
explore
LUNA®
One of The
World's Leading
HPLC Columns
phenomenex®
. . . breaking with tradition℠

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guarantee

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

One of the world's leading HPLC columns

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.

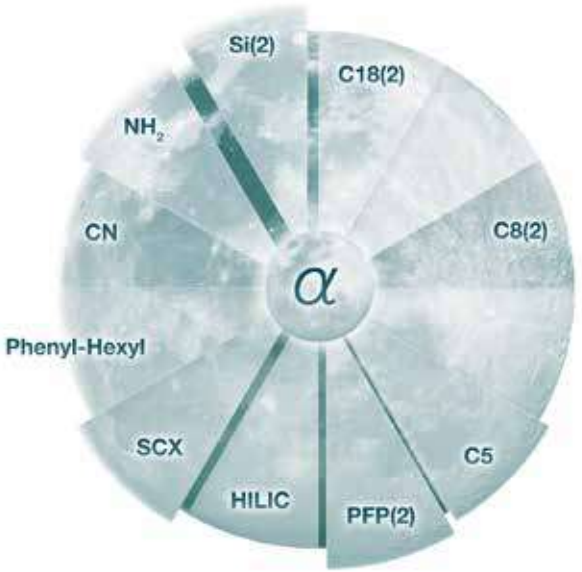
For those who use Luna products daily, thank you for making Luna columns one of the world's leading HPLC columns.

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 10 different chemistries, each offering its own unique selectivity.



Luna Phases	Description	Particle Size (µm)	Pore Size (Å)	Surface Area (m^2/g)	Carbon Load (%)	Bonded Phase Coverage (µmole/m^2)	pH Stability	Application	Reversed Phase	Normal Phase	HILIC	IEX
Silica(2)	Unbonded silica	3, 5, 10, 10-*PREP*, 15	100	400	—	—	2.0 - 7.5	Non-polar compounds		☾		
C5	5 Carbon ligand	5, 10	100	440	12.5	7.85	1.5 - 9.0*	Good alternative to C8 when less retention is desired	☾			
C8(2)	C8 ligand optimized for improved peak shape	3, 5, 10, 10-*PREP*, 15	100	400	13.5	5.50	1.5 - 9.0*	Great starting phase for method development	☾			
C18(2)	C18 ligand optimized for improved peak shape	2.5, 3, 5, 10, 10-*PREP*, 15	100	400	17.5	3.00	1.5 - 9.0*	From capillary LC/MS to process scale *Our most popular phase*	☾			
CN	Versatile CN phase	3, 5, 10	100	400	7.0	3.80	1.5 - 7.0	For improving the retention of polar compounds	☾	☾		
NH_2	Rugged and reproducible NH_2	3, 5, 10	100	400	9.5	5.80	1.5 - 11	Sugar alcohols, anionic or hydrogen bonding compounds	☾	☾		☾
Phenyl-Hexyl	Phenyl phase attached to C6 (hexyl) ligand	3, 5, 10, 10-*PREP*, 15	100	400	17.5	4.00	1.5 - 9.0*	Unique selectivity for very polar and aromatic compounds	☾			
SCX	Benzene sulfonic acid	5, 10	100	400	Binding Capacity: 0.15 meq/g		2.0 - 7.0	Amine and polyamine containing compounds				☾
HILIC	Reproducible, cross-linked diol	3, 5	200	200	5.7	4.30	1.5 - 8.0	Increased retention and MS sensitivity of polar compounds			☾	
PFP(2)	Pentafluorophenyl with a C3 (propyl) linkage	3, 5	100	400	11.5	2.20	1.5 - 8.0	Highly polar compounds, halogenated compounds and isomers	☾			

* pH range is 1.5 - 10 under isocratic conditions. pH range is 1.5 - 9 under gradient conditions.

NEW Preparative Media Luna 100Å C18(3), C8(3), and Silica(3) … see page 7 for more information.

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.

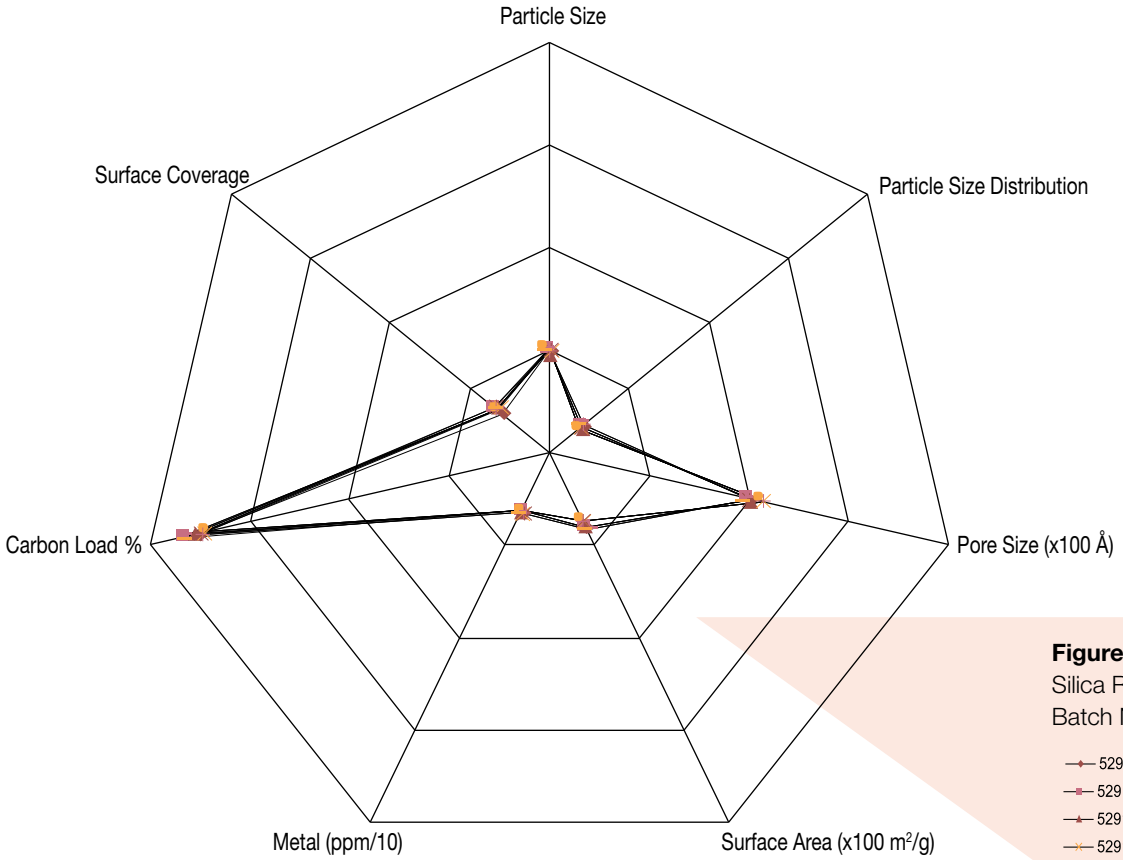


Figure 1
Silica Reproducibility.
Batch No:

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.

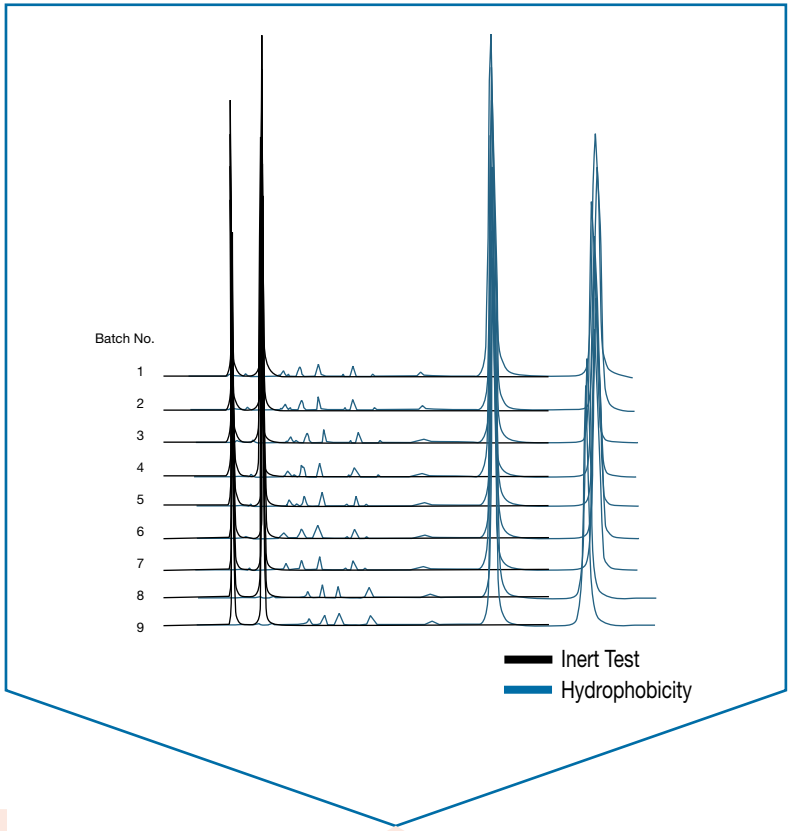


Figure 2
Column-to-column reproducibility for 9 batches of Luna 5 µm C18(2)

Explore Options for Every Development Route

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.

