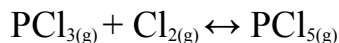


SCH4UI - Practice Chapter 7 Problems

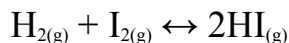
1. Consider the equilibrium below:

If 1.5 moles of PCl_5 was placed into a 1.0 L container and allowed to reach equilibrium, what would the value of K_c be if at equilibrium $[\text{PCl}_5] = 1.2 \text{ mol/L}$?



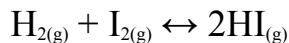
2. Consider the equilibrium below:

If 1.2 moles of H_2 and 1.2 moles of I_2 was placed into a 1.0 L container and allowed to reach equilibrium, what would the value of K_c be if at equilibrium $[\text{HI}] = 0.40 \text{ mol/L}$?

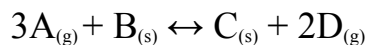


3. Consider the equilibrium below:

If 1.6 moles of HI was placed into a 2.0 L container and allowed to reach equilibrium, what would the equilibrium concentrations be for $\text{H}_{2(g)}$, $\text{I}_{2(g)}$, and $\text{HI}_{(g)}$ if the $K_c = 36$?



4. The equilibrium system shown below has a $K_c = 1.4 \times 10^{-4}$. If $[\text{A}] = 0.24 \text{ mol/L}$, what is the $[\text{D}]$?



5. Consider the equilibrium below:

1.0 moles of H_2 and 1.0 moles of I_2 was placed into a 1.0 L container and allowed to reach equilibrium. $\text{H}_{2(g)} + \text{I}_{2(g)} \leftrightarrow 2\text{HI}_{(g)}$

- What would the value of K_c be if at equilibrium $[\text{HI}] = 0.20 \text{ mol/L}$?
- What would be the new concentrations of $[\text{H}_{2(g)}]$, $[\text{I}_{2(g)}]$, and $[\text{HI}_{(g)}]$ if the equilibrium in (a) was disturbed by the addition of 0.2 moles of $\text{I}_{2(g)}$ (assume no change in volume or pressure)?