pH of aqueous solutions of salt

1. Experimental procedures

1.1. Determination of the acidic or basic nature of salts.

Determine whether aqueous solutions of the following salts are acidic, basic, or neutral:

Weigh 0.2 grams of salt into a beaker (indicated by the conducting laboratory classes instructor), add water up to 2/3 of the volume, and mix until the salt will be dissolve. Measure the pH of the solutions.

In the report write the equations of cation as an acid or anion as a base. The results are summarized in the table. Indicate a non-pH ion.

1.2. Determination of the acid ionization constant

Transfer 0.2 M $ZnCl_2$ solution into a beaker. Measure the pH of the solution.

1.3. Effect of salt concentration on the pH of the solution

Measure the pH of the solutions: 0.1 M and 0.01 M NH_4Cl, and 0.2 M and 0.02 M Na_2CO_3

2. Development of results

No	Salt	pH	Equation of the reaction of a cation as an acid or anion as a base
1			
2			
...			

Calculate the acid ionization constant (K_a) of the cation or anion of salts tested at 1.2. and 1.3.

Only the first dissociation constant should be considered

3. Conclusions

4. The scope of material

- Cations as an acid
- Anions as a base
- Amphiprotic compounds
- Calculate of the acid ionization constant

5. References

- G. Charlot, Quantitative inorganic anaysis, John Wiley & Sons inc. , London 1954 (https://archive.org/details/in.ernet.dli.2015.151602)
- M. D. Joesten, J. L. Wood, *World of Chemistry*, second edition, Thomson, USA 1996

- D. W. Oxtoby, N. H. Nachtrieb, *Principles of modern Chemistry*, Saunders College Publishing, USA 1996