International Journal of Analytical Chemistry

Hindawi

Special Issue on

Nanomaterials for Analytical Chemistry: Future of Analysis

CALL FOR PAPERS

Analytical chemistry has become a topic of considerable importance these days and use of advance and modern instruments, materials, and methodologies to accurately and precisely measure and characterize the solid, liquid, and gaseous chemical content always needs improvement. In general, the purpose of analytical chemistry is sampling, extraction, identification, quantification, and data handling of analytes. Nanomaterials are nanosized structures with extraordinary physical and chemical properties and various chemical functions are integrated in fabricated micro- and nanodevices, having progressed rapidly, and innovative achievements and functions have been realized in analytical chemistry. Large specific surface areas of nanomaterials can improve the detection sensitivity and miniaturize the devices in analytical procedures. Also, these nanomaterials of various compositions and morphologies can provide powerful tools for the analysis. Therefore, the nanomaterials-based techniques can play vital roles in many analytical procedures, such as the increase of analytes concentration, the removal of interfering species, and improving the detection limit. Moreover, freedom to functionalize the nanomaterials with various chemical groups can also increase their affinity toward target compounds, which is very much desirable for selective extraction and detection of target analytes in environmental complex matrices. In this issue, we will summarize recent progress due to novel nanomaterials in analytical chemistry arena.

The aim of this issue is to encapsulate the recent scientific and technological advances in the development of nanomaterials for analytical applications. Challenges and future research directions will also be considered seriously. We thus invite researchers to contribute original research articles as well as review articles that will increase the basic subject knowledge on specifically analytical direction which may lead to the development of new technologies and innovations for efficient and economic utilization of nanotechnology. We are particularly interested in articles describing theoretical and experimental works related to nanomaterials for analysis. Review articles on recent developments in terms of fabrication of nanomaterials for especially analytical sciences/chemistry are also welcome.

Potential topics include but are not limited to the following:

- Nanotechnology and analytical sciences
- Nanodevices and tools for analytical sciences
- Nanomaterials as potential for analytical sciences
- Advanced analytical techniques
- Nanotechniques for analytical chemistry
- Nano-lab-on-chip
- Nanomaterials synthesis varieties for analytical chemistry
- Future of analytical sciences

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