USP Phases for Virtually Every Application

USP Column Classification	Phase	Description	Common Applications
L1	C18(2)	2.5, 3, 5, 10, 10-*PREP*, 15 µm C18 phase. Excellent efficiency, peak shape and resolution. Slightly lower carbon load than original Luna C18.	Acetaminophen, Aspirin, Caffeine, Albuterol, Amitriptyline Hydrochloride, Amoxicillin, Atenolol, Cephalexin, Cephradine capsules, Chloramphenicol, Cortisone Acetate, Dextromethorphan, Diphenhydramine, Pseudoephedrine, Dopamine, Estradiol, Guaifenesin, Ibuprofen, Sterile Imipenem, Imipramine, Lidocaine, Lorazepam, Minoxidil, Naproxen, Phenylephrine Hydrochloride, Phenylpropanolamine, Prednisone oral solution, Procainamide, Propoxyphene, Reserpine
L3	Silica(2)	3, 5, 10 µm Ultra-pure silica with high column bed stability enhanced by particle shape uniformity.	Alprazolam, Hydrocodone bitartrate, Hydrocortisone, Fat Soluble Vitamins, Phthalates, Fatty Acids, Lutein, Lycopene, Estradiol
L7	C8(2)	3, 5, 10, 10-*PREP*, 15 µm C8 phase for excellent efficiency, peak shape and resolution. Significantly improved performance over traditional C8 phases due to high surface coverage.	Doxepine, Doxylamine succinate, Fluoxetine, Glyburide, Ibuprofen Oral Suspension, Propranolol, Levonorgestrel, Ethinyl estradiol, Melengestrol acetate, Glucosamine
L8	NH_2	3, 5, 10 µm Amino phase. Can be used in reversed or normal phase modes. Stable from pH 1.5 to 11.0 and under 100 % aqueous conditions. High performance silica and bonding techniques produce a rugged, highly reproducible column.	Simple sugars, Carboplatin, Lactulose concentrate, Levocarnitine tablets
L9	SCX	5, 10 µm A Benzene Sulfonic Acid bonded phase is used to make this Strong Cation Exchange (SCX) column. Offers great peak shape and resolution.	Cough and cold compounds, Raclopride, Sodium Acetate, Erythromycin
L10	CN	3, 5, 10 µm Cyano phase. Can be used as reversed or normal phase material. The use of Luna base silica results in overall phase reproducibility and performance.	Benzalkonium Chloride, Nortriptyline HCl Capsules, Prednisolone, Tetracaine, Quinapril tablets
L11	Phenyl-Hexyl	3, 5, 10, 10-*PREP*, 15 µm A phenyl phase which employs a hexyl alkyl linker as opposed to the traditional propyl chain. Offers great stability as well as alternative selectivity.	Oxacillin, Captopril, Chlorpheniramine, Pseudoephedrine, Methadone Hydrochloride Oral Concentration
L20	HILIC	3, 5 µm HILIC phase that provides excellent selectivity for polar compounds; and improved MS sensitivity with low bleed.	Drug metabolites, Water soluble vitamins, Melamine, Cyanuric acid, Metanephrine, Normetanephrine
L43	PFP(2)	3, 5 µm A pentafluorophenyl phase that provides excellent selectivity for aromatic compounds from influence of flourine substitution on phenyl ring. Multiple retention mechanisms. Orthogonal selectivity to traditional C18 phases.	Positional isomers, Geometric isomers, Taxanes, Aflatoxins

Preparative Media Luna 100Å C18(3), C8(3), and Silica(3)

For over 15 years, purification chemists have chosen Luna® as their media of choice. Luna high surface area silica media provide optimized properties designed for the purification of a wide array of compounds using dynamic axial compression (DAC) columns.

The latest Luna(3) media has narrower particle size distribution providing superior performance with lower backpressure. This new media offers a more uniform, stable, and reproducible chromatography bed, which results in longer lifetime and increased productivity.

In addition, Phenomenex's quality management system is ISO 9001:2008 certified. This certification validates that all our processes are fully established, functional, and meet international standards for predictable performance.

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^2/g) of Luna materials gives you greater loadability than most other media. For those challenging purifications where chromatography is the best option, the Luna family offers an excellent platform for all purification challenges.

Optimized loading parameters include:

- High-surface area for increased loading
- Silica smoothness for stable packed beds
- Optimum particle and pore size/distribution provide outstanding performance
- High pore volume offers increased surface area
- Fine tuned bonding density for excellent reproducibility

Key: ● Best Suited ◐ Very Good

	Applications			Type of Compounds				Loading
Packing Material	Insulin	Peptides	Small Molecules	Acids	Polar	Hydro-phobic	Bases	Available Surface Area
LUNA C18(3)	●	●	●	◐		●	◐	●
LUNA C8(3)	●	●	●	◐		●	◐	●
LUNA SILICA(3)			●	◐	◐		◐	●

PRODUCT CHARACTERISTICS

Particle Size: 10 µm
Surface Area: 400 m^2/g
Pore Volume: 1 mL/g
Pore Size: 100 Å
Particle Size Distribution: $dp_{90}/dp_{10} \leq 1.6$
Chemical Purity: Total Metal Content ≤ 20 ppm
Coverage: C8(3) 13 % C, 4 µmol/m^2
C18(3) 17 % C, 3 µmol/m^2

Packing Density: **Silica(3)** 0.47 g/mL
C8(3) 0.58 g/mL
C18(3) 0.60 g/mL
Chemical Stability: **Silica(3)** 2.0-7.5
C8(3) 1.5-10*
C18(3) 1.5-10*
Mechanical Stability: Allows repeated packing up to 140 Bar (2000 psi effective piston pressure)

*pH range under isocratic conditions. pH range is 1.5-9 under gradient conditions.

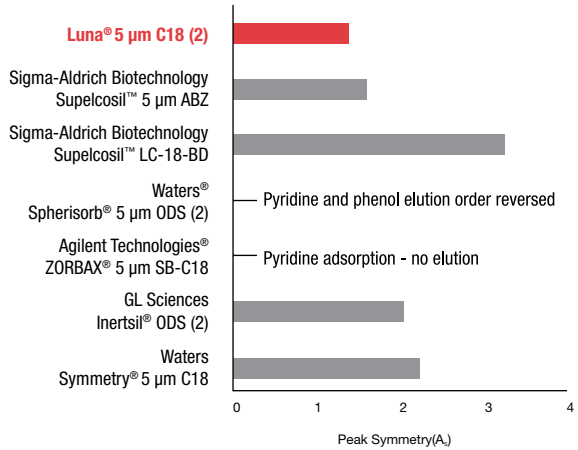
Your Starting-Point for All Reversed Phase Methods

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

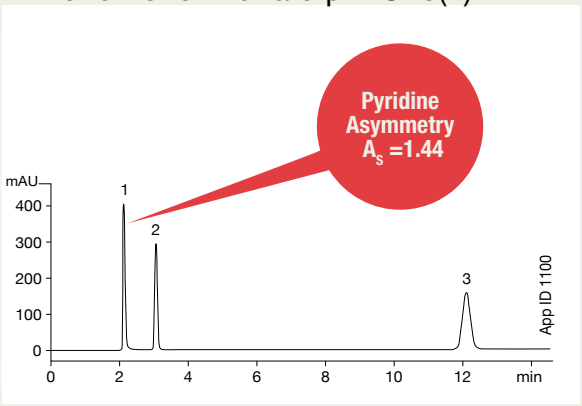
Pyridine Peak Asymmetry Comparison



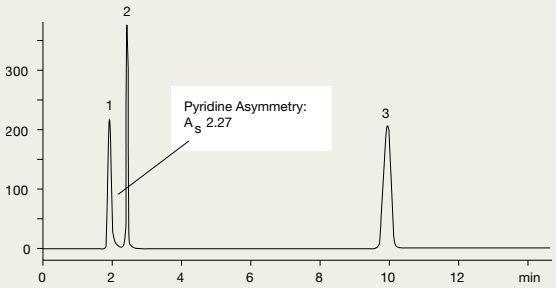
Comparison of 7 different 5 µm reversed phase columns. This survey measures the degree of silanol activity on the surface of each silica. In this survey, Luna 5 µm C18(2) material demonstrates the lowest silanol activity.

