

CHEM 3530
Chapters 7
- Homework Answers

- 7.1 $\Delta G = -14.4 \text{ kJ}$; Spontaneous towards products
- 7.2 (a) 1.2×10^8
(b) 1.8×10^2
- 7.3 $K = 3.01$
- 7.4 $t = 1230 \text{ }^\circ\text{C}$
- 7.5 $\Delta G^\circ = 595 \text{ kJ}$
- 7.6 $\Delta G^\circ = -26,6 \text{ kJ}$
- 7.7 $P_{\text{Cl}_2} = 2.6 \times 10^{-4} \text{ bar}$
- 7.8 $P_{\text{NH}_2} = 7.5 \times 10^{-5} \text{ bar}$
- 7.9 (a) $\Delta H^\circ = -92.1 \text{ kJ/mol}$, $\Delta S^\circ = -200 \text{ J/mol-K}$
(b) $K = 0.011$
(c) $P_{\text{NH}_3} = 0.044 \text{ bar}$, $P_{\text{N}_2} = 0.98 \text{ bar}$, $P_{\text{H}_2} = 2.93 \text{ bar}$
(d) $\Delta G = 115 \text{ kJ/mol}$
- 7.10 (a) $[\text{FDP}] = 0.997 \text{ M}$, $[\text{GAP}] = [\text{DHAP}] = 2.94 \times 10^{-7} \text{ M}$
(b) $[\text{FDP}] = 9. \times 10^{-7} \text{ M}$, $[\text{GAP}] = [\text{DHAP}] = 9.1 \times 10^{-6} \text{ M}$
(c) $\Delta G^\circ = +23,100 \text{ J/mol}$
- 7.11 $\Delta H^\circ = -33.3 \text{ kJ/mol}$, $\Delta S^\circ = -108 \text{ J/mol-K}$
- 7.12 $n = 48$, $K = 0.098$
- 7.13 $n = 38$, $K = 0.25$
- 7.14 $\Delta G^\circ = -0.7 \text{ kJ/mol}$