Documents

Asiri, A.M.^{a b}, Khan, S.A.^a, El-Hallag, I.S.^{a c}

Electrochemical studies of some carbazole derivatives via cyclic voltammetry and convolution - Deconvolution transforms (2011) *Journal of New Materials for Electrochemical Systems*, 14 (4), pp. 251-258.

^a Chemistry Department, Faculty of Science, King Abdul Aziz University, P.O. Box 80203, Jeddah, Saudi Arabia

^b Center of Excellence for Advanced Materials Research, King Abdul Aziz University, P.O. Box 80203, Jeddah, Saudi Arabia ^c Chemistry Department, Faculty of Science, Tanta University, Egypt

Abstract

Three carbazole chromophores derivatives featuring dicyno, cyano, ethyl acetate and dimethyl acetate groups as an acceptor moiety with a π - conjugated spacer and N-methyl dibenzo[b]pyrole as donor were investigated electrochemically at a platinum electrode in 0.1 mol/L tetraethylammonium chloride (TEACI) in acetonitrile solvent via cyclic voltammetry, convolution - deconvolution transforms and digital simulation techniques. Cyclic voltammetric study revealed that the presence of a single reversible oxidative peak due to two sequential electron transfer (EE scheme) and unidirectional reductive peak which proceed as ECEC mechanism. The electrode reaction pathway, the relevant chemical and electrochemical parameters of the investigated carbazole chromophores were determined using cyclic voltammetry, convolution- deconvolution transforms and chronoamperograms. The extracted electrochemical parameters and the nature of the electrode reaction were verified & confirmed via digital simulation method. © J. New Mat. Electrochem. Systems.

Author Keywords

Carbazole derivatives; Convolution transforms; Cyclic voltammetry; Digital simulation

Document Type: Article Source: Scopus

About Scopus What is Scopus Content coverage What do users think Latest Tutorials Contact and Support Contact and support Live Chat About Elsevier About Elsevier About SciVerse About SciVal Terms and Conditions Privacy Policy



Copyright © 2012 Elsevier B.V. All rights reserved. SciVerse ® is a registered trademark of Elsevier Properties S.A., used under license. Scopus ® is a registered trademark of Elsevier B.V.