

explore

LUNA<sup>®</sup>



phenomenex<sup>®</sup>  
...breaking with tradition<sup>SM</sup>





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## Becoming the world's #1 HPLC column meant no shortcuts.

The Luna® brand of columns and media is more than just a product line from Phenomenex. It is a pledge to provide you with the highest level of satisfaction for your chromatographic goals. Every aspect of Luna products has been engineered to meet the exacting demands placed on today's chromatographers.

Luna products continue to uphold the quality our customers depend on. If you have never tried Luna columns or media, this brochure will guide you through the various solutions to fit your needs.

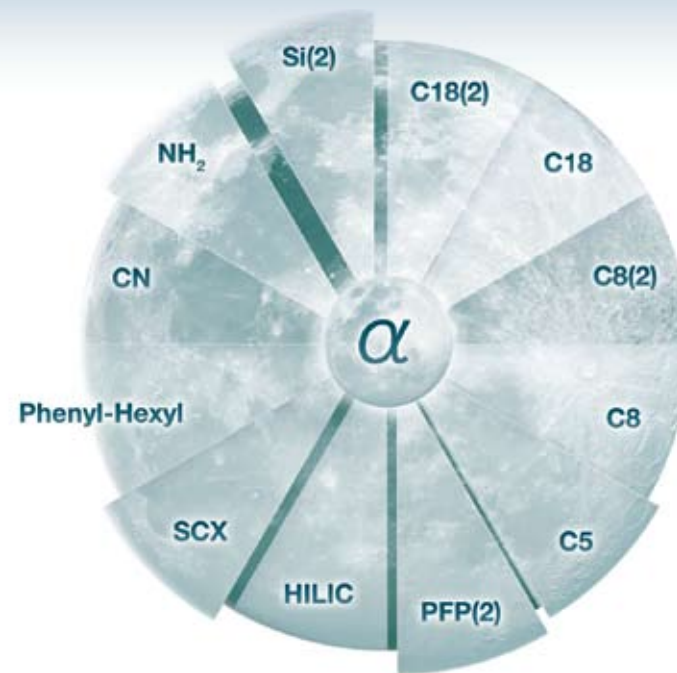
For those who use Luna products daily, thank you for making Luna columns #1 in the world.

# Explore Successful Separations

Your success begins with our commitment to provide the essential solutions to HPLC separations in the Luna brand. Some of the highest quality and performance standards are incorporated into Luna products, making them an indispensable platform for all areas of HPLC.

## Explore Resolution with Luna Selectivities

Phase selectivity has the strongest impact on overall chromatographic resolution. Choosing the optimal selectivity can drive your separation to success. Luna phases span through 12 different chemistries, each offering its own unique selectivity.



### Bonded Phases

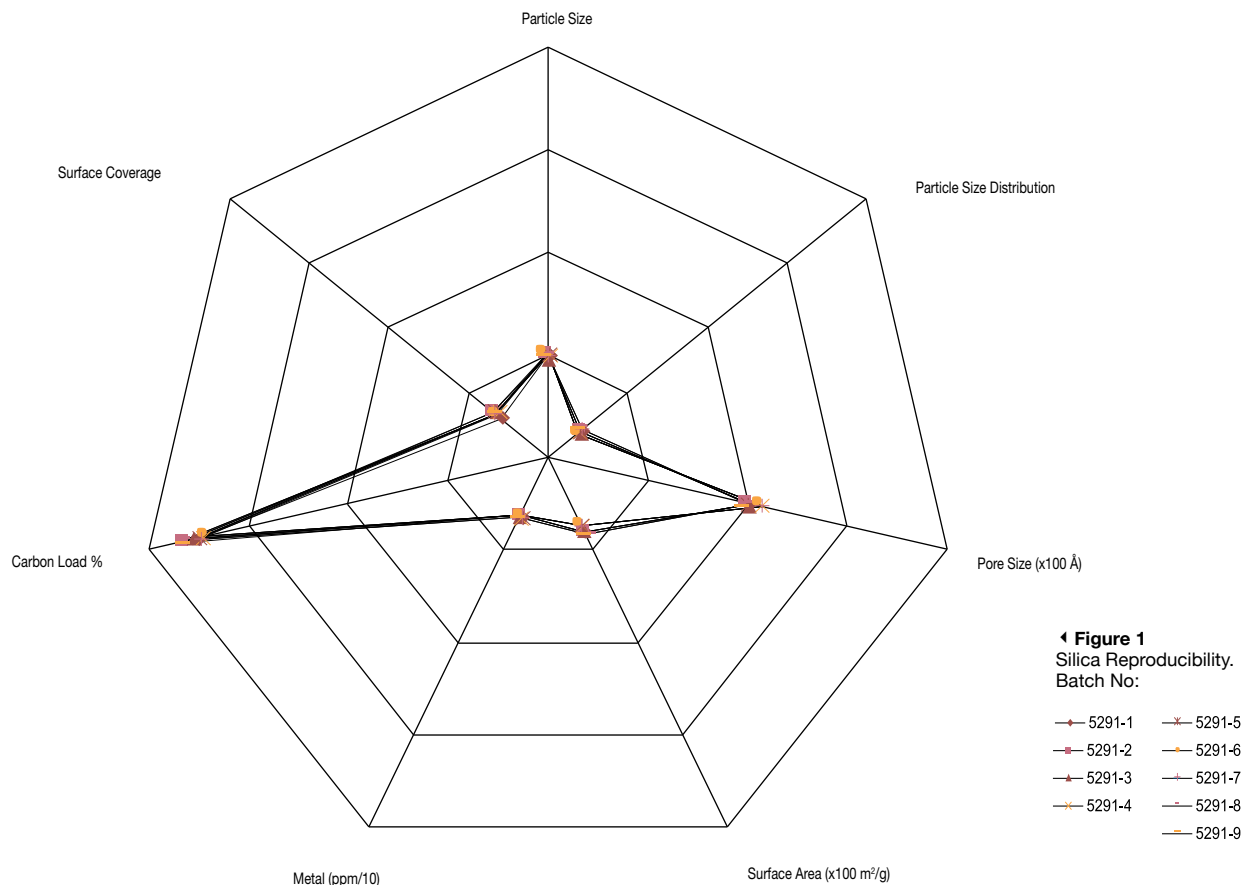
LUNA PHASES	Description	Particle Size (μm)	Pore Size (Å)	Surface Area (m <sup>2</sup> /g)	Carbon Load (%)	Bonded Phase Coverage (μmole/m <sup>2</sup> )	pH Stability	Application	Reversed Phase	Normal Phase	HILIC	IEX
<b>Silica(2)</b>	Unbonded silica	3, 5, 10, 10-PREP, 15	100	400	—	—	—	Non-polar compounds		○		
<b>C5</b>	5 Carbon ligand	5, 10	100	440	12.5	7.85	1.5 - 10	Good alternative to C8 when less retention is desired	○			
<b>C8</b>	Highly retentive, original C8 phase	5, 10	100	440	14.75	5.50	1.5 - 10	For use when a more retentive C8 is desired	○			
<b>C8(2)</b>	C8 ligand optimized for improved peak shape	3, 5, 10, 10-PREP, 15	100	400	13.5	5.50	1.5 - 10	Great starting phase for method development	○			
<b>C18</b>	Highly retentive, original C18 phase	5, 10	100	440	19.0	3.00	1.5 - 10	Use when maximum retention of non polars is desired	○			
<b>C18(2)</b>	C18 ligand optimized for improved peak shape	2.5, 3, 5, 10, 10-PREP, 15	100	400	17.5	3.00	1.5 - 10	From capillary LC/MS to process scale <b>OUR MOST POPULAR PHASE</b>	○			
<b>CN</b>	Versatile CN phase	3, 5, 10	100	400	7.0	3.80	1.5 - 7.0	For improving the retention of polar compounds	○	○		
<b>NH<sub>2</sub></b>	Rugged and reproducible NH <sub>2</sub>	3, 5, 10	100	400	9.5	5.80	1.5 - 11	Sugar alcohols, anionic or hydrogen bonding compounds	○	○		○
<b>Phenyl-Hexyl</b>	Phenyl phase attached to C6 (hexyl) ligand	3, 5, 10, 10-PREP, 15	100	400	17.5	4.00	1.5 - 10	Unique selectivity for very polar and aromatic compounds	○			
<b>SCX</b>	Benzene sulfonic acid	5, 10	100	400	Binding Capacity: 0.15 meq/g		2.0 - 7.0	Amine and polyamine containing compounds				○
<b>HILIC</b>	Reproducible, cross-linked diol	3, 5	200	200	5.7	4.30	1.5 - 8.0	Increased retention and MS sensitivity of polar compounds			○	
<b>PFP(2)</b>	Pentafluorophenyl with a C3 (propyl) linkage	3, 5	100	400	11.5	2.2	1.5 - 8.0	Highly polar compounds, halogenated compounds and isomers	○			

# Explore Robust Methods

Successful methods depend on results that can tolerate minor variations in chromatographic parameters. The base silica of Luna is 99.999 % pure and meticulous care is given to quality control over all aspects of silica structure and chemistry. This ensures that Luna columns will always perform consistently, resulting in method reproducibility you can trust.

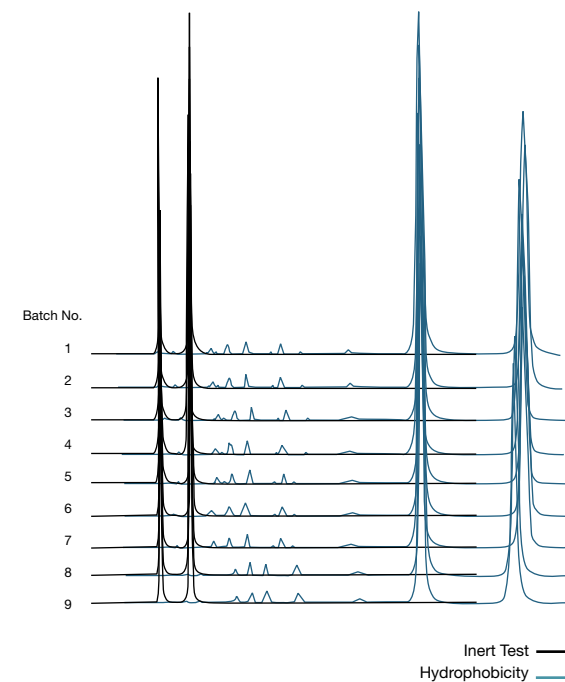
## Reliable Performance

Almost no variation is observed among the batches of Luna. **Figure 1** shows quality control test data designed to monitor the slightest differences that may affect reproducibility - particle shape and smoothness, porosimetry, bonding consistency and pH stability.



## Column to Column Reproducibility

The chromatograms in **Figure 2** show consistency of inertness (black) and hydrophobicity (blue) for Luna 5 µm C18(2) columns from 9 different batches. Almost no variation is observed.



**Figure 2**  
Column-to-column  
reproducibility for 9 batches of Luna

# Explore Options for Every Development Route

Luna media is available in a wide variety of particle sizes and formats, each with different attributes that can be optimized for nearly any stage of development.



## Fast LC-MS Methods

Luna media is available in MercuryMS™ Cartridges and online columns for quick, cost-effective screening methods.



## High-Speed-Technology

Luna 2.5 μm C18(2)-HST columns deliver highly efficient separations without the need for expensive high-pressure instruments.



## Develop Robust Analytical Methods

Analytical HPLC columns are the most widely used format and are available in a wide variety of dimensions and particle sizes.



## Lab-Scale Purification Redefined

Axia™-packed Luna® preparative columns provide industry-leading lifetimes and efficiencies.



Beyond our largest preparative column dimensions, Luna phases are available in bulk quantities for HPLC purification at the process, pilot, and commercial scale. The highly reproducible manufacturing process makes scaling to large scale purification extremely straight-forward.

The wide range of Luna phases provides you with the selectivity choices to optimize parameters such as retention time and resolution. Additionally, the high surface area (400 m<sup>2</sup>/g) of Luna materials gives you greater loadability than most other medias. For those challenging purifications where chromatography is the best option, the Luna family offers an excellent platform for all purification challenges.



Contact your Phenomenex technical consultant or local distributor for bulk media sales.

# Luna C18(2), C8(2), C5

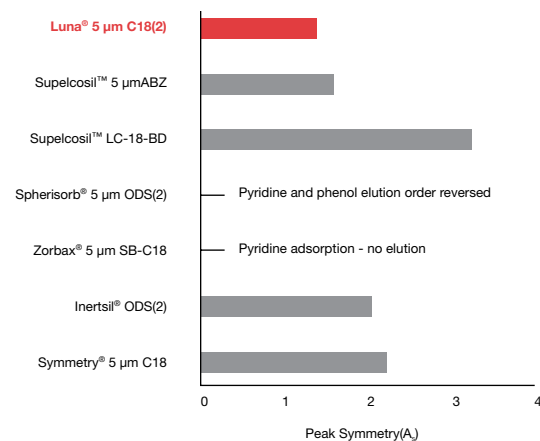
## Your Starting-Point for All Reversed Phase Methods

Luna has found a place as one of the world's top reversed phase columns because it can help optimize two important chromatographic properties: resolution and peak shape. The high efficiencies and bonded phase surface coverage provide for sharp peaks. Whether you need a column for USP methods or just general method development, Luna C18(2) and C8(2) should be your first choice every time.

The result:

- Free exposed silanols virtually eliminated by complete bonding and endcapping
- Sharp peak shape for good method sensitivity
- pH stable from 1.5 to 10.0 for over 10,000 hours

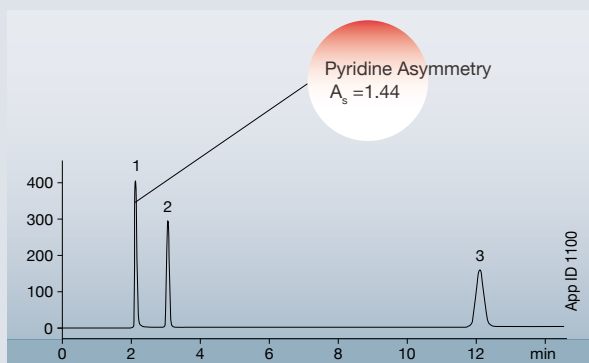
## Pyridine Peak Asymmetry Comparison\*\*



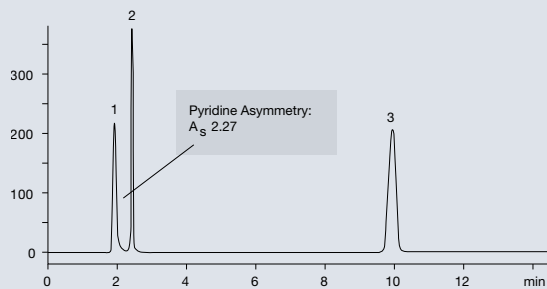
Comparison of 7 different 5 µm reversed phase columns. This survey measures the degree of silanol activity on the surface of each silica. In this survey, Luna 5 µm C18(2) material demonstrates the lowest silanol activity.

## PEAK ASYMMETRY COMPARISON OF COMPETING COLUMNS\*\*

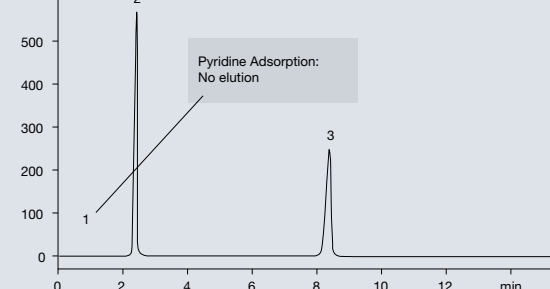
### Phenomenex® Luna® 5 µm C18(2)



### Waters® Symmetry® 5 µm C18



### Agilent® Zorbax® 5 µm SB-C18



#### Conditions for all columns

- Dimension:** 150 x 4.6 mm
- Mobile Phase:** Acetonitrile/Water (50:50)
- Flow Rate:** 1.0 mL/min
- Detection:** UV @ 254 nm
- Sample:**
  1. Pyridine
  2. Phenol
  3. Toluene

\*\* The comparative data presented here may not be representative for all applications.

