



HPLC Troubleshooting & Maintenance

A logical approach to troubleshooting is explored using both the component (hardware based) and Symptomatic (chromatogram based) perspectives.

Best practice for instrument maintenance and column handling are discussed to aid the user in prolonging the intervals between essential system maintenance.

In-depth treatment of the causes of peak shape and baseline anomalies are fully covered, this course is invaluable to anyone who wishes to gain further insight into the problems associated with HPLC analysis.

Course Contents

Approaches to Logical Troubleshooting

- System overview
- Component perspective
- Symptomatic perspective
- System maintenance records
- Symptoms / Causes / Diagnosis & Solution

Component Perspective

What to look for / what can go wrong with:

- Autosamplers
- Detectors: UV / RI / Fluorescence
- Solvent delivery systems & mobile phase

Columns

- Installation and conditioning
- Column chemistry
- Efficiency loss
- pH operating range / bleed
- Proper column management
- Loss of sensitivity

Symptomatic Perspective - Baselines

- Baseline spikes
- Noisy baselines
- Cycling baselines
- Rising / falling baselines

Symptomatic Perspective - Peaks

- No peaks
- Fronting / tailing peaks
- Split peaks / shoulders
- Broad peaks
- Ghost peaks
- Retention stability
- Loss of sensitivity
- Correct integration methods

Maintenance

- Maintenance schedules
- Correct maintenance procedures for all system components
- Column maintenance



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