



A quantitative description of the kinetic and concentration regularities of bioanalytical techniques

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Statement of the Problem: The high affinity and specificity of biological receptors create both the demand and the intensive development of analytical systems based on their use. Therefore, the development of theoretical concepts of such systems functioning, studies of quantitative regularities for the reactions occurring within them and the interrelations between the parameters of bioreceptor reactions and analysis with their use, have become key fundamental tasks of bioanalytical chemistry. Although several proposed mathematical models have described various bioassays and biosensors, most of those models consider bioreceptor interactions in the approximation of equilibrium conditions. Due to this limitation, various effects that arise under nonequilibrium conditions remain outside existing studies.

Methodology & Theoretical Orientation: Any bioanalytical technique is based on the affinity recognition reaction ($A+R \rightleftharpoons AR$),

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