

1. Record Nr.	UNINA9911006676603321
Autore	Sadana Ajit <1947->
Titolo	Engineering biosensors : kinetics and design applications // Ajit Sadana
Pubbl/distr/stampa	San Diego, : Academic Press, c2002
ISBN	1-281-11933-4 9786611119331 0-08-052363-3
Descrizione fisica	1 online resource (419 p.)
Disciplina	572/.028
Soggetti	Biosensors Ligand binding (Biochemistry)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Engineering Biosensors: Kinetics and Design Applications; Copyright Page; Contents; Preface; Chapter 1. Introduction; 1.1 Background, Definition, and the Need for Biosensors; 1.2 Assay Formats; 1.3 Difficulties with Biosensor Applications; 1.4 Newer Applications for Biosensors; 1.5 Commercially Available Biosensors; 1.6 Biomedical Applications; 1.7 Overview; Chapter 2. Influence of Diffusional Limitations and Reaction Order on Antigen-Antibody Binding Kinetics; 2.1 Introduction; 2.2 Theory Chapter 3. Influence of Diffusional Limitations and Lateral Interactions on Antigen-Antibody Binding Kinetics3.1 Introduction; 3.2 Theory; 3.3 Conclusions; Chapter 4. Fractal Reaction Kinetics; 4.1 Introduction; 4.2 Fractal Kinetics; Chapter 5. Influence of Different Parameters on Fractal Dimension Values During the Binding Phase; 5.1 Introduction; 5.2 Theory; 5.3 Results; 5.4 Summary and Conclusions; Chapter 6. Fractal Dimension and the Binding Rate Coefficient; 6.1 Introduction; 6.2 Theory; 6.3 Results; 6.4 Conclusions; Chapter 7. Fractal Dimension and the Dissociation Rate Coefficient 7.1 Introduction7.2 Theory; 7.3 Results; 7.4 Conclusions; Chapter 8. Influence of Nonspecific Binding on the Rate and Amount of Specific Binding: A classical analysis; 8.1 Introduction; 8.2 Theory; Chapter 9. Influence of Nonspecific Binding on the Rate and Amount of Specific

Binding: A Fractal Analysis; 9.1 Introduction; 9.2 Theory; 9.3 Results; 9.4 Other Examples of Interest; 9.5 Conclusions; Chapter 10. Fractal Dimension and Hybridization; 10.1 Introduction; 10.2 Theory; 10.3 Results; 10.4 Conclusions; Chapter 11. Fractal Dimension and Analyte-Receptor Binding in Cells; 11.1 Introduction 11.2 Theory 11.3 Results; 11.4 Conclusions; Chapter 12. Surface Plasmon Resonance Biosensors; 12.1 Introduction; 12.2 Theory; 12.3 Results; 12.4 Conclusions; Chapter 13. Economics and Market for Biosensors; 13.1 Introduction; 13.2 Market Size and Economics; 13.3 Development Cost of a Biosensor; 13.4 Cost Reduction Methods; Index

Sommario/riassunto

Biosensors are becoming increasingly important bioanalytical tools in the pharmaceutical, biotechnology, food, and other consumer oriented industries. The technology, though well developed in Europe, is slowly developing and has begun to generate interest in the United States only over the past couple of years. Research is now being directed toward the development of biosensors that are versatile, economical, and simple to use. Engineering Biosensors is a comprehensive introduction to biosensors that includes numerous illustrations to further explain the main concepts and practical exa