PEAK ASYMMETRY COMPARISON OF COMPETING COLUMNS

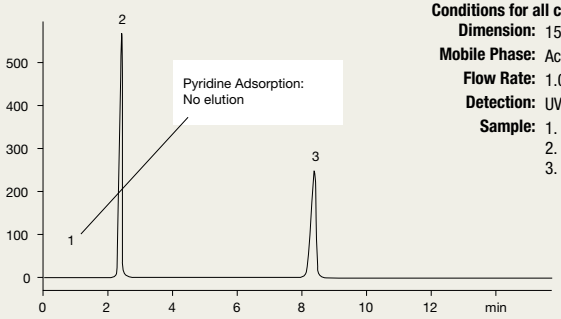
Phenomenex Luna 5 µm C18(2)



Waters Symmetry 5 µm C18



Agilent Technologies ZORBAX 5 µm SB-C18



Conditions for all columns

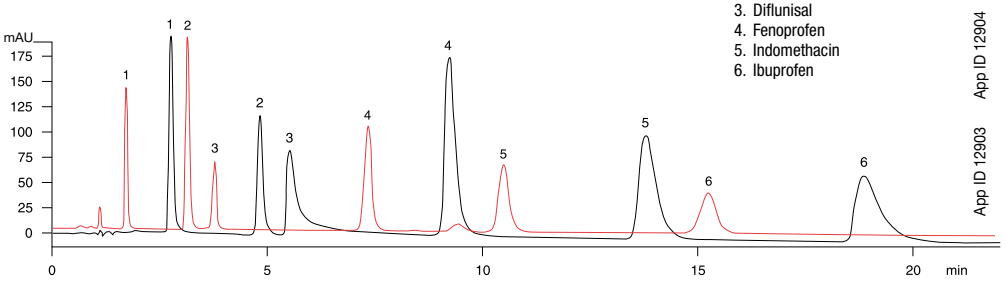
Dimension: 150 x 4.6 mm
Mobile Phase: Acetonitrile/Water (50:50)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Sample: 1. Pyridine
2. Phenol
3. Toluene

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_2PO_4/ 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

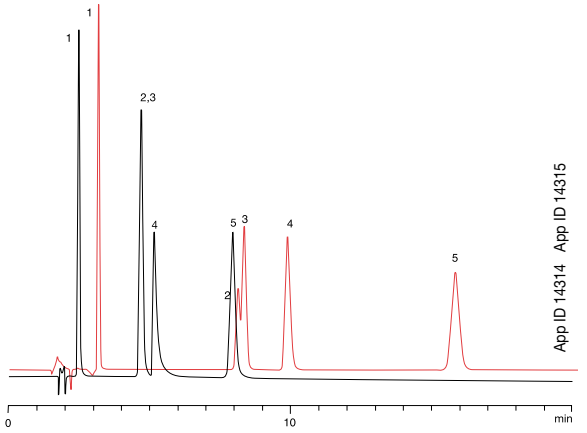


HYDROPHOBIC, ACIDIC COMPOUNDS

- 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

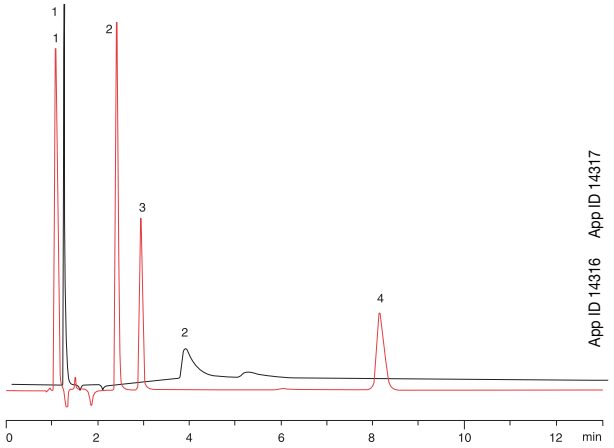


BASIC COMPOUNDS

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

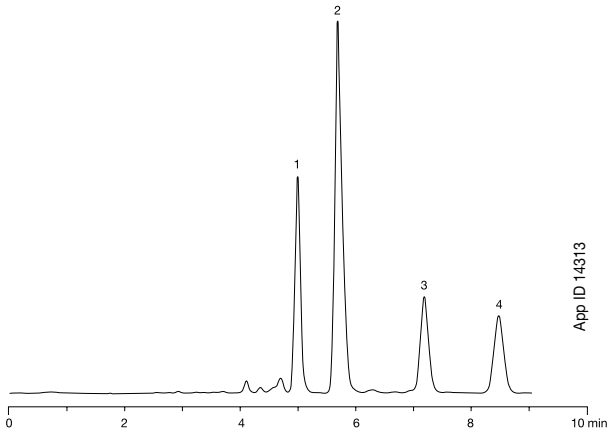
Conditions same for both columns
Dimension: 150 x 4.6 mm
Mobile Phase: 20 mM Potassium phosphate, pH 2.5/ Acetonitrile (75:25)
Flow Rate: 1.5 mL/min
Temperature: 30 °C
Detection: UV @ 210 nm
Sample:
1. Maleic acid
2. Triprolidine*
3. Chlorpheniramine*
4. Diphenhydramine*

*Peaks 2-4 adsorb on Nucleosil C18



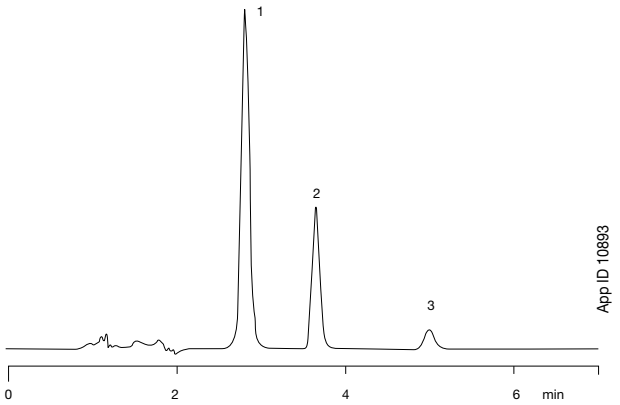
α- AND β-ACIDS IN HOP EXTRACT

Column: Luna 5 µm C18(2)
Dimension: 250 x 4.6 mm
Part No.: 00G-4252-E0
Mobile Phase: Methanol with 0.1 % H_3PO_4/ Water with 0.1 % H_3PO_4 (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



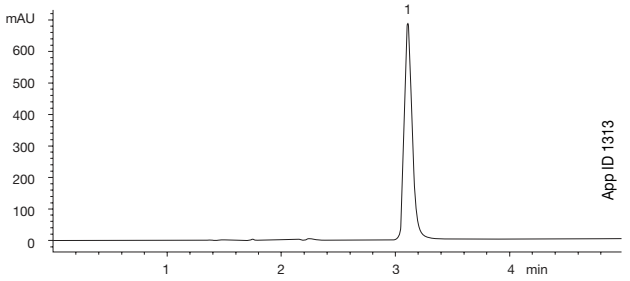
HyPURITY is a registered trademark of Thermo Hypersil-Keystone. Waters and Symmetry are registered trademarks of Waters Corporation. Nucleosil is a registered trademark of Macherey-Nagel. Phenomenex is not affiliated with any of the above companies. Comparative separations may not be representative of all applications.

USP METHOD: ESTRADIOL



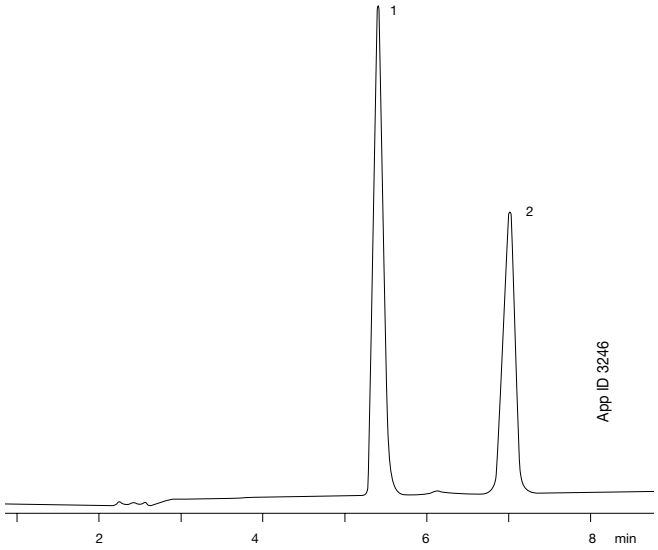
Column: Luna® 5 µm C18(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4252-E0
Mobile Phase: Acetontrile/Water (55:45)
Flow Rate: 1 mL/min
Temperature: 30 °C
Detection: UV @ 254 nm
Sample: 1. Ethylparaben
2. Estrone
3. Estradiol

