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Electrochemical sensing based on modified interfaces and analytical instrument-integrated applications

Li Niu

Changchun Institute of Applied Chemistry Chinese Academy of Sciences, China

Electrochemistry technique is an important member in the whole family of the instrumental analysis. Especially, in coupling with other techniques, we can know much information about the interfacial interaction, structural features, reaction process, mass transfer, etc. during electrochemical running. Unfortunately, imported instruments & equipment occupies the leading position in China within the past decades, electrochemistry system is also still the world of imported products in China, such as Princeton, CHI, BAS, Gamry, Biologic, etc. Besides those electrochemical instruments, some typical and daily-used electrochemical sensors, such as blood glucose analysis, industrial control gas sensors, heavy metal ion monitoring, blood gas analysis, met the same problem in China. With great increase of human industrial production, water quality analysis is becoming more and more necessary. A few typical electrochemical devices and methods for water monitoring, such as DO, COD, heavy metals, etc. have been developed successfully. In addition, various methods and sensors for bioanalysis & food analysis have been explored too. Furthermore, series of electrochemical instruments have been completed, which ranged from basic model to advanced, from potentiostat to bipotentiostat, even to multichannel, from integrated spectrometers to electrochemical imaging & etching components, etc. Those developed instruments have been widely used in many institutes & universities in China.

Biography

Li Niu has completed his PhD from Changchun Institute of Applied Chemistry and Post-doctoral studies from Abo Akademi University, Finland. Presently, he is the Director of Engineering Laboratory for Modern Analytical Techniques, CIAC, CAS, and also is a RSC Fellow. He has published more than 200 papers (H-index 41) in reputed journals and has been serving as Editorial Board Member in several journals.

lniu@ciac.ac.cn

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