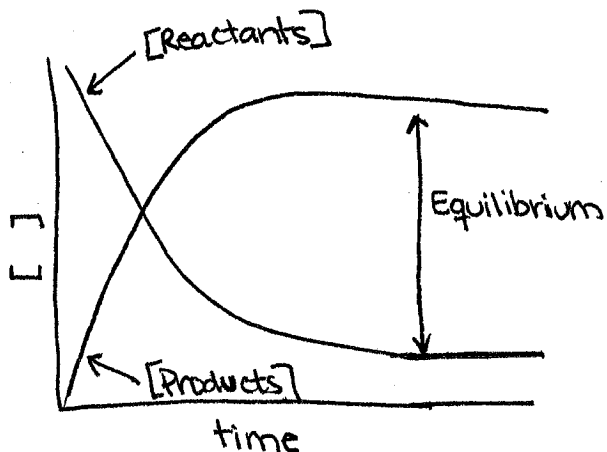


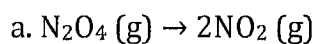
Worksheet: Chemical Equilibrium

Key

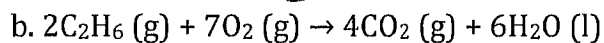
1. Draw a representation of the concentration of products and reactants reaching equilibrium.



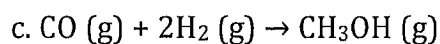
2. Write the equilibrium expression for the following chemical equations:



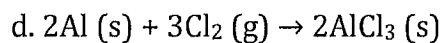
$$K_c = \frac{[\text{NO}_2]^2}{[\text{N}_2\text{O}_4]}$$



$$K_c = \frac{[\text{CO}_2]^4}{[\text{C}_2\text{H}_6]^2 [\text{O}_2]^7}$$



$$K_c = \frac{[\text{CH}_3\text{OH}]}{[\text{CO}] [\text{H}_2]^2}$$



$$K_c = \frac{1}{[\text{Cl}_2]^3}$$

3. Consider the following reaction: $2\text{SO}_2 (\text{g}) + \text{O}_2 (\text{g}) \rightarrow 2\text{SO}_3 (\text{g})$

Solve for K_c if $[\text{SO}_2] = 0.0620 \text{ M}$, $[\text{O}_2] = 0.538 \text{ M}$, $[\text{SO}_3] = 0.938 \text{ M}$

$$K_c = \frac{[\text{SO}_3]^2}{[\text{SO}_2]^2 [\text{O}_2]} = \frac{[0.938]^2}{[0.0620]^2 [0.538]} = \frac{0.880}{0.00207}$$

$$\boxed{K_c = 425}$$