COCAINE-NARCOTIC DRUG



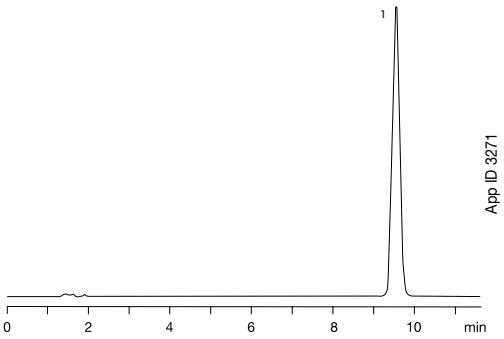
Column: Luna 5 µm C18(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4252-E0
Mobile Phase: Phosphate Buffer, pH 2.5/ Acetonitrile (75:25)
Flow Rate: 1 mL/min
Temperature: 30 °C
Detection: UV @ 233 nm
Sample: 1. Cocaine hydrochloride

USP METHOD: PHENYLEPHRINE HYDROCHLORIDE INJECTION



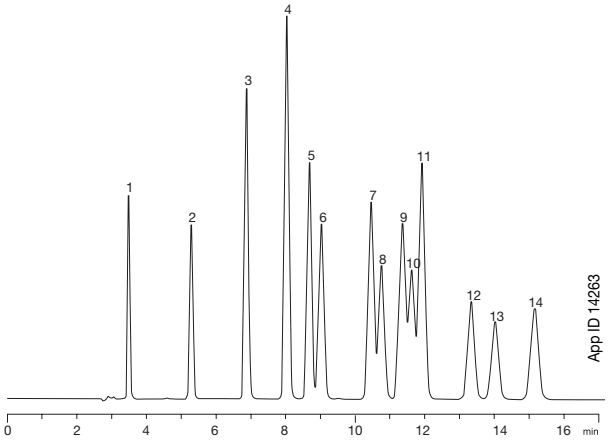
Column: Luna 5 µm C18(2)
Dimension: 250 x 4.6 mm
Part No.: 00G-4252-E0
Mobile Phase: Water/Methanol with 1.1 % 1-Octanesulfonic acid pH 3.0 (50:50)
Flow Rate: 1 mL/min
Temperature: 22 °C
Detection: UV @ 280 nm
Sample: 1. Phenylephrine hydrochloride
2. Epinephrine bitartrate

USP METHOD: HYDROCORTISONE CREAM



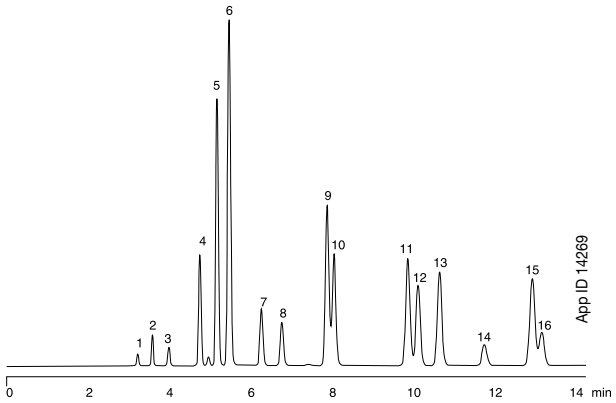
Column: Luna 5 µm C18(2)
Dimension: 250 x 4.6 mm
Part No.: 00G-4252-E0
Mobile Phase: Water/Acetonitrile (75:25)
Flow Rate: 2 mL/min
Temperature: 30 °C
Detection: UV @ 254 nm
Sample: 1. Hydrocortisone

EPA METHOD 8330 - EXPLOSIVES



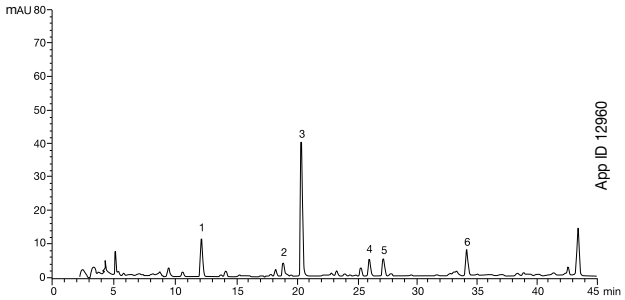
Column: Luna® 5 µm C18(2)
Dimension: 250 x 4.6 mm
Part No.: 00G-4252-E0
Mobile Phase: Methanol/Water (55:45)
Flow Rate: 1 mL/min
Temperature: 35 °C
Detection: UV @ 254 nm
Sample:
1. HMX
2. RDX
3. 1,3,5-Trinitrobenzene
4. 1,3-Dinitrobenzene
5. Tetryl
6. Nitrobenzene
7. 2,4,6-Trinitrotoluene
8. 4-Amino-2,6-Dinitriotoluen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

EPA METHOD 8310 - POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)



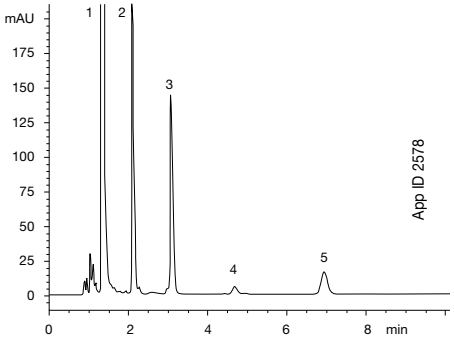
Column: Luna 5 µm C18(2)
Dimension: 250 x 4.6 mm
Part No.: 00G-4252-E0
Mobile Phase: A: Water B: Acetonitrile
Gradient: A/B (25:75) to 100 % B in 25 min
Flow Rate: 2 mL/min
Temperature: 22 °C
Detection: UV @ 254 nm
Sample:
1. Naphthalene
2. Acenaphthalene
3. Fluorene
4. Phenanthrene
5. Anthracene
6. Fluoranthracene
7. Pyrene
8. Benz[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. Indenol[1,2,3-c,d]pyrene

GINGER PUNGENTS



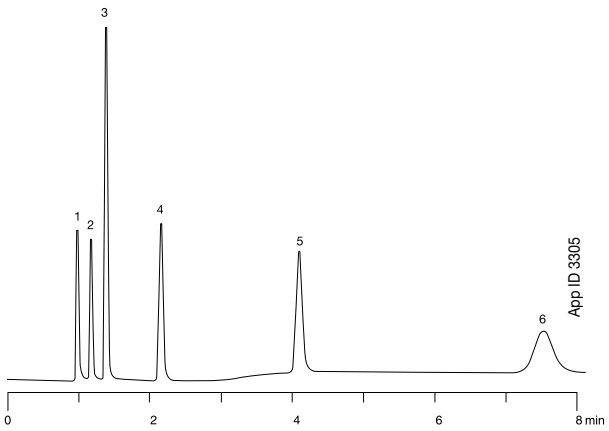
Column: Luna 5 µm C18(2)
Dimension: 250 x 4.6 mm
Part No.: 00G-4252-E0
Mobile Phase: A: Water B: Acetonitrile
Gradient: A/B (55:45) to A/B (50:50) in 8 min, A/B (35:65) in 15 min, A/B (10:90) in 40 min
Flow Rate: 1 mL/min
Temperature: 50 °C
Detection: UV @ 282 nm
Sample:
1. 6-Gingerol
2. 8-Gingerol +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

COLD MEDICINE



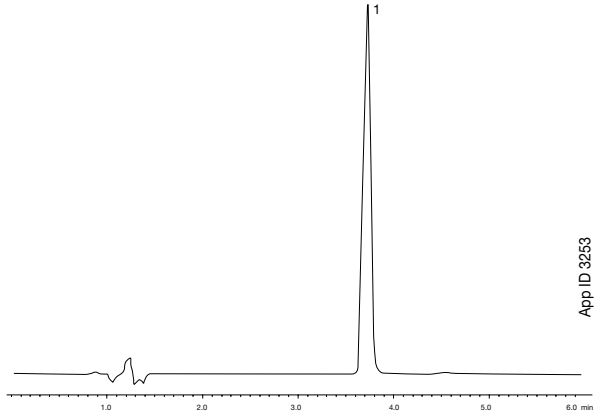
Column: Luna 5 µm C8(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4249-E0
Mobile Phase: Methanol/Acetonitrile with 0.1 % H_3PO_4/ Water with 0.1 % H_3PO_4 and 0.1% Heptane
Flow Rate: 1.5 mL/min
Temperature: 22 °C
Detection: UV @ 214 nm
Sample:
1. Acetaminophen
2. Pseudoephedrine
3. Benzoic acid
4. Chlorpheniramine
5. Dextromethorphan