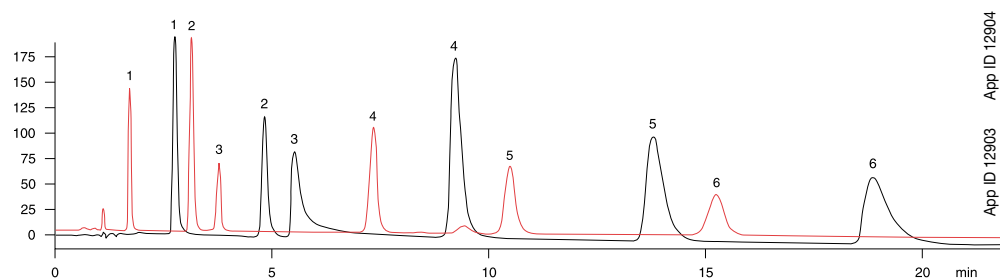


## Polar, Acidic Drugs

- Phenomenex® Luna® 3 µm C18(2)
- Waters® Symmetry® 3.5 µm C18

### Conditions same for both columns

**Dimension:** 75 x 4.6 mm  
**Mobile Phase:** 20 mM KH<sub>2</sub>PO<sub>4</sub> / Acetonitrile(70:30)  
**Flow Rate:** 0.75 mL/min  
**Detection:** UV @ 202 nm  
**Sample:** 1. Tolmetin  
 2. Naproxen  
 3. Diflunisal  
 4. Fenoprofen  
 5. Indomethacin  
 6. Ibuprofen

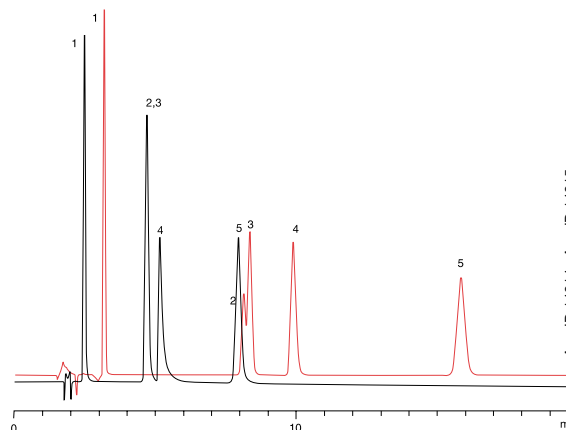


## Hydrophobic, Acidic Compounds

- Phenomenex® Luna® 5 µm C18(2)
- Thermo Hypersil-Keystone® HyPURITY™ Elite 5 µm C18

### Conditions same for both columns

**Dimension:** 150 x 4.6 mm  
**Mobile Phase:** 20 mM Potassium phosphate, pH 2.5 / Acetonitrile (75:25)  
**Flow Rate:** 1.5 mL/min  
**Temperature:** 30 °C  
**Detection:** UV @ 254 nm  
**Sample:** 1. p-Hydroxybenzoic acid  
 2. Sorbic acid\*  
 3. Benzoic acid\*  
 4. Salicylic acid  
 5. p-Toluic acid  
 \* Sorbic acid and Benzoic acid co-elute on HyPURITY Elite

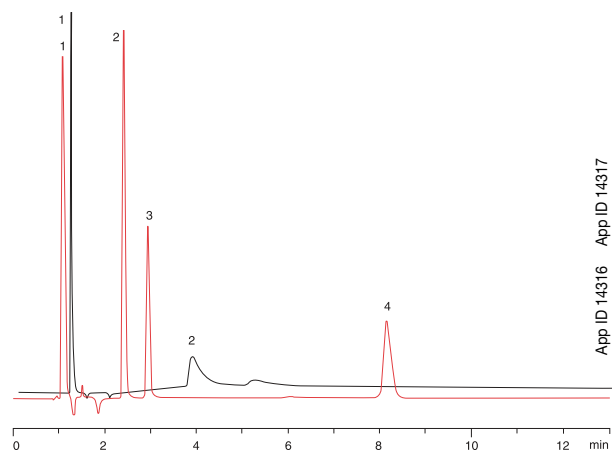


## Basic Compounds

- Phenomenex® Luna® 5 µm C18(2)
- Macherey Nagel® Nucleosil® 5 µm C18

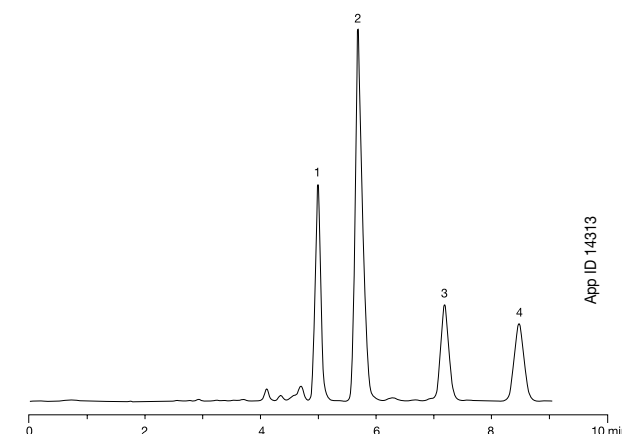
### Conditions same for both columns

**Dimension:** 150 x 4.6 mm  
**Mobile Phase:** 20 mM Potassium phosphate, pH 2.5 / Acetonitrile (75:25)  
**Flow Rate:** 1.5 mL/min  
**Temperature:** 30 °C  
**Detection:** UV @ 210 nm  
**Sample:** 1. Maleic acid  
 2. Triprolidine\*  
 3. Chlorpheniramine\*  
 4. Diphenhydramine\*  
 \*Peaks 2-4 adsorb on Nucleosil C18



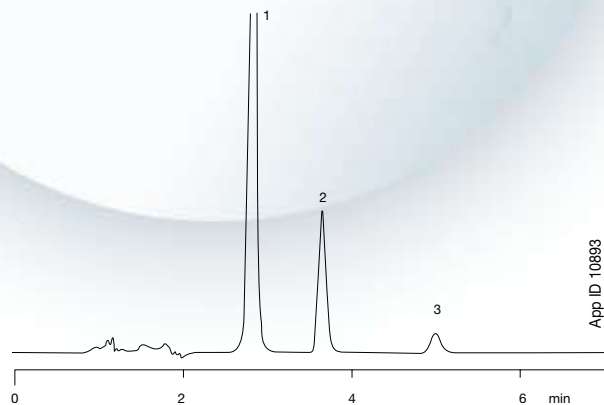
## α- and β-acids in Hop Extract

**Column:** Luna 5 µm C18(2)  
**Dimension:** 250 x 4.6 mm  
**Part No.:** 00G-4252-E0  
**Mobile Phase:** Methanol with 0.1 % H<sub>3</sub>PO<sub>4</sub> / Water with 0.1 % H<sub>3</sub>PO<sub>4</sub> (90:10)  
**Flow Rate:** 1.5 mL/min  
**Temperature:** 30 °C  
**Detection:** UV @ 314 nm  
**Sample:** 1. Cohumulone  
 2. Ad-+humulone  
 3. Colupulone  
 4. Ad-+lupulone



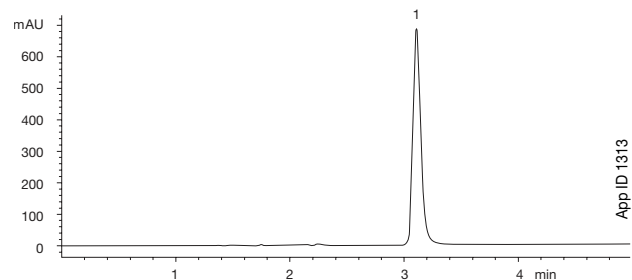
# Luna C18(2), C8(2), C5 (cont.)

USP METHOD: ESTRADIOL



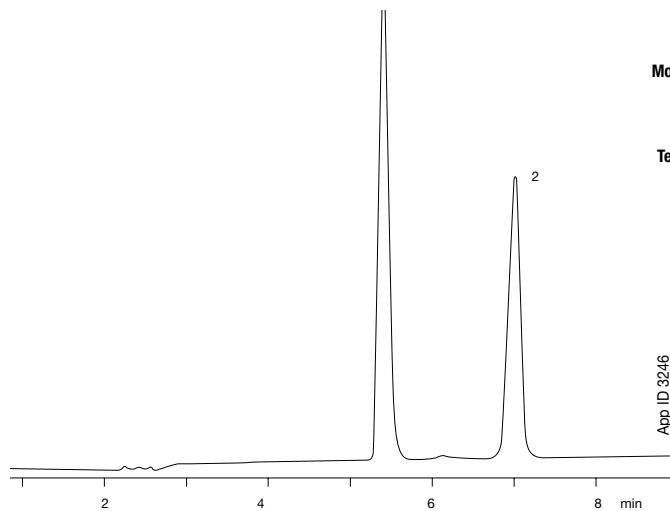
**Column:** Luna 5  $\mu$ m C18(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4252-E0  
**Mobile Phase:** Acetonitrile/Water (55:45)  
**Flow Rate:** 1 mL/min  
**Temperature:** 30 °C  
**Detection:** UV @ 254 nm  
**Sample:** 1. Ethylparaben  
2. Estrone  
3. Estradiol

COCAINE-NARCOTIC DRUG



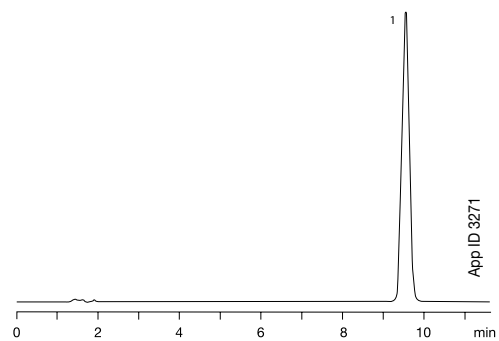
**Column:** Luna 5  $\mu$ m C18(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4252-E0  
**Mobile Phase:** Phosphate Buffer, pH 2.5/  
Acetonitrile (75:25)  
**Flow Rate:** 1 mL/min  
**Temperature:** 30 °C  
**Detection:** UV @ 233 nm  
**Sample:** 1. Cocaine hydrochloride

USP METHOD: PHENYLEPHRINE HYDROCHLORIDE INJECTION



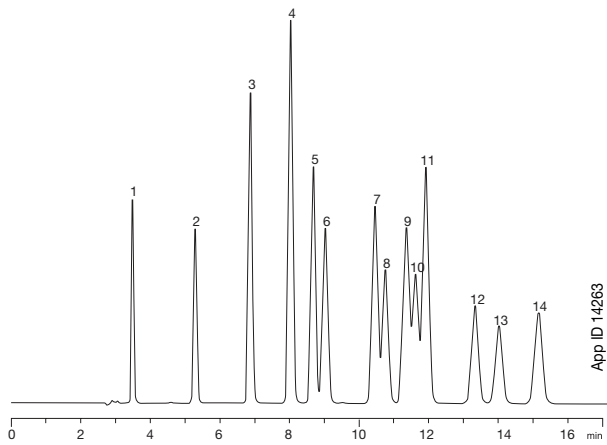
**Column:** Luna 5  $\mu$ m C18(2)  
**Dimension:** 250 x 4.6 mm  
**Part No.:** 00G-4252-E0  
**Mobile Phase:** Water/Methanol with 1.1 %  
1-Octanesulfonic  
acid pH 3.0 (50:50)  
**Flow Rate:** 1 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 280 nm  
**Sample:** 1. Phenylephrine  
hydrochloride  
2. Epinephrine bitartrate

USP METHOD: HYDROCORTISONE CREAM



**Column:** Luna 5  $\mu$ m C18(2)  
**Dimension:** 250 x 4.6 mm  
**Part No.:** 00G-4252-E0  
**Mobile Phase:** Water/Acetonitrile (75:25)  
**Flow Rate:** 2 mL/min  
**Temperature:** 30 °C  
**Detection:** UV @ 254 nm  
**Sample:** 1. Hydrocortisone

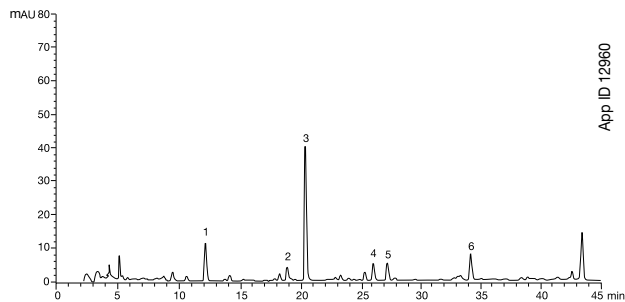
## EPA 8330 - EXPLOSIVES



App ID 14263

**Column:** Luna 5 µm C18(2)  
**Dimension:** 250 x 4.6 mm  
**Part No.:** 00G-4252-E0  
**Mobile Phase:** Methanol/Water (55:45)  
**Flow Rate:** 1 mL/min  
**Temperature:** 35 °C  
**Detection:** UV @ 254 nm  
**Sample:**  
 1. HMX  
 2. RDX  
 3. 1,3,5-Trinitrobenzene  
 4. 1,3-Dinitrobenzene  
 5. Tetryl  
 6. Nitrobenzene  
 7. 2,4,6-Trinitrotoluene  
 8. 4-Amino-2,6-Dinitrotoluen  
 9. 2-Amino-4,6-Dinitrotoluene  
 10. 2,6-Dinitrotoluene  
 11. 2,4-Dinitrotoluene  
 12. 2-Nitrotoluene  
 13. 4-Nitrotoluene  
 14. 3-Nitrotoluene

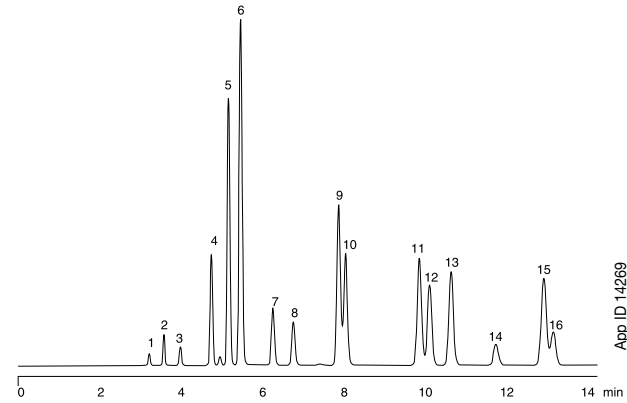
## GINGER PUNGENTS



App ID 12960

**Column:** Luna 5 µm C18(2)  
**Dimension:** 250 x 4.6 mm  
**Part No.:** 00G-4252-E0  
**Mobile Phase:** A: Water B: Acetonitrile  
**Gradient:** A/B (55:45) to A/B (50:50) in 8 min, A/B (35:65) in 15 min, A/B (10:90) in 40 min  
**Flow Rate:** 1 mL/min  
**Temperature:** 50 °C  
**Detection:** UV @ 282 nm  
**Sample:**  
 1. 6-Gingerol  
 2. 8-Gingerol + isomer  
 3. 6-Shogaol  
 4. 10-Gingerol  
 5. 8-Shogaol  
 6. 10-Shogaol

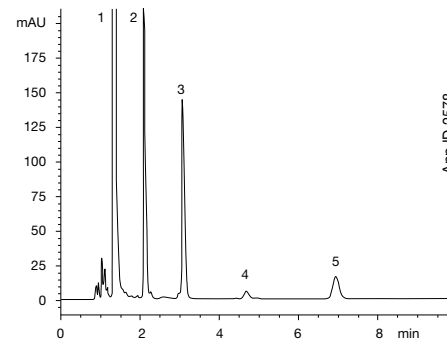
## EPA 8310 - POLYNUCLEAR AROMATIC HYDROCARBONS (PAH S)



App ID 14269

**Column:** Luna 5 µm C18(2)  
**Dimension:** 250 x 4.6 mm  
**Part No.:** 00G-4252-E0  
**Mobile Phase:** A: Water B: Acetonitrile  
**Gradient:** A/B (25:75) to 100 % B in 25 min  
**Flow Rate:** 2 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 254 nm  
**Sample:**  
 1. Naphthalene  
 2. Acenaphthalene  
 3. Fluorene  
 4. Phenanthrene  
 5. Anthracene  
 6. Fluoranthracene  
 7. Pyrene  
 8. Benzo(a)anthracene  
 9. Chrysene  
 10. Benzo(e)pyrene  
 11. Benzo(b)fluoranthene  
 12. Benzo(k)fluoranthene  
 13. Benzo(a)pyrene  
 14. Dibenzo(a,h)anthracene  
 15. Benzo(g,h,i)perylene  
 16. Indeno(1,2,3-c,d)pyrene

## COLD MEDICINE

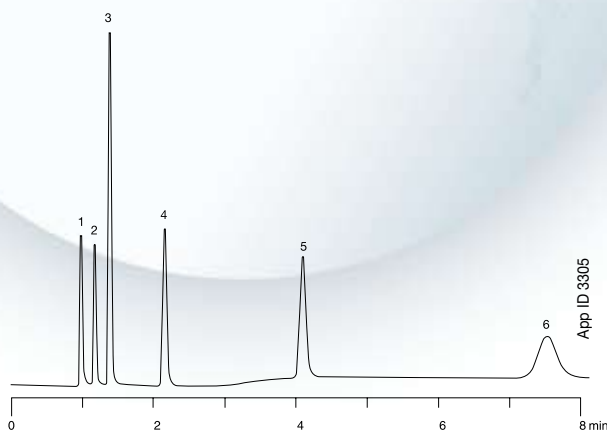


App ID 2578

**Column:** Luna 5 µm C8(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4249-E0  
**Mobile Phase:** Methanol/Acetonitrile with 0.1 % H<sub>3</sub>PO<sub>4</sub> / Water with 0.1 % H<sub>3</sub>PO<sub>4</sub> and 0.1 % Heptane  
**Flow Rate:** 1.5 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 214 nm  
**Sample:**  
 1. Acetaminophen  
 2. Pseudoephedrine  
 3. Benzoic acid  
 4. Chlorpheniramine  
 5. Dextromethorphan

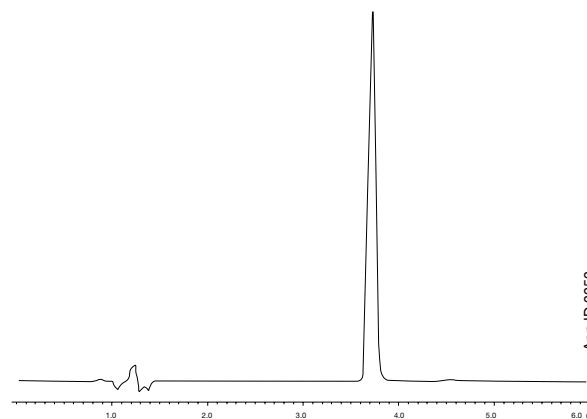
# Luna C18(2), C8(2), C5 (cont.)

