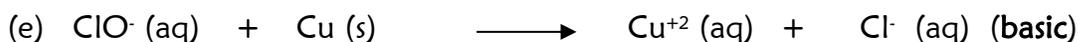
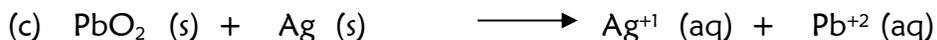


Electro Review

1. Balance and calculate E°_{cell} .



2. For each of the reactions in Part I, find the ΔG° and the K_{eq} at 298K.

3. For each of the reactions in Part I, predict how the cell voltage will change if each of the following concentrations are changed. Do not perform any calculations.

For (a) the $[\text{Fe}^{+2}] = .60\text{M}$ while all other solutions are standard.

For (b) the $[\text{Ni}^{+2}] = .50\text{M}$ while all other solutions are standard.

For (c) the $[\text{Pb}^{+2}] = 2.0\text{M}$ while all other solutions are standard.

4. $\text{Zn}(s) | \text{Zn}^{2+}(aq) || \text{Cu}^{2+}(aq) | \text{Cu}(s)$ is the cell notation for a redox reaction where oxidation occurs at the anode and reduction occurs at the cathode. Write the balanced redox reaction, find the E°_{tot} , draw a picture of this cell with a salt bridge of KNO_3 and then predict how the voltage would change with each of the following:

(a) the products are less than standard molarity? More than standard molarity?

(b) the reactants are less than standard molarity? More than standard molarity?

5. How long must a current of 5.00 A be applied to a solution of Ag^+ to produce 10.5 g of $\text{Ag}(s)$?

6. A solution of $\text{Cu}(\text{NO}_3)_2$ is electrolyzed by a 2.50 A current for 25 minutes. How many grams of Cu metal will be plated by this electrolytic cell?