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2D Materials-Based Electronic and Optoelectronic Biochemical Sensing Applications

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Message from the Guest Editors

The richness of the electronic and optical properties of graphene and related two-dimensional (2D) materials have encouraged the development of many electronic and optical sensors, especially for biochemical sensing applications. 2D materials are one atomic-thin layered structure with exceptional biochemical sensing properties due to high surface-to-volume ratio, excellent biocompatibility, surface charge, outstanding fluorescence-quenching ability, supreme electrical and thermal conductivity, broadband light absorption, ultrafast carrier mobility, strong mechanical strength, high packing density, and flexibility. The most striking features of electronic and optical sensors based on 2D materials are lowering the limit of detection, ultrafast response time, and increasing the specificity of label-free biochemical sensing.

In this special issue, we focus on the state-of-the-art biochemical applications of 2D materials based electronic and optical sensors.

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Guest Editors



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Special Issue



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Message from the Editor-in-Chief

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