

Abstracts of lectures

"Electrode processes, their biological significance and application in medicine"

Plan

1. Galvanic element.
2. Concentration item.
3. Determination of electrode potentials.
4. The definition and standard welding electrodes.
5. Oxidation - reduction system (redox - system) and their biological part.

If the electrodes of different metals dip in the salt of the metals and electrodes connect the wire, it will be a galvanic cell (element Jacobi - Daniel).

You can prepare a concentration element in which both electrodes made of the same metal, but immersed in solutions of various salts concentration. The energy source in a concentration element is work on leveling of concentration of salt in two separate solutions. Electro driving force galvanic cell - the difference of electrode potential. Electrode potential calculated using the Nernst equation.

In practice, constitute a galvanic cell electrode and standard electrode potential depends on the concentration of hydrogen ions is measured electro - motive power of this element and calculate pH test solution.

The basic standard electrode potential is conventionally taken as zero is a normal hydrogen electrode. The standard calomel electrode includes chloride and silver. By definition belongs hydrogen electrode, silver if they are immersed in a solution of known concentration of hydrogen ions, and glass.

Frequent system, especially in biological liquids containing oxidized and reduced forms of the substance. Electro driving force behind such systems is difference redox - potential electrodes.

Oxidation - reduction systems are important in the physiology of living organisms. Biological oxidation is the transfer of protons from oxidation substrate to oxygen, which is carried out by enzymes -carriers are a chain of oxidation - reduction processes.