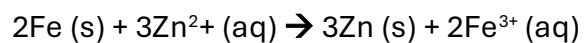


Electrochemistry worksheet II

1. A voltaic cell is made from an anode half-cell with aluminum in a 0.015 M aluminum nitrate and a cathode half-cell with nickel in a 0.250 M nickel (II) nitrate solution.
 - a. What is the non-standard cell potential E_{cell} for this voltaic cell? Is the cell spontaneous under the conditions as written?
 - b. What is the $\Delta G^{\circ}_{\text{rxn}}$? Is the cell spontaneous under standard conditions?

2. Given the following redox reaction below, answer the following questions.



- Is this reaction spontaneous under standard conditions?
- Does this redox reaction represent an electrolytic or voltaic cell? Sketch the cell be sure to label each half reaction at the anode and cathode, salt bridge, flow of electrons etc.