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Nota di contenuto	Titlepage; Copyright; List of Contributors; Preface; 1 Ultrafiltration, Microfiltration, Nanofiltration and Reverse Osmosis in Integrated Membrane Processes; 1.1 Introduction; 1.2 Membrane Processes; 1.3 Combination of Various Membrane Processes; 1.4 Conclusion; List of Abbreviations; References; 2 Bioseparations Using Integrated Membrane Processes; 2.1 Introduction; 2.2 Integrated Bioseparation Processes Involving Microfiltration; 2.3 Integrated Bioseparation Processes Involving Ultrafiltration; 2.4 Conclusion; References; 3 Integrated Membrane Processes in the Food Industry 3.1 Introduction 3.2 Fruit Juice Processing; 3.3 Milk and Whey Processing; 3.4 Conclusions; List of Abbreviations; References; 4 Continuous Hydrolysis of Lignocellulosic Biomass via Integrated Membrane Processes; 4.1 Introduction; 4.2 Continuous Enzymatic Hydrolysis; 4.3 Integrated Submerged Membrane System; 4.4 Sugar Concentration; 4.5 Sugar Concentration and Hydrolysate Detoxification by Nanofiltration; 4.6 Statistical Design of Experiments; 4.7 Analysis of Variance using Response Surface Methodology; 4.8 Future Challenges; 4.9 Conclusion; Acknowledgements; List of Abbreviations

List of SymbolsReferences; 5 Integrated Membrane Processes for the Preparation of Emulsions, Particles and Bubbles; 5.1 Introduction; 5.2 Membranes for Preparation of Emulsions and Particles; 5.3 Production of Emulsions Using SPG Membrane; 5.4 Production of Emulsions Using Microengineered Membranes; 5.5 Factors Affecting Droplet Size in DME; 5.6 Factors Affecting Droplet Size in PME; 5.7 Integration of ME with Solid/Semi-Solid Particle Fabrication; 5.8 Integration of Membrane Permeation and Gas Dispersion; 5.9 Integration of Membrane Micromixing and Nanoprecipitation; 5.10 Conclusions

List of AcronymsSymbols; Subscripts; References; 6 Nanofiltration in Integrated Membrane Processes; 6.1 Introduction; 6.2 Pretreatment for Nanofiltration; 6.3 Nanofiltration as a Pretreatment Method; 6.4 Processes in Series; 6.5 Integrated Processes; 6.6 Hybrid Processes; 6.7 Nanofiltration Cascades; 6.8 Conclusions; List of Abbreviations; References; 7 Seawater, Brackish Waters, and Natural Waters Treatment with Hybrid Membrane Processes; 7.1 Introduction; 7.2 Desalination Market; 7.3 Seawater and Brackish Waters Composition; 7.4 Desalination with Integrated Membrane Processes

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9.5 Mass Transport Mechanisms for Inorganic Membranes