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Low-frequency mechanical action on the kinetics and mechanism of a liquid-phase reaction with temporary instability upon reagent association

Kulagina T.P.

Institute of Problems of Chemical Physics RAS, Russia

The work carried out mathematical modeling of the effect of external low-frequency mechanical action on the kinetics of chemical reactions upon the association of reagents. Modeling of the kinetics of chemical reactions with temporary instability is considered for two types of reactions: a multistage bimolecular reaction and well known reaction Lotka-Volterra. It was shown that the choice of the amplitude and frequency of the action makes it possible to change the shape, frequency, and amplitude of oscillations of the concentrations of intermediates and thereby regulate the rate and yield of reaction products.