17.1 Introduction to Dynamic Equilibrium (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

Two opposing processes taking place at equal rates. Some reactions are reversible For the reaction: $N2_{(g)}$ + 3 $H_{2(g)}$ - 2 $NH_{3(g)}$ We must now consider that the reverse reaction is also taking place: 2 $NH_{3(g)}$ - $N_{2(g)}$ + 3 $H_{2(g)}$ As we mix N_2 and H_2 the forward reaction occurs but as NH_3 is formed the reverse reaction starts to occur. With time the forward reaction starts to slow due to decreasing concentration of N2 and H2 and the reverse reaction speeds up due to the increasing concentration of NH_3. When the rates of the two reactions equal each other dynamic equilibrium occurs. This fact is expressed as: Kc = $\{NH_3\}_2$ = 3.6 x 10^8 @ 298 K $\{N_2\}\{H_2\}_3$ This ratio is called the equilibrium constant expression and it is equal to a number, which is constant for the reaction (Kc). Some consequences 1) Once DE is reached the amounts of reactants and products remain the same. 2) In no case is any of the reacting species completely consumed. The equilibrium concentration of $N_{2(g)}$ was found to be 1.0 x 10^{-4}.

Link to Video

Introduction to Dynamic Equilibrium: https://youtu.be/4AJbFuzW2cs

Attribution

- Prof. Steven Farmer (Sonoma State University)