

# Preface

During three decades, poly(*o*-aminophenol) (POAP) has been investigated with electrochemical, spectroelectrochemical, ellipsometry, EQCM (Electrochemical Quartz Crystal Microbalance), ESR (Electron Spin Resonance), surface resistance and impedance measurements and applied in sensors, biosensors and corrosion protection. In the present book, I have attempted to identify and document the most significant advances that have been reported in electrochemistry about synthesis, conduction properties and practical applications of Poly(*o*-aminophenol) Film Electrodes. This book is organized as follows. In [Chap. 1](#), synthesis methods of POAP films and their characterization by using different electrochemical and spectroscopic techniques are described. Also, some relevant mechanisms of electropolymerization of *ortho*-aminophenol (OAP) that lead to POAP, and the different structures proposed for this polymer, are presented. In [Chap. 2](#), the nature of the charging process of POAP is discussed. In this sense, special attention is paid to electron and ion transport processes inside the polymer film and interfacial charge transfer processes across metal-polymer and polymer-solution interfaces. Also, in this [Chap. 2](#), the transport process across POAP films in contact with media containing redox active couples (redox mediation), is extensively discussed. In [Chap. 3](#), specific practical applications of POAP, such as, electron-transfer catalyst (or mediator), electrochemical sensor, amperometric biosensor, and others, are treated. There are at least two major reasons for this intense interest in POAP: first, is the wide range of practical applications of the polymer and the second is the intellectual curiosity of scientists to understand the electrochemical behaviour of this polymer. It is expected that the present book will be helpful to the colleagues who pretend to achieve a more complete knowledge about the particular properties of poly(*o*-aminophenol).

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