## WATER SOLUBLE VITAMINS



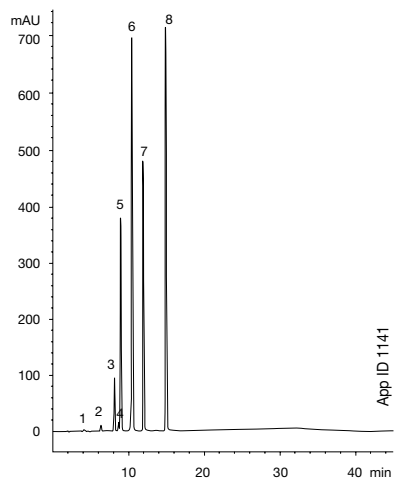
**Column:** Luna 5 µm C18(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4252-E0  
**Mobile Phase:** 20 mM Potassium Phosphate, pH 3.0/Acetonitrile (95:5)  
**Flow Rate:** 1.5 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 214 nm  
**Sample:** 1. Thiamine  
2. Cyanocobalamin (Vitamin B12)  
3. Ascorbic acid  
4. Pantothenic acid  
5. Niacinamide  
6. p-Aminobenzoic acid

## USP METHOD: LORAZEPAM TABLETS



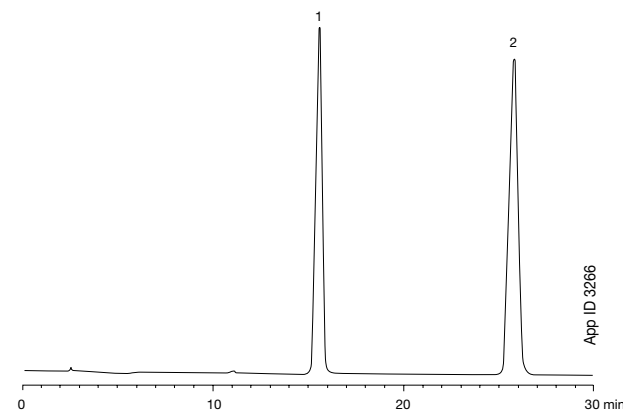
**Column:** Luna 5 µm C18(2)  
**Dimension:** 250 x 4.6 mm  
**Part No.:** 00G-4252-E0  
**Mobile Phase:** Water/Methanol/Acetic acid (54:44:2)  
**Flow Rate:** 2 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 254 nm  
**Sample:** 1. Lorazepam

## PHARMACEUTICAL PRESERVATIVES



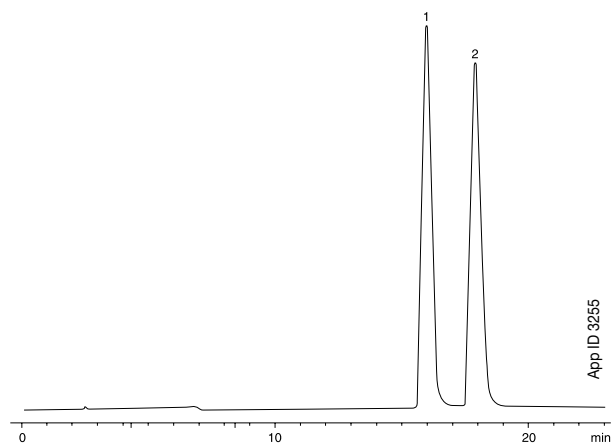
**Column:** Luna 5 µm C5  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4043-E0  
**Mobile Phase:** A: 0.5 % Acetic acid in water /Acetonitrile (80:20)  
B: 0.5 % Acetic acid in water /Acetonitrile (20:80)  
**Gradient:** A/B (100:0) to A/B (0:100) in 30 min  
**Flow Rate:** 1 mL/min  
**Temperature:** 25 °C  
**Detection:** UV @ 254 nm  
**Sample:** 1. Propylparaben impurity  
2. Benzyl alcohol  
3. Phenol  
4. Benzoic acid  
5. Methylparaben  
6. Benzaldehyde  
7. Ethylparaben  
8. Propylparaben

## USP METHOD: MINOXIDIL



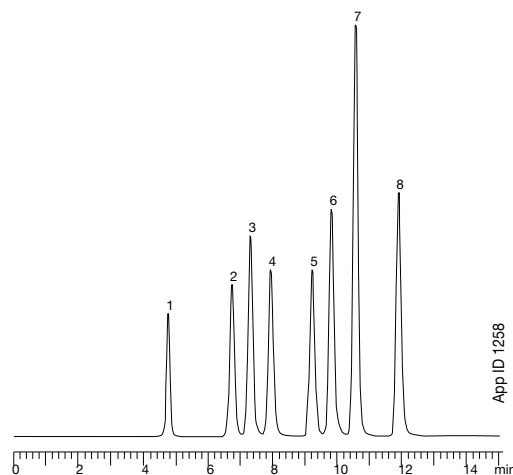
**Column:** Luna 5 µm C18(2)  
**Dimension:** 250 x 4.6 mm  
**Part No.:** 00G-4252-E0  
**Mobile Phase:** Methanol/Water/Acetic acid with 7 mM Docusate sodium pH 3.0 (69.3:29.7:1)  
**Flow Rate:** 1 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 254 nm  
**Sample:** 1. Medroxyprogesterone acetate  
2. Minoxidil

## USP METHOD: IMPIRAMINE



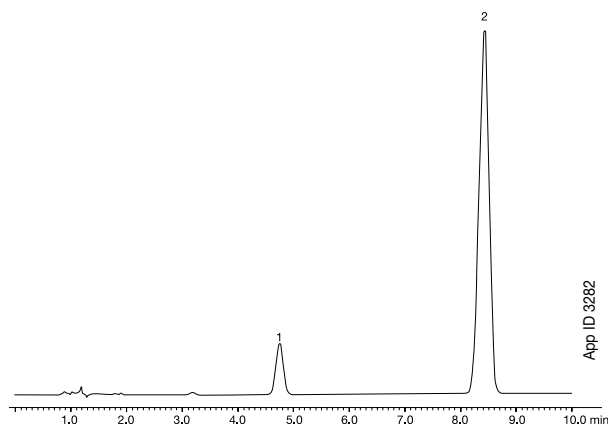
**Column:** Luna 5 µm C18(2)  
**Dimension:** 250 x 4.6 mm  
**Part No.:** 00G-4252-E0  
**Mobile Phase:** 0.06 M Sodium perchlorate, pH 2.0/Acetonitrile/Triethylamine (62.5:37.5:0.1)  
**Flow Rate:** 1.5 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 269 nm  
**Sample:** 1. Imipramine  
2. Desipramine

## FATTY ACIDS



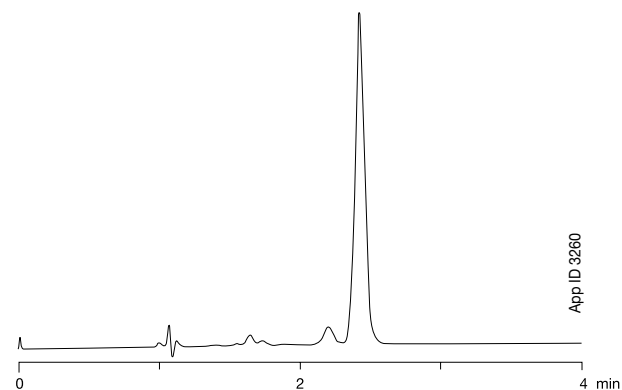
**Column:** Luna 5 µm C8(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4249-E0  
**Mobile Phase:** A: Acetonitrile  
B: Water (18 Mohms DI)  
**Gradient:** A/B (70:30) to A/B (90:10) in 10 min, A/B (90:10) to A/B (70:30) in 2 min, hold for 4min  
**Flow Rate:** 0.3 mL/min  
**Detection:** Evaporative Light Scattering (ELSD)  
**Temperature:** 22 °C  
**Sample:** 1. Lauric acid  
2. Myristic acid  
3. Palmitoleic acid  
4. Linoleic acid  
5. Palmitic acid  
6. Oleic acid  
7. Heptadecanoic acid  
8. Stearic acid

## USP METHOD: NAPROXEN TABLETS



**Column:** Luna 5 µm C18(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4252-E0  
**Mobile Phase:** Acetonitrile/Water/Glacial acid, pH 3.0 (50:49:1)  
**Flow Rate:** 1.2 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 254 nm  
**Sample:** 1. Naproxen  
2. Butyrophenone

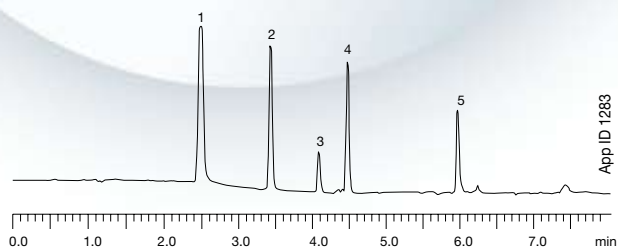
## USP METHOD: ALBUTEROL TABLETS



**Column:** Luna 5 µm C18(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4252-E0  
**Mobile Phase:** Methanol/Water with 5 mM Hexane sulfonic acid and 1 % Glacial acetic acid (40:60)  
**Flow Rate:** 1.5 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 276 nm  
**Sample:** 1. Albuterol

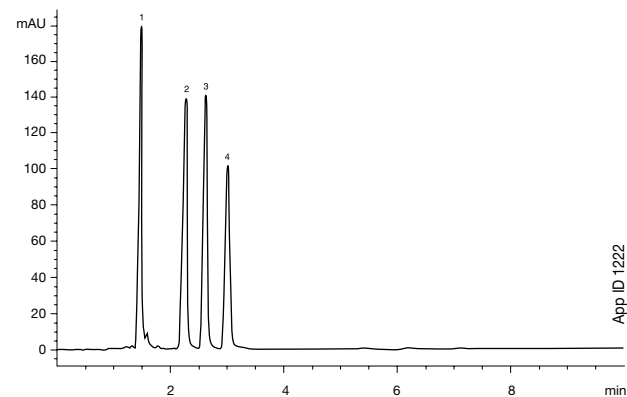
# Luna C18(2), C8(2), C5 (cont.)

## ANTIOXIDANTS



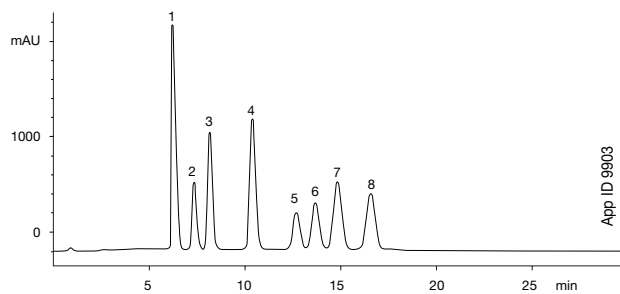
**Column:** Luna 5 µm C18(2)  
**Dimension:** 100 x 4.6 mm  
**Part No.:** 00D-4252-E0  
**Mobile Phase:** A: Acetonitrile  
B: Phosphate Buffer  
**Gradient:** A/B (30:70) to A/B (70:30) in 5 min  
**Flow Rate:** 1 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 254 nm  
**Sample:**  
1. PG  
2. TBHQ  
3. DMT  
4. BHA  
5. BHT

## CEPHALOSPORIN ANTIBIOTICS



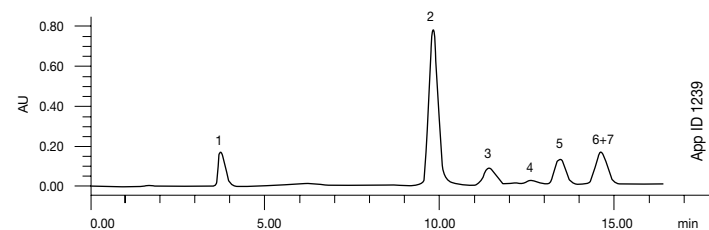
**Column:** Luna 5 µm C18  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4041-E0  
**Mobile Phase:** Water with 0.5% Acetic acid/  
Acetonitrile (85:15)  
**Flow Rate:** 1.0 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 254 nm  
**Sample:**  
1. Cefadroxil  
2. Cephalexin  
3. Cephadrine  
4. Cefaclor

## HORMONES



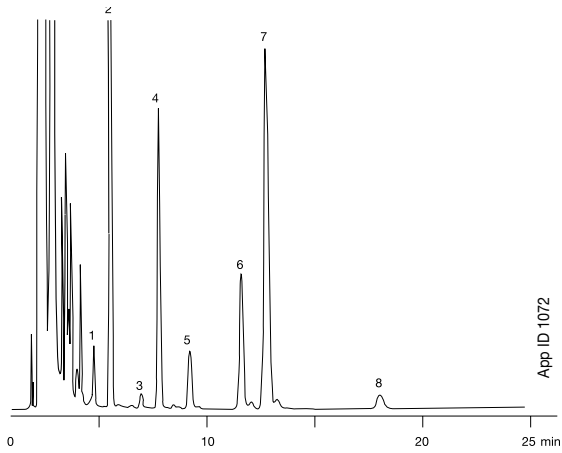
**Column:** Luna 5 µm C18  
**Dimension:** 100 x 4.6 mm  
**Part No.:** 00D-4041-E0  
**Mobile Phase:** Water/Tetrahydrofuran/Acetonitrile  
(60:22.5:17.5)  
**Flow Rate:** 1.2 mL/min  
**Temperature:** 40 °C  
**Detection:** UV @ 244 nm  
**Sample:**  
1. Norgestrel  
2. syn-Norgestrel oxime  
3. anti-Norgestrel oxime  
4. Norgestrel acetate  
5. syn-Norgestimate  
6. syn-Norgestrel oxime diacetate  
7. anti-Norgestimate  
8. anti-Norgestrel oxime diacetate

## SUN SCREENS



**Column:** Luna 5 µm C18  
**Dimension:** 250 x 4.6mm  
**Part No.:** 00G-4041-E0  
**Mobile Phase:** Methanol/Water (80:20)  
**Flow Rate:** 1.5 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 240 nm  
**Sample:**  
1. Benzophenone 3  
2. DCHP  
3. Parsol MCX  
4. Homosalate 2  
5. Octyl salicylate  
6. Homosalate 1  
7. Homosalate

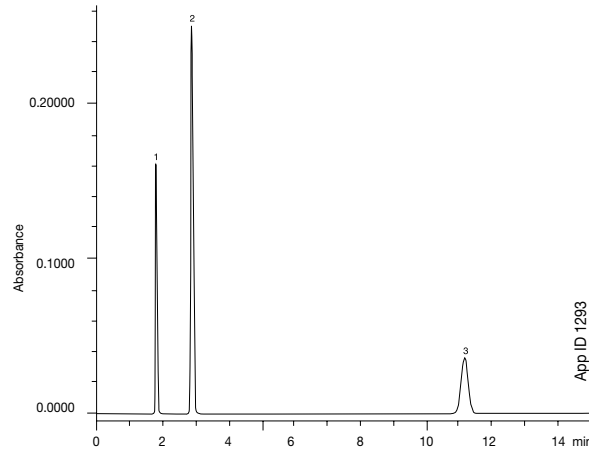
## SAW PALMETO BERRY, P-BROMOPHENACYL ESTERS



App ID 1072

**Column:** Luna 3  $\mu$ m C8(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4248-E0  
**Mobile Phase:** Acetonitrile/Water (87:13)  
**Flow Rate:** 1.5 mL/min  
**Temperature:** 25  $^{\circ}$ C  
**Detection:** UV @ 254 nm  
**Sample:** 1. Capric acid  
 2. Lauric acid  
 3. Linolenic acid  
 4. Myristic acid  
 5. Linoleic acid  
 6. Palmitic acid  
 7. Oleic acid  
 8. Stearic acid