WATER SOLUBLE VITAMINS



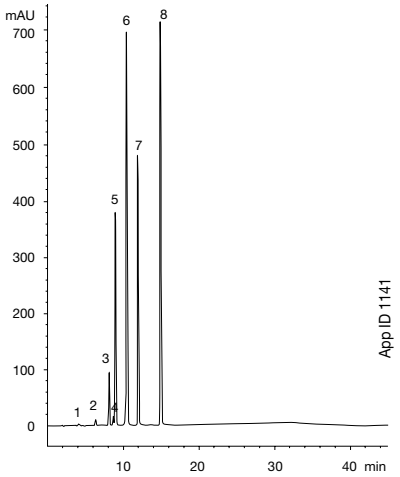
Column: Luna® 5 µm C18(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4252-E0
Mobile Phase: 20 mM Potassium Phosphate, pH 3.0/Acetonitrile (95:5)
Flow Rate: 1.5 mL/min
Temperature: 22 °C
Detection: UV @ 214 nm
Sample:
1. Thiamine
2. Cyanocobalamin (Vitamin B12)
3. Ascorbic acid
4. Pantothenic acid
5. Niacinamide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

USP METHOD: LORAZEPAM TABLETS



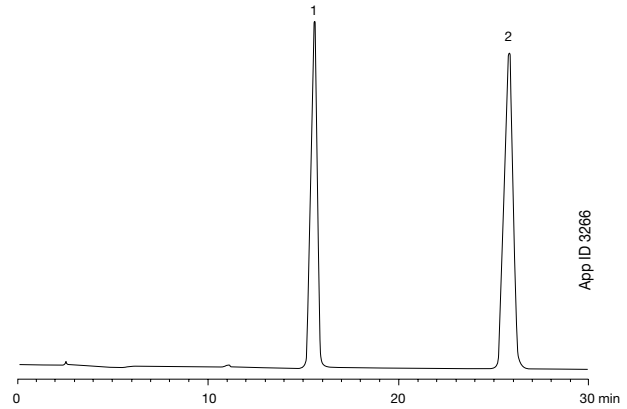
Column: Luna 5 µm C18(2)
Dimension: 250 x 4.6 mm
Part No.: 00G-4252-E0
Mobile Phase: Water/Methanol/Acetic acid (54:44:2)
Flow Rate: 2 mL/min
Temperature: 22 °C
Detection: UV @ 254 nm
Sample:
1. Lorazepam

PHARMACEUTICAL PRESERVATIVES



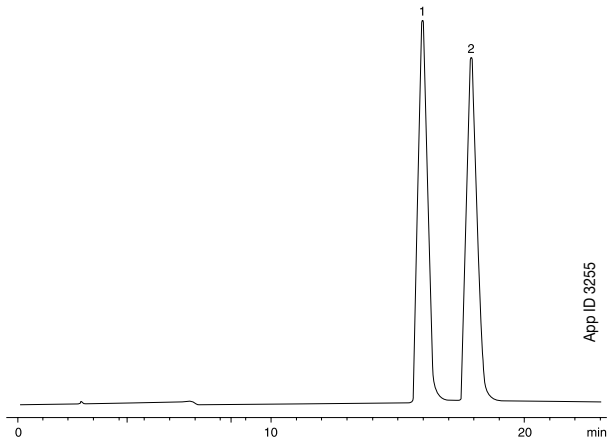
Column: Luna 5 µm C5
Dimension: 150 x 4.6 mm
Part No.: 00F-4043-E0
Mobile Phase: A: 0.5 % Acetic acid in water/ Acetonitrile (80:20)
B: 0.5 % Acetic acid in water/ Acetonitrile (20:80)
Gradient: A/B (100:0) to A/B (0:100) in 30 min
Flow Rate: 1 mL/min
Temperature: 25 °C
Detection: UV @ 254 nm
Sample: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

USP METHOD: MINOXIDIL



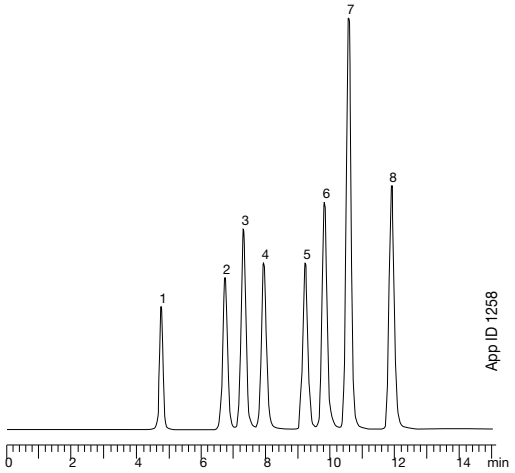
Column: Luna 5 µm C18(2)
Dimension: 250 x 4.6 mm
Part No.: 00G-4252-E0
Mobile Phase: Methanol/Water/Acetic acid with 7 mM Docusate sodium pH 3.0 (69.3:29.7:1)
Flow Rate: 1 mL/min
Temperature: 22 °C
Detection: UV @ 254 nm
Sample:
1. Medroxyprogesterone acetate
2. Minoxidil

USP METHOD: IMIPRAMINE



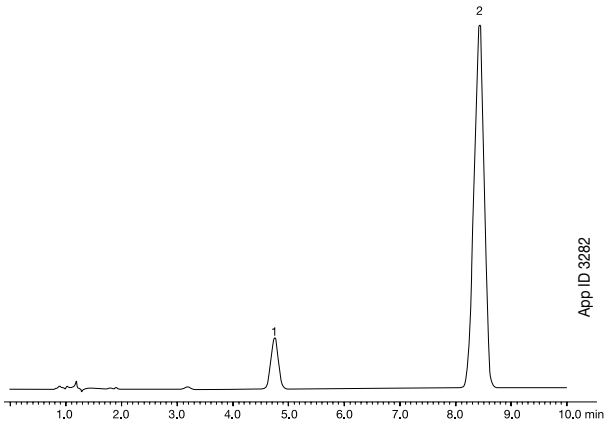
Column: Luna® 5 µm C18(2)
Dimension: 250 x 4.6 mm
Part No.: 00G-4252-E0
Mobile Phase: 0.06 M Sodium perchlorate, pH 2.0/Acetonitrile/Triethylamine (62.5:37.5:0.1)
Flow Rate: 1.5 mL/min
Temperature: 22 °C
Detection: UV @ 269 nm
Sample: 1. Imipramine
2. Desipramine

FATTY ACIDS



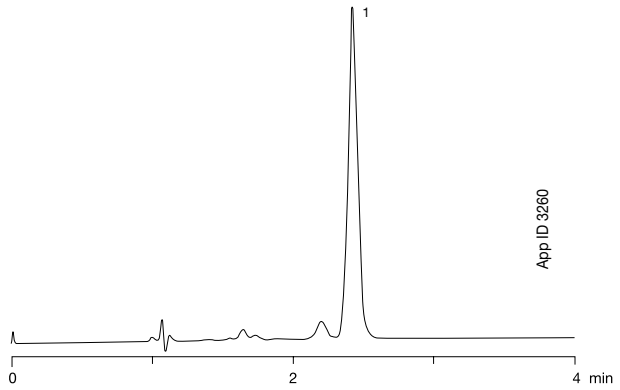
Column: Luna 5 µm C8(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4249-E0
Mobile Phase: A: Acetonitrile
B: Water (18 Mohms DI)
Gradient: A/B (70:30)) to A/B (90:10) in 10 min, A/B (90:10) to A/B (70:30) in 2 min, hold for 4 min
Flow Rate: 0.3 mL/min
Detection: Evaporative Light Scattering (ELSD)
Temperature: 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



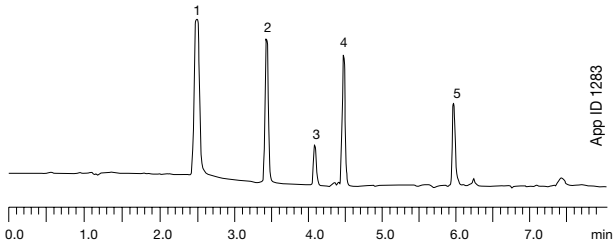
Column: Luna 5 µm C18(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4252-E0
Mobile Phase: Acetonitrile/Water/Glacial acid, pH 3.0 (50:49:1)
Flow Rate: 1.2 mL/min
Temperature: 22 °C
Detection: UV @ 254 nm
Sample: 1. Naproxen
2. Butyrophenone

