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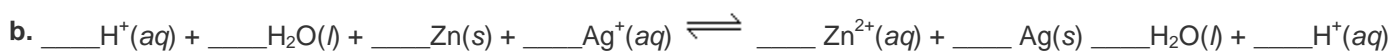
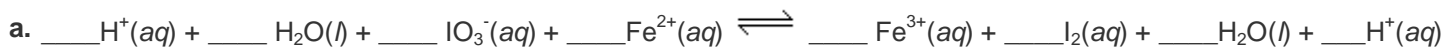
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3. Galvanic Cells, Cell Potentials, Standard Reduction Potentials, and Free Energy. (Question 17.26)

Sketch the galvanic cells based on the following overall reactions. Show the direction of electron flow, the direction of ion migration through the salt bridge, and identify the cathode and anode. Assume that all concentrations are 1.0 M and that all partial pressures are 1.0 atm.

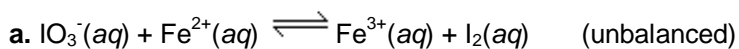
(Write your answer on paper in order to submit it to your instructor.)

Give the overall balanced reactions. (Use the smallest whole number ratios possible. If a species is not in the reaction equation enter a coefficient of 0, and you must enter a 1 when appropriate.)

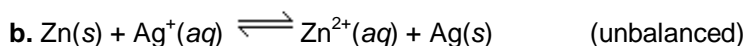


4. Galvanic Cells, Cell Potentials, Standard Reduction Potentials, and Free Energy. (Question 17.28)

Calculate E°_{cell} values for the galvanic cells below.



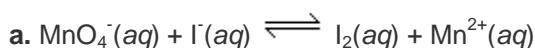
$$E^\circ_{\text{cell}} = \text{ ______ } \text{V}$$



$$E^\circ_{\text{cell}} = \text{ ______ } \text{V}$$

5. Galvanic Cells, Cell Potentials, Standard Reduction Potentials, and Free Energy. (Question 17.36)

Calculate E°_{cell} values for the following cells. Which reactions are spontaneous as written (under standard conditions)? Balance the reactions. Standard reduction potentials are found in Table 17.1.



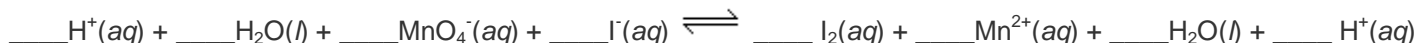
$$E^\circ_{\text{cell}} = \text{ ______ } \text{V}$$

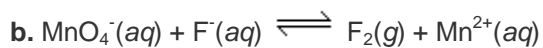
Under standard conditions, the reaction is

not spontaneous

spontaneous

(Use the smallest whole number ratios possible. If a species is not in the reaction equation enter a coefficient of 0, and you must enter a 1 when appropriate.)





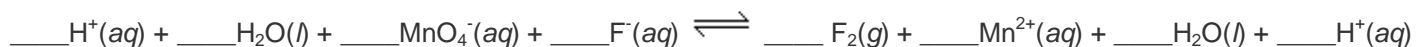
$\mathcal{E}^\circ_{\text{cell}} = \text{ ______ } \text{ V}$

Under standard conditions, the reaction is

not spontaneous

spontaneous

(Use the smallest whole number ratios possible. If a species is not in the reaction equation enter a coefficient of 0, and you must enter a 1 when appropriate.)



6. Hydrocarbons. (Question 22.32)

Name each of the following alkenes or alkynes.

a.	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \\ \quad \\ \text{CH}_3 - \text{C} = \text{C} - \text{CH}_3 \end{array}$
b.	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \\ \quad \\ \text{C} \equiv \text{C} - \text{CH} - \text{CH}_2 - \text{CH}_3 \end{array}$
c.	$\begin{array}{c} \text{CH}_2 = \text{C} - \text{CH} - \text{CH}_3 \\ \quad \\ \text{CH}_3 \quad \text{CH}_2 - \text{CH}_3 \end{array}$