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Abstract
Poly(BA-co-AMA) latex was formed by soap-free emulsion copoly- merization of n-Butyl acrylate with 2-Acrylamidoglycolic acid. The latex was added into a Petri disk and dried at 60℃ to obtain a thin copolymer film. The compositions of the copolymer film were analyzed by attenuated total reflection–Fourier transform infrared spectroscopy (ATR-FTIR) and elemental analysis (EA) of C, H and N. When the film was used to adsorb Zn(II), the surface of the film could adsorb Zn(II) to reach equilibrium at 5 min. In the period of 5-20 min, Zn(II) diffused into the inner of film to be adsorbed. Furthermore, the films that had adsorbed Zn(II) were immersed in 0.3 M Na2S for 15 sec. ZnS nanoparticles on the film were observed by Scanning electron microscopy and confirmed by energy-dispersive X-ray spectrometer. Controlling the adsorption time in the period of 0-5 min, we could obtain various sizes of ZnS nanoparticles on the copolymer films. The optical properties of the ZnS/polymer composites were also analyzed by UV/Visible spectrometer and photoluminescence spectrometer.
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