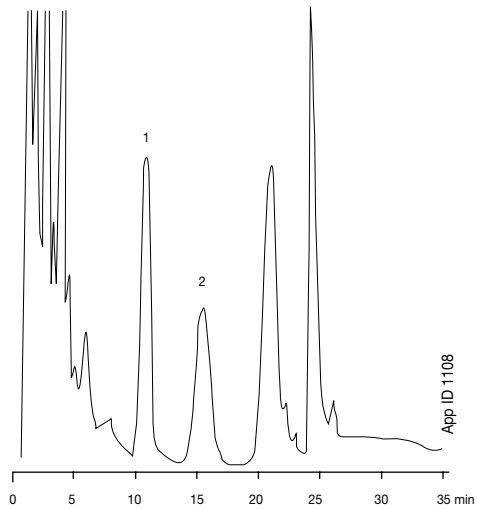
## ACETAMINOPHEN, USP METHOD



App ID 1283

**Column:** Luna 5  $\mu$ m C18(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4252-E0  
**Mobile Phase:** Water/Methanol/Acetic Acid (69:28:3)  
**Flow Rate:** 1.5 mL/min  
**Temperature:** 45  $^{\circ}$ C  
**Detection:** UV @ 275 nm  
**Sample:** 1. Acetaminophen  
 2. Caffeine  
 3. Benzoic Acid

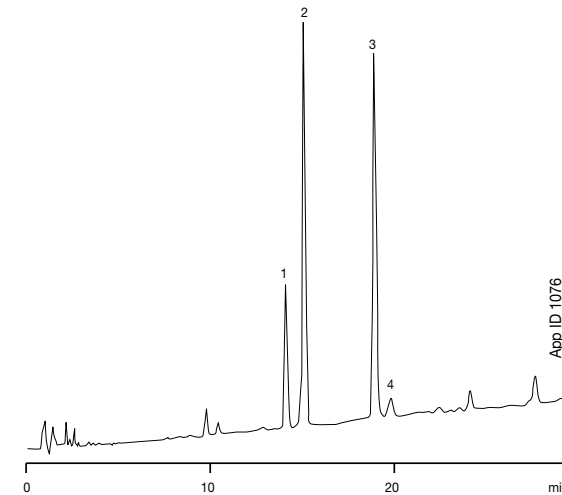
## CYCLOSPORIN - IMMUNOSUPPRESSANTS



App ID 1108

**Column:** Luna 5  $\mu$ m C18(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4252-E0  
**Mobile Phase:** Acetonitrile/Water, pH 3.1 w/1 mM  $H_3PO_4$  (70:30)  
**Flow Rate:** 1.3 mL/min  
**Temperature:** 75  $^{\circ}$ C  
**Detection:** UV @ 210 nm  
**Sample:** 1. Cyclosporin A  
 2. Cyclosporin D

## CAPSAICIN



App ID 1076

**Column:** Luna 5  $\mu$ m C18(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4252-E0  
**Mobile Phase:** A: Acetonitrile/Water (35:65)  
 B: Acetonitrile/Water (60:40)  
**Gradient:** 100 % A in 1 min to 100 % B in 29 min  
**Flow Rate:** 1.5 mL/min  
**Temperature:** 75  $^{\circ}$ C  
**Detection:** UV @ 227 nm  
**Sample:** 1. Nordihydrocapsaicin  
 2. Capsaicin  
 3. Dihydrocapsaicin  
 4. Homocapsaicin

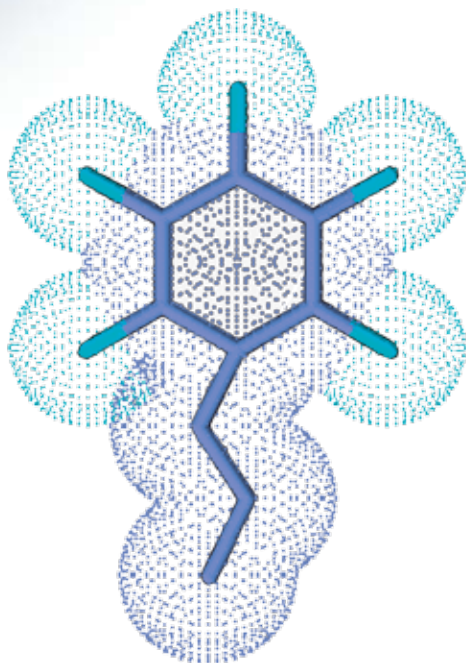
# Luna PFP(2)

## Powerful Selectivity for Reversed Phase Methods

Luna PFP(2) columns provide unique selectivity for highly polar compounds, complex natural products, isomers and other closely related compounds. This is achieved by using a propyl-linked pentafluorophenyl, which provides multiple retention mechanisms unique to typical reversed phase medias.

### Luna PFP(2) selectivity is achieved through 4 mechanisms of interaction

- 1 Hydrogen Bonding
- 2 Dipole-Dipole Interactions
- 3 Aromatic and  $\pi$ - $\pi$  Interactions
- 4 Hydrophobic

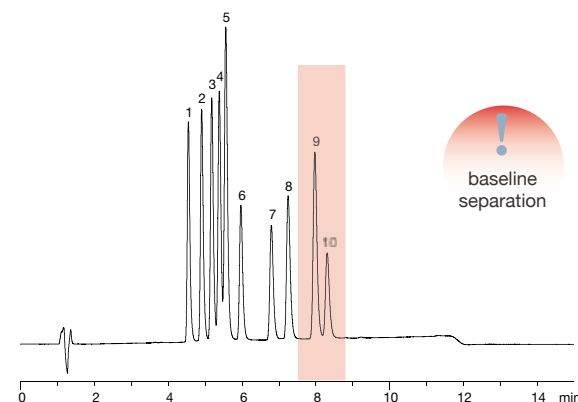


- ⌋ Achieve unique selectivity using four mechanisms of solute/stationary phase interactions
- ⌋ Extremely discerning for halogenated, aromatic, and conjugated compounds
- ⌋ Provides orthogonal selectivity, even using traditional reversed phase solutions

Halogens can radically increase the polarity of compounds, thus decreasing typical retention characteristics. Luna PFP(2) columns retain, discriminate, and separate halogens easily.

### POSITIONAL ISOMERS OF HALOGENATED PHENOLS

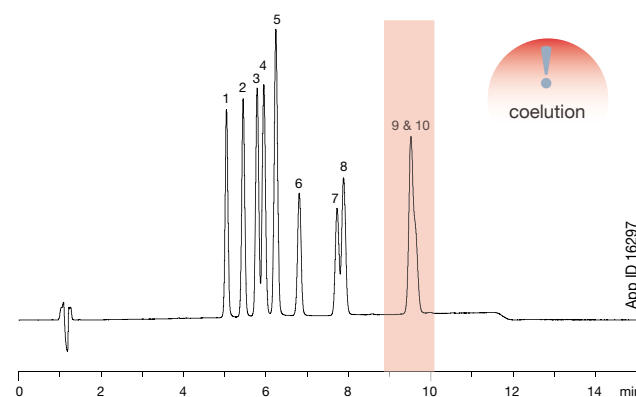
#### Luna 3 $\mu$ m PFP(2)



App ID 16296

**Column:** Luna 3  $\mu$ m PFP(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4447-E0  
**Mobile Phase:** A: 0.1 % Formic acid in Water  
B: 0.1 % Formic acid in Acetonitrile  
**Gradient:** A/B (60:40) to (50:50) in 10 min  
**Flow Rate:** 1 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 254 nm  
**Sample:** 1. 2,3-Dimethylphenol  
2. 2,5-Dimethylphenol  
3. 2,6-Dimethylphenol  
4. 3,4-Dimethylphenol  
5. 3,5-Dimethylphenol  
6. 2,5-Dichlorophenol  
7. 2,6-Dichlorophenol  
8. 3,4-Dichlorophenol  
9. 3,5-Dichlorophenol  
10. 2,4-Dibromophenol

#### Luna 3 $\mu$ m C18(2)



App ID 16297

**Column:** Luna 3  $\mu$ m C18(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4251-E0  
**Mobile Phase:** A: 0.1% Formic acid in Water  
B: 0.1% Formic acid in Acetonitrile  
**Gradient:** A/B (60:40) to (50:50) in 10 min  
**Flow Rate:** 1 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 254 nm  
**Sample:** 1. 2,3-Dimethylphenol  
2. 2,5-Dimethylphenol  
3. 2,6-Dimethylphenol  
4. 3,4-Dimethylphenol  
5. 3,5-Dimethylphenol  
6. 2,5-Dichlorophenol  
7. 2,6-Dichlorophenol  
8. 3,4-Dichlorophenol  
9. 3,5-Dichlorophenol  
10. 2,4-Dibromophenol



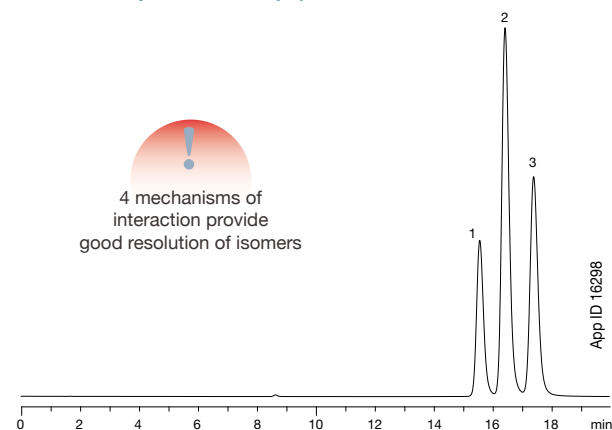
## Isomeric Compounds

Positional changes on an analyte of interest may effect the compound's dipole moment. This change can be readily noticed by the highly electronegative fluorine (F) atom and other retention mechanisms.

Excellent choice for positional isomers due to the multiple retention characteristics of Luna PFP(2) columns

### POSITIONAL ISOMERS OF METHYLACETOPHENON

## Luna 3 µm PFP(2)



**Column:** Luna 3 µm PFP(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4447-E0  
**Mobile Phase:** Water/ Methanol (50:50)  
**Flow Rate:** 1 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 254 nm  
**Sample:** 1. o-Methylacetophenone  
2. m-Methylacetophenone  
3. p-Methylacetophenone

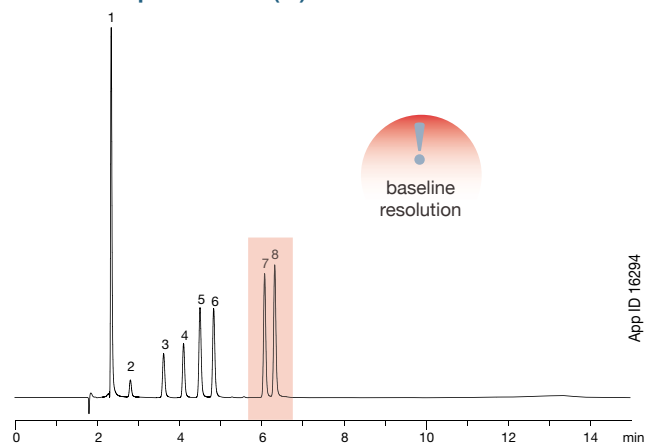
## Aromatic Compounds

Aromatic compounds show unique retention characteristics on Luna PFP(2) compared to traditional reversed phase columns. The presence of the aromatic benzene ring in Luna PFP(2) increases the relative attraction between the stationary phase and aromatic analytes, leading to increased retention for these types of compounds.

Closely related polyphenolic compounds are readily separated with Luna PFP(2) columns

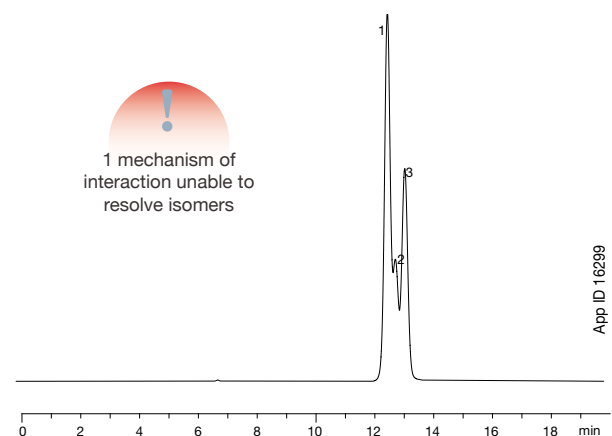
### CATECHINS

## Luna 3 µm PFP(2)



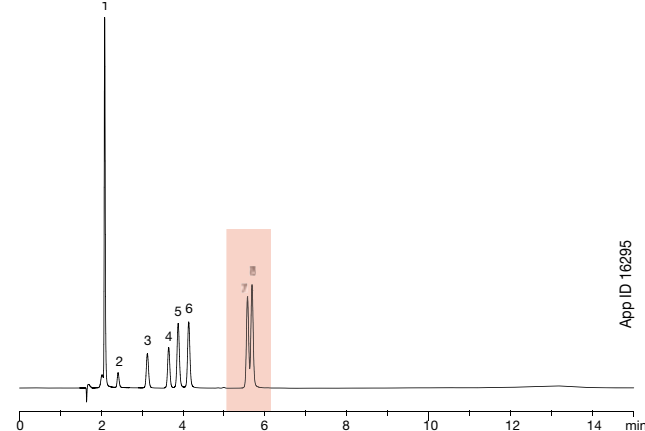
**Column:** Luna 3 µm PFP(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4447-E0  
**Mobile Phase:** A: 0.1 % Formic acid in Water  
B: 0.1 % Formic acid in Acetonitrile  
**Gradient:** A/B (80:20) to (55:45) in 10 min  
**Flow Rate:** 1 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 280 nm  
**Sample:** 1. Gallic acid  
2. Epigallo catechin  
3. Catechin  
4. Epicatechin  
5. Epigallocatechin gallate  
6. Gallocatechin gallate  
7. Epicatechin gallate  
8. Catechin gallate

## Luna 3 µm C18(2)



**Column:** Luna 3 µm C18(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4251-E0  
**Mobile Phase:** Water/ Methanol (50:50)  
**Flow Rate:** 1 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 254 nm  
**Sample:** 1. o-Methylacetophenone  
2. m-Methylacetophenone  
3. p-Methylacetophenone

## Luna 3 µm C18(2)



**Column:** Luna 3 µm C18(2)  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4251-E0  
**Mobile Phase:** A: 0.1 % Formic acid in Water  
B: 0.1 % Formic acid in Acetonitrile  
**Gradient:** A/B (80:20) to (55:45) in 10 min  
**Flow Rate:** 1 mL/min  
**Temperature:** 22 °C  
**Detection:** UV @ 280 nm  
**Sample:** 1. Gallic acid  
2. Epigallo catechin  
3. Catechin  
4. Epicatechin  
5. Epigallocatechin gallate  
6. Gallocatechin gallate  
7. Epicatechin gallate  
8. Catechin gallate

# Luna Phenyl-Hexyl

## Engineered for Stability

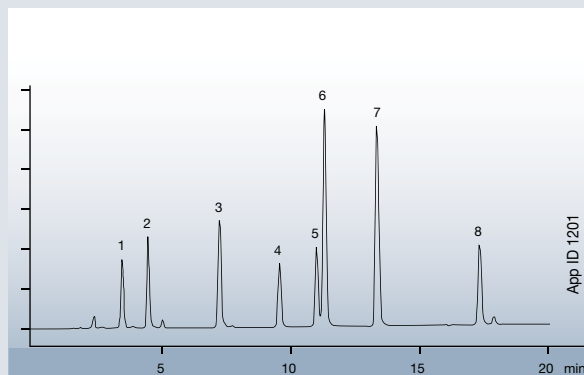
The patented Luna Phenyl-Hexyl is a reproducible, extremely stable phenyl phase. Most other phenyl phases use a short propyl (3 carbon) linker, which limits the phase stability. This patented phase uses a hexyl (6 carbon) linker to attach the phenyl group to the silica surface.

