Abstract

The great improvement of applying new polymer-based materials for several industrial and biomedical application has been reported from more than 30 years. This lead scientist to investigate new materials that would not only improve old techniques but propose new approach with new applications. Responsive polymers mostly because of their nanometric size and tunable properties are widely investigated as a promising tool for biomaterials (Drug Delivery Systems etc.), biosensors and bioanalytical devices. pNIPAM is one of this new class of materials with wide range of applications (Ying Guana, Yongjun Zhan; Soft Matter, 2011) responding to variations in temperature, pH, ionic strength or hydrostatic pressure. In this work we focused on synthesis and characterization on various pNiPAM hydrogels with proposing a functionalization of pNiPAM with a dye which was incorporated in polymeric network as a crosslinker and as a co-monomer.