

Strategies for troubleshooting common LC problems

Table 1: Basics of LC System Suitability Review

<p>Learning Objective 1: <i>List parameters that are assessed during a system suitability check.</i></p> <p>Training Resources</p> <p>Competency Assessments</p>
<p>Learning Objective 2: <i>Evaluate parameters from system suitability check results using acceptance criteria.</i></p> <p>Training Resources</p> <p>Competency Assessments</p>
<p>Learning Objective 3: <i>Identify parameters that would point toward problems with the analytical column.</i></p> <p>Training Resources</p> <p>Competency Assessments</p>

Strategies for troubleshooting common LC problems

Table 2: Peak shape problems

<p>Learning Objective 1: <i>Explain conditions that would cause fronting, tailing, and splitting of peaks.</i></p> <p>Training Resources</p> <p>Competency Assessments</p>
<p>Learning Objective 2: <i>Illustrate correct and incorrect ways of performing manual integration on fronting, tailing and splitting peaks</i></p> <p>Training Resources</p> <p>Competency Assessments</p>
<p>Learning Objective 3: <i>Outline corrective steps to resolve peak shape problems.</i></p> <p>Training Resources</p> <p>Competency Assessments</p>

Strategies for troubleshooting common LC problems

Table 3: Retention time problems

Learning Objective 1:

Review the causes of two retention time problems and propose investigative and corrective actions.

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Learning Objective 2:

Describe instrument and method factors that affect retention time.

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Learning Objective 3:

Distinguish between shifted and fluctuating retention times.

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Strategies for troubleshooting common LC problems

Table 4: Interfering peaks

Learning Objective 1:

Describe and illustrate with a chromatogram the different types of interfering peaks that could arise from contamination.

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Competency Assessments

Learning Objective 2:

List in order of priority the steps to be used to isolate the source of interfering peaks.

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Competency Assessments

Learning Objective 3:

Propose corrective actions for removal of interfering peak.

Training Resources

Competency Assessments

Strategies for troubleshooting common LC problems

Table 5: Back pressure problems

Learning Objective 1:

Explain common causes of no/low, high, and fluctuating backpressure.

Training Resources

Competency Assessments

Learning Objective 2:

Apply a systematic approach to trace the source of high backpressure.

Training Resources

Competency Assessments

Learning Objective 3:

Propose methods to prevent backpressure problems.

Training Resources

Competency Assessments