

- 12 (a)  $\Delta S_{\text{rxn}}^{\circ} = 47.5 \text{ J / K} \cdot \text{mol}$
- (b)  $\Delta S_{\text{rxn}}^{\circ} = -12.5 \text{ J / K} \cdot \text{mol}$
- (c)  $\Delta S_{\text{rxn}}^{\circ} = -242.8 \text{ J / K} \cdot \text{mol}$