

Microwave-assisted Degradation of Polystyrene Induced by 8-hydroxy quinoline Nickel (II) complex.

The most serious problems encountered in polystyrene (PS) processing is due to a poisoning and pollution of environment because of the PS structure containing aromatic ring. This study suggests a clean and ecofriendly of (PS) degradation. To the PS film prepared [8- hydroxyquinoline nickel(II) complex added as inducing agent for degradation (PS) film exposed to the microwave radiation . A hand molding casting has been used for preparing specimens of the (PS) in percentages (0.0, 0.025, 0.05, 0.1, 0.2, 0.4 %) of the complex. The Degradation were carried out using commercial microwave oven at constant power of 400 W for all experiments. Specimens were exposed to microwave radiation with multiple time (0.0, 15, 30, 60 minute), A degradation were followed via of the decrease in molecular weights averages (Mw-, Mn-) and the increase of absorbancy of the carbonyl index ICO and hydroxyl index IOH at the total time of 60 minutes with microwave radiation .