DYNAMICS OF TRANSIENT PROCESSES
IN IRREVERSIBLE KINETIC MODELS

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S u m m a r y

A microscopic model of an open system interacting
with an external medium and exhibiting quasiclassical
fluctuations of its energy has been developed. The model
is used to describe the irreversible process of binding
between ligand and receptor molecules in a solution.
Analytical expressions for the probabilities of transitions
between non-stationary states of the system averaged
over both equilibrium vibrations in the medium and
stationary states in the system were derived. The explicit
dependences of the transition rate constants on the
ligand concentration, solution viscosity, and temperature
were found for the irreversible model with three kinetic
stages.