**Name: Period: Seat#:**

**Worksheet #2**

**Fill out the graphic below by circling or highlighting the correct choice.**

*⸫ ion’s contribution to the solution is...*

*ion hydrolyzes?*

Stronger Acid

Weaker Base

Stronger Acid

Weaker Base

Stronger Acid

Weaker Base

Stronger Acid

Weaker Base

Cation from a Strong Base

Yes No

Yes No

Yes No

Yes No

Acidic Basic Neutral

Acidic Basic Neutral

Acidic Basic Neutral

*turns into*

*⸫ ion’s contribution to the solution is...*

*ion hydrolyzes?*

*turns into*

Cation from a Weak Base

Acidic Basic Neutral

*⸫ ion’s contribution to the solution is...*

*ion hydrolyzes?*

*turns into*

Anion from a Strong Acid

*⸫ ion’s contribution to the solution is...*

*ion hydrolyzes?*

*turns into*

Anion from a Weak Acid

**Classify the following salts as acidic, basic, or neutral. Remember: Kw = Ka x Kb**

|  |  |  |  |
| --- | --- | --- | --- |
| **Salt** | **Acidic, Basic, or Neutral** | **Salt** | **Acidic, Basic, or Neutral** |
| 1. Ba(ClO4)2
 |  | 1. Na2CO3
 |  |
| 1. NH4NO2

Ka for NH4+ = 5.6 x 10-10Kb for NO2- = 2.2 x 10-11 |  | 1. CsOH
 |  |
| 1. AgOH
 |  | 1. HClO4
 |  |
| 1. H2CO3
 |  | 1. NH4C2H3O2Ka for NH4+ = 5.6 x 10-10

Kb for C2H3O2- = 5.6 x 10-10 |  |
| 1. NH4Cl
 |  | 1. NaClO
 |  |
| 1. Ca(NO3)2
 |  | 1. KClO4
 |  |
| 1. NaNO2
 |  | 1. NH4Br
 |  |
| 1. Zn(NO3)2
 |  | 1. NH4FKa for NH4+ = 5.6 x 10-10

Ka for HF = 6.8 x 10-4 |  |
| 1. K2CO3
 |  | 1. KC2H3O2
 |  |
| 1. Fe(ClO4)2
 |  | 1. NaF
 |  |
| 1. NH4C6H6COO

Ka for NH4+ = 5.6 x 10-10Ka for C6H6COOH = 6.5 x 10-5 |  | 1. CH3NH3NO2

Kb for CH3NH2 = 4.4 x 10-4Kb for NO2- = 2.2 x 10-11 |  |

**For all Acidic or Basic solutions from the problems above, write problem number, then write the balanced hydrolysis reaction that is causing the solution to be acidic or basic. The first one is done as an example.** \*Hint\* All rows should be filled out if you got the problems above correct!

|  |  |
| --- | --- |
| **Q #** | **Balanced Hydrolysis Reaction** |
| 2 | NH4+ + H2O 🡪 NH3 + H3O+ |
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