USP METHOD: ALBUTEROL TABLETS



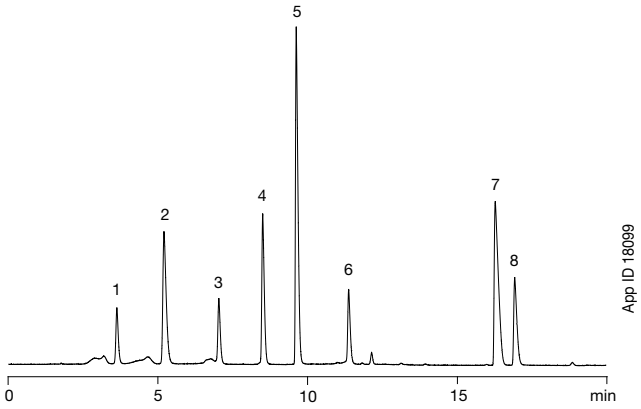
Column: Luna 5 µm C18(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4252-E0
Mobile Phase: Methanol/Water with 5 mM Hexane sulfonic acid and 1 % Glacial acetic acid (40:60)
Flow Rate: 1.5 mL/min
Temperature: 22 °C
Detection: UV @ 276 nm
Sample: 1. Albuterol

ANTIOXIDANTS



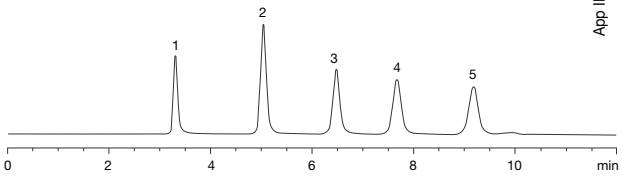
Column: Luna® 5 µm C18(2)
Dimension: 100 x 4.6 mm
Part No.: 00D-4252-E0
Mobile Phase: A: Acetonitrile
B: Phosphate Buffer
Gradient: A/B (30:70) to A/B (70:30) in 5 min
Flow Rate: 1 mL/min
Temperature: 22 °C
Detection: UV @ 254 nm
Sample:
1. PG
2. TBHQ
3. DMT
4. BHA
5. BHT

NARCOTICS



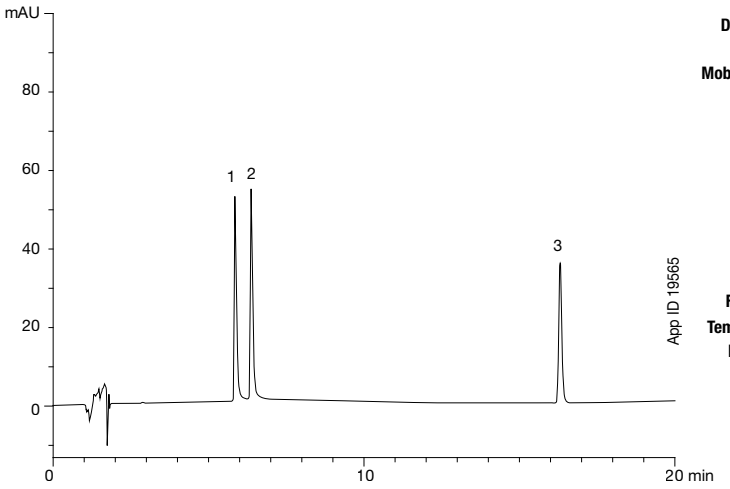
Column: Luna 5 µm C18(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4252-E0
Mobile Phase: A: 10mM NH_4OAc, pH 5.5
B: Acetonitrile
Gradient: A/B (95:5) for 3 minutes, then A/B (95:5) to A/B (60:40) in 23 minutes
Flow Rate: 1.0 mL/min
Temperature: 45 °C
Detection: UV @ 254 nm (ambient)
Sample:
1. Normorphine
2. Morphine
3. Hydromorphone
4. Norcodeine
5. Codeine
6. Hydrocodone
7. Cocaine
8. Norcocaine

STEROIDS



Column: Luna 5 µm C8(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4249-E0
Mobile Phase: 0.1 % H_3PO_4 in Water/Acetonitrile/Methanol (54:35:11)
Flow Rate: 1.0 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample:
1. Hydrocortisone
2. Corticosterone
3. 11-α-Hydroxyprogesterone
4. Cortisone acetate
5. 11-Ketoprogesterone

USP METHOD: LORATADINE

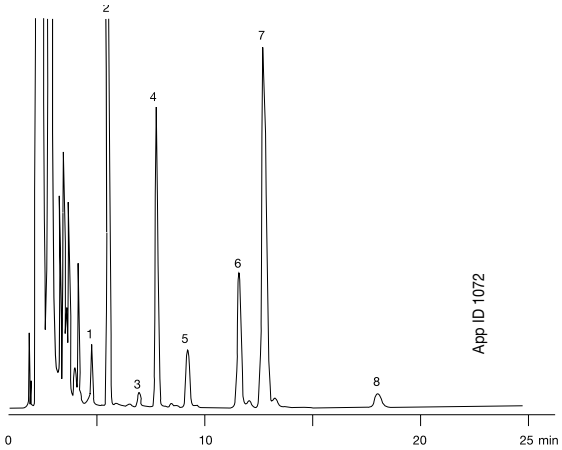


Column: Luna 3 µm C18(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4251-E0
Mobile Phase: A: 0.96 g 1-pentaesulfonic acid sodium salt in 1 L buffered to 3.00 with Phosphoric Acid
B: Acetonitrile
Gradient:

Time (min)	Pct B
0	25
20	50
30	60
35	70
45	70
50	25

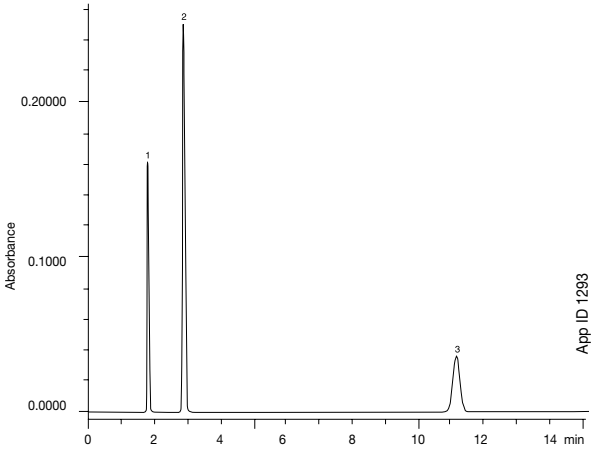
Flow Rate: 1.2 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample:
1. Loratadine Related Compound A
2. Loratadine Related Compound B
3. Loratadine

SAW PALMETO BERRY, p-BROMOPHENACYL ESTERS



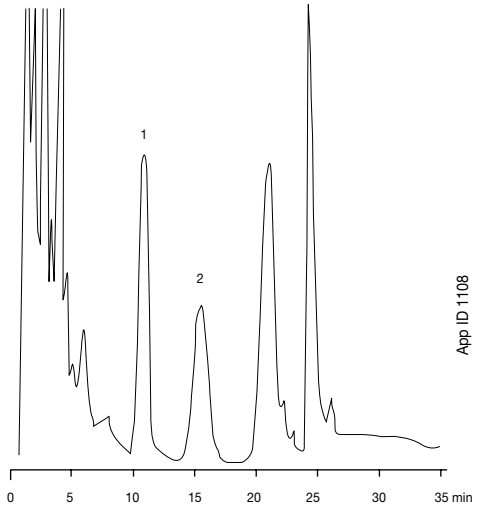
Column: Luna® 3 µm C8(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4248-E0
Mobile Phase: Acetonitrile/Water (87:13)
Flow Rate: 1.5 mL/min
Temperature: 25 °C
Detection: UV @ 254 nm
Sample:
1. Capric acid
2. Lauric acid
3. Linolenic acid
4. Myristic acid
5. Linoleic acid
6. Palmitic acid
7. Oleic acid
8. Stearic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

USP METHOD: ACETAMINOPHEN



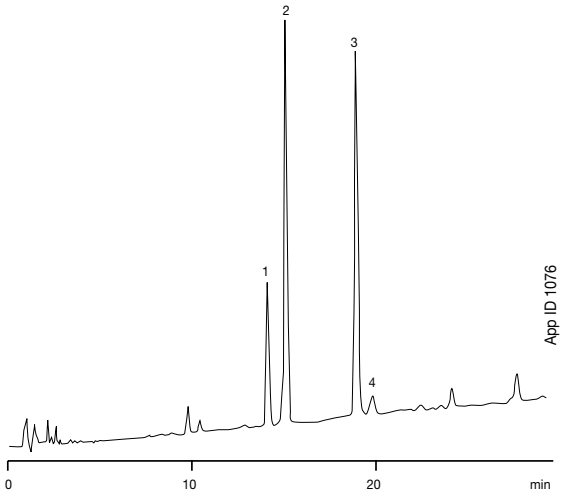
Column: Luna 5 µm C18(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4252-E0
Mobile Phase: Water/Methanol/Acetic Acid (69:28:3)
Flow Rate: 1.5 mL/min
Temperature: 45 °C
Detection: UV @ 275 nm
Sample:
1. Acetaminophen
2. Caffeine
3. Benzoic Acid

