18.3 Self-Ionization of Water (Kw) (Video)

This project was preformed to supply **Libretext authors** with videos on General Chemistry topics which can be used to enhance their projects. Also, these videos are meant to act as a learning resource for **all General Chemistry students**.

Video Topics

This video discusses how water is involved in acid and base equilibria. Also, the equilibrium for the **self-ionization of water (K_w)**

Substances (H_2O) that can act as an acid or base are called amphiprotic

In all Acid/Base reactions water is present.

Because water is amphiprotic it an break up into hydronium and hydroxide ions.

Self-ionization:

$K_w = \{H_3O^+\}\{^-OH\} = 1.0 \times 10^{-14}$ @ 25^O C

K_w = ion product of water.

In pure water

$\{H_3O^+\} = \{^-OH\} = 1.0 \times 10^{-7}$ M

This is the requirement of neutrality.

H_3O^+ and ^-OH are always in Eq. with each other.

Link to Video

Self-Ionization of Water (Kw): https://youtu.be/RMpO0rqUnFg

Attribution

- Prof. Steven Farmer (Sonoma State University)