Advanced Nanomaterials for Electrochemical Biosensors

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Message from the Guest Editors

Nanomaterials have been an emerging interest and are extensively analyzed with respect to enhancing biosensing performances due to their characteristics of being small in size and having quantum effects, along with surface and interface effects that notably increase essential activity indexes of biosensing applications. Nanomaterials that modified conventional electrodes label the size mismatch between biological elements and an electronic transducer, which may suggestively improve sensitivity and biocompatibility. Moreover, detection signals have demonstrated that the sensing performance of a biosensor mainly depends on its intrinsic characteristics, such as physicochemical properties, composition, crystal phases, and morphologies of the catalytic materials. For example, catalytic materials possess huge surface areas, excellent electrical conductivity, and biocompatibility, which are used as signal amplification elements in electrochemical biosensors. Thus, the investigation of a new kind of advanced catalytic nanomaterial is key for fabricating biosensors with superior performances and providing low detection limits.

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Special Issue

Editor-in-Chief

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the nanomaterials that enable these applications. This Special Issue aims to capture the latest advancements in nanomaterials for electrochemical biosensors.
At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call "nanomaterials". These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, Nanomaterials, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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