CYCLOSPORIN - IMMUNOSUPPRESSANTS



Column: Luna 5 µm 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 °C
Detection: UV @ 210 nm
Sample:
1. Cyclosporin A
2. Cyclosporin D

CAPSAICIN



Column: Luna 5 µm 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 °C
Detection: UV @ 227 nm
Sample:
1. Nordihydrocapsaicin
2. Capsaicin
3. Dihydrocapsaicin
4. Homocapsaicin

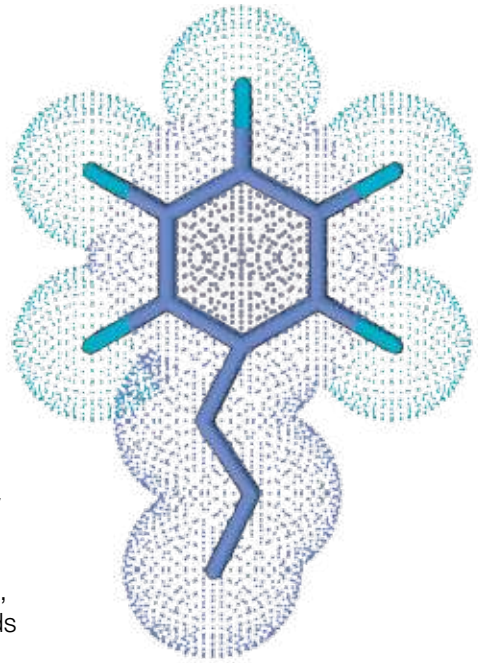
Powerful Selectivity for Reversed Phase Methods

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.

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

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

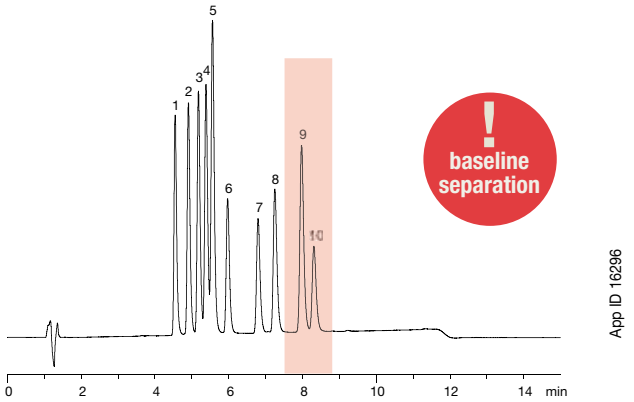
1. Hydrogen Bonding
2. Dipole-Dipole Interactions
3. Aromatic and π-π Interactions
4. Hydrophobic



- 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

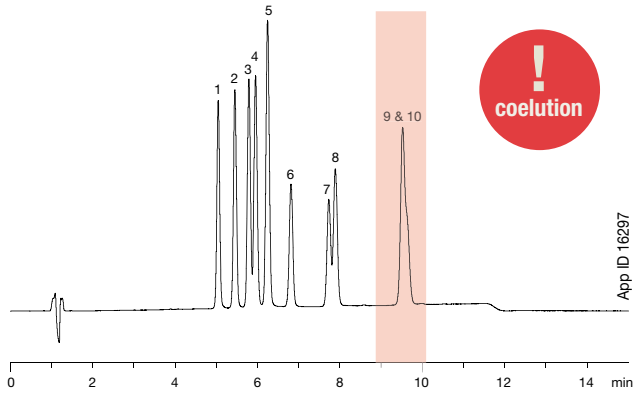
POSITIONAL ISOMERS OF HALOGENATED PHENOLS

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 (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 µm C18(2)



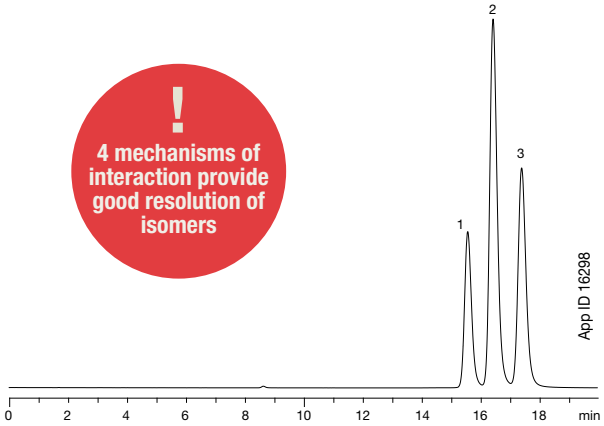
Column: Luna 3 µm C18(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4251-E0
Mobile Phase: A: 0.1% Formic acid in Water
B: 0.1% Formic acid in Acetonitrile
Gradient: A/B (60:40) to (50:50) in 10 min
Flow Rate: 1 mL/min
Temperature: 22 °C
Detection: UV @ 254 nm
Sample:
1. 2,3-Dimethylphenol
2. 2,5-Dimethylphenol
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 seen by the way the highly electronegative fluorine (F) atoms and other retention mechanisms of the Luna PFP(2) are able to separate positional isomers.

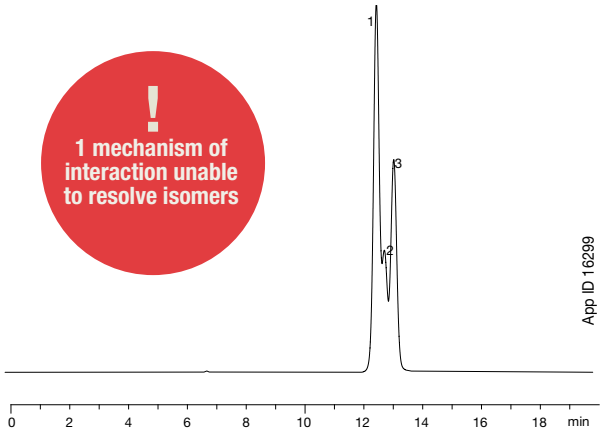
POSITIONAL ISOMERS OF METHYLACETOPHENONE

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

Luna 3 µm C18(2)



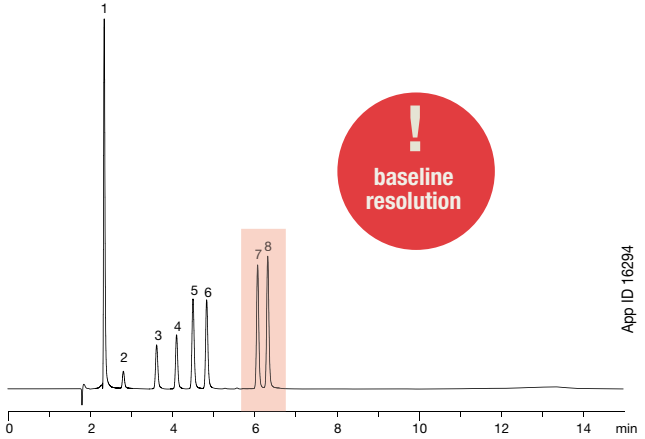
Column: Luna 3 µm C18(2)
Dimension: 150 x 4.6 mm
Part No.: 00F-4251-E0
Mobile Phase: Water/ Methanol (50:50)
Flow Rate: 1 mL/min
Temperature: 22 °C
Detection: UV @ 254 nm
Sample:
1. o-Methylacetophenone
2. m-Methylacetophenone
3. p-Methylacetophenone

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.

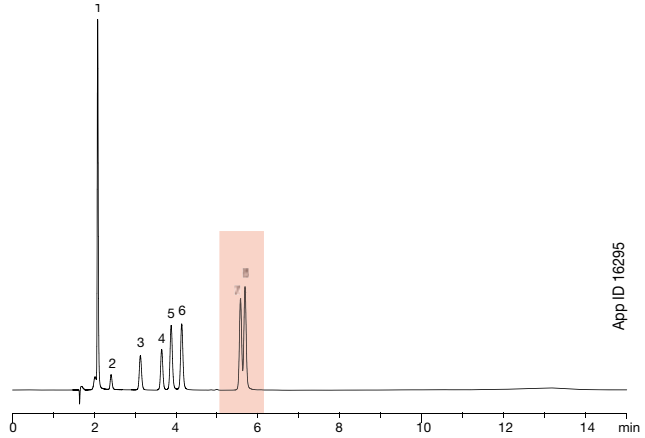
CATECHINS

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: 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

Engineered for Stability

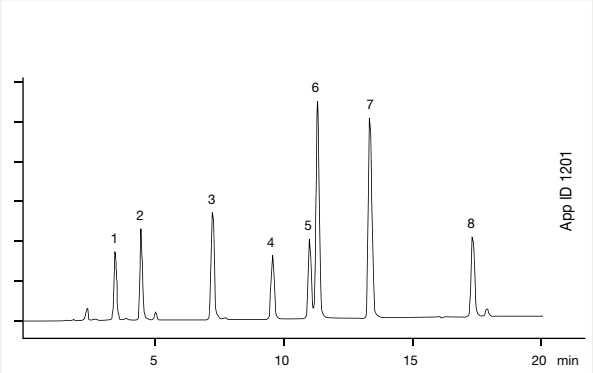
Luna® Phenyl-Hexyl is a reproducible, extremely stable phenyl phase. Most other phenyl phases use a short propyl (3 carbon) linker, which limits the phase stability. This Luna phase uses a hexyl (6 carbon) linker to attach the phenyl group to the silica surface.

