Physical properties of biodegradable nanocomposites films with particle size of nano-sized PAAm-co-MMA

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In this study, we reported on the physical properties of biodegradable nanocomposites films, which were prepared by using corn starch, polyvinyl alcohol (PVA), and nano-sized poly (acrylamide-co-methyl methacrylate) (PAAm-co-MMA) particles (100 nm, 200 nm, 300 nm, and 400 nm). Glycerol (GL), xylitol (XL) tartaric acid (TA), and citric acid (CA) were used as additives. Nano-sized copolymer particles (PAAm-co-MMA) were synthesized by the method of emulsion polymerization. The particle size and the shape of PAAm-co-MMA and biodegradable nanocomposites films were observed using scanning electron microscopy (SEM). The physical properties such as tensile strength (TS), elongation (%E), degree of swelling (DS), and solubility (S) of films were investigated.