The result:

- Highly reproducible phenyl phase
- Dual selectivity of both phenyl phase and a short alkyl phase (such as a C8)
- Excellent retention of amine and polar aromatic compounds
- 1.5 to 10 pH stability for 10,000 hours

## ANTIBACTERIALS: COMPARISON OF PHENYL COLUMNS\*\*

### Phenomenex® Luna® 5 µm Phenyl-Hexyl



#### Conditions same for all columns

**Dimension:** 150 x 4.6 mm

**Mobile Phase:** A: 20 mM KH<sub>2</sub>PO<sub>4</sub>, pH 2.5  
B: Acetonitrile

**Gradient:** A/B (80:20) to A/B (75:25) in 5 min, then to A/B (55:45) in 15 min

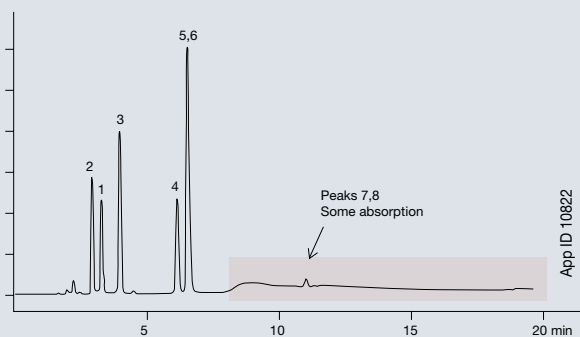
**Flow Rate:** 1.0 mL/min

**Detection:** UV @ 254 nm

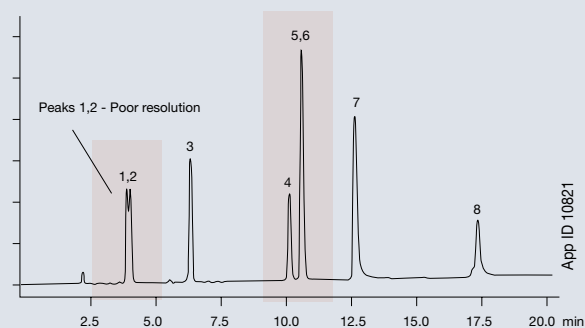
**Temperature:** 22 °C

**Sample:** 1. Carbadox  
2. Thiamphenicol  
3. Furazolidone  
4. Oxolinic acid  
5. Sulfadimethoxine  
6. Sulfaquinoxaline  
7. Nalidixic acid  
8. Piromidic acid

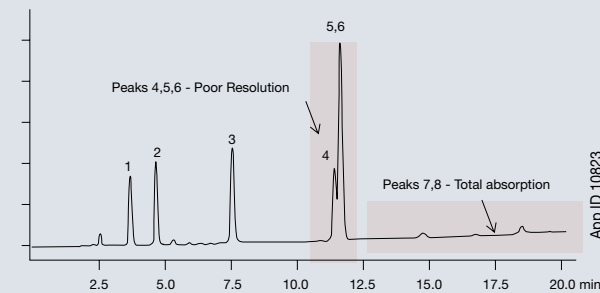
### Waters® Spherisorb® 5 µm Phenyl



### Agilent Technologies® Zorbax® 5 µm SB-Phenyl

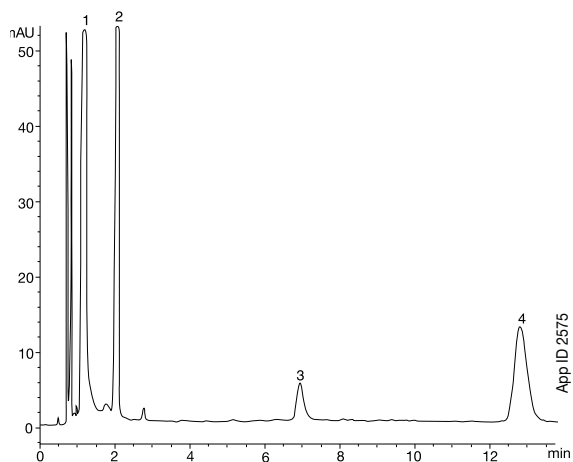


### Agilent Technologies® Zorbax® 5 µm Phenyl



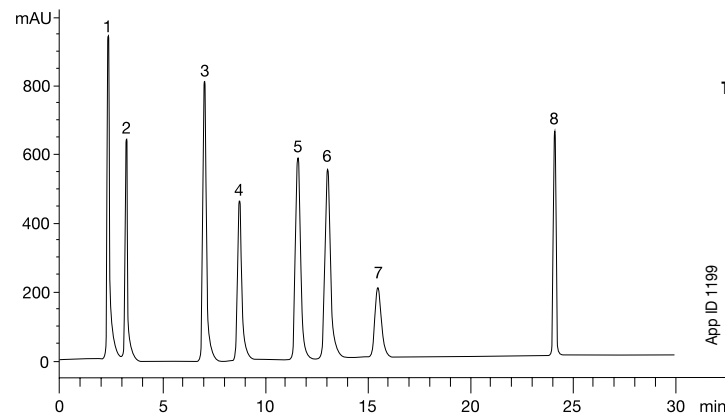
\*\* The comparative data presented here may not be representative for all applications.

## COUGH AND COLD-USP METHOD



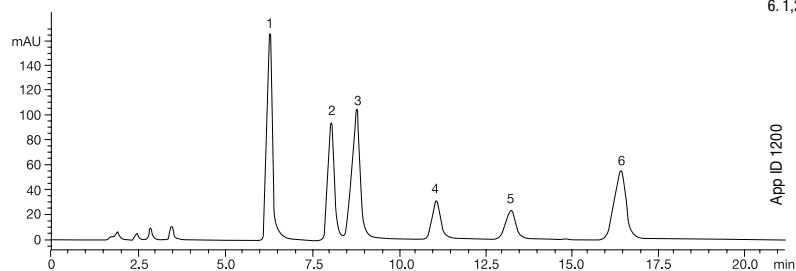
**Column:** Luna 5 µm Phenyl-Hexyl  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4257-E0  
**Mobile Phase:** Methanol/Water with 0.1 % H<sub>3</sub>PO<sub>4</sub> and 0.1 % Heptane Sulfonate/  
 Acetonitrile with 0.1 % H<sub>3</sub>PO<sub>4</sub> (35:55:10)  
**Flow Rate:** 2.05 mL/min  
**Detection:** UV @ 214 nm  
**Temperature:** 22 °C  
**Sample:** 1. Acetaminophen  
 2. Pseudoephedrine  
 3. Chlorphenaramine  
 4. Dextromethorphan

## FOOD ADDITIVES



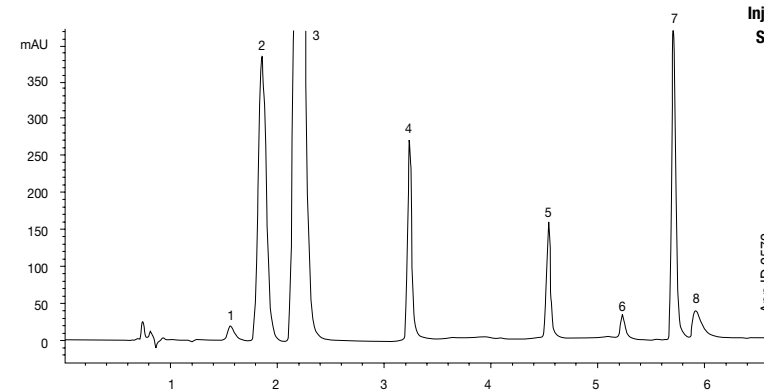
**Column:** Luna 5 µm Phenyl-Hexyl  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4257-E0  
**Mobile Phase:** A: 50 mM KH<sub>2</sub>PO<sub>4</sub> + 0.1% H<sub>3</sub>PO<sub>4</sub>  
 B: Acetonitrile  
**Gradient:** A/B (75:25) to A/B (25:75) in 18 min,  
 hold at A/B (25:75) for 12 min  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 230 nm  
**Temperature:** 22 °C  
**Injection:** 20 µL  
**Sample:** 1. Saccharin  
 2. p-Hydroxybenzoic acid  
 3. Sorbic acid  
 4. p-Hydroxybenzoic acid methyl ester  
 5. Dehydroacetic acid  
 6. p-Toluic acid  
 7. p-Hydroxybenzoic acid ethyl ester  
 8. n-Propyl p-hydroxybenzoate

## CHLOROBENZENES



**Column:** Luna 5 µm Phenyl-Hexyl  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4257-E0  
**Mobile Phase:** A: Water  
 B: Acetonitrile  
**Gradient:** A/B (60:40) to A/B (45:55) in 10 min  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 254 nm  
**Temperature:** 22 °C  
**Sample:** 1. Chlorobenzene  
 2. 1,2-Dichlorobenzene  
 3. 1,4-Dichlorobenzene  
 4. 1,2,3-Trichlorobenzene  
 5. 1,3,5-Trichlorobenzene  
 6. 1,2,3,4-Tetrachlorobenzene

## COUGH AND COLD MEDICINE



**Column:** Luna 3 µm Phenyl-Hexyl  
**Dimension:** 75 x 4.6 mm  
**Part No.:** 00C-4256-E0  
**Mobile Phase:** A: Acetonitrile  
 B: 20 mM KH<sub>2</sub>PO<sub>4</sub> / Methanol(80:20) pH 9.0  
**Gradient:** A/B (0:100) to A/B (80:20) in 5 min  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 214 nm  
**Temperature:** 22 °C  
**Injection:** 20 µL  
**Sample:** 1. p-Aminophenol  
 2. Benzoic acid  
 3. Acetaminophen  
 4. Pseudoephedrine  
 5. Butyl paraben  
 6. Chlorphenaramine  
 7. Diphenhydramine  
 8. Dextromethorphan

# Luna (CN) Cyano

## Proven Reproducibility

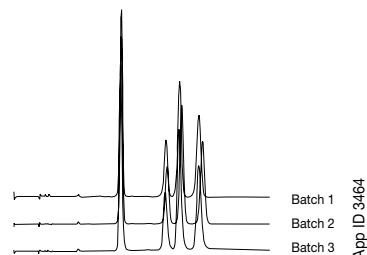
Luna CN columns were developed to provide reproducible chromatography from run-to-run, column-to-column and batch-to-batch. Luna® high-purity silica provides a ridged and dense column bed that allows for improved CN bonding techniques to make a stable CN phase.

The result:

- ☞ One of the most stable CN columns under both reversed phase or normal phase conditions.
- ☞ Reproducible from run-to-run, column-to-column, batch-to-batch.
- ☞ pH stable from 1.5 to 7.0

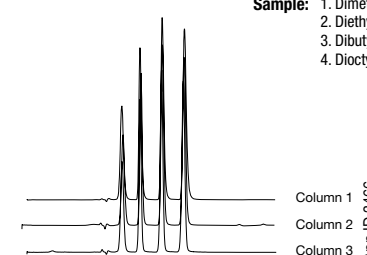
## Batch-to-Batch Reproducibility

**Column:** Luna 5 µm CN  
**Dimension:** 150 x 4.6 mm  
**Mobile Phase:** A: Hexane, B: Methylene chloride/Methanol(80:20), A/B (80:20)  
**Flow Rate:** 2.0 mL/min  
**Detection:** UV @ 254 nm  
**Injection:** 1.0 µL  
**Temperature:** Ambient  
**Sample:** 1. Hydrocortisone  
 2. Prednisone  
 3. Cortisone  
 4. Hydrocortisone acetate



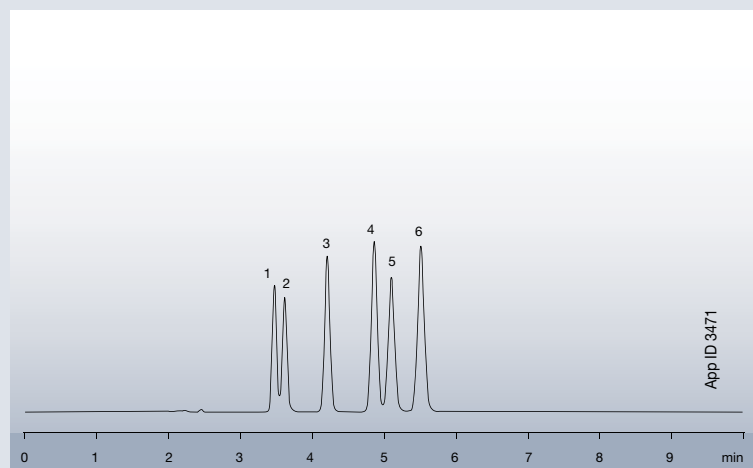
## Column-to-Column Reproducibility

**Column:** Luna 5 µm CN  
**Dimension:** 150 x 4.6 mm  
**Mobile Phase:** A: Hexane, B: Methylene chloride/Methanol(80:20), A/B (95:5)  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 254 nm  
**Injection:** 5.0 µL  
**Temperature:** Ambient  
**Sample:** 1. Dimethyl phthalate  
 2. Diethyl phthalate  
 3. Dibutyl phthalate  
 4. Dioctyl phthalate

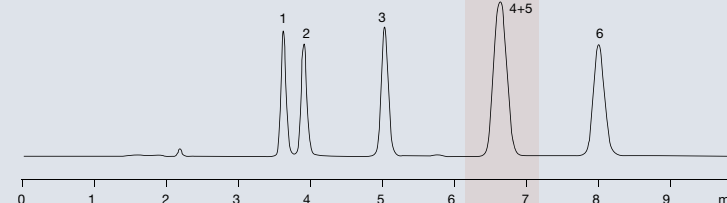


## Phthalate Esters: A Comparison of CN Columns\*\*

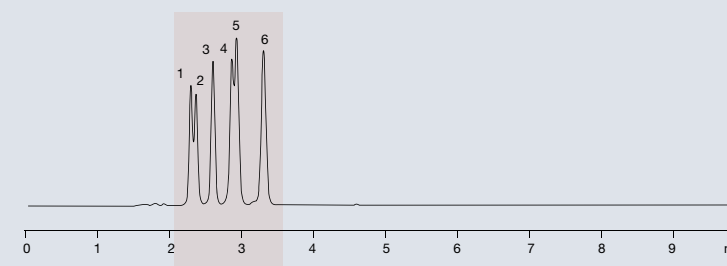
### Phenomenex® Luna® 5 µm CN



### Waters® Spherisorb® 5 µm CN



### Agilent Technologies® Zorbax® 5 µm SB-CN



Conditions same for all columns

**Dimension:** 150 x 4.6 mm  
**Mobile Phase:** A: Hexane, B: Methylene chloride/Methanol (80:20), A/B (99:1)  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 254 nm  
**Temperature:** Ambient  
**Sample:** 1. Di-n-octyl phthalate  
 2. Bis (2-Ethylhexyl) phthalate  
 3. Butylbenzyl phthalate  
 4. Di-n-butyl phthalate  
 5. Diethyl phthalate  
 6. Dimethyl phthalate

\*\* The comparative data presented here may not be representative for all applications.

# Luna (NH<sub>2</sub>) Amino

## Developed for Ruggedness

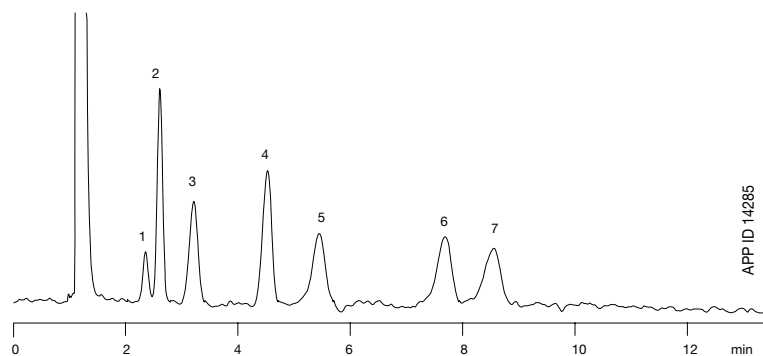
Luna NH<sub>2</sub> columns were developed to provide improved amino column lifetime. Column life for most amino columns can be problematic as the amino bonding easily strips off the silica. Luna NH<sub>2</sub> columns, however, show good bonded phase stability under both normal and reversed phase modes and across a pH range of 1.5 to 11.0. Such a broad pH range indicates the bonded phase ruggedness and the density of the bonded phase coverage.

