

Create LC Methods in Seconds with Our Free **EZLC Online Software Suite**

- Develop new methods quickly at your desk; no lab time needed.
- Optimize or translate existing methods accurately and reliably.
- Increase productivity—easy-to-use software saves time and increases certainty.

**Try Our New
Pesticides Library!**



RESTEK

Pure Chromatography

www.restek.com

Simplify and Speed Up Method Development with the Pro EZLC Chromatogram Modeler

Now Available for Pesticides, Cannabinoids, PFAS, Drugs of Abuse, and Nitrosamines—
Other Compound Libraries Coming Soon!

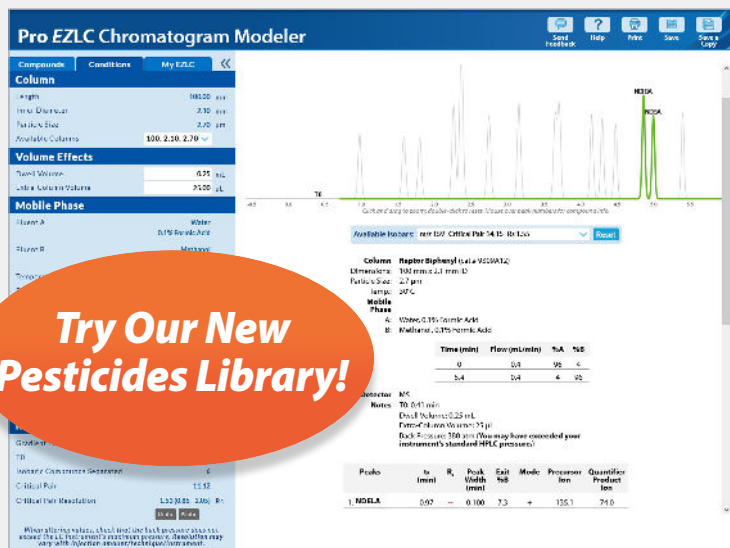
The Pro EZLC chromatogram modeler makes it easy to develop and optimize new LC methods quickly and accurately. Simply enter your compound list (no experimental data needed); select a phase; and the simulation software instantly returns column and separation conditions that can be applied directly in the lab or further refined.

Before spending time in the lab, use the Pro EZLC chromatogram modeler to do the following:

- Select compounds from our libraries.
- Target specific analytes for resolution.
- Try different stationary phases virtually.
- Understand how chromatographic variables affect compound retention and elution.
- Change critical parameters (column phase and dimensions, mobile phase, gradient, temperature, etc.) to optimize your model in real time.
- Save models for easy comparison and future reference.

Cut Method Development Time and Cost Dramatically

For your next method, avoid tying up lab instruments with development work. Keep your LCs running samples while you explore different columns and conditions virtually with Restek's Pro EZLC chromatogram modeler.



Pro EZLC Chromatogram Modeler

YOU NEED: To perform LC method development from scratch, including the column and conditions.

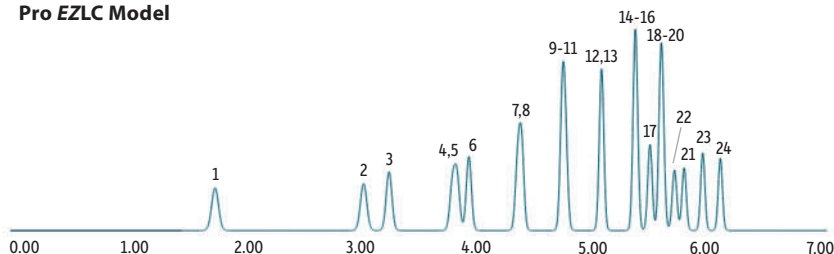
YOU HAVE: An analyte list (and you may have a column in mind, too).

YOU GET: Customized, interactive model chromatograms that provide a specific phase, column dimensions, and conditions. You can change columns, modify LC method conditions, zoom in, and view chemical structures.

