Abstract

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Metal/Carbon dot nanocomposite assisted SERS biosensor: trends and perspectives

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Abstract

The sensing of bio-molecules based on analytical tools has become one of the rapidly developing scientific fields. Surface-enhanced Raman scattering (SERS) is a highly sensitive method not only for the sensing of lower concentration and volume clinical samples including DNA, drug, RNA, peptides proteins etc in blood, serim and plasma but also sensing of pathogens; single-cell identification and sensing; bioimaging of small molecules; and diagnosis of disease. It also provides significant structural data for biological analytes. One fastest growing field of SERS biosensor design is the use of carbon-based metal nanocomposites as substrate materials, such as metal/carbon dots, metal/single walled nanotubes, metal/graphene sheets, and metal/graphene oxide. In this presentation, we describe the recent trends and perspectives in SERS biosensors. Specifically, metal/carbon dots based SERS biosensors: focusing on fundamental principles for metal/carbon dots based materials for SERS biosensor design, fabrication, and operation, and provide insights into their rapidly growing future potential in the fields of bioanalytical and biomedical , in situ analysis and quantitative analysis. As such, this presentation can play the critical role of a roadmap to direct scientists and researchers toward concepts that can be used in the design and development of next generation SERS biosensors.

Biography

Dr.Gangaraju Gedda has completed his Ph.D. at the age of 30 years from National Sun Yat seen University and followed by postdoctoral fellowship from National Taiwan University of Science and Technology. He is working as the Associate Professor of Chemistry at Vishnu Institute of Technology, India. He has published more than 25 papers in reputed journals and 2 book chapters with 15 h intexing and 715 citations. He also has been serving as an comitte member of internation conferances and reviwer for various international journals. His Current research work is focusing on development of green nanotechnology for biosensing, dignosis and therapetic applications