The result:

- Long lifetimes and low phase bleed for more reproducible methods
- Excellent retention of simple sugars, complex sugars, sugar alcohols by reverse phase conditions and hydrogen bonding compounds under normal phase conditions
- pH stable from 1.5 to 11.0
- Stable in 100 % aqueous mobile phases

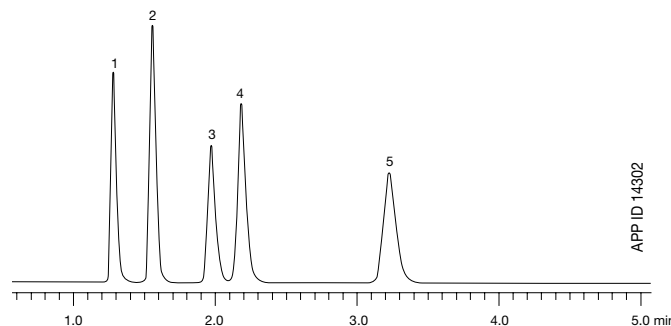
## SIMPLE SUGARS

**Column:** Luna 5 µm NH<sub>2</sub>  
**Dimension:** 250 x 4.6 mm  
**Part No.:** 00G-4378-E0  
**Mobile Phase:** Acetonitrile/Water (80:20)  
**Flow Rate:** 3.0 mL/min  
**Detection:** RI  
**Temperature:** 40 °C  
**Sample:** 1. Xylose  
2. Fructose  
3. Glucose  
4. Sucrose  
5. Maltose  
6. Melezitose  
7. Raffinose



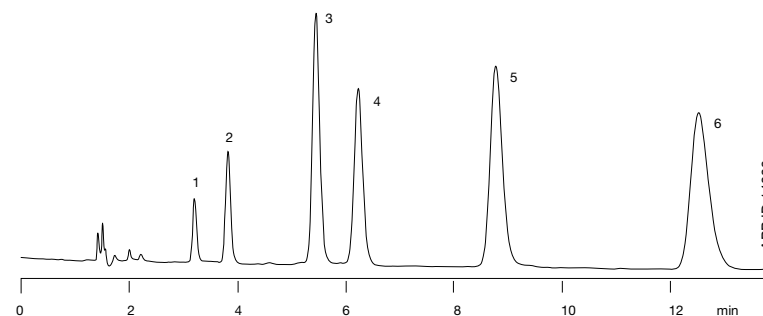
## NUCLEIC ACID BASES

**Column:** Luna 5 µm NH<sub>2</sub>  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4378-E0  
**Mobile Phase:** Acetonitrile/Water (80:20)  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 254 nm  
**Temperature:** 40 °C  
**Sample:** 1. Thymine  
2. Uracil  
3. Cytosine  
4. Adenine  
5. Guanosine



## STERIODS

**Column:** Luna 5 µm NH<sub>2</sub>  
**Dimension:** 250 x 4.6 mm  
**Part No.:** 00G-4378-E0  
**Mobile Phase:** Hexane/Ethanol (85:15)  
**Flow Rate:** 2.0 mL/min  
**Detection:** UV @ 240 nm  
**Temperature:** 22 °C  
**Sample:** 1. 11-Ketoprogesterone  
2. 11-Hydroxyprogesterone  
3. Cortisone acetate  
4. Prednisolone 21-acetate  
5. Cortisone  
6. Prednisolone



# Luna HILIC

## Increase MS-Sensitivity and Retention for Polar Compounds

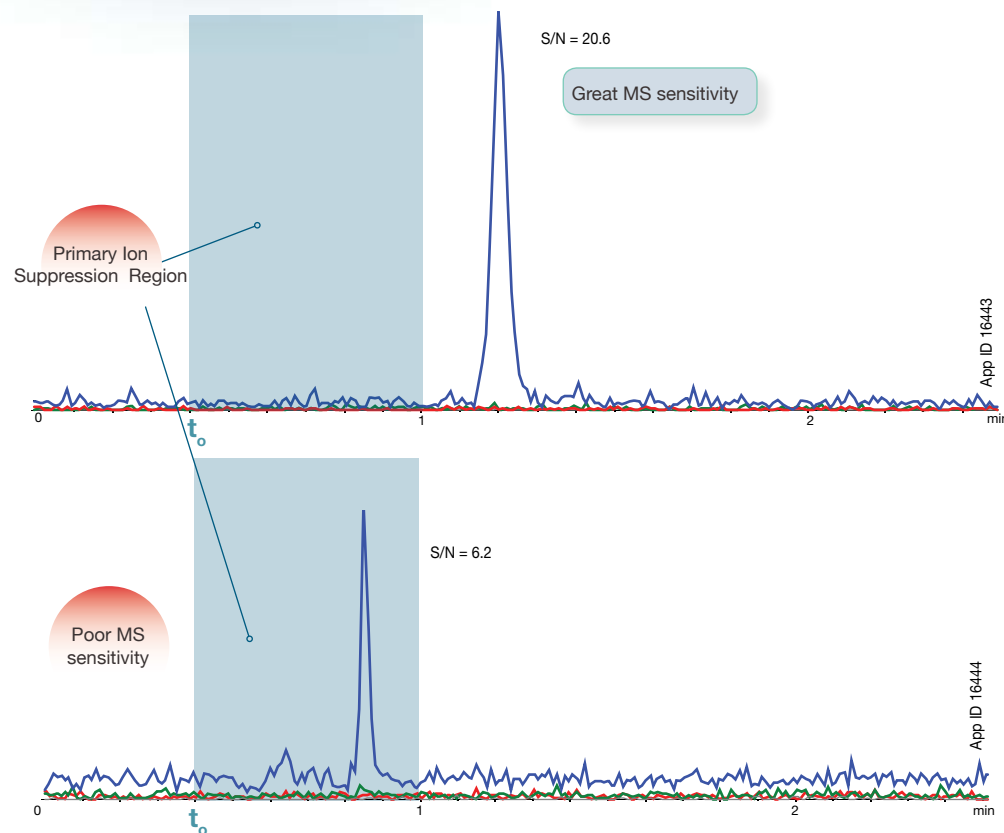
Luna HILIC columns retain a water-enriched layer on the surface of the silica. This water layer facilitates the transfer of polar compounds into the stationary phase for increased retention.

The result:

- Superior retention of polar compounds
- Improve mass spec sensitivity
- Increased laboratory throughput and productivity

## Improve Mass Spec Sensitivity

Luna HILIC columns allow low level polar metabolites to be retained on column past the critical ion suppression zone, allowing: Increased MS sensitivity and Higher signal-to-noise ratio (S/N).



## POLAR COMPOUND IN HILC MODE

**Column:** Luna 3  $\mu$ m HILIC  
**Dimension:** 100 x 2.0 mm  
**Part No.:** 00D-4449-B0  
**Mobile Phase:** Acetonitrile / 100 mM Ammonium Formate, pH 3.2 (90:10)  
**Flow Rate:** 0.4 mL/min  
**Detection:** Mass Spectrometer (MS)  
**Temperature:** Ambient  
**Sample:** Bamethan

## POLAR COMPOUND IN C18 REVERSED PHASE

**Column:** Gemini 3  $\mu$ m C18  
**Dimension:** 100 x 2.0 mm  
**Part No.:** 00D-4435-B0  
**Mobile Phase:** 0.1 % Formic Acid / Acetonitrile (97:3)  
**Flow Rate:** 0.4 mL/min  
**Detection:** Mass Spectrometer (MS)  
**Temperature:** Ambient  
**Sample:** Bamethan

Ion Suppression Region is from 0.5-1.0 min

$$t_o \approx 0.5 \text{ min}$$

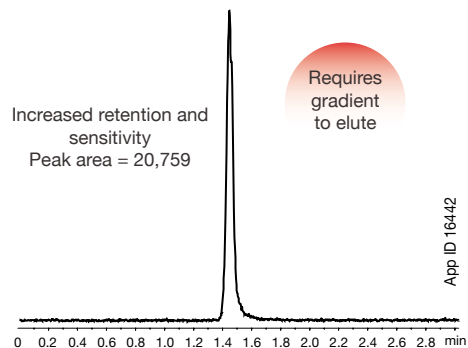
$$k' = 1 = \frac{t_R - t_o}{t_o} = \frac{1 - 0.5}{0.5}$$

## Retain Polar Compounds

Highly polar compounds such as ribavirin may be poorly retained on reversed phase columns. HILIC techniques will increase polar compound retention and sensitivity.

### RIBAVIRIN ON LUNA HILIC

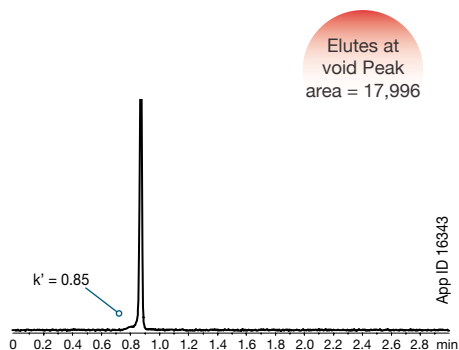
0.5 ng on column



**Column:** Luna 3  $\mu$ m HILIC  
**Dimension:** 100 x 2.0 mm  
**Part No.:** 00D-4449-B0  
**Mobile Phase:** A: Acetonitrile/100 mM Ammonium Formate, pH 3.2 (90:10)  
 B: Acetonitrile/20 mM Ammonium Formate, pH 3.2 (50:50)  
**Gradient:** 100 % A for 3 min, then 100 % B to 4.5 min, switch to 100 % A for 10 min  
**Flow Rate:** 0.4 mL/min  
**Detection:** Mass Spectrometer (MS)  
**Temperature:** Ambient  
**Sample:** 1. Ribavirin (MRM: 245.2/113.2)

### RIBAVIRIN ON C18

0.5 ng on column



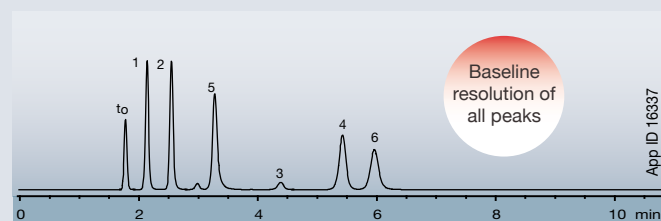
**Column:** Gemini 5  $\mu$ m C18  
**Dimension:** 100 x 2.0 mm  
**Part No.:** 00D-4435-B0  
**Mobile Phase:** Acetonitrile with 0.1 % v/v Formic Acid/  
 Water with 0.1 % v/v Formic Acid (3:97)  
**Flow Rate:** 0.4 mL/min  
**Detection:** Mass Spectrometer (MS) (ambient)  
**Temperature:** Ambient  
**Sample:** 1. Ribavirin (MRM: 245.2/113.2)

## Unique HILIC Selectivity

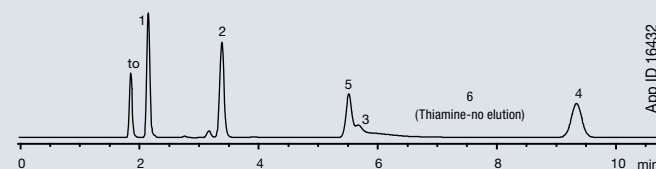
Not all HILIC columns are alike. Luna HILIC columns deliver on the exacting standards you've come to trust from the Luna product line.

### HILIC COLUMN COMPARISON\*\*

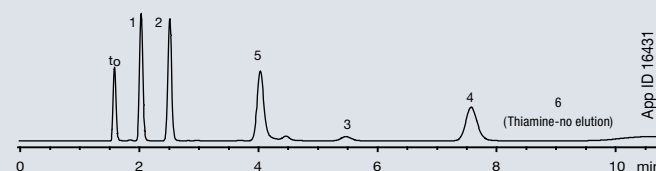
#### Phenomenex® Luna® 5 $\mu$ m



#### Waters® Atlantis® 5 $\mu$ m HILIC



#### SeQuant 5 $\mu$ m ZIC®-HILIC



**Conditions same for all columns:**  
**Column:** As noted  
**Dimension:** 150 x 4.6 mm  
**Mobile Phase:** Acetonitrile/100 mM Ammonium Formate, pH 3.2 (90:10)  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 260 nm  
**Sample:** 1. PABA  
 2. Nicotinamide  
 3. Riboflavin  
 4. Nicotinic Acid  
 5. Pyridoxine  
 6. Thiamine

\*\* The comparative data presented here may not be representative for all applications.

# Luna SCX

## Develop Robust Strong Cation Exchange Methods

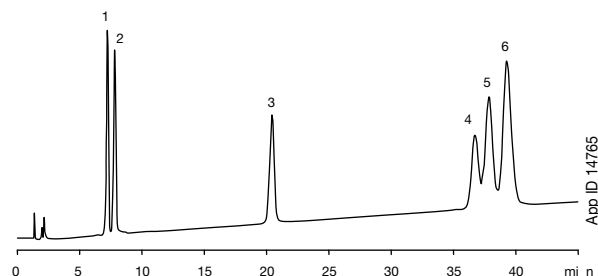
Luna SCX columns provide excellent resolution and peak shape of basic, cationic compounds. However, most SCX columns show poor peak shape and bad resolution causing many chromatographers to ignore this important phase for small molecule method development, until now.

Luna SCX columns contain a benzene sulfonic acid ligand providing ion exchange reversed phase, and aromatic interactions. In combination with the ultra pure silica, Luna SCX columns are a stable, robust phase for strong cation exchange chromatography.

The result:

- Resolving power and sharp peak shape to separate complex cationic/basic and nitrogen containing compounds
- Benzene sulfonic acid ligand provides mixed-mode interaction improving separation for 2D peptide applications
- Excellent first dimension of 2D LC applications

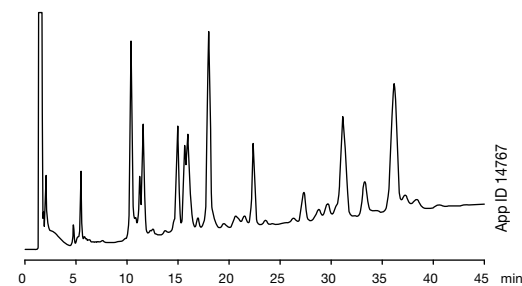
### PEPTIDES



**Column:** Luna 5 µm SCX  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4398-E0  
**Mobile Phase:** A: 20 mM Potassium Phosphate, 25 % Acetonitrile, pH 2.5  
B: 20 mM Potassium Phosphate, 25 % Acetonitrile, 400 mM Potassium Chloride, pH 2.5  
**Gradient:** A/B (95:5) to A/B (10:90) in 45 minute  
**Flow Rate:** 1 mL/min  
**Temperature:** 35 °C  
**Detection:** UV @ 215 nm  
**Injection Volume:** 2 µL (5 µg on column)  
**Sample:** Peptide Mixture - Substance P  
1. Fragment 5-11 (+1)  
2. Fragment 4-11 (+1)  
3. Fragment 2-11 (+2)  
4. Fragment 1-9 (+3)  
5. Intact (+3)  
6. (ARG-PHE-TRP-LEU) (+3)

App ID 14765

### TRYPTIC DIGEST OF BOVINE CYTOCHROME C



**Column:** Luna 5 µm SCX  
**Dimension:** 150 x 4.6 mm  
**Part No.:** 00F-4398-E0  
**Mobile Phase:** A: 20 mM Potassium Phosphate, pH 2.5 / 25 % Acetonitrile  
B: 20 mM Potassium Phosphate, pH 2.5 / 25 % Acetonitrile / 350 mM Potassium Chloride  
**Gradient:** 100 % A to 100 % B in 50 minutes  
**Flow Rate:** 1 mL/min  
**Temperature:** 35 °C  
**Detection:** UV @ 215 nm  
**Injection Volume:** 50 µL (20 µg on column)  
**Sample:** Bovine Cytochrome C trypsin digest

App ID 14767





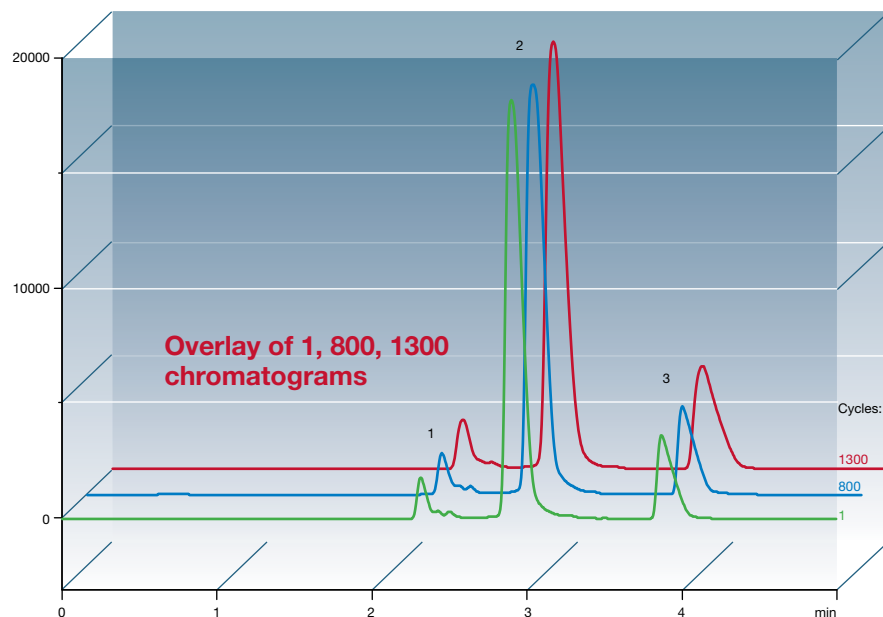
# AXIA

## Revolutionize Lab-Scale Purification

An advanced column packing and hardware design, Axia™ columns incorporate patent-pending Hydraulic Piston Compression technology to eliminate bed collapse as a source of failure in preparative columns. Using a single, controlled hydraulic compression, the piston assembly is locked in place without allowing the media to decompress or “relax,” thus maintaining media and column bed integrity.

With Axia technology, the correct slurry amount and packing pressure are automated to give not only higher efficiency and sharper peaks, but also drastically reduced column-to-column variability. This will help improve longer column lifetime, column-to-column reproducibility, and recover higher compound purity with analytical like efficiency.

## Axia™ Gradient Lifetime Study

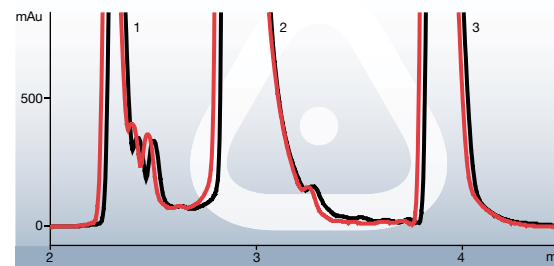


**Columns:** Luna® 5µm C18(2) Axia™ Packed  
**Dimension:** 50 x 21.2mm  
**Part No.:** 00B-4252-PO-AX  
**Mobile Phase:** A: 0.5% TFA in Water  
 B: 0.5% TFA in Acetonitrile  
**Gradient:** Linear 95:5 to 5:95 (A/B) over 7 min, hold 3 min  
**Injection Volume:** 500 µL  
**Flow Rate:** 30 mL/min  
**Temperature:** Ambient  
**Detection:** UV @ 254nm  
**Sample:** 1. Triprolidine 1.6 mg  
 2. Methacycline 16 mg  
 3. Amitriptyline 5.25 mg

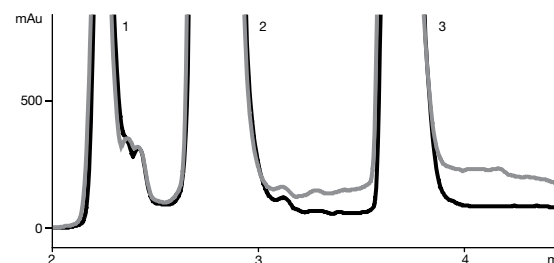


2006 R&D 100 Award Recipient

## Compare Lifetime\*\*



VS.



