Defining Chemistry and Equilibrium

solara

September 28, 2024

Studying the Transformation of matter (Reaction):

→ through time: chemical kinetics → through space: chemical engineering

Using a catalyst to increase the rate of a chemical reaction:

$$A + B \longrightarrow D \quad slow$$
 (1)

$$A + B + \boxed{C} \longrightarrow E \quad fast$$

$$E \longrightarrow D + \boxed{C} \quad fast$$

$$(2)$$

$$(3)$$

$$E \longrightarrow D + \boxed{C}$$
 fast (3)

A chemical reaction happens between atoms. Chemistry is the preservation of the atom \neq nuclear physics

$$H_2SO_4 + 2 NaCl \longrightarrow Na_2SO_4 + 2 HCl$$

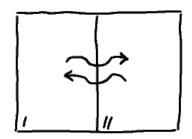


Figure 1: The goal of osmosis is equilibrium

I: high concentration solution II: low concentration solution

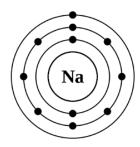


Figure 2: Rutherford's model

the position of electrons in layers: 2 - 8 - 18 - 32