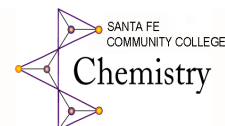
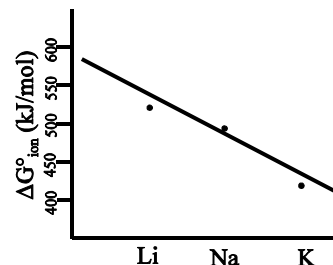
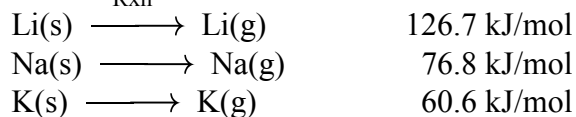




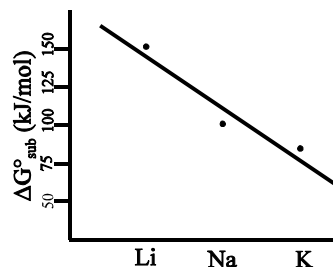
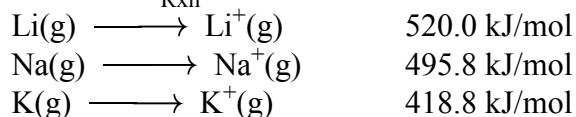
Alkali Metal $\mathcal{E}^\circ$ Trends



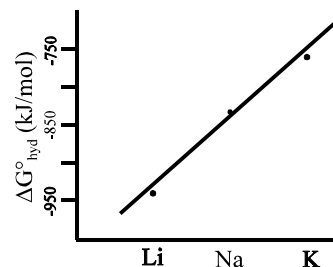
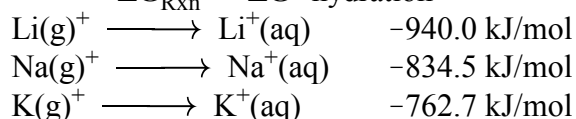
$$\Delta G_{\text{Rxn}}^\circ = \Delta G^\circ \text{ sublimation}$$



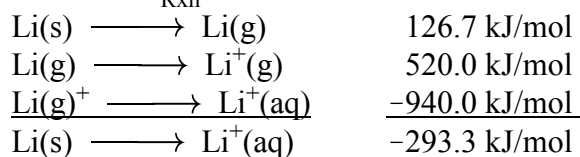
$$\Delta G_{\text{Rxn}}^\circ = \Delta G^\circ \text{ ionization}$$



$$\Delta G_{\text{Rxn}}^\circ = \Delta G^\circ \text{ hydration}$$

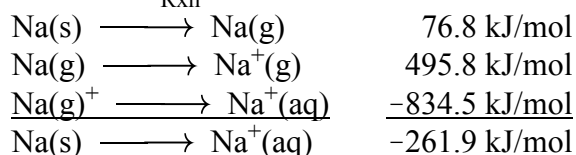


$$\Delta G_{\text{Rxn}}^\circ$$



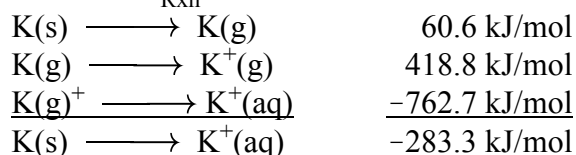
$$\therefore \mathcal{E}^\circ(\text{Li}) = -\Delta G^\circ/nF = -(-293.3 \times 10^3 \text{ J/mol})/1 \cdot 96485 \text{ C/mol} = 3.04 \text{ V}$$

$$\Delta G_{\text{Rxn}}^\circ$$



$$\therefore \mathcal{E}^\circ(\text{Na}) = -\Delta G^\circ/nF = -(-261.9 \times 10^3 \text{ J/mol})/1 \cdot 96485 \text{ C/mol} = 2.71 \text{ V}$$

$$\Delta G_{\text{Rxn}}^\circ$$



$$\therefore \mathcal{E}^\circ(\text{K}) = -\Delta G^\circ/nF = -(-283.3 \times 10^3 \text{ J/mol})/1 \cdot 96485 \text{ C/mol} = 2.94 \text{ V}$$

