Abstracts of lectures

"Acid - base balance in chemical and biological systems"

Plan

1. The concentration of hydrogen ions in neutral, acidic and alkaline environment.

2. pH.

3. Buffer systems.

4. Amnesty buffer.

Mandatory component of cells and tissues of living organisms is water. Water - a weak electrolyte. In neutral medium concentration of hydrogen ions is hydroxyl ion concentration. In acidic and alkaline environment, this concentration changed as follows: an increase of a size reduced accordingly different. Acidic, neutral and alkaline expressed through activity hydrogen ions. In practice, use pH (hydrogen index). Hydrogenous index - a value that is numerically negative decimal logarithm hydrogen ion concentration in mol / L. Key biological catalysts depends on the pH.

Maintaining a pH buffer systems contribute. For example, human blood pH (7.36) support such buffer systems, carbonate, phosphate, protein, hemoglobin and oxyhemoglobin.

Buffer system - a system that resist changes in pH when adding acid alkali or dilution. Buffer systems are: acidic and basic. pH buffer of calculated using equation Henderson - Hasselbach. The ability of the buffer to counteract shift reaction medium measured buffer capacity. The buffer capacity - the number of moles acid or basics that should add up to a liter buffer system to change the pH unit.