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Preparations and investigations of fluorinated fluorescent nanoparticles

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In this paper we presented the results of synthesized fluorinated fluorescence polymer nanoparticles. The beads are versatile systems for microscopy studies on model systems. Eventually we aim at medical applications of related systems. The particles were prepared by emulsion polymerization of 1H,1H-Heptafluoro-n-butyl methacrylate (HFBA) monomer. The fluorescent part was made using Rhodamine-B-thioisocyanate. Further we obtained core-shell particles using a seeds growth synthesis to obtain particles with a fluorescent core and surrounded by non-fluorescent shell. The spherical shape of the particles was confirmed by Transmission Electron Microscopy (TEM), the particle size in solution were determined by dynamic light scattering (DLS). The effect of different reaction parameters, such as initiator concentration and polymerization time on the particle size and charge density was studied.