\*\* The comparative data presented here may not be representative for all applications.

### Axia™ Packed

Luna® 5 µm C18(2) Axia™ Packed

■ First Run ■ 800th Run

### Leading Competitive Preparative Column

Waters® XTerra® 5 µm Prep MS C18 OBD™

■ First Run ■ 120th Run†

† Six columns tested.  
 Best lifetime chosen for comparison.

### same for both columns except where noted

**Column:** Luna 5 µm C18(2) Axia™ Packed; Waters® XTerra® 5 µm Prep MS C18 OBD™

**Dimension:** 50 x 21.2 mm (Luna); 50 x 19 mm (XTerra®)

**Mobile Phase:** A: 0.5 % TFA in Water B: 0.5 % TFA in Acetonitrile

**Gradient:** Linear 95:5 (A/B) to 5:95 (A/B) over 7 min, hold 3 min

**Flow Rate:** 30 mL/min (Luna) 24 mL/min (XTerra®)†

**Temperature:** Ambient

**Detection:** UV @ 254 nm

**Sample:** 1. Triprolidine 1.6 mg  
 2. Methacycline 16 mg  
 3. Amitriptyline 5.25 mg  
 †Same linear velocity

# Fast LC

## When you want Fast LC, you need BALANCE

The ever-increasing demand for high-throughput analysis of drug candidates during the early stages of drug discovery has generated an acute need for rapid methods of analysis.

3 Balanced Solutions to:

Balance Your Speed, Pressure, Efficiency and Selectivity

		Speed	Pressure	Efficiency	Selectivity
1	High Speed Technology (HST) Columns	Fast	< 400 Bar	Highest	Several phases
2	MercuryMS Columns and Cartridges	Fast	< 400 Bar	High	Most phases
3	Monolithic Columns	Fastest	< 200 Bar	Good	Some phases

Developing ultra-fast and efficient methods for potential drugs has become a constant challenge for analysts. Use the chart above to determine the HPLC column that meets your performance needs.

## Luna: High Speed Technology(HST) columns

- High efficiency 2.5 µm particles on ultra-pure silica
- Ultra-high performance results on your current HPLC
- Easy method transfer
- Orthogonal selectivity options



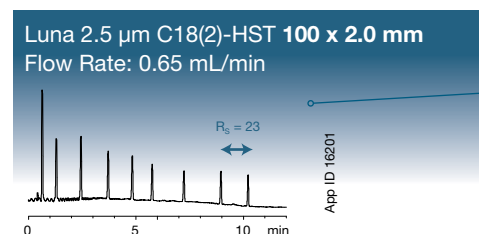
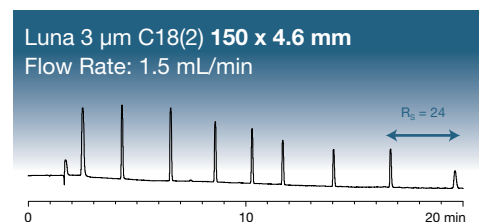
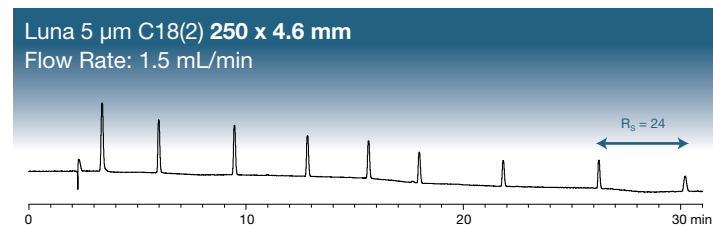
Luna HST columns are manufactured in specific dimensions utilizing new, highly controlled and robust packing technologies. The technology allows for consistent, high performance results on newer and existing HPLC instrumentation. Get the benefit of increased speed and efficiency with standard HPLC system pressure capabilities! Luna HST can be used with your current standard HPLC and newer high performance systems so that there will be no need for time consuming method revalidation.

Luna HST 2.5 µm columns allow the scientist to reduce analysis time by increasing flow rates without a loss in performance.



## Speed Influence on Performance

### HST Columns: 66 % Faster. No Loss in Resolution



Run time reduced by 20 min with virtually no effect on resolution!

**Column:** Luna C18(2), particle size as noted  
**Dimension:** as noted  
**Mobile Phase:** A: Water B: Acetonitrile  
**Gradient:** 90:10 (A/B) to 5:95 (A/B)  
**Flow Rate:** As noted  
**Detection:** UV @ 270 nm  
**Sample:** Ketones C<sub>3</sub> to C<sub>16</sub>

## MercuryMS™: Columns and Cartridges

- Ultra-fast, low-cost analysis for high-throughput laboratories
- Packed with Luna®, Synergi™, and Gemini® material
- Short 10 and 20 mm cartridge formats use a new proprietary slurry packing process

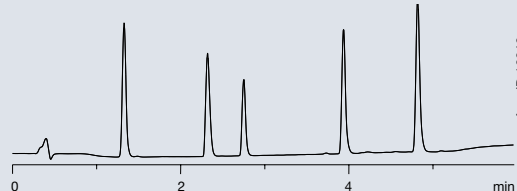


### Reduce Analysis Times by 60 %

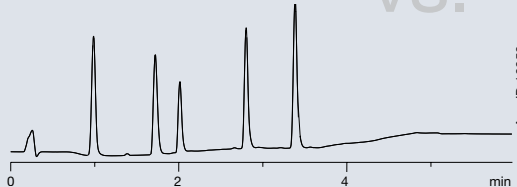
With the increasing emphasis on high sample throughput for screening combinatorial libraries as well as the need for overall faster cycle time, it has become necessary for the chromatographer to reduce analysis time while still maintaining acceptable resolution. As shown, retention times can be significantly reduced with a 20 x 4.0 mm MercuryMS cartridge column.

### 60% Reduction in Analysis Time Using MercuryMS

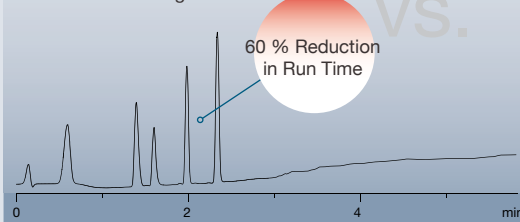
50 x 4.6 mm Column



30 x 4.6 mm Column



20 x 4.0 mm Cartridge

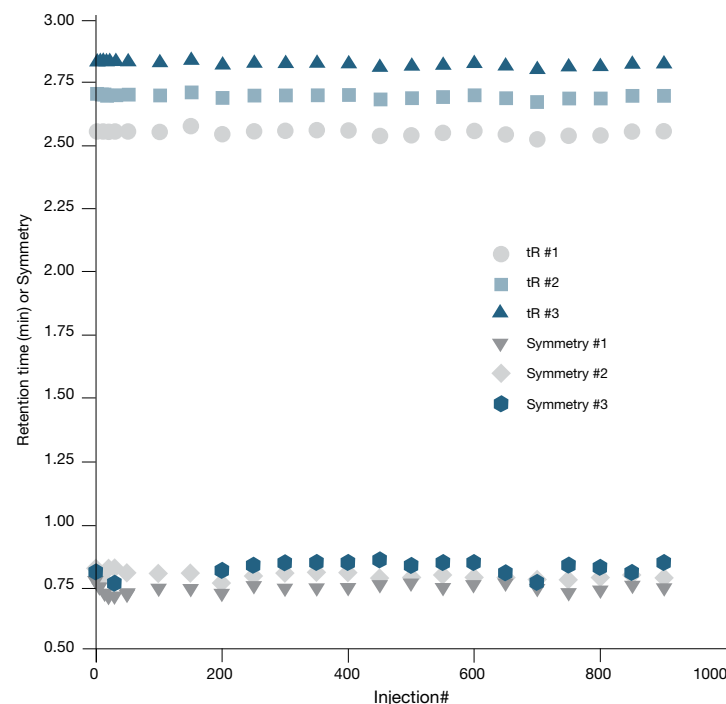


**Column:** Luna 3 µm C18(2)  
**Dimension:** 50 x 4.6 mm, 30 x 4.6 mm, 20 x 4.0 mm  
**Mobile Phase:** A: 0.1 % Formic acid in Water  
 B: 0.1 % Formic acid Acetonitrile  
**Gradient:** 95:5 A/B to 5:95 in 6 min for 50 x 4.6 mm  
 95:5 A/B to 5:95 in 4 min for 30 x 4.6 mm  
 95:5 A/B to 5:95 in 2.4 min for 20 x 4.0 mm  
**Flow Rate:** 2 mL/min for 50 and 30 x 4.6 mm, 1.6 mL/min for 20 x 4.0 mm  
**Detection:** UV @ 254 nm  
**Temperature:** Ambient  
**Sample:** 5 µL Gradient mixture  
 1. Acetaminophen  
 2. Propranolol  
 3. Imipramine  
 4. Naproxen  
 5. Valerophenone

## Rugged Durability for Over 1,000 Injections

When running long sequences, often involving hundreds of valuable samples, it is imperative that the column does not fail during the middle of the run. As shown, the Luna 3 µm C18(2) 20 x 2.0 mm MercuryMS cartridge was stable for over 1000 injections (over 20,000 column volumes of mobile phase) in this gradient assay, offering exceptional reliability for automated screening systems.

### MercuryMS: Stable Over 1,000 Injections



**Column:** Luna 3 µm C18(2) 20 x 2.0 mm MercuryMS Cartridge  
**Part No.:** 00M-4251-B0-CE  
**Mobile Phase:** A: Water with 0.1 % Trifluoroacetic acid (TFA)  
 B: Methanol with 0.1 % TFA  
**Gradient:** 95:5 A/B to 5:95 A/B in 2 min at a flow rate of 0.4 mL/min, then reequilibrate for 3 min at 1.0 mL/min  
**Flow Rate:** 0.4 and 1.0 mL/min  
**Detection:** UV @ 230 nm  
**Temperature:** Ambient  
**Sample:** 2 µL containing:  
 1. Propranolol  
 2. Metoprolol  
 3. Pindolol

# Ordering Information

explore

**LUNA**<sup>®</sup>



2.5 µm High Speed Technology (HST) Columns (mm)					
	30 x 2.0	50 x 2.0	100 x 2.0	50 x 3.0	100 x 3.0
Phases					
Luna 2.5 µm C18(2)-HST	00A-4446-B0	00B-4446-B0	00D-4446-B0	00B-4446-Y0	00D-4446-Y0

3 µm and 5 µm Capillary Columns (mm)						
	50 x 0.30	150 x 0.30	250 x 0.30	50 x 0.50	150 x 0.50	250 x 0.50
Phases						
3 µm C8(2)	00B-4248-AC	00F-4248-AC	00G-4248-AC	00B-4248-AF	00F-4248-AF	00G-4248-AF
3 µm C18(2)	00B-4251-AC	00F-4251-AC	00G-4251-AC	—	00F-4251-AF	00G-4251-AF
5 µm C8(2)	00B-4249-AC	00F-4249-AC	00G-4249-AC	00B-4249-AF	00F-4249-AF	00G-4249-AF
5 µm C18(2)	00B-4252-AC	00F-4252-AC	00G-4252-AC	00B-4252-AF	00F-4252-AF	00G-4252-AF

MercuryMS™ LC/MS Cartridges (mm)				
	10 x 2.0	10 x 4.0	20 x 2.0	20 x 4.0
Phases				
Qty Pricing	1 @ /ea 3 @ /ea 5 @ /ea 10 @ /ea	1 @ /ea 3 @ /ea 5 @ /ea 10 @ /ea	1 @ /ea 3 @ /ea 5 @ /ea 10 @ /ea	1 @ /ea 3 @ /ea 5 @ /ea 10 @ /ea

3 µm				
C18(2)	00N-4251-B0-CE	00N-4251-D0-CE	00M-4251-B0-CE	00M-4251-D0-CE
C8(2)	00N-4248-B0-CE	00N-4248-D0-CE	00M-4248-B0-CE	00M-4248-D0-CE
5 µm				
C18(2)	00N-4252-B0-CE	00N-4252-D0-CE	00M-4252-B0-CE	00M-4252-D0-CE
C8(2)	00N-4249-B0-CE	00N-4249-D0-CE	00M-4249-B0-CE	00M-4249-D0-CE

## Cartridge Holders



Standard Cartridge Holders		
Part No.	Description	Price
CH0-5846	10 mm standard holder	
CH0-5845	20 mm standard holder	



Direct-Connect Cartridge Holders		
Part No.	Description	Price
CH0-7187	10 mm direct-connect holder	
CH0-7188	20 mm direct-connect holder	

SecurityGuard™ Analytical Cartridges require universal holder Part No.: KJO-4282

3 µm Microbore and Minibore Columns (mm)								SecurityGuard™ Cartridges (mm)
	30 x 1.0	50 x 1.0	150 x 1.0	30 x 2.0	50 x 2.0	100 x 2.0	150 x 2.0	4 x 2.0
Phases								/10 pk
Silica(2)	—	—	—	00A-4162-B0	00B-4162-B0	00D-4162-B0	00F-4162-B0	AJO-4347
C8(2)	00A-4248-A0	00B-4248-A0	00F-4248-A0	00A-4248-B0	00B-4248-B0	00D-4248-B0	00F-4248-B0	AJO-4289
C18(2)	00A-4251-A0	00B-4251-A0	00F-4251-A0	00A-4251-B0	00B-4251-B0	00D-4251-B0	00F-4251-B0	AJO-4286
CN	—	—	—	00A-4254-B0	00B-4254-B0	00D-4254-B0	00F-4254-B0	AJO-4304
Phenyl-Hexyl	00A-4256-A0	00B-4256-A0	—	00A-4256-B0	00B-4256-B0	00D-4256-B0	00F-4256-B0	AJO-4350
NH <sub>2</sub>	—	—	00F-4377-A0	00A-4377-B0	00B-4377-B0	00D-4377-B0	00F-4377-B0	AJO-4301
HILIC	—	—	—	—	00B-4449-B0	00D-4449-B0	00F-4449-B0	AJO-8328
PPFP(2)	—	—	—	00A-4447-B0	00B-4447-B0	00D-4447-B0	00F-4447-B0	AJO-8326

for ID: 2.0-3.0 mm



# Ordering Information

SecurityGuard™ Analytical Cartridges require universal holder Part No.: KJO-4282

3 µm Analytical Columns (mm)	SecurityGuard™ Cartridges (mm)									
	30 x 3.0	50 x 3.0	150 x 3.0	30 x 4.6	50 x 4.6	75 x 4.6	100 x 4.6	150 x 4.6	4 x 2.0	4 x 3.0
Phases									/10 pk	/10 pk
Silica(2)	—	—	00F-4162-YO	—	00B-4162-EO	—	00D-4162-EO	00F-4162-EO	AJO-4347	AJO-4348
C8(2)	00A-4248-YO	00B-4248-YO	00F-4248-YO	00A-4248-EO	00B-4248-EO	00C-4248-EO	00D-4248-EO	00F-4248-EO	AJO-4289	AJO-4290
C18(2)	00A-4251-YO	00B-4251-YO	00F-4251-YO	00A-4251-EO	00B-4251-EO	00C-4251-EO	00D-4251-EO	00F-4251-EO	AJO-4286	AJO-4287
CN	—	00B-4254-YO	00F-4254-YO	00A-4254-EO	00B-4254-EO	00C-4254-EO	00D-4254-EO	00F-4254-EO	AJO-4304	AJO-4305
Phenyl-Hexyl	—	00B-4256-YO	00F-4256-YO	00A-4256-EO	00B-4256-EO	00C-4256-EO	00D-4256-EO	00F-4256-EO	AJO-4350	AJO-4351
NH <sub>2</sub>	—	00B-4377-YO	00F-4377-YO	00A-4377-EO	00B-4377-EO	—	00D-4377-EO	00F-4377-EO	AJO-4301	AJO-4302
HILIC	—	00B-4449-YO	00F-4449-YO	—	—	—	00D-4449-EO	00F-4449-EO	AJO-8328	AJO-8329
PFP(2)	—	00B-4447-YO	00F-4447-YO	—	00B-4447-EO	—	00D-4447-EO	00F-4447-EO	AJO-8326	AJO-8327

