

عنوان مقاله:

Uv-cured self-colored polymer for smart food pakaging

محل انتشار:

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خلاصه مقاله:

Intelligent packaging, in addition to acting as a food protection barrier, can emit a signal (electric, colorimetric, among others) in real time in response to any change in the initial packaging conditions and food quality. In this work, the self-colored polymer was designed based on a fluorescent functionalized 1,8-naphthalimide dye. Sensitive dye capable to change its emission during spoilage of food like fish, beef meat and chicken. Safe smart packaging with no dye migration was obtained via polymerizable characterization of sensitive dye with methyl methacrylate (MMA). Polymerization process has been investigated via light curing process. Synthesis of fluorescence Polymerizable monomer based on N-allyl-1,8-naphthalimide derivative was reported. The prepared monomeric dye was characterized by differential scanning calorimetry (DSC), NMR and IR spectroscopy. A yellow-green fluorescent polymeric film was obtained. Prepared Fluorescence polymeric film shows a remarkable emission change by amine .exposure and could be applied as a new tool for smart polymer applications

کلمات کلیدی:

fluorescence, smart, food pakaging, UV-cured polymer, self-colored

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