

Carbon-based sensors for industrial applications

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Carbon based electrochemical sensors and biosensors are developed for different applications. i) The surface of GCE is modified with Hg film for determination of HM. The modification is done in different ways: by electrodeposition of Hg and by mechanically coating with modifying solution Hg:Naffion; ii) Modification of Carbon Paste is widely experimented based on the excellent advantages relating with simplicity of the biosensor construction and low cost. Home made sensor (CPE), modified with pure enzyme, plant tissue and/or Au-Np are used for determination of phenolic compounds. The performance of the biosensor is improved in the case of two modifiers are used in the same sensor. (iii) Different types of screen-printed sensors are experimented. Voltametric determination of amino acids is performed using a system of two printed electrodes (working and reference electrode). Pt wire is used as counter electrode. The system of three printed electrodes (working, reference and counter electrodes), are experimented to determine HM in sea water using ASV; Determination of histamine in food samples is performed using printed carbon electrodes modified with rhenium (IV) oxide. Counter and reference are classical ones. Modification of carbon based electrodes

at all scientifically improve the analytical performance of the biosensor (selectivity and sensitivity).