for ID: 2.0-3.0 mm 3.2-8.0 mm

SecurityGuard™ Analytical Cartridges require universal holder Part No.: KJO-4282

5 µm Microbore and Minibore Columns (mm)	SecurityGuard™ Cartridges (mm)							
	50 x 1.0	150 x 1.0	250 x 1.0	30 x 2.0	50 x 2.0	150 x 2.0	250 x 2.0	4 x 2.0*
Phases								/10 pk
Silica(2)	—	—	—	—	00B-4274-B0	00F-4274-B0	00G-4274-B0	AJO-4347
C5	—	—	—	00A-4043-B0	00B-4043-B0	00F-4043-B0	—	AJO-4292
C8	—	—	—	00A-4040-B0	00B-4040-B0	00F-4040-B0	—	AJO-4289
C8 (2)	00B-4249-A0	00F-4249-A0	00G-4249-A0	00A-4249-B0	00B-4249-B0	00F-4249-B0	00G-4249-B0	AJO-4289
C18	—	—	—	00A-4041-B0	00B-4041-B0	00F-4041-B0	00G-4041-B0	AJO-4286
C18 (2)	00B-4252-A0	00F-4252-A0	00G-4252-A0	00A-4252-B0	00B-4252-B0	00F-4252-B0	00G-4252-B0	AJO-4286
CN	—	—	—	00A-4255-B0	00B-4255-B0	00F-4255-B0	00G-4255-B0	AJO-4304
Phenyl-Hexyl	00B-4257-A0	00F-4257-A0	00G-4257-A0	00A-4257-B0	00B-4257-B0	00F-4257-B0	00G-4257-B0	AJO-4350
NH <sub>2</sub>	—	00F-4378-A0	—	00A-4378-B0	00B-4378-B0	00F-4378-B0	00G-4378-B0	AJO-4301
PFP(2)	—	—	—	00A-4448-B0	00B-4448-B0	00F-4448-B0	—	AJO-8326

for ID: 2.0-3.0 mm

SecurityGuard™ Analytical Cartridges require universal holder Part No.: KJO-4282

5 µm Analytical Columns (mm)	SecurityGuard™ Cartridges (mm)									
	30 x 3.0	50 x 3.0	150 x 3.0	250 x 3.0	30 x 4.6	50 x 4.6	75 x 4.6	4 x 2.0*	4 x 3.0*	
Phases									/10 pk	/10 pk
Silica(2)	—	—	—	—	—	00B-4274-E0	—	AJO-4347	AJO-4348	
C5	—	—	00F-4043-YO	—	—	00B-4043-E0	—	AJO-4292	AJO-4293	
C8	—	—	00F-4040-YO	00G-4040-YO	00A-4040-E0	00B-4040-E0	00C-4040-E0	AJO-4289	AJO-4290	
C8(2)	—	00B-4249-YO	00F-4249-YO	00G-4249-YO	00A-4249-E0	00B-4249-E0	00C-4249-E0	AJO-4289	AJO-4290	
C18	—	—	00F-4041-YO	00G-4041-YO	00A-4041-E0	00B-4041-E0	00C-4041-E0	AJO-4286	AJO-4287	
C18(2)	00A-4252-YO	00B-4252-YO	00F-4252-YO	00G-4252-YO	00A-4252-E0	00B-4252-E0	00C-4252-E0	AJO-4286	AJO-4287	
CN	—	00B-4255-YO	00F-4255-YO	00G-4255-YO	00A-4255-E0	00B-4255-E0	00C-4255-E0	AJO-4304	AJO-4305	
Phenyl-Hexyl	00A-4257-YO	00B-4257-YO	00F-4257-YO	00G-4257-YO	00A-4257-E0	00B-4257-E0	00C-4257-E0	AJO-4350	AJO-4351	
NH <sub>2</sub>	—	00B-4378-YO	00F-4378-YO	00G-4378-YO	00A-4378-E0	00B-4378-E0	00C-4378-E0	AJO-4301	AJO-4302	
SCX	—	—	—	—	—	00B-4398-E0	—	AJO-4307	AJO-4308	
HILIC	—	—	00F-4450-YO	—	—	—	—	AJO-8328	AJO-8329	
PFP(2)	—	00B-4448-YO	00F-4448-YO	—	00A-4448-E0	00B-4448-E0	—	AJO-8326	AJO-8327	

for ID: 2.0-3.0 mm 3.2-8.0 mm



If Luna analytical columns do not provide at least an equivalent separation as compared to a competing analytical column of the same particle size, similar phase and dimensions, return the column with comparative data within 45 days for a FULL Refund.

# Ordering Information

## Luna Method Development Kits

The Luna Method Development Kits combine the incredible performance of Luna HPLC columns with three different selectivities. Both kits include a Luna Phenyl-Hexyl (moderate polarity), a Luna CN (polar), and your choice of a C8(2) or C18(2) (non-polar). A wide range of selectivities for virtually any separation challenge.



5 µm Analytical, Semi-Prep and Preparative Columns (mm)						SecurityGuard™ Cartridges (mm)		
	100 x 4.6	150 x 4.6	250 x 4.6	250 x 10	250 x 15	4 x 3.0*	10 x 10†	15 x 21.2**
Phases						/10 pk	/3 pk	/ea
Silica(2)	00D-4274-E0	00F-4274-E0	00G-4274-E0	00G-4274-N0	—	AJO-4348	AJO-7223	AJO-7229
C5	00D-4043-E0	00F-4043-E0	00G-4043-E0	—	—	AJO-4293	AJO-7372	—
C8	00D-4040-E0	00F-4040-E0	00G-4040-E0	00G-4040-N0	—	AJO-4290	AJO-7222	AJO-7840
C8(2)	00D-4249-E0	00F-4249-E0	00G-4249-E0	00G-4249-N0	00G-4249-AK	AJO-4290	AJO-7222	AJO-7840
C18	00D-4041-E0	00F-4041-E0	00G-4041-E0	00G-4041-N0	—	AJO-4287	AJO-7221	AJO-7839
C18(2)	00D-4252-E0	00F-4252-E0	00G-4252-E0	00G-4252-N0	00G-4252-AK	AJO-4287	AJO-7221	AJO-7839
CN	00D-4255-E0	00F-4255-E0	00G-4255-E0	00G-4255-N0	—	AJO-4305	AJO-7313	AJO-8220
Phenyl-Hexyl	00D-4257-E0	00F-4257-E0	00G-4257-E0	00G-4257-N0	—	AJO-4351	AJO-7314	AJO-7841
NH <sub>2</sub>	00D-4378-E0	00F-4378-E0	00G-4378-E0	00G-4378-N0	—	AJO-4302	AJO-7364	AJO-8162
SCX	00D-4398-E0	00F-4398-E0	00G-4398-E0	00G-4398-N0	—	AJO-4308	AJO-7369	—
HILIC	00D-4450-E0	00F-4450-E0	00G-4450-E0	—	—	AJO-8329	—	—
PFPP(2)	00D-4448-E0	00F-4448-E0	00G-4448-E0	00G-4448-N0	—	AJO-8327	AJO-8376	AJO-8377

for ID: 3.2-8.0 mm      9-16 mm      18-29 mm

Axia™ Packed Preparative Columns (mm)								SecurityGuard™ Cartridges (mm)	
	50 x 21.2	100 x 21.2	150 x 21.2	250 x 21.2	50 x 30	100 x 30	250 x 30	15 x 21.2**	15 x 30 †
Phases								/ea	/ea
<b>5 µm</b>									
Silica(2)	00B-4274-P0-AX	00D-4274-P0-AX	00F-4274-P0-AX	00G-4274-P0-AX	00B-4274-U0-AX	00D-4274-U0-AX	00G-4274-U0-AX	AJO-7229	AJO-8312
C5	—	—	00F-4043-P0-AX	—	—	—	—	—	—
C8	00B-4249-P0-AX	00D-4249-P0-AX	00F-4249-P0-AX	00G-4249-P0-AX	00B-4249-U0-AX	00D-4249-U0-AX	00G-4249-U0-AX	AJO-7840	AJO-8302
C8(2)	00B-4249-P0-AX	00D-4249-P0-AX	—	—	00B-4249-U0-AX	00D-4249-U0-AX	—	AJO-7840	AJO-8302
C18	—	—	—	—	—	00D-4435-U0-AX	—	AJO-7839	AJO-8301
C18(2)	00B-4252-P0-AX	00D-4252-P0-AX	00F-4252-P0-AX	00G-4252-P0-AX	00B-4252-U0-AX	00D-4252-U0-AX	00G-4252-U0-AX	AJO-7839	AJO-8301
CN	00B-4255-P0-AX	—	00F-4255-P0-AX	00G-4255-P0-AX	—	00D-4255-U0-AX	—	AJO-8220	AJO-8311
Phenyl-Hexyl	00B-4257-P0-AX	00D-4257-P0-AX	—	—	00B-4257-U0-AX	00D-4257-U0-AX	—	AJO-7841	AJO-8303
NH <sub>2</sub>	—	00D-4378-P0-EX	00F-4378-P0-AX	00G-4378-P0-AX	—	—	00G-4378-U0-AX	AJO-8162	AJO-8309
PFPP(2)	00B-4448-P0-AX	00D-4448-P0-AX	00F-4448-P0-AX	00G-4448-P0-AX	00B-4448-U0-AX	00D-4448-U0-AX	00G-4448-U0-AX	AJO-8377	AJO-8378

for ID: 18-29 mm      30-49 mm

Axia™ Packed Preparative Columns (mm)											SecurityGuard™ Cartridges (mm)	
	50 x 21.2	100 x 21.2	150 x 21.2	250 x 21.2	50 x 30	100 x 30	250 x 30	250 x 50	50 x 50	100 x 50	15 x 21.2**	15 x 30 †
Phases											/ea	/ea
<b>10 µm</b>												
Silica(2)	—	—	—	00G-4091-P0-AX	—	—	00G-4091-U0-AX	—	—	—	AJO-7229	AJO-8312
C5	—	—	—	00G-4092-P0-AX	—	—	—	00G-4092-V0-AX	—	—	—	—
C8	—	—	—	00G-4093-P0-AX	—	—	—	—	—	—	AJO-7840	AJO-8302
C8(2)	00B-4250-P0-AX	—	00F-4250-P0-AX	00G-4250-P0-AX	00B-4250-U0-AX	—	00G-4250-U0-AX	00G-4250-V0-AX	—	—	AJO-7840	AJO-8302
C18	—	—	—	00G-4094-P0-AX	—	—	—	—	—	—	AJO-7839	AJO-8301
C18(2)	00B-4253-P0-AX	00D-4253-P0-AX	00F-4253-P0-AX	00G-4253-P0-AX	00B-4253-U0-AX	00D-4253-U0-AX	00G-4253-U0-AX	00G-4253-V0-AX	00B-4253-V0-AX	00D-4253-V0-AX	AJO-7839	AJO-8301
CN	—	—	—	00G-4300-P0-AX	—	—	—	—	—	—	AJO-8220	AJO-8311
Phenyl-Hexyl	—	—	—	00G-4285-P0-AX	—	—	00G-4285-U0-AX	—	00B-4285-V0-AX	—	AJO-7841	AJO-8303
NH <sub>2</sub>	—	00D-4379-P0-AX	—	00G-4379-P0-AX	—	—	—	—	—	—	AJO-8162	AJO-8309

for ID: 18-29 mm      30-49 mm

\*SecurityGuard™ Analytical Cartridges require holder, Part No.: KJO-4282

†SemiPrep SecurityGuard™ Cartridges require holder, Part No.: AJO-7220

\*\*PREP SecurityGuard™ Cartridges require holder, Part No.: AJO-8223

‡PREP SecurityGuard™ Cartridges require holder, Part No.: AJO-8277

# Phenex™ Syringe Filters

For Sample and Solvent Filtration Prior to Chromatography!

- Less system down time
- More consistent, reproducible results
- Increased column lifetime



Membrane Type/Size	4 mm Diameter for ≤ 2 mL sample volumes			15-17 mm Diameter for 2 – 10 mL sample volumes			25-28 mm Diameter for 10 – 100 mL sample volumes			
	Part No.	Unit	Price	Part No.	Unit	Price	Part No.	Unit	Price	
<b>0.45 μm</b>										
<b>Phenex-RC</b> (Regenerated Cellulose)	AF0-3103-12	100/pk		AF0-2103-12	100/pk		AF0-8103-12 <sup>5</sup>	100/pk		
	AF0-3103-52	500/pk		AF0-2103-52	500/pk		AF0-8103-52 <sup>5</sup>	500/pk		
<b>Phenex-PES</b> <sup>3</sup> (Polyethersulfone)	—	—		AF2-5108-12 <sup>1</sup>	100/pk		AF0-8108-12 <sup>7</sup>	100/pk		
	—	—		—	—		AF0-8108-52 <sup>7</sup>	500/pk		
<b>Phenex-PTFE</b> <sup>6</sup> (Polytetrafluoroethylene)	AF0-3102-12	100/pk		AF0-2102-12	100/pk		AF0-1102-12	100/pk		
	AF0-3102-52	500/pk		AF0-2102-52	500/pk		AF0-1102-52	500/pk		
<b>Phenex-NY</b> (Nylon)	AF3-3107-12	100/pk		AF2-5107-12 <sup>1</sup>	100/pk		AF0-1107-12	100/pk		
	AF3-3107-52	500/pk		AF2-5107-52 <sup>1</sup>	500/pk		AF0-1107-52	500/pk		
<b>Phenex-GF/CA</b> <sup>2,3,4</sup> (Glass Fiber/Cellulose Acetate)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a CA membrane. Excellent for filtration of tissue culture media, general biological sample filtration and clarification. Outlet connection is luer lock.							AF0-8B09-12 <sup>7</sup>	100/pk	
								AF0-8B09-52 <sup>7</sup>	500/pk	
<b>0.20 μm</b>										
<b>Phenex-RC</b> (Regenerated Cellulose)	AF0-3203-12	100/pk		AF0-2203-12	100/pk		AF0-8203-12 <sup>5</sup>	100/pk		
	AF0-3203-52	500/pk		AF0-2203-52	500/pk		AF0-8203-52 <sup>5</sup>	500/pk		
<b>Phenex-PES</b> <sup>3</sup> (Polyethersulfone)	—	—		—	—		AF0-8208-12 <sup>7</sup>	100/pk		
	—	—		—	—		AF0-8208-52 <sup>7</sup>	500/pk		
<b>Phenex-PTFE</b> <sup>6</sup> (Polytetrafluoroethylene)	AF0-3202-12	100/pk		AF0-2202-12	100/pk		AF0-1202-12	100/pk		
	AF0-3202-52	500/pk		AF0-2202-52	500/pk		AF0-1202-52	500/pk		
<b>Phenex-NY</b> (Nylon)	AF3-3207-12	100/pk		AF2-5207-12 <sup>1</sup>	100/pk		AF0-1207-12	100/pk		
	AF3-3207-52	500/pk		AF2-5207-52 <sup>1</sup>	500/pk		AF0-1207-52	500/pk		
<b>Phenex-GF/CA</b> <sup>2,3,4</sup> (Glass Fiber/Cellulose Acetate)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a CA membrane. Excellent for filtration of tissue culture media, general biological sample filtration and clarification. Outlet connection is luer lock.							AF0-8A09-12 <sup>7</sup>	100/pk	
								AF0-8A09-52 <sup>7</sup>	500/pk	
<b>1.20 μm</b>										
<b>Phenex-GF</b> <sup>2,3</sup> (Glass Fiber)	Prefiltration of heavily contaminated or highly viscous samples. When used in-line preceding a membrane filter, clogging of the membrane filter is prevented and sample clean up is optimized. Outlet connection is luer lock.							AF0-8515-12 <sup>7</sup>	100/pk	
								AF0-8515-52 <sup>7</sup>	500/pk	

## Phenex Offers:

- » Maximum chemical compatibility
- » Minimum extractables
- » Excellent flow rate
- » High total throughput
- » Certified quality
- » 100 % integrity tested
- » Low hold-up volume
- » Low protein absorption
- » Bi-directional use

### Tip: Try a Sample Pack!

The best way to determine if a specific Phenex membrane is suitable for your application.

Request yours today by phone or visit [www.phenomenex.com/sample](http://www.phenomenex.com/sample)

Above syringe filters are non-sterile. Housing is made of medical-grade polypropylene (PP). Luer lock inlet/slip outlet connections unless otherwise indicated.

- 17 mm diameter.
- Glass fiber filters are 28 mm diameter and made of borosilicate. They will remove 90 % of all particles >1.2 μm.
- Housing material is methacrylate butadiene styrene (MBS) polymerisate. Also known as Cryolite™.
- Cellulose acetate is surfactant-free.
- 26 mm diameter.
- Hydrophobic membrane. Can be made hydrophilic by pre-wetting with IPA.
- 28 mm diameter.
- Additional dimensions and membrane types are available. Please contact your local Phenomenex technical consultant or distributor for availability or assistance.
- Larger quantity purchases at significant savings are available.

guarantee

If Phenex™ Syringe Filters do not perform as well or better than your current syringe filter product of similar membrane, diameter and pore size, send in your comparative data within 45 days and keep the Phenex products for FREE!

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