



LC Columns

NEW! Roc LC Columns: The Reliable Cornerstone for Your LC Lab

Conventional HPLC columns built for
solid performance, exceptional value,
and compact storage.

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Roc LC Columns

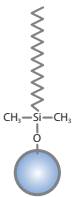
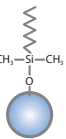
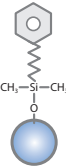
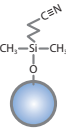
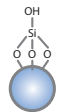
- Conventional HPLC column built to be the cornerstone for your lab; pressure rated for any 400 bar HPLC system.
- Solid and reliable—delivers the peak shape, reproducibility, ruggedness, and performance you demand.
- Exceptional value for routine analyses and large-volume workflows—high-purity, fully porous silica backed by quality manufacturing features a variety of phases to fit most HPLC methods.
- Ideal for a wide range of applications from food to pharma; 5 phases cover 98% of USP methods.
- Newly designed minimal packaging for compact storage—download serial #-specific certificates of analysis at www.restek.com/documentation

Get more of what you want, and less of what you don't, with Roc LC columns from Restek.

Order today at www.restek.com/roc



Roc Family of LC Phases

	C18 	C8 	Phenyl-Hexyl 	Cyano 	Silica 
USP Phase Code	L1	L7	L11	L10	L3
Stationary Phase Category	C18, octadecylsilane	C8, octylsilane	phenyl	cyano	bare silica
Ligand Type	monomeric C18	monomeric C8	phenyl-hexyl	cyanopropyl	n/a
Particle Size	3 µm or 5 µm, spherical	3 µm or 5 µm, spherical	3 µm or 5 µm, spherical	3 µm or 5 µm, spherical	3 µm or 5 µm, spherical
Pore Size	100 Å	100 Å	100 Å	100 Å	100 Å
Surface Area	300 m ² /g	300 m ² /g	300 m ² /g	300 m ² /g	300 m ² /g
Carbon Load	20%	12%	15%	8%	n/a
End-Cap	yes	yes	yes	yes	n/a
pH Range	2.5 to 8.0	2.5 to 8.0	2.0 to 8.0	2.5 to 8.0	2.5 to 8.0
Maximum Temperature	80 °C	80 °C	80 °C	80 °C	80 °C

Roc On with These Dependable LC Columns

Figure 1: Over 1,000 injections and Roc HPLC columns will still offer reliable performance, regardless of which dimension your method calls for.

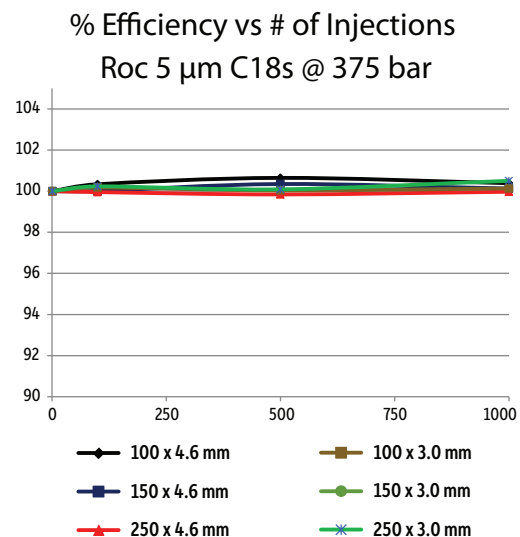


Figure 2: Add a Roc LC guard to further extend the life of your analytical column without impacting your retention, peak shape, or efficiency.

