

Basic Chromatography

Basic Chromatography Course Outline

A. Fundamental Considerations of Differential Migration

1. Overview of Differential Migration
2. Understanding Basic Separation Mechanisms
3. Plate Theory, Band Spreading and Separation Efficiency
4. Physiochemical Considerations

B. Instrumentation

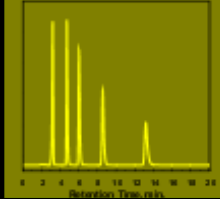
1. Sample Considerations and Introductions
2. Solvent Delivery and Pumping Systems
3. Common Detectors
4. LC-ESI-MS
5. Data Collection, Reduction, and Management
6. System Automation and Remote Operations

C. Columns and Packing Materials

1. Reversed-Phase
2. Normal-Phase
3. Size Exclusion
4. Ion Chromatography

D. Fundamentals of Separation Design

1. Sample Considerations
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2. Separation Modes
3. Column Selection
4. Mobile Phase Selection Including the Use of Secondary Modifiers
5. Optimization of Final Conditions



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E. Qualitative and Quantitative Analysis

1. Precision, Accuracy, and Sensitivity
2. Method Validation

F. Trouble Shooting

1. Sample Considerations
2. Instrumental Considerations
3. Column and Packing Materials Limitations
4. Mobile Phase and Secondary Additives

G. Applications

1. General and Selected Separations
2. Instrumental Considerations