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КАФЕДРА ІНОЗЕМНИХ МОВ
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР

МАТЕРІАЛИ XI ВСЕУКРАЇНСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ СТУДЕНТІВ АСПІРАНТІВ ТА ВИКЛАДАЧІВ ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО ЦЕНТРУ КАФЕДРИ ІНОЗЕМНИХ МОВ

“TO MAKE THE WORLD SMARTER AND SAFER”

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USING OF IONS ELECTIVE ELECTRODES IN MEDICINE

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Electrodes (from electrochemistry) – are a part of electrochemical system, that contains conductor and surrounding solution. Systems of two opposite electrodes can be used as chemical resources of electricity and as electrolyzer in case of direct current using.

Ions selective electrodes are electrodes or chemical sensors, the signal of which depends only on containing some ions in solution.

Although, containing of other ions actually affects or even doesn't affect the sensibility of these electrodes. Thus, these electrodes are sensitive only to particular concentration of some type of ions. This peculiarity is called selectivity, that`s why electrodes are called selective.

Ionometry with ions selective electrodes is widely used in medicine and has a lot of advantages comparing with other analytic methods.

This is quite fast and accurate analytic method that can be automatized. It needs only a few grams of liquid to use it in further analyses. It can help in determination of both inorganic and complex organic ions in a short period of time.

Even small changes of ions concentration in liquids of human homeostasis can cause functional disorders in many organism systems. Although, the vital side of Na^+, K^+, Ca^{2+}, Cl^- ions are widely known, their dynamics in bioliquids is not studied enough.

Biological systems are various in their structure and features, so they need highly selective electrodes for potentiometric analysis.

For medicial-biological analyses hydrogen and glass kation-sensitive electrodes are used. Glass pH-electrodes can be considered as perfect ones because of their high sensitivity to H^+ ions. Analyses in out-cells liquids require using of macroelectrodes.

Nowadays mini- and microelectrodes are in a developing process; they are the future of medical ionometry.