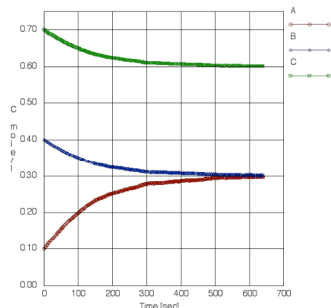


Chemistry 116
General Chemistry II



Equilibrium Practice

Web Graphs

Answers

$$Q = [B][C]/[A]^2 \text{ (all initial concentrations)}$$

$$K = [B][C]/[A]^2 \text{ (all equilibrium concentrations)}$$

$$1) \quad Q = (0.0)(0.0)/(0.80)^2 = 0.0 \qquad K = (0.30)(0.30)/(0.21)^2 = 2.0$$

$Q < K$ shifts toward products to reach equilibrium

$$2) \quad Q = (0.40)(0.20)/(0.80)^2 = 0.125 \qquad K = (0.62)(0.42)/(0.36)^2 = 2.0$$

$Q < K$ shifts toward products to reach equilibrium

$$3) \quad Q = (0.40)(0.60)/(0.40)^2 = 1.5 \qquad K = (0.42)(0.62)/(0.36)^2 = 2.0$$

$Q < K$ shifts toward products to reach equilibrium

$$4) \quad Q = (0.40)(0.70)/(0.10)^2 = 28 \qquad K = (0.30)(0.60)/(0.30)^2 = 2.0$$

$Q > K$ shifts toward reactants to reach equilibrium

$$5) \quad Q = (1.0)(0.50)/(0.25)^2 = 8.0 \qquad K = (0.91)(0.41)/(0.43)^2 = 2.0$$

$Q > K$ shifts toward reactants to reach equilibrium

$$6) \quad Q = (0.40)(0.24)/(0.0)^2 = \infty \qquad K = (0.32)(0.16)/(0.16)^2 = 2.0$$

$Q > K$ shifts toward reactants to reach equilibrium