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High Performance Integrated Biosensors Based on SERS

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Message from the Guest Editors

For almost 100 years, the Raman scattering effect has been reported on, recently attracting increasingly more interest due to the development of nanotechnology to greatly enhance the scattering signal through the plasmonic resonance of nanoparticles, the enhanced technology having been termed “Surface-Enhanced Raman Spectroscopy”. SERS has been used in biosensors due to its fast detection, high sensitivity, good selectivity, multiplexing and absence of interference in water. However, complex real samples always experience significant interferences between entities, since each biomolecule has its own spectrum and peak overlaps are likely to appear. This Special Issue plans to focus on the recent progress in the design of high-performance integrated biosensors based on SERS, for instance, the reliable preparation of low-cost and uniform SERS substrates, the design of sensitive SERS nanotags/probes to increase sensitivity and selectivity and, the new data analysis method used to distinguish the spectra and design of integrated systems, including sample pretreatment, target separation and analyte preconcentrations before the SERS detection of biomolecules and microbes.



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Message from the Editor-in-Chief

Biosensors is a leading journal, devoted to fast publication of the latest achievements, technological developments and scientific research in the exciting multidisciplinary area of biosensors. Both experimental and theoretical papers are published, including all aspects of biosensor design, technology, proof of concept and application. Special issues are devoted to specific technologies and applications, and a selection of the most outstanding papers each year is recognized. Pushing the boundaries of the discipline, we invite original papers, as well as timely reviews on cutting edge fields within the subject area.

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