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Nota di contenuto	Industrial Scale Natural Products Extraction; Contents; Preface; List of Contributors; 1 Extraction of Natural Products from Plants - An Introduction; 1.1 Introduction; 1.2 Cultivation; 1.3 Extraction; 1.3.1 Solvents; 1.4 Extraction Techniques; 1.5 Purification; 1.5.1 Chromatography; 1.5.1.1 Adsorption Chromatography; 1.5.1.2 Partition Chromatography; 1.5.1.3 Ion Exchange Chromatography; 1.5.1.4 Gel Chromatography; 1.5.1.5 (Bio-) Affinity Chromatography; 1.5.2 Continuous Techniques; 1.5.2.1 True Moving Bed (TMB) Chromatography; 1.5.2.2 Simulated Moving Bed (SMB) Chromatography; 1.5.2.3 Annular Chromatography; 1.5.2.4 Carrousel Adsorbers; References; 2 Solubility of Complex Natural and Pharmaceutical Substances; 2.1 Introduction; 2.2 Solubility Calculations; 2.2.1 Solubility of a Pure Solute in Solvents and Solvent Mixtures; 2.2.2 pH-Dependence of Solubility; 2.2.3 Solubility of Racemic Compounds; 2.3 Thermodynamic Modeling; 2.3.1 PC-SAFT Equation of State; 2.3.1.1 Hard-Chain Contribution Ahc; 2.3.1.2 Dispersion Contribution Adisp; 2.3.1.3 Association Contribution Assoc; 2.3.2 Estimation of PC-SAFT

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Sommario/riassunto

Covering the latest technologies in process engineering, this handbook and ready reference features high pressure processing, alternative solvents and processes, extraction technologies and biotransformations -- describing greener, more efficient and sustainable techniques. The result is an expert account of engineering details from lab-scale experiments to large-scale industrial design. The major focus is on the engineering aspects of extraction with organic and supercritical solvents, ionic liquids or surfactant solutions, and is supplemented by aspects of both up- and downstream process