Record Nr. UNINA9910139704103321 Intelligent surfaces in biotechnology [[electronic resource]]: scientific **Titolo** and engineering concepts, enabling technologies, and translation to bio-oriented applications // edited by Marcus Textor, H. Michelle Grandin Pubbl/distr/stampa Hoboken, N.J., : John Wiley & Sons, c2012 **ISBN** 1-280-59096-3 9786613620798 1-118-18123-9 1-118-18124-7 1-118-18121-2 Descrizione fisica 1 online resource (428 p.) Classificazione TEC021000 Altri autori (Persone) **TextorMarcus** GrandinH. Michelle Disciplina 610.28/4 Soggetti Biomedical materials Biotechnology - Materials Smart materials Surfaces (Technology) Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Machine generated contents note: Chapter 1. Stimulus Responsive Polymers as Intelligent Coatings for Biosensors: Architectures. Response Mechanisms, and Applications Vinalia Tjong, Jianming Zhang, Ashutosh Chilkoti and Stefan Zauscher 1.1 Introduction 1.2 SRP Architectures for Biosensor Applications 1.3 Mechanisms of Response 1.4 Sensing and Transduction Mechanisms 1.5 Limitations and Challenges 1.6 Conclusion and Outlook Chapter 2. Smart Surfaces for Point-of-Care Diagnostics Michael A. Nash, Allison L. Golden, John M. Hoffman, James L. Lai, and Patrick S. Stayton 2.1 Introduction 2.2 Standard Methods for Biomarker Purification, Enrichment, and Detection 2.3 Smart Reagents for Biomarker Purification and Processing 2.4 Sample-Processing Modules for Smart Conjugate Bioassays 2.5

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"This resource gives a comprehensive overview of surface modifications for applications in biotechnology using intelligent coatings. The coverage includes chemical properties, characterization methods, coating techniques, state-of-the-art examples, and an outlook on the promising future of this technology. It enables the interested materials scientist, chemist, or engineer to gain a comprehensive overview of the field, highlighting applications, with each chapter written by an expert in that particular area. Applications covered include tissue engineering, biotribology, drug targeting and delivery, wound healing, biosensors, nanopatterning, and bioinspired design of new smart materials and surfaces"--