



biosensors



Special Issue Reprint

Spectroscopy-Based Biosensors

www.mdpi.com/books/reprint/3977

Edited by
Annalisa De Girolamo
Vincenzo Lippolis
Chris Maragos



ISBN 978-3-0365-1002-6 (Hardback)
ISBN 978-3-0365-1003-3 (PDF)

Biosensors are analytical devices capable of providing quantitative or semi-quantitative information by using a biological recognition element and a transducer. Depending upon the nature of the recognition element, different surface sensitive techniques can be applied to monitor these molecular interactions. In order to increase sensitivities and to lower detection limits down to even individual molecules, nanomaterials are promising candidates. This is possible due to the potential to immobilize more bioreceptor units at reduced volumes and their ability to act as transduction elements by themselves. Among such nanomaterials, gold nanoparticles, quantum dots, polymer nanoparticles, carbon nanotubes, nanodiamonds, and graphene are intensively studied. Biosensors provide rapid, real-time, accurate, and reliable information about the analyte under investigation and have been envisioned in a wide range of analytical applications, including medicine, food safety, bioprocessing, environmental/industrial monitoring, and electronics. A variety of biosensors, such as optical, spectroscopic, molecular, thermal, and piezoelectric, have been studied and applied in countless fields.

In this book, examples of spectroscopic and optical biosensors and immunoassays are presented. Furthermore, two comprehensive reviews on optical biosensors are included



Order Your Print Copy
You can order print copies at
www.mdpi.com/books/reprint/3977

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.