Special Issue

NanoZymes: An Emerging Artificial Enzyme for Sensing, Biomedical Applications, Environmental Monitoring and Beyond

Message from the Guest Editor

NanoZymes are inherent biocatalytic properties in certain nanomaterials and are considered a relatively new class of materials that can mimic the catalytic function of natural enzymes. The intrinsic benefits of NanoZymes over natural enzymes in terms of operational stability, inexpensiveness, and ability to modulate their activity make them ideal candidates for sensor applications, which otherwise typically require natural enzymes. So far, numerous metal, metal–oxide, metal–sulfide, carbon-based, and functional nanomaterials have been reported mainly for peroxidase-, oxidase-, catalase-, and superoxide dismutase-mimic NanoZyme activities. These nanozymes have been successfully employed for diverse applications ranging from biosensing to disease diagnostics, cancer therapy, imaging, and environmental monitoring, which were predominantly based on utilizing natural enzymes in the past.

Guest Editor

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