Development of Conducting Poly(o-Aminophenol) Film and its Capacitance Behavior

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Electroactive and conducting poly(o-Aminophenol) POAP film is prepared firstly via chemical oxidation of o-aminophenol using ammonium persulfate in neutral medium followed by an electrochemical activation in H₂SO₄ solution. The redox processes and super capacitive behavior of the electroactive POAP polymer film were studied using cyclic voltammetry (CV) and electrochemical impedance spectroscopy (EIS). The electrochemical characterization of the activated polymer film shows the presence of distinctive redox sites which is active and stable up to overpotential of 0.8 V vs SCE. The EIS analysis displays the specific capacity of the activated POAP polymer film reaches up to 280 Fg⁻¹.

Keywords: Poly (o-Aminophenol), chemical oxidation, electrochemical impedance spectroscopy

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