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Special Issue Reprint

Electroanalysis of Biochemistry and Material Chemistry

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Electrochemistry is a flexible and versatile discipline widely applied to research at the interface of biochemistry and materials chemistry. It serves as an important approach for synthesizing advanced biological and functional materials. By regulating the parameters of the electrochemical synthesis process, the structure and physicochemical properties of advanced materials can be controllably tailored. Analytical methods based on electrochemistry enable the characterization of electrochemical performance for advanced materials, thereby facilitating the development of high-performance materials for advanced electrochemical devices such as fuel cells, lithium-ion batteries and supercapacitors. Moreover, electrochemistry can be integrated with other technologies to establish emerging interdisciplinary research directions, including computational electrochemistry and photoelectrochemistry. Combining computational electrochemistry methodologies with in situ electrochemical characterization of advanced materials enables in-depth investigation into the electrocatalytic mechanisms of advanced materials for various electrochemical reactions, including the oxygen reduction/evolution reaction and hydrogen oxidation/evolution reaction. Accordingly, this reprint compiles recent research advances in the above-mentioned fields originally published in the Special Issue "Electroanalysis in Biochemistry and Materials Chemistry". It provides valuable references for the application of electrochemical technology in biochemistry and materials chemistry and promotes the development of related fields.

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