

Abstract

This dissertation focuses on application of scattering and spectroscopic techniques for studies of self-assembled systems of amphiphiles (both polymeric and low-molar mass) and polyelectrolytes in aqueous solutions. Special attention was paid to optical methods, namely static, dynamic and electrophoretic light scattering and steady-state and time-resolved fluorescence spectroscopy, which were supported by a number of other techniques such as small-angle X-ray scattering or transmission electron microscopy. The dissertation brings new results regarding micellization behavior of perfluorinated surfactants, self-assembly and stability of thermoresponsive amphiphilic block copolymers and counterion condensation on polyelectrolytes in aqueous solution.