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**Electrochemical sensors using modified electrodes based on copper complexes formed with Algerian humic acid modified with ethylenediamine or triethylenetetramine for determination of nitrite in water.**

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**Abstract**

The response and efficiency of new sensors for nitrite ions analysis have been studied electrochemically. These sensors were developed by modifying a carbon paste electrode (CPE) with copper (II) complexes formed with commercial (PFHA) and Algerian (YHA) humic acids and their modified compounds with ethylenediamine (EDA) or triethylenetetramine (TETA). The developed mechanism is based on the electrochemical oxidation of  $\text{NO}_2^-$  on the modified CPE for different nitrite concentrations. The obtained results showed that the carbon paste electrode modified with copper (II)-modified humic acids complexes (Cu-MHA) exhibited substantial electrocatalytic effect on the oxidation of nitrite anions compared with carbon paste electrode. The sensitivity of the modified CPE towards nitrite concentrations depends on the nature of the humic acid and its modified compounds. The measurements performed by using CPE/Cu-YHA-EDA and CPE/Cu-YHA-TETA gave the best sensitivity and a good linear response of current versus nitrite concentrations.

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