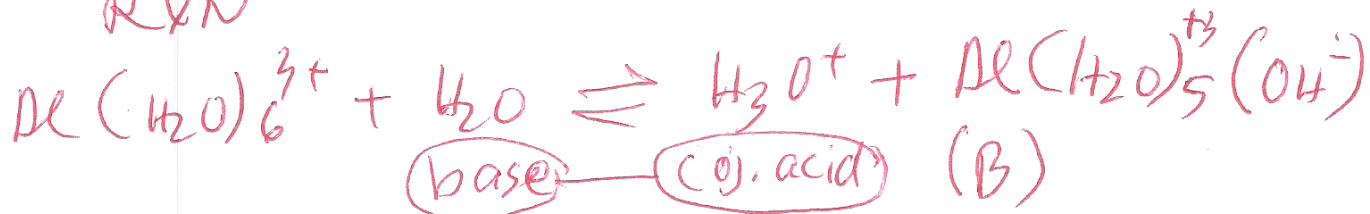
pH 4 buffer ($\text{NaC}_2\text{H}_3\text{O}_2/\text{HC}_2\text{H}_3\text{O}_2$) _____ drops

pH 4 HCl (not buffer) _____ drops

Conclusions:

① What is pH of a 0.001 M HCl?
Show work (A)

② label acid + conj. base in
RXN



③ What are the chemicals in
our buffer in ①