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Generation of conductivity through transfer charge properties, for polyesters and polyamides with characteristic functional groups CARMEN GONZALEZ, LUIS HERNAN TAGLE, CLAUDIO A. TERRAZA, Pontificia Universidad Catolica de Chile, ANDRES BARRIGA, Universidad de Chile, A.L. CABRERA, ULRICH G. VOLKMANN, Pontificia Universidad Catolica de Chile — Electro-optic properties of σ -conjugated polymers, as polysilylene; are associated with electron conjugation in the silicon atom, which allows a significant delocalization of electrons along of the chain. Thus, the conductivity is intimately connected to the mobility of charge carriers, which in turn depends on the structure and morphology of the system. We report the characterization of polyesters (PEFs) and polyamides (PAFs). Film thicknesses were obtained by ellipsometry. The vibration frequencies of the groups were determined by FT-IR and corroborated by Raman spectroscopy. Structural information was obtained from X-Ray diffraction (XRD). The structural and surface morphology were studied by scanning electron microscope (SEM). Electrical conductivity of the polymers was measured before and after exposure to iodine vapor, for films of different thicknesses. Morphological differentiation was studied by energy dispersive microscopy (EDX), showing a regular distribution of iodine within the polymer. Preliminary conductivity measurements showed adverse effects when oxidation of the polymer films is induced These effects are related to a certain grade of disorder within the system

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