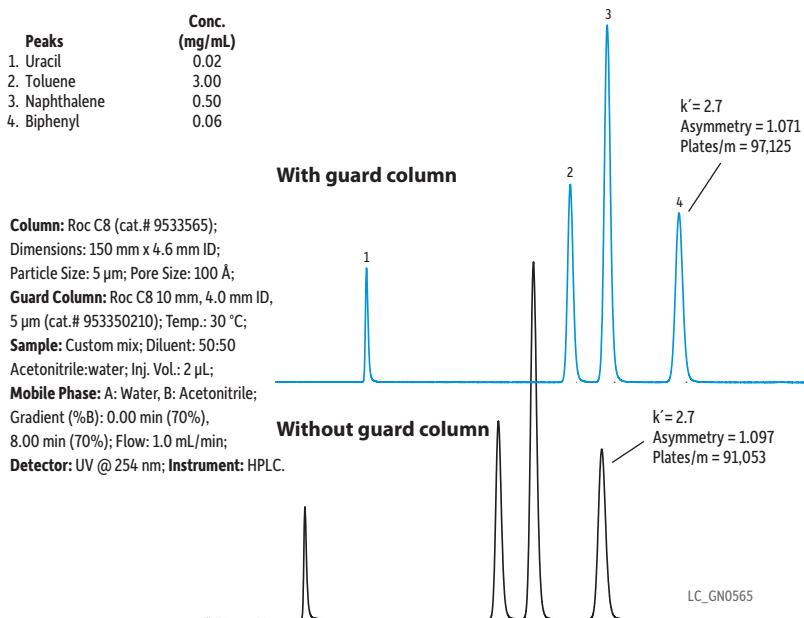
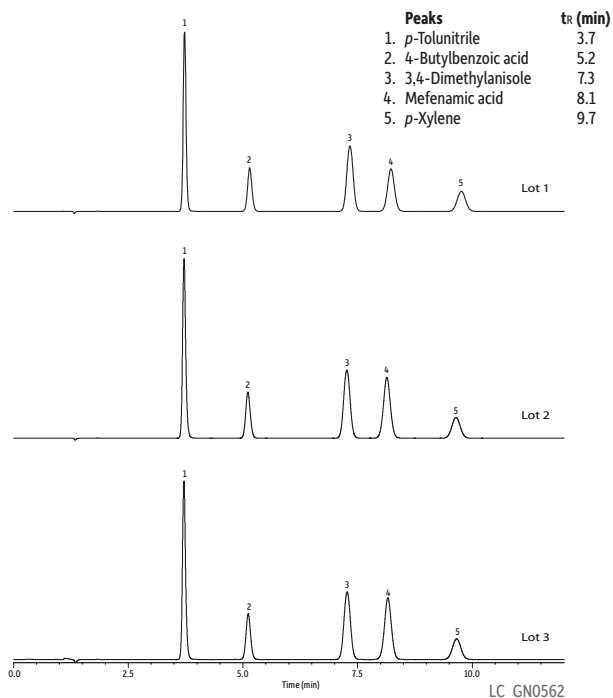


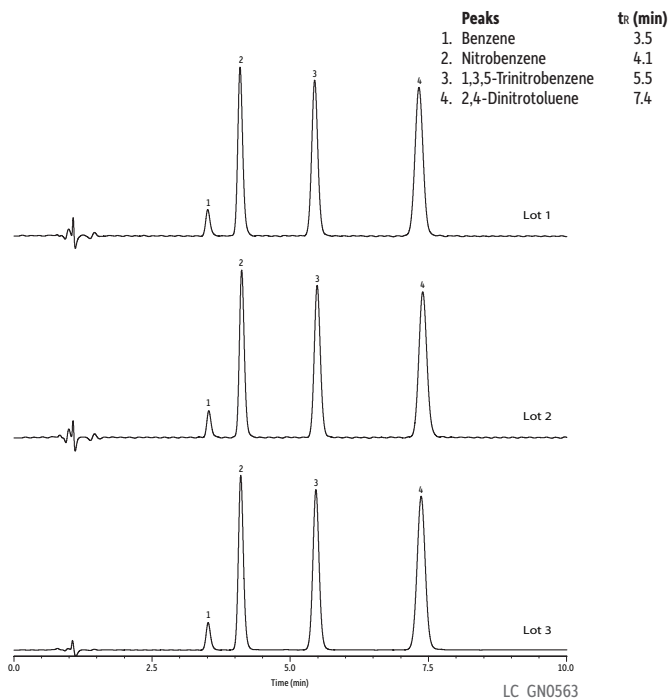
Figure 3: From one column to the next, one lot to the next, Roc columns provide results you can trust time and time again.

