

(State the objective of the project, describe the research to be carried out, and present reasons for choosing the research topic - max. 1 standard type-written page)

Chemical kinetics is the field dedicated to the study of chemical reaction in the course of time. It allows you to get to know the reaction mechanism, examines the reaction rate, determines the impact of various factors on the rate and generally deals with the course of the entire reaction. Kinetic characterization of this response is usually based on the determination of the rate of formation of products and substrates loss from the initial amount of the reactants and other specific physical and chemical parameters such as temperature, pressure, type of solvent, presence of catalyst etc. The rate of chemical reaction in other words is the change of rate of the reagent quantity by chemical reaction taking place, and it is defined as a change in the number of moles of the component under test with the time passage. The rate of chemical reactions is essential in the ordinary life. It would not be possible at all if the biochemical reactions that occur in our bodies constantly proceed much faster or slower.

Research carried out in the project will map the behavior of natural systems. The main idea is to develop new methods for determining the rate of electron exchange reaction. In addition, the behavior of biomolecules in different experimental conditions will be used to characterize interactions in real biological systems. The newly acquired knowledge will be important not only for chemists, but also other scientific fields such as biology, medicine, toxicology or genetics.