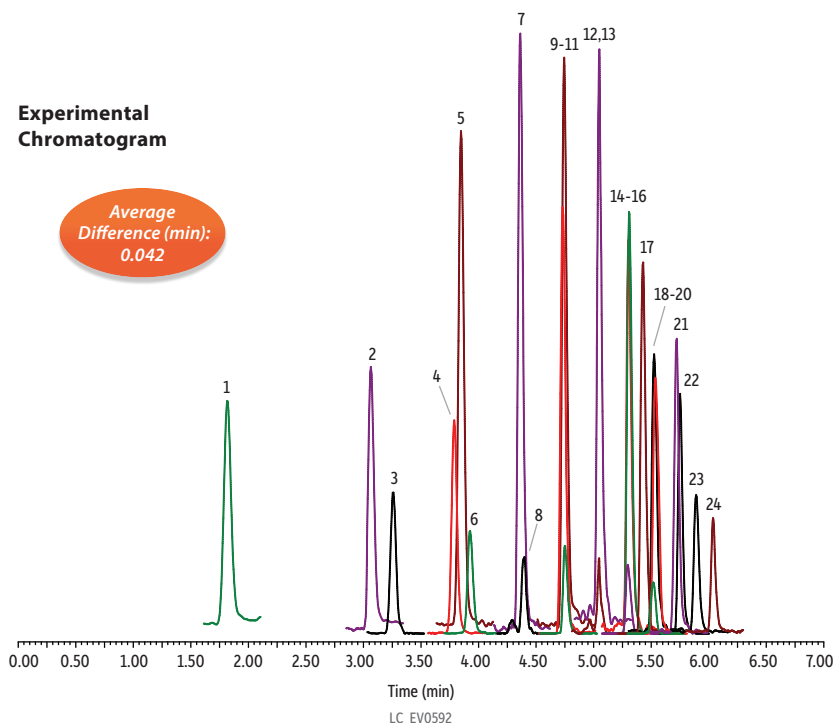
Take a video tour at www.restek.com/proezlc

But Does It Work? Yes! The average retention time difference for these 24 PFAS was just 0.042 minutes. And our full 58-compound PFAS library covers most major methods!

Pro EZLC Model



Experimental Chromatogram



Peaks	Precursor Ion	Product Ion	t_r Experimental (min)	t_r Modeled (min)	Difference (min)	Column Dimensions:	Force C18 (cat. # 9634252)
1. Perfluorobutanoic acid (PFBA)	213.0	168.7	1.82	1.69	0.13	Particle Size:	50 mm x 2.1 mm ID
2. Perfluoropentanoic acid (PFPeA)	262.9	218.7	3.07	2.98	0.09	1.8 μ m	
3. Perfluorobutane sulfonic acid (PFBS)	299.0	79.9	3.25	3.20	0.05	Pore Size:	100 Å
4. 1H, 1H, 2H, 2H-Perfluorohexane sulfonic acid (4:2 FTS)	327.0	307.0	3.79	3.75	0.04	Temp.:	40 °C
5. Perfluorohexanoic acid (PFHxA)	313.1	268.8	3.84	3.79	0.05	Standard/Sample	PFAS
6. Perfluoropentane sulfonic acid (PFPeS)	349.0	79.9	3.92	3.90	0.02	Mobile Phase	
7. Perfluoroheptanoic acid (PFHpA)	362.9	319.0	4.36	4.32	0.04	A:	Water, 5 mM ammonium acetate
8. Perfluorohexane sulfonic acid (PFHxS)	399.0	80.0	4.40	4.35	0.05	B:	Methanol
9. 1H, 1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2 FTS)	426.9	406.9	4.72	4.71	0.01		
10. Perfluorooctanoic acid (PFOA)	412.9	368.8	4.75	4.71	0.04		
11. Perfluoroheptane sulfonic acid (PFHpS)	449.0	80.0	4.75	4.74	0.01		
12. Perfluorononanoic acid (PFNA)	462.9	418.9	5.05	5.05	0.00		
13. Perfluorooctane sulfonic acid (PFOS)	498.9	79.9	5.05	5.05	0.00		
14. 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS)	526.9	507.2	5.29	5.35	0.06		
15. Perfluorononane sulfonic acid (PFNS)	548.9	80.0	5.30	5.34	0.04		
16. Perfluorodecanoic acid (PFDA)	512.9	469.1	5.30	5.34	0.04		
17. N-Methylperfluoro-1-octanesulfonamidoacetic acid (N-MeFOSAA)	570.0	419.0	5.43	5.47	0.04		
18. Perfluoroundecanoic acid (PFUnA)	562.9	519.2	5.52	5.56	0.04		
19. Perfluorodecane sulfonic acid (PFDS)	598.9	99.0	5.53	5.56	0.03		
20. N-Ethylperfluoro-1-octanesulfonamidoacetic acid (N-EtFOSAA)	584.0	526.1	5.54	5.58	0.04		
21. Perfluorododecanoic acid (PFDoA)	613.0	569.2	5.71	5.76	0.05		
22. Perfluorooctane sulfonamide (FOSA)	498.5	78.1	5.75	5.68	0.07		
23. Perfluorotridecanoic acid (PFTriA)	662.5	619.2	5.89	5.92	0.03		
24. Perfluorotetradecanoic acid (PFTeA)	712.5	669.1	6.04	6.08	0.04		