Reversed Phase



Column: Roc C18 (cat.# 9534565); Dimensions: 150 mm x 4.6 mm ID; Particle Size: 5 µm; Pore Size: 100 Å; Temp.: 35 °C; Inj. Vol.: 5 µL; **Mobile Phase:** 0.05% Formic acid in water:0.05% formic acid in acetonitrile (40:60); Flow: 1.0 mL/min; **Detector:** UV/Vis @ 220 nm; Cell Temp: 35 °C; **Instrument:** HPLC.

Normal Phase



Column: Roc Cyano (cat.# 953631E); Dimensions: 100 mm x 3.0 mm ID; Particle Size: 3 µm; Pore Size: 100 Å; Temp.: 40 °C; **Sample:** Inj. Vol.: 1 µL; **Mobile Phase:** Water:acetonitrile (80:20); Flow: 0.6 mL/min; **Detector:** UV/Vis @ 254 nm; Cell Temp: 40 °C; **Instrument:** HPLC.

Roc LC Columns from Restek

Perform Better Than or Equal To Columns from Other Vendors



Table I: Roc LC columns offer equivalent or better peak shape, retention, and resolution compared to FPP columns from other manufacturers under identical conditions (average values, n = 5).

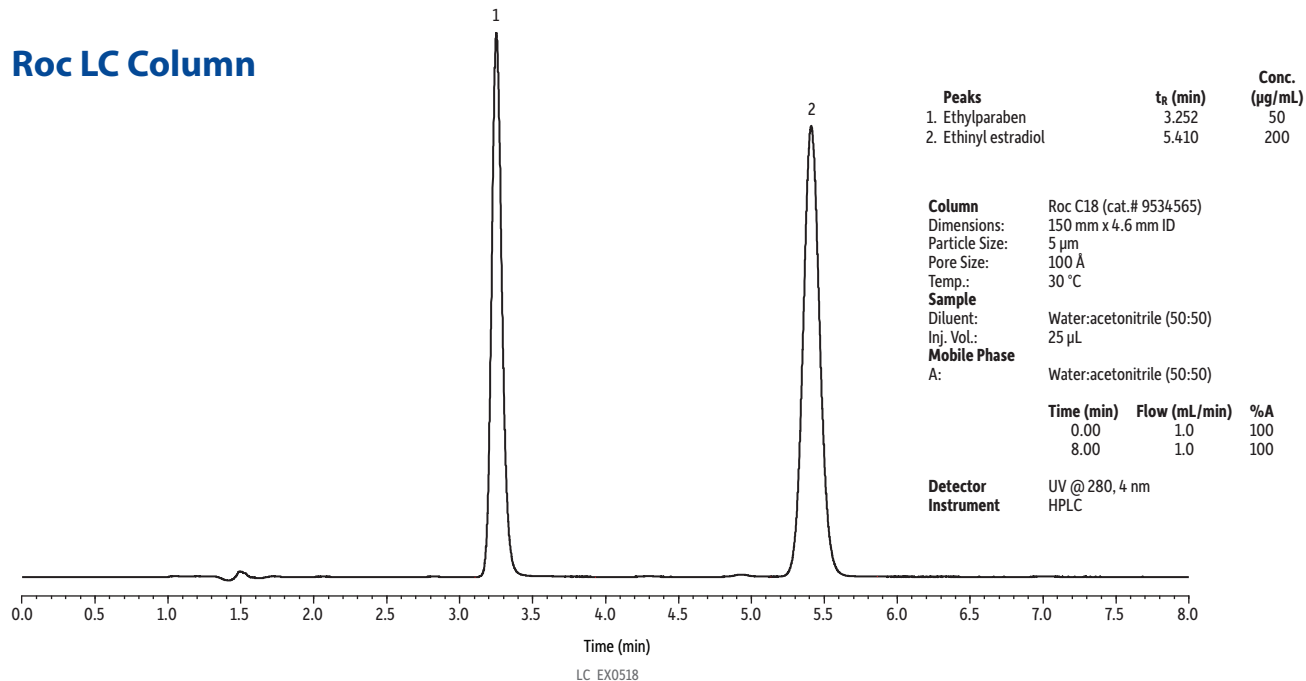
Columns	Analyte	tr	Area	Height	USP Tailing	Asymmetry (10%)	k'	Plate Number	Resolution
Roc	Ethylparaben	3.252	1,407,609	281,358	1.176	1.148	1.182	9,738	12.5
	Ethinyl Estradiol	5.410	1,869,684	234,346	1.075	1.064	2.631	10,264	
Vendor A	Ethylparaben	3.060	1,424,621	215,698	1.907	1.608	1.013	6,732	10.1
	Ethinyl Estradiol	4.889	1,860,659	223,879	1.311	1.217	2.217	8,575	
Vendor B	Ethylparaben	2.873	1,426,068	319,850	1.143	1.124	0.866	9,706	9.9
	Ethinyl Estradiol	4.307	1,867,049	287,414	1.064	1.057	1.797	10,031	
Vendor C	Ethylparaben	2.763	1,413,099	315,080	1.262	1.217	0.932	8,643	11.9
	Ethinyl Estradiol	4.580	1,868,724	270,662	1.143	1.122	2.203	9,700	
Vendor D	Ethylparaben	3.157	2,939,187	357,541	1.159	0.965	1.084	4,478	12.2
	Ethinyl Estradiol	5.816	1,771,785	182,056	1.301	1.232	2.839	8,954	
Vendor E	Ethylparaben	3.873	1,498,446	244,642	1.172	1.134	1.221	9,348	13.7
	Ethinyl Estradiol	6.839	1,781,453	174,955	1.080	1.063	2.921	9,963	

