

Answer on Question #67900 - Chemistry - Physical Chemistry

Question:

the ionic product of water at 80°C is 2.24×10^{-13} . what are the concentrations of hydroxide ion and hydronium ion in pure water at 80°C?

Solution:

$$K_w = [H^+] \cdot [OH^-]$$

$$2.24 \cdot 10^{-13} = [H^+] \cdot [OH^-]$$

$$[H^+] = [OH^-] = \sqrt{2.24 \cdot 10^{-13}} = 4.73 \cdot 10^{-7} \text{ M}$$

$$\text{Answer: } [H^+] = 4.73 \cdot 10^{-7} \text{ M}; [OH^-] = 4.73 \cdot 10^{-7} \text{ M.}$$

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