

Characterization of Graphene Oxide Coated Gold Electrodes for Bioimpedance Measurements

Authors : Fatma Gülden Şimşek, Osman Melih Can, Mehmet Yumak, Bora Garipcan, Yekta Ülgen

Abstract : In this study, the impedance spectroscopy is used as a detection tool in order to characterize surface coating with graphene oxide. Gold electrodes are produced by standard lithography procedures and then coated with graphene oxide using self-assembly method. The impedance of redox solution through bare gold electrodes and graphene oxide coated gold electrodes is measured in the low and high frequency range. The graphene oxide coating reduces the impedance value of the gold electrode and this reduction is distinguishable in the low-frequency range.

Keywords : bioimpedance, electrode characterization, graphene oxide, gold electrodes, impedance spectroscopy

Conference Title : ICBCSE 2016 : International Conference on Biological and Chemical Systems Engineering

Conference Location : Lisbon, Portugal

Conference Dates : April 14-15, 2016