Chromatographic conditions for Table I and Figure 4 (USP Monograph 38, Ethinyl Estradiol)

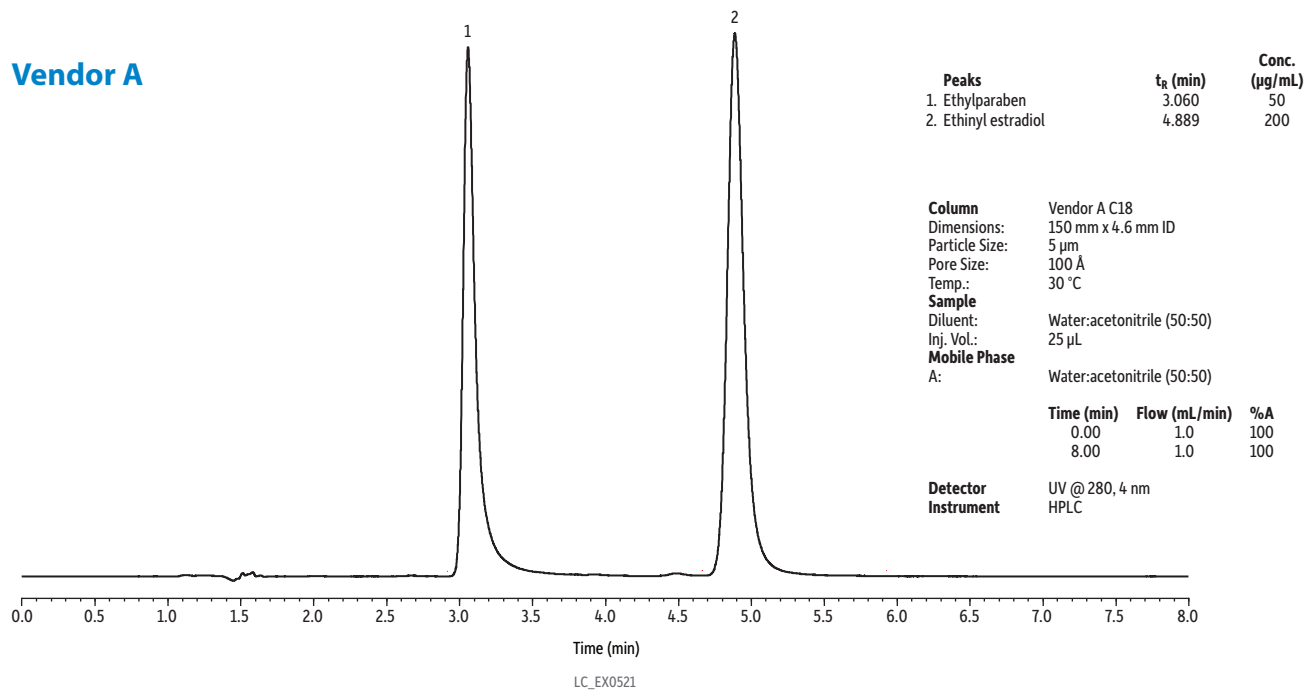
All columns are C18 stationary phase (5 µm, 150 x 4.6 mm). Conditions are as follows. Mobile phase: water:acetonitrile (1:1); Flow rate: 1 mL/min; Injection volume: 25 µL; Instrument: HPLC with UV detector, 280 nm; Sample: 200 µg/mL ethinyl estradiol and 50 µg/mL ethylparaben in water:acetonitrile (1:1).

