KINETICS AND EQUILIBRIUM

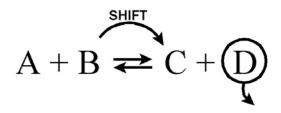
Applied Stresses

Stress Caused by Change in Concentration

Shift due to increase in concentration of a reactant

$$\begin{array}{c} A + B \Longrightarrow C + D \\ + \\ A \end{array}$$
 (Concentration of A increases)

Shift due to decrease in concentration of a product



(Concentration of **D** decreases)

Stress Caused by Change in Pressure

Shift due to pressure increases

$$a\mathbf{A}_{(g)} + b\mathbf{B}_{(g)} \rightleftharpoons c\mathbf{C}_{(g)} + d\mathbf{D}_{(g)}$$

$$(a+b>c+d)$$

(Pressure increases)

Shift due to pressure decreases

$$aA_{(g)} + bB_{(g)} \rightleftharpoons cC_{(g)} + dD_{(g)}$$

$$(a+b>c+d)$$

(Pressure decreases)

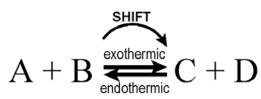
Stress Caused by Change in Temperature

shift due to increase in temperature

$$A + B \stackrel{\text{exothermic}}{\underset{\text{endothermic}}{\longleftarrow}} C + D$$

(Temperature increases)

Shift due to decrease in temperature



(Temperature decreases)