

Determination of polythiophenethermoelectric properties deposited in thin layers on a flexible ITO substrate

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Abstract - In this study, an experimental setup was developed to determine the Seebeck coefficient for an electrodeposited Polythiophene, doped with different concentrations of lithium perchlorate (LiClO_4) on a flexible ITO substrate using potentiostatic mode (imposed potential = 12 V / ECS). Thermoelectric performances were evaluated by measuring the electrical conductivity, thermal conductivity, Seebeck coefficient and the merit coefficient (ZT) at room temperature. Fourier Transform Infrared Spectroscopy characterization (FTIR) was carried out on the sample which exhibits better thermoelectric performance, like the polythiophene doped with 0.2 M LiClO_4 .