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Titolo	Electrochemical Sensing: Carcinogens in Beverages // by Asif Iqbal Zia, Subhas Chandra Mukhopadhyay
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Disciplina	543.0871
Soggetti	Electronics Microelectronics Biotechnology Electrochemistry Food—Biotechnology Nanotechnology Electronics and Microelectronics, Instrumentation Food Science Nanotechnology and Microengineering
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 at the end of each chapters.
Nota di contenuto	Human Endocrine System and Hormonal Measurement -- Impedance Spectroscopy and Experimental Setup -- Novel Interdigital Sensors' Development -- Electrochemical Detection of Hormones -- Electrochemical Detection of Endocrine Disrupting Compounds -- Inducing Analyte Selectivity in the Sensing System -- Portable Low-cost Testing System for Phthalates' Detection -- Conclusions and Future Research.
Sommario/riassunto	This book describes a robust, low-cost electrochemical sensing system that is able to detect hormones and phthalates – the most ubiquitous endocrine disruptor compounds – in beverages and is sufficiently flexible to be readily coupled with any existing chemical or biochemical sensing system. A novel type of silicon substrate-based smart interdigital transducer, developed using MEMS semiconductor fabrication technology, is employed in conjunction with electrochemical

impedance spectroscopy to allow real-time detection and analysis. Furthermore, the presented interdigital capacitive sensor design offers a sufficient penetration depth of the fringing electric field to permit bulk sample testing. The authors address all aspects of the development of the system and fully explain its benefits. The book will be of wide interest to engineers, scientists, and researchers working in the fields of physical electrochemistry and biochemistry at the undergraduate, postgraduate, and research levels. It will also be highly relevant for practitioners and researchers involved in the development of electromagnetic sensors.
