

Quiz 15.1 – Equilibrium Constants

Name: KoryFor questions 1–4, consider the reaction: $\text{N}_2(\text{g}) + 2 \text{O}_2(\text{g}) \rightleftharpoons 2 \text{NO}_2(\text{g})$

Question 1

Give the equilibrium expression K_c

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

Problem 2

Give the equilibrium expression K_p

$$K_p = \frac{P_{\text{NO}_2}^2}{P_{\text{N}_2} \cdot P_{\text{O}_2}^2}$$

Problem 3

Give the relation between K_c and K_p for this reaction

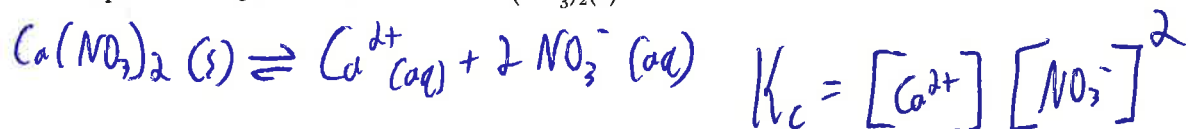
$$K_p = K_c (RT)^{\Delta n} \quad \Delta n = -1 \quad K_p = \frac{K_c}{RT}$$

Problem 4

If $K_c = 6.4 \times 10^9$, would you expect to find more reactant or product at equilibrium?

More Product

Problem 5

Give the equilibrium expression K_c for the solvation of $\text{Ca}(\text{NO}_3)_2(\text{s})$ 

Problem 6

Give the equilibrium expression K_c for the reaction of HCl with water