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Characterization Studies on Structural, Optical, Thermal and Non-Linear Properties of Carbocyanine Dye Film Using Low Temperature Plasma

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Abstract: Cellulose Triacetate films incorporating cyanine dyes have been inclined by dip coating method and the optical, structural, Non-Linear and thermal properties have been researched. Depiction by FTIR spectroscopy revealed a small difference between the untreated and plasma treated film. SEM analysis confess the change in surface morphology when treated with plasma. DTA/TGA measurements manifest thermal stability of the plasma treated film. SHG assessment showed the efficiency of the plasma treated film correlated to untreated one.

Keywords: Carbocyanine dye, Glow discharge plasma, Cellulose Tri Acetate (CTA).