Figure 4: Count on Roc LC columns from Restek for outstanding chromatographic performance.

Roc LC Column



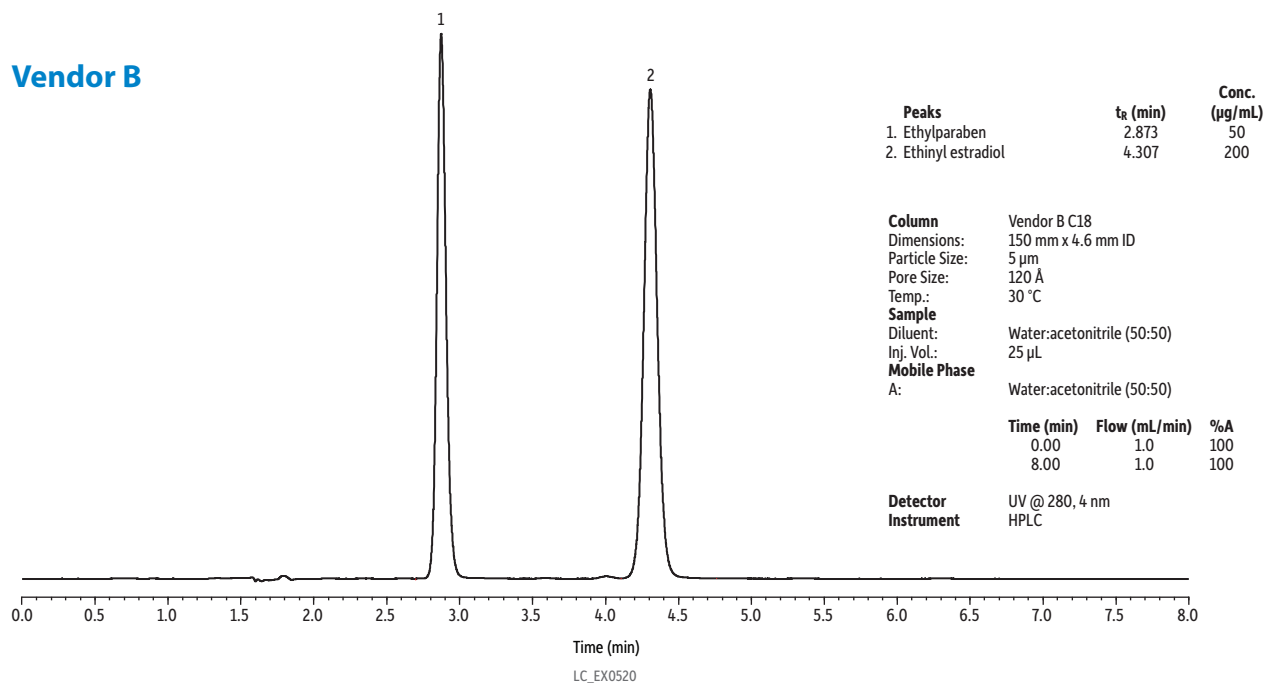
Vendor A



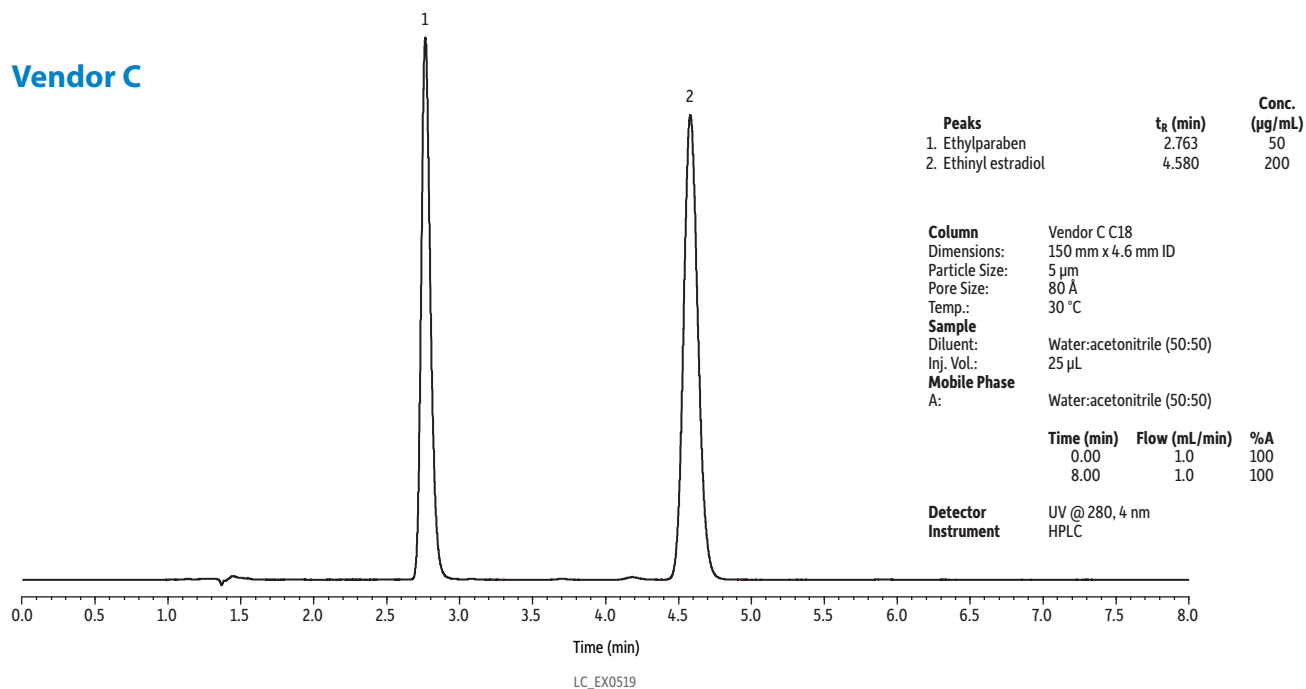
(Continued from page 5)

Figure 4: Count on Roc LC columns from Restek for outstanding chromatographic performance.

Vendor B



Vendor C



(Continued from page 6)

Figure 4: Count on Roc LC columns from Restek for outstanding chromatographic performance.

