

EG0700244

**8th ARAB INTERNATIONAL CONFERENCE ON
POLYMER SCIENCE & TECHNOLOGY
27 – 30 November 2005, Cairo-Sharm El-Shiekh, EGYPT**

**Effect of Electron Beam Irradiation on the Structural Properties of
Poly (Vinyl Alcohol) Formulations with Triphenyl Tetrazolium Chloride
Dye (TTC)**

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Films of poly (vinyl alcohol) (PVA) composites with triphenyl tetrazolium chloride (TTC) dye were prepared and exposed to various radiation doses delivered by accelerated electrons. The results showed that at a low dose of 50 kGy, the color difference (ΔE^*) of PVA/TTC films was increased by -10 times of the initial value. However, the change in colour differences did not go systematically with increasing the TTC content, in which the composite with 1.5 wt% displayed higher value than that with 3.5 wt%. The differential scanning calorimetry (DSC) showed that the presence of the TTC dye caused a depression in the melting point (T_m) and heat of fusion (ΔH_f) of the PVA bulk polymer. However, the thermogravimetric analysis (TGA) showed that the presence of the TTC dye improved the thermal stability of PVA. Also, the tensile strength at break of PVA/TTC composites was improved after electron beam irradiation.