

HPLC Hacks: 9 Easy Ways To Modernize Your Methods

Adopting modern analytical technology can help your lab boost productivity, reduce costs, and lower environmental impacts by using fewer chemicals. This list provides top considerations to help you get started.



Lab operation

- 1. Make a list of any recurring issues causing preventable instrument downtime**
Use a [Fishbone diagram](#) to find the root cause of each issue and see what solutions you need to overcome the problem.
- 2. Identify which methods you need to modernize that are draining your productivity and budget**
Modernizing [older methods](#) can help increase your lab's productivity and lower your carbon footprint.
- 3. See what changes to your method are allowable without needing revalidation**
Ways to modernize your method include changing column particle size, length, and inner diameter for isocratic and gradient methods. Consult your regulatory guidelines ([like USP 621](#)) to learn more.

HPLC instrument

- 4. Make sure your instrument can handle a wider range of backpressures**
Moving to [smaller column particles and inner diameters](#) can improve method efficiency, speed, and sensitivity at the cost of higher backpressures. Ensure your instrument can meet the pressure demands of your [new method](#).
- 5. Consider upgrading to a dual-channel instrument to maximize your throughput and bench space**
Dual-channel LC systems have [two flow paths](#) in a single system, allowing you to run two analyses simultaneously.
- 6. Adjust fittings and tubing to match your new flow rates and column dimensions**
The impact of [extra column](#) and [dead volumes](#) on resolution becomes more pronounced as your flow rates and column volumes decrease.

CDS software and automation

- 7. Use an instrument and software combo with built-in tools to simplify method transfer**
Leverage tools to [simplify your method transfer](#) to newer LC hardware, like custom injection programs, adjustable gradient delay volumes, and dual-column heating modes.
- 8. Simplify sequence creation and instrument operation with eWorkflows**
Different instrument conditions, injection sequences, and techniques for calculating results can create complexity for operators. Adopting software with [customizable templates](#) helps you get accurate results quicker and more efficiently.
- 9. Set-up automated system suitability testing to prevent wasted samples from failed runs**
Take advantage of [automated system suitability testing](#) and intelligent run control to set up in-run pass/fail limits and define sample re-injection criteria, eliminating errors and sample waste.

Want more free tips?

Check out this helpful guide to modernizing your methods [➔](#)



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