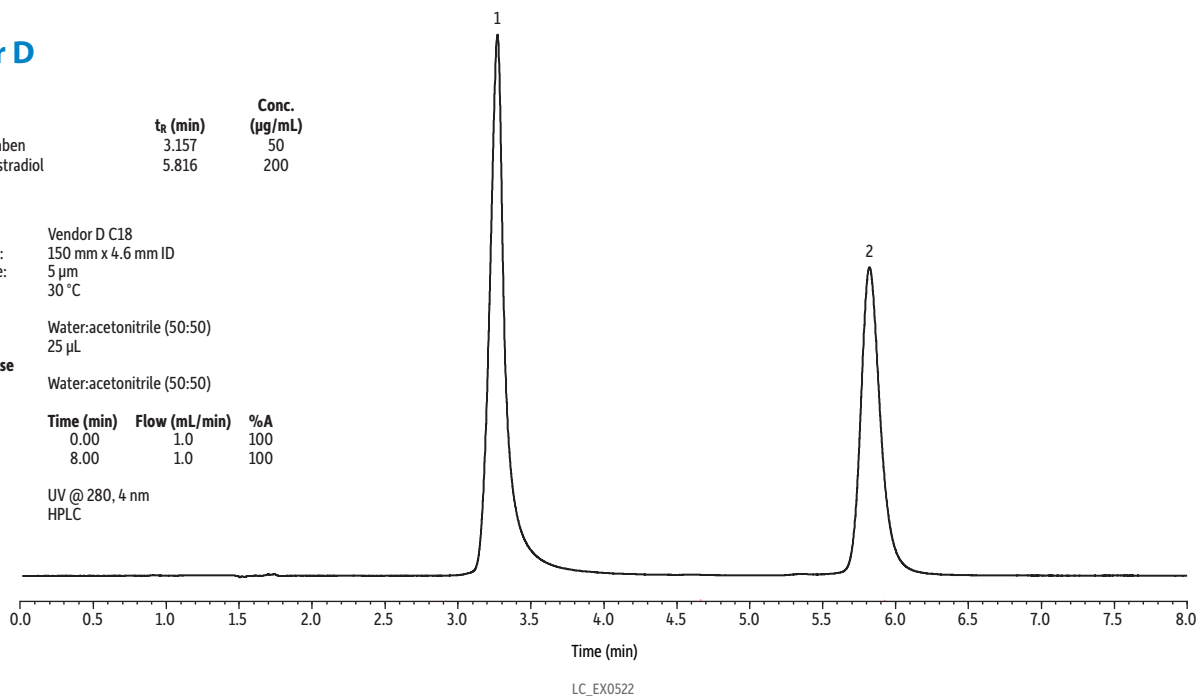
Vendor D

Peaks	t_R (min)	Conc. ($\mu\text{g/mL}$)
1. Ethylparaben	3.157	50
2. Ethinyl estradiol	5.816	200

Column Vendor D C18
Dimensions: 150 mm x 4.6 mm ID
Particle Size: 5 μm
Temp.: 30 $^{\circ}\text{C}$
Sample
Diluent: Water:acetonitrile (50:50)
