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Analysis of Glutathione in the presence of acetaminophen and tyrosine via an amplified electrode with MgO/SWCNTs as a sensor in the hemolyzed erythrocyte

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Abstract

In this study, we investigated the effect of adding MgO/SWCNTs and 2-Chloro-N'-[1-(2,5-dihydroxyphenyl) methylidene]aniline (2-CDHPMA) to a carbon paste matrix, which could act as a voltammetric sensor for the analysis of glutathione. The electrocatalytic interaction between 2-CDHPMA and glutathione was used as a factor for the analysis of this biological compound in real samples. In addition, the presence of MgO/SWCNTs can help in increasing the sensitivity of the fabricated sensor and for obtaining a low limit of detection in the analysis of glutathione. When the carbon-paste electrode was amplified with MgO/SWCNTs and 2-CDHPMA (CPE/MgO/SWCNTs/2-CDHPMA), it showed a good selectivity for the analysis of glutathione in the presence of acetaminophen and tyrosine with the separated peak potentials at ~280 mV,

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