Application of Convolution-deconvolution voltammetry for investigation of 4,4'-bipyridine with benzoquinone derivatives

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Convolution, deconvolution cyclic voltammetry, chronoamperometric, scanning electron microscopy (SEM) and transmission electron microscopy (TEM) were employed for clarifying the characterization of charge transfer complex (CT) of 4,4'-bipyridine with benzoquinone derivatives. These studies were achieved at a gold electrode in TBAPL/CH₂Cl₂. The kind of the electrode reaction and the kinetic parameters of the CT complex under study were suggested and calculated via the above methods, then confirmed via digital simulation. SEM and TEM were performed for characterization of the structural morphology of the presented complex as well as showing the nanostructured of the complex.

Keywords: Convolution, deconvolution voltammetry, Chronoamperometry, SEM, TEM.

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