Inj. Vol.: 25 μL
Mobile Phase
A: Water:acetonitrile (50:50)

Time (min)	Flow (mL/min)	%A
0.00	1.0	100
8.00	1.0	100

Detector UV @ 280, 4 nm
Instrument HPLC



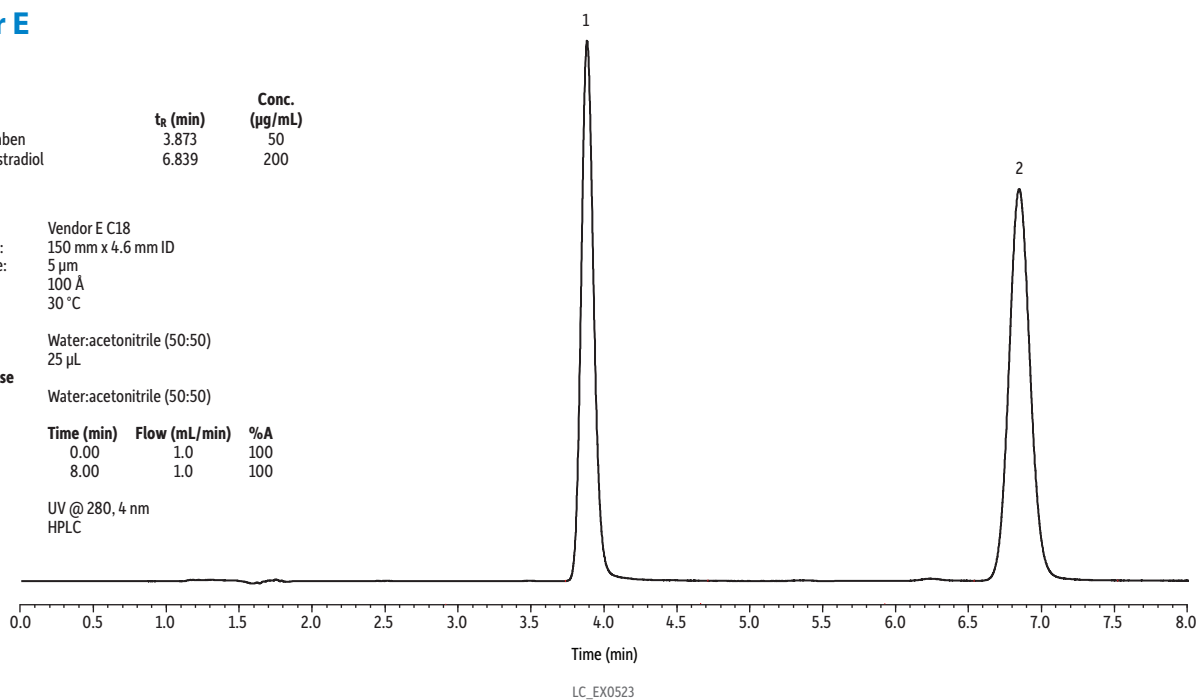
Vendor E

Peaks	t_R (min)	Conc. ($\mu\text{g/mL}$)
1. Ethylparaben	3.873	50
2. Ethinyl estradiol	6.839	200

