Record Nr. UNINA9910482939903321

Autore Giustiniani Bernardo <1408 or 1409-1489.>

Titolo Oratio habita apud Sixtum IV contra Turcos [[electronic resource]]

Pubbl/distr/stampa Padua, : Lorenzo Canozio, 1471

Descrizione fisica Online resource (v.)

Lingua di pubblicazione Latino

Formato Materiale a stampa

Livello bibliografico Monografia

Note generali Reproduction of original in Biblioteca Nazionale Centrale di Firenze.

Record Nr. UNINA9911019616803321

Titolo Microsystem engineering of lab-on-a-chip devices / / [editors], Oliver

Geschke, Henning Klank, Pieter Tellemann

Pubbl/distr/stampa Weinheim,: Wiley-VCH, c2004

ISBN 9786610558636

9781280558634 1280558636 9783527606368 352760636X 9783527601653 3527601651

Descrizione fisica 1 online resource (272 p.)

Altri autori (Persone) GeschkeOliver

KlankHenning TellemanPieter

Disciplina 621.381

Soggetti Microelectronics

Microtechnology

Lingua di pubblicazione Inglese

Formato Materiale a stampa

Livello bibliografico Monografia

Note generali Description based upon print version of record.

Nota di bibliografia

Nota di contenuto

Includes bibliographical references and index.

1.2 The Advantages of Miniaturizing Systems for Chemical Analysis; 1.3 From Concept to TAS; 1.4 References; 2 Clean Rooms; 3 Microfluidics - Theoretical Aspects: 3.1 Fluids and Flows: 3.2 Transport Processes: 3.2.1 Types of Transport; 3.2.1.1 Convection; 3.2.1.2 Migration; 3.2.1.3 Diffusion; 3.2.1.4 Dispersion; 3.3 System Design; 3.3.1 Laminar Flow and Diffusion in Action; 3.4 An Application: Biological Fluids; 3.5 References 4 Microfluidics - Components 4.1 Valves and Pumps; 4.1.1 Moving Liquids by Electroosmosis; 4.1.2 Mixers; 4.2 Injecting, Dosing, and Metering; 4.3 Temperature Measurement in Microfluidic Systems; 4.3.1 Microreactors: 4.3.2 Temperature Sensors for Microsystems: 4.3.3 Resistance Temperature Detectors; 4.3.3.1 Metals; 4.3.3.2 Nonmetals; 4.3.4 Thermocouples; 4.3.5 Semiconductor Junction Sensors; 4.3.6 Temperature Sensors Built on Other Principles; 4.3.7 Conclusion; 4.4 Optical Sensors; 4.4.1 Instrumentation; 4.4.2 Absorption Detection; 4.4.3 Evanescent-wave Sensing; 4.4.4 Fluorescence Detection 4.5 Electrochemical Sensors4.6 References: 5 Simulations in Microfluidics; 5.1 Physical Aspects and Design; 5.2 Choosing Software and Hardware; 5.2.1 CFD-ACE+Version 6.6; 5.2.2 CoventorWareTM Version 2001.3; 5.2.3 Hardware; 5.2.4 The Core Elements of Typical CFD Software; 5.2.5 Pre-processors; 5.2.6 Solvers; 5.2.7 Postprocessors; 5.3 Important Numerical Settings; 5.3.1 Boundary Conditions: 5.3.2 Solver Settings: 5.4 Errors and Uncertainties: 5.5 Interpretation and Evaluation of Simulations; 5.6 Example Simulations; 5.6.1 Fully-developed Flow in a Circular Capillary 5.6.2 Movement of a Chemical Plug by Electroosmotic Flow in a Detection Cell5.6.3 Conclusions; 5.7 References; 6 Silicon and Cleanroom Processing; 6.1 Substrate Fabrication; 6.2 Optical Lithography; 6.2.1 Photolithography; 6.2.2 Mask Design; 6.2.3 Hints in Planning Fabrication Runs; 6.3 Deposition; 6.3.1 Fundamentals of Coatings; 6.3.2 Deposition Methods; 6.3.3 Materials; 6.3.4 Lift-off; 6.3.5 Silicides: 6.4 Etching Removal: 6.4.1 Wet-etching Fundamentals: 6.4.2 Etching with HF; 6.4.3 Isotropic Silicon Etch; 6.4.4 Orientationdependent Silicon Etchina 6.4.5 Common Orientation-dependent Etchants6.4.6 Other Etchants; 6.4.7 Effects of Not Stirring a Transport-limited Etch; 6.5 Dry Etching; 6.5.1 Plasma Etching Fundamentals; 6.5.2 Plasma Etching Setups; 6.5.3 Etch Gases; 6.5.4 Laser-assisted Etching; 6.6 Heat Treatment; 6.6.1 Thermal Oxidation; 6.6.2 Diffusion; 6.6.3 Annealing; 6.6.4 Wafer Bonding; 6.7 References; 7 Glass Micromachining; 7.1 Wet Chemical Etching; 7.2 Reactive Ion Etching (RIE) of Glass; 7.3 Laser Patterning; 7.4 Powder Blasting; 7.5 Glass Bonding; 7.6 A Microfabrication Example; 7.7 References; 8 Polymer Micromachining 8.1 Hot Embossing

Microsystem Engineering of Lab-on-a-chip Devices; Contents; Preface; 1 Introduction; 1.1 Learning from the Experiences of Microelectronics;

Sommario/riassunto

Written on a non-specialist level by an interdisciplinary team of chemists, biologists and engineers from one of Europe's leading centres for microsystem research, the Danish Mikroelektronik Centret (MIC), this is a concise practical introduction to the subject. As such, the book is the first to focus on analytical applications, providing life and analytical scientists, biotechnologists and pharmaceutists with an understanding of the principles behind the design and manufacture of chemical and biochemical microsystems. The text is backed by a chapter devoted to troubleshooting as well as a g