

## MicroChem Lab #5: Double Replacement Reactions

### Procedure

1. Put three drops of  $\text{Ca}(\text{NO}_3)_2$  in wells A1 through A4, three drops of  $\text{Cu}(\text{NO}_3)_2$  in wells B1 through B4, three drops of  $\text{Ni}(\text{NO}_3)_2$  in wells C1 through C4, and three drops of  $\text{Zn}(\text{NO}_3)_2$  in wells D1 through D4.
2. Put three drops of KI in wells A1 through D1 (the first column), three drops of KOH in wells A2 through D2, three drops of  $\text{Na}_2\text{C}_2\text{O}_4$  in wells A3 through D3, and three drops of  $\text{Na}_2\text{SO}_4$  in wells A4 through D4.
3. Record any change in color or formation of precipitate in your results table. If there is no reaction, write *NR*.

	KI	KOH	$\text{Na}_2\text{C}_2\text{O}_4$	$\text{Na}_2\text{SO}_4$
$\text{Ca}(\text{NO}_3)_2$	$\text{CaI}_2 + \text{KNO}_3$			
$\text{Cu}(\text{NO}_3)_2$				
$\text{Ni}(\text{NO}_3)_2$				
$\text{Zn}(\text{NO}_3)_2$				

Name: \_\_\_\_\_ Lab Partner(s): \_\_\_\_\_

### Questions

1. A chemical reaction goes to completion when one of the products leaves the solution. One way this happens is when the product is not \_\_\_\_\_. Then it \_\_\_\_\_.
2. Write the chemical formulas for the potential products of each combination of reactants into your table of results. (The first one is done for you. Only some of these reactions actually occurred—the ones where a precipitate formed.)
3. In your table, circle the chemical formula of each precipitate.
4. Why was there no reaction in some of the wells?
  
5. Write balanced chemical equations for reactions that occurred in **three** of your wells. For each reactant and product, indicate whether it is dissolved or not by writing (*aq*) or (*s*) after the formula. (You choose the three reactions but be sure these are reactions that occurred.)
  
6. Write a balanced net ionic equation for **one** of the reactions with KOH as a reactant. For each reactant and product, indicate whether it is dissolved or not by writing (*aq*) or (*s*) after the formula.