

Supramolecular Cyclodextrin Complexes for Electrochemical Detection of Metabolites in Water

“Personalized Health Care” is a new conscience spreading in medicine, where the prediction of a great number of metabolites is necessary. In this work, we showed a new role of cyclodextrins that for the first time are employed in electrochemistry with a unique detection mechanism based on specific chemical interactions with the target molecule by the introduction of proper binding groups. We demonstrated that just by chemically modifying the β -cyclodextrins with different chemical groups, it is possible to detect a series of metabolites (fructose, glucose, ATP) by the formation of supramolecular complex with ferrocene modified with a boronic group.