Biosensors
2025年生物传感器材料栏目文章精选主编荐读

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Biosensors 2025年生物传感器材料栏目文章精选主编荐读。期刊名：Biosensors

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随着先进纳米材料、功能高分子与仿生界面的不断突破，生物传感材料正从传统的单一响应/被动识别迈向高灵敏、多模态、智能催化、可集成的新范式。本文献清单荟萃了发表于 Biosensors 的一批具有代表性的工作，系统梳理了新型传感材料的设计策略及其在复杂体系中的应用潜力。内容涵盖了从碳量子点、MXene量子点及复合纳米颗粒等新型信号放大材料，到面向癌症标志物、病原体与食品安全的高灵敏检测方案；从MOF基纳米酶与核酸纳米酶构筑的智能催化识别网络，到分子印迹聚合物（MIPs）实现的特异性分子捕获；同时也关注微流控液滴操控、SERS/等离激元增强平台、高盐体液电容式检测等跨学科技术，以及无线集成传感与深度学习多模态融合的前沿探索。这些成果串联起了从材料理性设计到精准信号转换的完整技术链条，为下一代临床即时诊断、环境健康监测与智慧医疗的应用提供了更多参考。

1. Carbon Quantum Dots: Synthesis, Characteristics, and Quenching as Biocompatible Fluorescent Probes

碳量子点：作为生物相容性荧光探针的合成、特性及猝灭行为

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2. Electrochemical Impedance Spectroscopy-Based Biosensors for Label-Free Detection of Pathogens

基于电化学阻抗谱的病原体无标记检测生物传感器

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3. Comprehensive Analysis of Advancement in Optical Biosensing Techniques for Early Detection of Cancerous Cells

用于癌症细胞早期检测的光学生物传感技术进展的综合分析

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4. Colorimetric Biosensors: Advancements in Nanomaterials and Cutting-Edge Detection Strategies

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5. Droplet Generation and Manipulation in Microfluidics: A Comprehensive Overview of Passive and Active Strategies

微流控中的液滴生成与操控：被动与主动策略的综合综述

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6. Recent Advances in Metal – Organic Framework-Based Nanozymes for Intelligent Microbial Biosensing: A Comprehensive Review of Biomedical and Environmental Applications

基于金属有机框架的纳米酶用于智能微生物生物传感的最新进展：生物医学与环境应用综述

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7. Small Toxic Molecule Detection and Elimination Using Molecularly Imprinted Polymers (MIPs)

利用分子印迹聚合物（MIPs）检测与去除小分子毒物

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8. Recent Advances in Electrochemical Sensors for the Detection of Anti-Inflammatory and Antibiotic Drugs: A Comprehensive Review

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用于侧向层析免疫分析的适配体偶联多量子点包埋二氧化硅纳米颗粒

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基于深度学习的肺癌诊断：miRNA与影像组学的多模态融合

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16. Aptamer-Conjugated Magnetic Nanoparticles Integrated with SERS for Multiplex Salmonella Detection

结合SERS的适配体偶联磁性纳米颗粒用于沙门氏菌多重检测

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17. A High-Sensitivity, Bluetooth-Enabled PCB Biosensor for HER2 and CA15-3 Protein Detection in Saliva: A Rapid, Non-Invasive Approach to Breast Cancer Screening

一种用于检测唾液中 HER2 和 CA15-3 蛋白的高灵敏度蓝牙 PCB
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18. Wearable Ultrasound-Imaging-Based Visual Feedback (UVF) Training for Ankle Rehabilitation of Chronic Stroke Survivors: A Proof-of-Concept Randomized Crossover Study

基于可穿戴超声成像视觉反馈（UVF）的慢性脑卒中幸存者踝关节康复训练：一项概念验证随机交叉研究

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19. Sensing Protein Structural Transitions with Microfluidic Modulation Infrared Spectroscopy

利用微流控调制红外光谱检测蛋白质结构转变

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20. Exhaled Aldehydes and Ketones as Biomarkers of Lung Cancer and Diabetes: Review of Sensor Technologies for Early Disease Diagnosis

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期刊介绍

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