

**OR-17****SMALL ORGANIC MOLECULES FOR SELECTIVE ELECTROCHEMICAL DETERMINATION OF NITROAROMATIC COMPOUNDS****Svalova T. S., Medvedeva M. V., Zaidullina R. A., Kozitsina A. N.***Ural Federal University named after the first President of Russian Federation B. N. Yeltsin,  
620002, Russia, Yekaterinburg, 28 Mira St.*

E-mail: t.s.svalova@urfu.ru

**Abstract.** The unique combination of ultrasensitivity and analytical accuracy with a wide range of miniaturization and automation capabilities makes electrochemical methods particularly attractive for the creation of portable analytical devices and chips. The nature and structure of the receptor layer, a modifier of the working surface of the electrode, plays a key role in ensuring the required analytical characteristics of electrochemical sensors.

The structuring of the receptor layer of electrochemical (bio) sensors involves the formation of a functional coating on the electrode surface suitable for further immobilization of the bio / chemical receptor. For this purpose, natural and synthetic homo- and heterobifunctional cross-linkers of various structures are widely used today.

The originality of the structures and the associated properties of unnatural organic molecules, together with the possibilities of directed organic synthesis, open up broad prospects for structuring the bio/chemical receptor layer and creating electrochemical sensors with improved analytical characteristics, suitable for the rapid detection of trace amounts of analytes in samples with complex matrix.

In the framework of our studies, we have shown the possibilities of using derivatives of 1,3/1,4 diazines and pentafluoroimidazoles as agents for structuring the receptor layer and agents for molecular recognition in the electrochemical determination of aromatic nitro compounds.

*The work was carried out with the financial support of the Russian Science Foundation grant No. 20-13-00142*