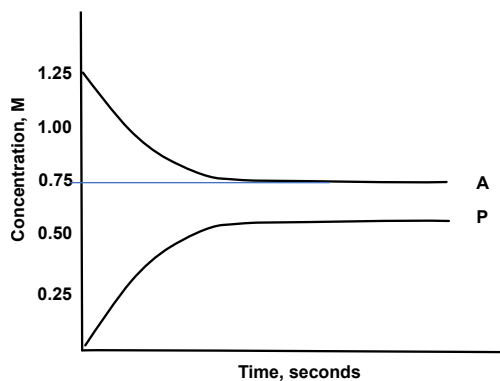


Introduction to Equilibrium

1. Consider the following plot for the reaction shown below at 75.0 °C:



Write the equilibrium constant expression

$$K_c = \frac{[P]}{[A]}$$

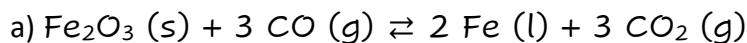
Calculate the equilibrium constant, K_c .

$$K_c = \frac{0.55}{0.75} = 0.73$$

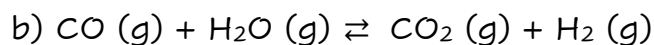
Are reactants or products favored at equilibrium?

Reactants

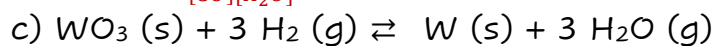
2. Write the equilibrium constant expressions for each of the following reactions.



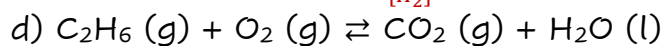
$$K_c = \frac{[\text{CO}_2]^3}{[\text{CO}]^3}$$



$$K_c = \frac{[\text{H}_2][\text{CO}_2]}{[\text{CO}][\text{H}_2\text{O}]}$$



$$K_c = \frac{[\text{H}_2\text{O}]^3}{[\text{H}_2]^3}$$



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