

## Abstract

The bachelor thesis deals with the behavior of aqueous solutions of polystyrene-*block*-poly(ethylene oxide), PS-PEO, and poly(ethylene oxide)-*block*-poly(2-ethyl oxazoline), PEO-PEOX, and their interaction with sodium 3-cobalt bis(1,2-dicarbollide), NaCoD. The prepared nanoparticles were characterized by static and dynamic light scattering, AFM and cryo-TEM. While PEO-PEOX is molecularly soluble in water, PS-PEO forms micelles with PS core and PEO shell. We determined by dialysis that CoD<sup>-</sup> interacts with both PEO and PEOX segments depending on the salt concentration. Even small amount of NaCoD results in destabilization of PS-PEO micelles. On the other hand, PEO-PEOX mixtures with NaCoD in salted aqueous solutions contain vesicles with radii 69 nm.