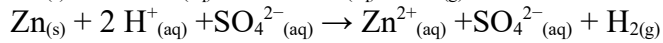
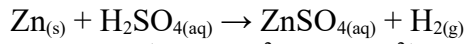
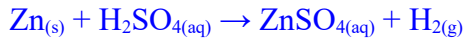


Problema 465: Ajusta la reacción siguiente y di si será espontánea, utilizando las ΔG°_f



$$\Delta G^\circ_R = \sum n_p \cdot \Delta G^\circ_{f \text{ prod}} - \sum n_r \cdot \Delta G^\circ_{f \text{ react}}$$

$$\Delta G^\circ_R = 1 \text{ mol} \cdot \Delta G^\circ_f [\text{Zn}^{2+}_{(aq)}] + 1 \text{ mol} \cdot \Delta G^\circ_f [\text{SO}_4^{2-}_{(aq)}] + 1 \text{ mol} \cdot \Delta G^\circ_f [\text{H}_{2(g)}] -$$

$$- 1 \text{ mol} \cdot \Delta G^\circ_f [\text{Zn}_{(s)}] - 2 \text{ mol} \cdot \Delta G^\circ_f [\text{H}^+_{(aq)}] - 1 \text{ mol} \cdot \Delta G^\circ_f [\text{SO}_4^{2-}_{(aq)}]$$

$$\Delta G^\circ_R = 1 \text{ mol} \cdot \Delta G^\circ_f [\text{Zn}^{2+}_{(aq)}] = 1 \text{ mol} \cdot \left(-147,1 \frac{\text{kJ}}{\text{mol}} \right) = \underline{\underline{-147,1 \text{ kJ}}}$$

Si la variación de energía libre es negativa indica que **la reacción es espontánea** a temperatura ambiente