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Systems; 3.2.1 Microfluidic Devices; 3.2.2 Nanofluidic Devices; References; Chapter 4 Applications of Micro- and Nanofluidics; 4.1 Microfluidics and Lab-on-Chips; 4.1.1 Biomolecular Analyses; 4.1.2 Microfluidics Beyond Biomolecular Analyses; 4.2 Handling Ions by Electrokinetic Effects in Nanochannels; 4.2.1 Nanofluidic Resistors as Surface Charge Sensors; 4.2.2 Semipermeability and Preconcentration; 4.2.3 Routing Ions by Nanofluidic Electronics  
4.3 Separations in Nanofluidic Devices  
4.3.1 Batch Separations; 4.3.2 Continuous-Flow Separations; 4.4 Linear Analysis of Biomolecules; 4.4.1 Why Stretching DNA?; 4.4.2 Sizing Confined DNA; 4.4.3 Nanopore Sequencing; References; Chapter 5 Conclusion; About the Authors; Index

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**Sommario/riassunto**

Taking you to the forefront of the emerging field of Nanofluidics, this cutting-edge book details the physics and applications of fluid flow in nanometer scale channels. You gain a solid understanding of the fundamental aspects of transport processes and force interactions in microscale. Moreover, this unique resource presents the latest research on nanoscale transport phenomena. You find a comprehensive overview of fabrication technologies for nanotechnology, including detailed technology recipes and parameters. The book concludes with a look at future trends and the likely directions this new field will take.

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