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Electrochemical Substates of Tunnelling Conductive Hybrid Films of Gold Nanoparticles and Cellulose

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With the development of flexible electronics, the conductive hybrid films of gold nanoparticles (GNPs) and cellulose which not only enhanced the stability of GNPs, but also improved the usability of hybrid materials, could be used as flexible substrates of sensors. In this paper, the electrochemical availability of tunnelling conductive hybrid films of GNPs and cellulose was mentioned. The hybrid films provided with stable tunnelling conductive properties were used as substrates of electrochemical electrodes to load calmodulin proteins for sensing of calcium cations. The hybrid films with 20 nm GNPs of 46.7% (in weight) exhibited stable electrochemical properties, and showed significant responses to calcium cations after being loaded with CaM proteins. Electrochemical properties of the novel electrodes based on tunnelling conductive hybrid films of GNPs and cellulose were demonstrated and analyzed.

Biography

Zhiming Liu has completed his PhD at the age of 30 years from National University of Defense Technology, and visiting PhD and academic visitor from University School of Bristol. He is the assitant professor of Department of Chemistry and Biology, a premier research center of bionic biology in National University of Defense Technology. He has published more than 20 papers in reputed journals and has been focused on researches of bionic materials and bionic structures. Prof. Wenjian Wu has completed his PhD at the age of 27 years from Central South University, and advanced academic visitor from University of Otago. He is the professor of Department of Chemistry and Biology, and the group leader of bionic biology in National University of Defense Technology. He has published more than 100 papers in reputed journals and has been focused on studies of bionic sensing and bionic materials.

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