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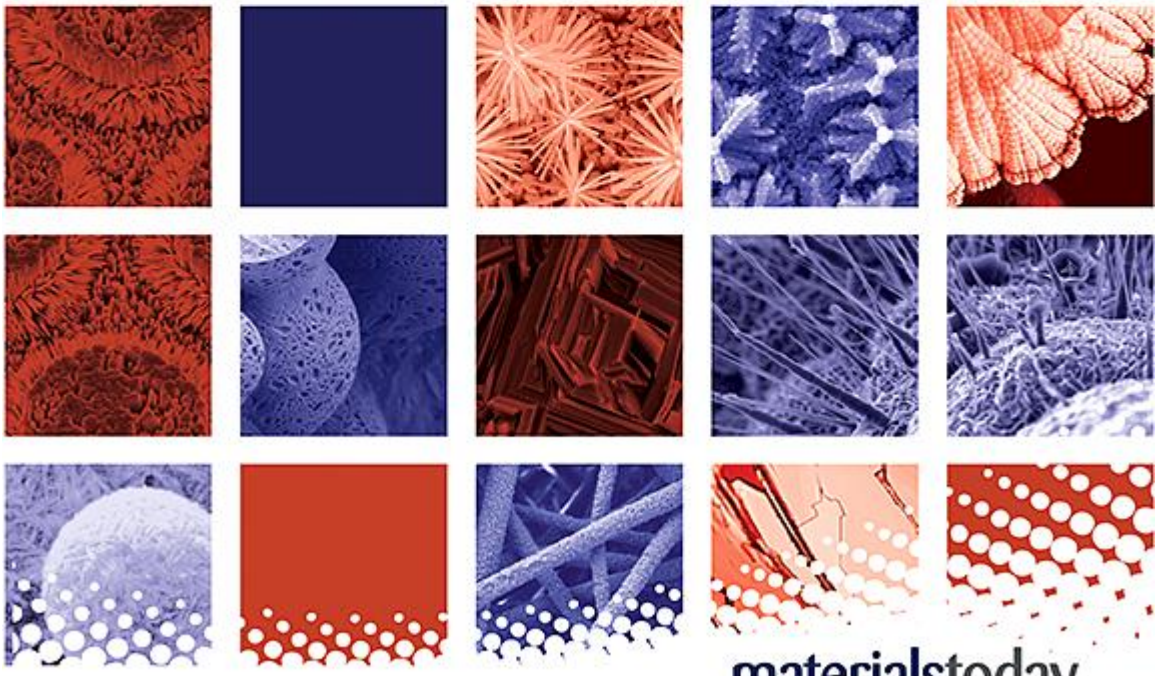

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Clay coated carbon electrode sensor for a food dye sunset yellow

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Abstract

detection are a valuable support to understand the food chemistry. The present protocol investigates the electrocatalytic properties of the clay film coated carbon base towards sensing of sunset yellow, which was achieved, using cyclic and differential pulse voltammetric techniques. The surface of the sensing material was characterized by atomic force microscopy (AFM). The clay particles characterization was achieved by utilizing scanning electron microscopy (SEM) and X-ray diffractometer (XRD). The influence of parameters like scan rate, pH, accumulation time, amount of the modifier and concentration on the peak current of the dye was studied. A probable reaction mechanism was proposed. The advanced sensor displayed high sensitivity with detection limit 2.6 nM. Thus the prepared clay film coated carbon paste sensor was employed for the determination of sunset yellow in pharmaceutical formulations, food samples,and human urine