Time (min)	Flow (mL/min)	%A	%B
0.00	0.4	80	20
6.00	0.4	5	95
6.01	0.4	80	20
8.00	0.4	80	20

Detector
Ion Source: Electrospray
Ion Mode: ESI-
Mode: MRM
Instrument
Comparison of in-lab LC analysis and Pro EZLC model chromatogram
Notes
The dwell volume of the modeler was adjusted to accommodate for the delay column used during experimental run.

Try Restek's Pro EZLC chromatogram modeler today for an easy, risk-free way to increase your lab's productivity through faster, more effective method development and optimization. www.restek.com/proezlc

Scale Methods Quickly and Accurately Using the Pro EZLC Method Translator

Scaling down an existing method to a smaller column can speed up run time, increase sample throughput, and reduce solvent use but only if the LC conditions are properly adjusted. Pro EZLC method translation software simplifies and streamlines this process by taking manual calculations and time-consuming lab work out of the way. Just input your current column and method, then select a new column you want to try; the Pro EZLC method translator will instantly and accurately generate your new method conditions.

Pro EZLC Method Translator						
Column	Original		Translation			
Length	150		100		mm	
Inner Diameter	4.6		3		mm	
Particle Size	5		2.7		µm	
Volume Effects						
Injection Volume	6		2		µL	
Dwell Volume	0.25		0.25		mL	
Extra-Column Volume	8		8		µL	
Method Program						
<input type="radio"/> Isocratic	Time (min)	%B	Flow (mL/min)	Time (min)	%B	Flow (mL/min)
<input checked="" type="radio"/> Gradient	0	0	1	0	0	0.58
Steps (2-8)	10	100	1	4.9	100	0.58
2						
Results				Excellent translation		
Speed Gain	1.00		2.04		x	
Back Pressure	1.00		3.12		x	
Critical Pair Resolution	2.00		2.01		Rs	
Compound Retention Time	10		5.21		min	
Injections	100		100			
Total Time	1000.00		490.00		min	
Solvent Usage	1000.00		284.20		mL	

Pro EZLC Method Translator

YOU NEED: To reduce run time and speed up your current method by changing column dimensions and/or particle size.

YOU HAVE: An existing method.

YOU GET: Accurately translated isocratic or gradient LC method parameters as well as calculated retention times, speed gains, solvent savings, and critical pair resolution values.

Start saving time today—
develop, optimize, or translate methods
quickly and with confidence using Restek's
EZLC online software suite!

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