Preparation and Characterization of Polymer Coated TiO2 Particles and Application for E-Ink

전형준, 조은별, 이강택*, 여종석
연세대학교
(ktlee@yonsei.ac.kr*)

We report preparation and characterization of charged TiO_2/poly(methyl methacrylate) (PMMA) core-shell particles for e-ink applications. To form PMMA shell on TiO_2 particles, we used dispersion polymerization. Morphology and composition of the core-shell particles were characterized by field emission-scanning electron microscopy (FE-SEM) and energy dispersive X-ray (EDX) spectrometer. Dynamic light scattering (DLS) and zeta potential measurement were also used to measure the size distribution and charge on the particles. Since the chargeability of the particles is a key factor in e-ink devices, charge control agents providing a positive or negative charge were added to the core-shell particles. We found that the synthesized particles showed electrophoretic mobility that could be used in e-ink devices.