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3.3.4.3 Experimental Parameters Affecting Retention when Applying Direct Conductivity Detection; 3.3.4.4 Polarizable Anions; 3.3.5 Ion-Exchange Chromatography of Organic Anions; 3.3.5.1 Organic Acids; 3.3.5.2 Polyvalent Anions; 3.3.5.3 Carbohydrates; 3.3.5.4 Oligosaccharides Derived from Glycoproteins; 3.3.6 Gradient Elution Techniques in Anion Exchange Chromatography; 3.4 Cation Exchange Chromatography; 3.4.1 Stationary Phases; 3.4.1.1 Polymer-Based Cation Exchangers; 3.4.1.2 Latexed Cation Exchangers; 3.4.1.3 Silica-Based Cation Exchangers; 3.4.2 Eluents in Cation Exchange Chromatography; 3.4.3 Suppressor Systems in Cation Exchange Chromatography; 3.4.4 Cation Exchange Chromatography of Alkali Metals, Alkaline-Earth Metals, and Amines; 3.4.5 Analysis of Heavy and Transition Metals; 3.4.5.1 Basic Theory; 3.4.5.2 Analysis of Heavy and Transition Metals by Direct Conductivity Detection; 3.4.5.3 Analysis of Heavy and Transition Metals with Spectrophotometric Detection; 3.4.6 Analysis of Polyamines; 4 Ion-Exclusion Chromatography (HPICE); 4.1 The Ion-Exclusion Process; 4.2 Stationary Phases; 4.3 Eluents for Ion-Exclusion Chromatography; 4.4 Suppressor Systems in Ion-Exclusion Chromatography; 4.5 Analysis of Inorganic Acids; 4.6 Analysis of Organic Acids; 4.7 HPICE/HPIC-Coupling; 4.8 Analysis of Alcohols and Aldehydes; 4.9 Analysis of Amino Acids; 4.9.1 Separation of Amino Acids; 4.9.2 Detection of Amino Acids; 4.9.3 Sample Preparation; 5 Ion-Pair Chromatography (MPIC); 5.1 Survey of Existing Retention Models; 5.2 Suppressor Systems in Ion-Pair Chromatography; 5.3 Experimental Parameters that Affect Retention; 5.3.1 Type and Concentration of Lipophilic Counter Ions in the Mobile Phase; 5.3.2 Type and Concentration of the Organic Modifier

Sommario/riassunto

This all-new edition of the highly successful first edition contains a wealth of up-to-date information on this major analytical technique. Ion-exchange, ion-exclusion, and ion-pair chromatography are treated together with their detection methods, and a discussion of quantitative analysis is also given. The complete range of application possibilities of this technique is described and illustrated with numerous chromatograms. Special chapters are featured on applications in environmental analysis, clinical chemistry as well as in the food and beverage industry. From reviews of previous