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SYNTHESIS AND CHARACTERIZATION OF PANI FILMS FOR SMART PACKAGING

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This work is related to the synthesis of conductive polyaniline (PANI) with a high solubility for thin film deposition on various substrates and pH sensor obtainment and later use in smart packaging. The procedures for obtaining PANI films with high conductivity consists of dissolving its powder, undoped, doped with DBSA and finishing with its dissolution. The films electric behaviour were studied using 4-probe technique. It was found that the dip-coating speed affects strongly the films conductivity. Using infrared (FTIR) and UV-Vis spectroscopies, was possible to investigate the films structures as a function of pH in contact with the films. It was observed that the films obtained actually can be used in smart packaging affording change of color with a change in pH.