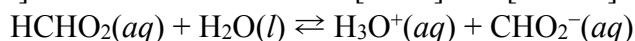


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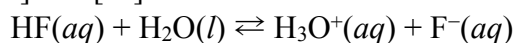
Equilibrium Calculations

1. What is the K_{eq} of formic acid, HCHO_2 , in water if the equilibrium concentrations are 2.00-M for $[\text{HCHO}_2]$ and 6.00×10^{-6} for both $[\text{H}_3\text{O}^+]$ and $[\text{CHO}_2^-]$?



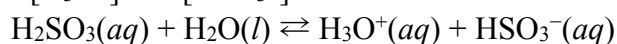
Answer: _____

2. What is the K_{eq} of HF in water if the equilibrium concentrations are 6.00 M for $[\text{HF}]$ and 0.0634 M for both $[\text{H}_3\text{O}^+]$ and $[\text{F}^-]$?



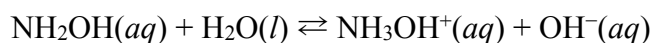
Answer: _____

3. What is the K_{eq} of H_2SO_3 in water if the equilibrium concentrations are 3.00 M for $[\text{H}_2\text{SO}_3]$ and 0.219 M for both $[\text{H}_3\text{O}^+]$ and $[\text{HSO}_3^-]$?



Answer: _____

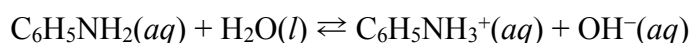
4. Calculate the concentration of OH^- if the equilibrium concentration of NH_2OH in water is 2.55 M.



$$K_{eq} = 1.10 \times 10^{-8}$$

Answer: _____

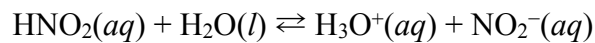
5. Calculate the concentration of $\text{C}_6\text{H}_5\text{NH}_3^+$ if the equilibrium concentration of $\text{C}_6\text{H}_5\text{NH}_2$ in water is 3.68 M.



$$K_{eq} = 4.30 \times 10^{-10}$$

Answer: _____

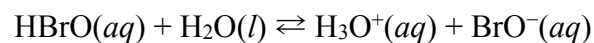
6. Calculate the concentration of HNO_2 in water if the equilibrium concentrations of both H_3O^+ and NO_2^- are 0.0430 M.



$$K_{eq} = 1.10 \times 10^{-8}$$

Answer: _____

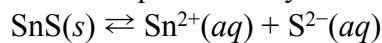
7. Calculate the concentration of HBrO in water if the equilibrium concentrations of both H_3O^+ and BrO^- are 6.00×10^{-5} M.



$$K_{eq} = 2.00 \times 10^{-9}$$

Answer: _____

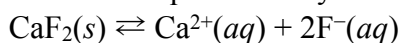
8. What is the concentration of tin in an equilibrium system of SnS ?



$$K_{eq} = 1.00 \times 10^{-25}$$

Answer: _____

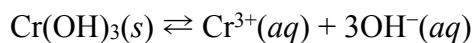
9. What is the concentration of Ca^{2+} in an equilibrium system of CaF_2 if $[\text{F}^-]$ is 2.20×10^{-3} ?



$$K_{eq} = 5.30 \times 10^{-9}$$

Answer: _____

10. What is the concentration of OH^- , the hydroxide ion, in an equilibrium system of $\text{Cr}(\text{OH})_3$ if $[\text{Cr}^{3+}]$ is 1.24×10^{-8} ?



$$K_{eq} = 6.31 \times 10^{-31}$$

Answer: _____