A NEW CONCEPT FOR METHANOL DETECTION IN ALCOHOLIC BEVERAGES

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The presented work opens a novel chance for the furtherance of biosensors based on fluorogenic and photoelectrochemical (PEC) methods. The simple approach based on the selectivity of alcohol oxidase (AOx) for methanol oxidation provokes the biocatalytic stabilization of *in situ* generated CdS QDs[1].
This methodology allows to follow the oxidation of cysteine (CSH), modulating the quantum properties of QDs.
Furthermore, the employment of inexpensive devices such as disposable screen-printed carbon electrodes (SPCEs) modified with Os-PVP complex serves to "wire" the CSH-stabilized CdS QDs. For that reason, we understand that this strategy would facilitate the fast monitoring of methanol in adulterated alcoholic beverages.

Figure 1: Electrochemical detection of CdS QDs "wired" by an Os-PVP complex to the surface of a screen-printed carbon electrode.

REFERENCES:

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