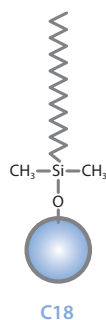
Column Vendor E C18
Dimensions: 150 mm x 4.6 mm ID
Particle Size: 5 μm
Pore Size: 100 $\text{\AA}$
Temp.: 30 $^{\circ}\text{C}$
Sample
Diluent: Water:acetonitrile (50:50)
Inj. Vol.: 25 μL
Mobile Phase
A: Water:acetonitrile (50:50)

Time (min)	Flow (mL/min)	%A
0.00	1.0	100
8.00	1.0	100

Detector UV @ 280, 4 nm
Instrument HPLC

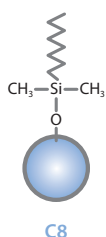


Get Roc Solid Performance



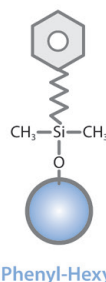
Roc C18 HPLC Columns (USP L1)

Length	3.0 mm cat.#	4.6 mm cat.#
3 µm Columns		
100 mm	953431E	953431S
150 mm	953436E	953436S
5 µm Columns		
100 mm	953451E	953451S
150 mm	953456E	953456S
250 mm	953457E	953457S



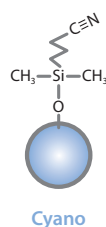
Roc C8 HPLC Columns (USP L7)

Length	3.0 mm cat.#	4.6 mm cat.#
3 µm Columns		
100 mm	953331E	953331S
150 mm	953336E	953336S
5 µm Columns		
100 mm	953351E	953351S
150 mm	953356E	953356S
250 mm	953357E	953357S



Roc Phenyl-Hexyl HPLC Columns (USP L11)

Length	3.0 mm cat.#	4.6 mm cat.#
3 µm Columns		
100 mm	953531E	953531S
150 mm	953536E	953536S
5 µm Columns		
100 mm	953551E	953551S
150 mm	953556E	953556S
250 mm	953557E	953557S



Roc Cyano HPLC Columns (USP L10)

Length	3.0 mm cat.#	4.6 mm cat.#
3 µm Columns		
100 mm	953631E	953631S
150 mm	953636E	953636S
5 µm Columns		
100 mm	953651E	953651S
150 mm	953656E	953656S
250 mm	953657E	953657S



Roc Silica HPLC Columns (USP L3)

Length	3.0 mm cat.#	4.6 mm cat.#
3 µm Columns		
100 mm	953031E	953031S
150 mm	953036E	953036S
5 µm Columns		
100 mm	953051E	953051S
150 mm	953056E	953056S
250 mm	953057E	953057S

Roc LC Guard Column Cartridges

- Protect your Roc LC columns with minimal effect on retention, peak shape, or efficiency.
- Guard column cartridges require Roc guard column holder (cat.# 25812).



Description	qty.	10 x 4.0 mm cat.#
Roc C8 Guard Cartridge	3-pk.	953350210
Roc C18 Guard Cartridge	3-pk.	953450210
Roc Cyano Guard Cartridge	3-pk.	953650210
Roc Phenyl-Hexyl Guard Cartridge	3-pk.	953550210
Roc Silica Guard Cartridge	3-pk.	953050210

Roc LC Guard Column Holder



Requires separate guard column cartridges (available from Restek).

Description	qty.	cat.#
Roc LC Guard Column Holder for 10 x 4.0 mm Roc Guard Cartridges	ea.	25812

Replacement PEEK Ferrules for Roc LC Guard Column Holder



Description	qty.	cat.#
Replacement PEEK Ferrules for Roc LC Guard Column Holder	3-pk.	26391

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