



Nanobiosensors [from design to applications /

Wu, Aiguo
Khan, Waheed S.

Wiley-VCH,
2020

Monografía

<https://rebiunoda.pro.baratznet.cloud:38443/OpacDiscovery/public/catalog/detail/b2FpOmNlbGVicmF0aW9uOmVzLmJhcmF0ei5yZW4vMjU2Njc4MzY>

Título: Nanobiosensors [Recurso electrónico] from design to applications edited by Aiguo Wu, Waheed S. Khan

Editorial: Weinheim Wiley-VCH 2020

Descripción física: 1 recurso electrónico (415 p.)

Mención de serie: Wiley ebooks

Nota general: 3.6 Conclusion

Bibliografía: Incluye referencias bibliográficas e índice

Contenido: Cover -- Title Page -- Copyright -- Contents -- Chapter 1 Basics of Biosensors and Nanobiosensors -- 1.1 Introduction -- 1.2 Biosensor and Its Working Principle -- 1.3 Characteristics of a Biosensor -- 1.3.1 Selectivity -- 1.3.2 Reproducibility -- 1.3.3 Stability -- 1.3.4 Sensitivity and Linearity -- 1.4 Biosensor Evolution: A Brief Outlook -- 1.5 Types of Biosensors -- 1.5.1 Electrochemical Biosensors (ECBs) -- 1.5.1.1 Potentiometric Biosensors -- 1.5.1.2 Voltammetric/Amperometric -- 1.5.1.3 Impedance (Electrical Impedance Spectroscopy, EIS) -- 1.5.1.4 Conductometric 1.5.2 Optical Biosensors -- 1.5.2.1 Surface Plasmon Resonance -- 1.5.2.2 Evanescent Wave Fluorescence Biosensors -- 1.5.3 Piezoelectric Biosensors -- 1.5.4 Electronic Biosensors: Based on Field-Effect Transistor -- 1.6 On the Basis of the Use of Biorecognition Elements: Catalytic Versus Affinity Biosensors -- 1.6.1 Enzymatic Biosensors -- 1.6.2 Immunosensors -- 1.6.3 DNA Aptamer Biosensors -- 1.6.4 Peptide-Based Biosensors -- 1.6.5 Whole-Cell Biosensors -- 1.7 Application of Biosensors -- 1.7.1 Biosensors in Microbiology -- 1.7.2 Biosensors for Environmental Monitoring Applications 1.7.3 Biosensors for Cancer Biomarker Identification -- 1.7.4 Biosensor in the Detection of Infectious Diseases -- 1.8 Conclusion -- Acknowledgment -- References -- Chapter 2 Transduction Process-Based Classification of Biosensors -- 2.1 Introduction -- 2.2 Electrochemical Biosensors -- 2.2.1 Potentiometric Biosensors -- 2.2.2 Impedimetric Biosensors -- 2.2.3 Conductometric Biosensors -- 2.3 Optical Biosensors -- 2.3.1 Biosensors Based on Surface Plasmon Resonance (SPR) -- 2.3.2 Raman and Fourier Transform Infrared Spectroscopy (FT-IR) -- 2.3.3 Biosensors Based on Fluorescence Effect 2.4 Mass-Based Biosensors -- 2.4.1 Piezoelectric Biosensors -- 2.4.2 Quartz Crystal Microbalance (QCM) -- 2.4.3 Surface Acoustic Wave (SAW) -- 2.5 Thermal Biosensors -- 2.5.1 Thermometric Sensors -- 2.5.2 Terahertz Effect -- 2.5.3 Thermal Radiation -- 2.6 Energy Biosensors -- 2.6.1 Adenosine Triphosphate -- 2.6.2 Fluorescence Resonance

Energy -- 2.7 Conclusion -- Acknowledgments -- References -- Chapter 3 Novel Nanomaterials for Biosensor Development -- 3.1 Introduction -- 3.2 Graphene and Its Composites -- 3.2.1 Graphene and Their Composite-Based Biosensors 3.2.1.1 Graphene and Their Composite-Based Electrochemical Biosensors -- 3.2.1.2 Graphene and Their Composite-Based Field-Effect Transistor Biosensors -- 3.3 Carbon Nanotubes and Their Hybrids -- 3.3.1 Biosensors Based on Carbon Nanotubes and Their Hybrids -- 3.4 Nitride-Based Biosensors -- 3.4.1 Biosensing Application of Nitride-Based Nanomaterials -- 3.5 Metal and Metal Oxide Nanoparticles for Biosensors -- 3.5.1 Fundamental Characteristics of Metal and Metal Oxide Nanostructure for the Development of a Biosensor -- 3.5.2 Performance of Nanostructured Metal and Metal Oxide-Based Biosensors

Detalles del sistema: Forma de acceso: World Wide Web

ISBN: 9783527345137 3527345132 9783527345144 3527345140 9783527345106

Autores: Wu, Aiguo Khan, Waheed S.

Baratz Innovación Documental

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- informa@baratz.es