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

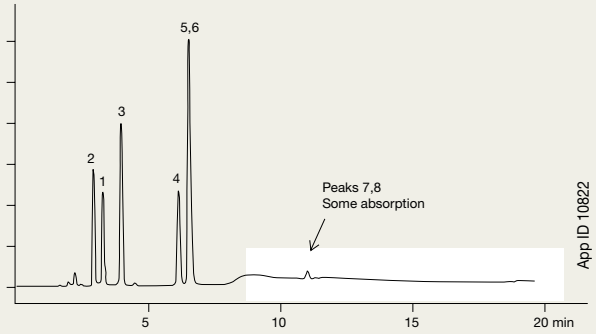
Phenomenex Luna® 5 µm Phenyl-Hexyl



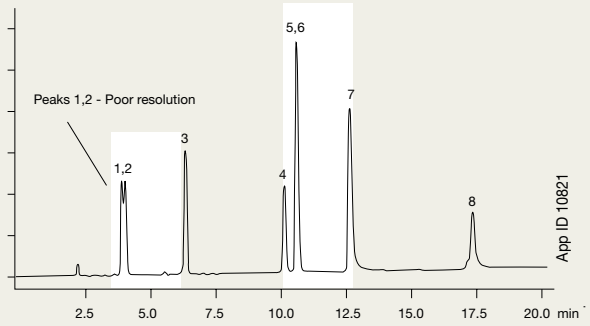
Conditions same for all columns

Dimension: 150 x 4.6 mm
Mobile Phase: A: 20 mM KH_2PO_4, 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

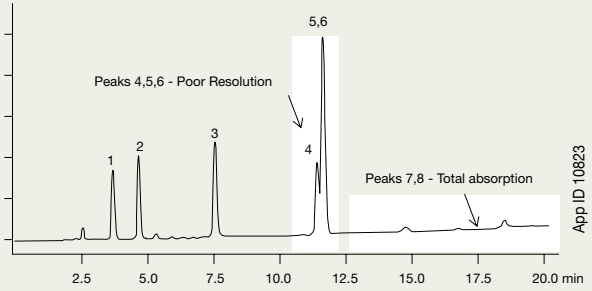
Waters® Spherisorb® 5 µm Phenyl



Agilent Technologies® ZORBAX® 5 µm SB-Phenyl



Agilent Technologies® ZORBAX® 5 µm Phenyl



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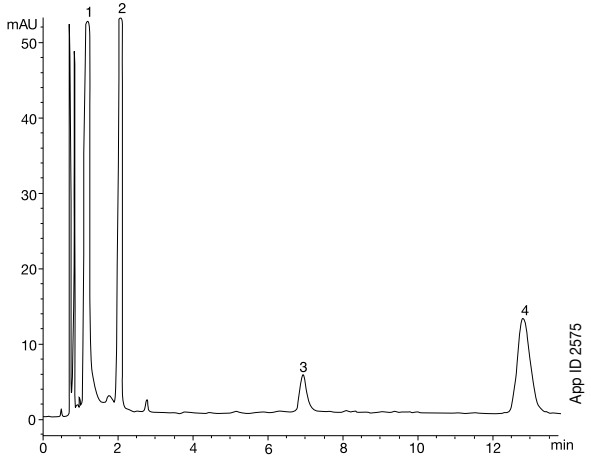
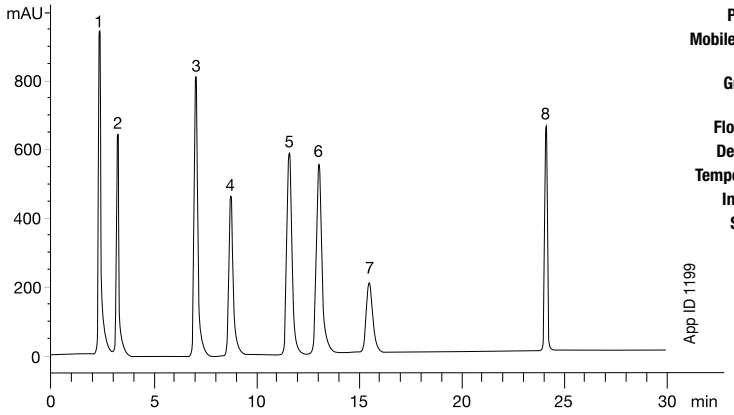
COUGH AND COLD-USP METHOD



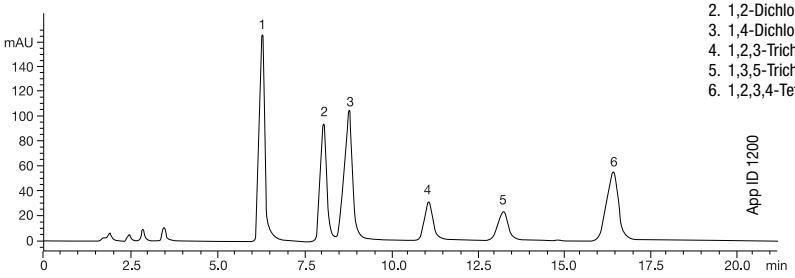
Column: Luna® 5 µm Phenyl-Hexyl
Dimension: 150 x 4.6 mm
Part No.: 00F-4257-E0
Mobile Phase: Methanol/Water with 0.1 % H_3PO_4 and 0.1 % Heptane Sulfonate/ Acetonitrile with 0.1 % H_3PO_4 (35:55:10)
Flow Rate: 2.05 mL/min
Detection: UV @ 214 nm
Temperature: 22 °C
Sample:
1. Acetaminophen
2. Pseudoephedrine
3. Chlorphenaramine
4. Dextromethorphan

FOOD ADDITIVES



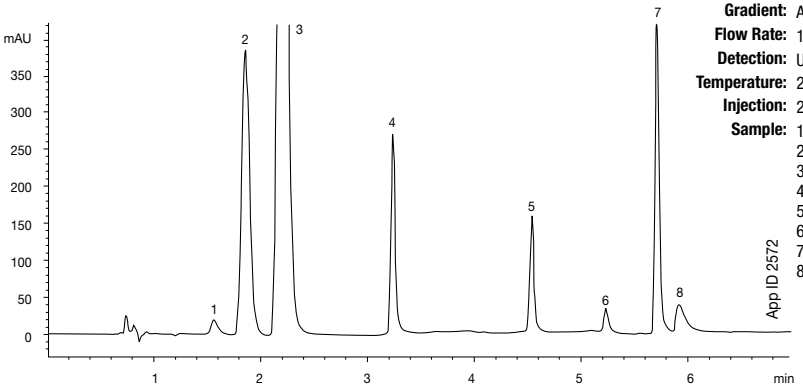
Column: Luna 5 µm Phenyl-Hexyl
Dimension: 150 x 4.6 mm
Part No.: 00F-4257-E0
Mobile Phase: A: 50 mM KH_2PO_4 + 0.1% H_3PO_4
B: Acetonitrile
Gradient: A/B (75:25) to A/B (25:75) in 18 min, hold at A/B (25:75) for 12 min
Flow Rate: 1.0 mL/min
Detection: UV @ 230 nm
Temperature: 22 °C
Injection: 20 µL
Sample:
1. Saccharin
2. p-Hydroxybenzoic acid
3. Sorbic acid
4. p-Hydroxbenzoic 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_2PO_4 / 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

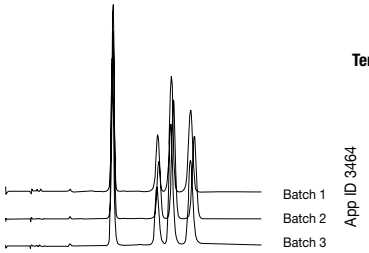
Proven Reproducibility

Luna® CN columns were developed to provide reproducibile 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:

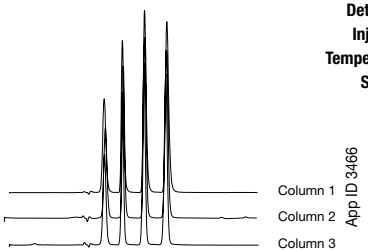
- One of the most stable CN columns under both reversed phase or normal phase conditions.
- Reproducible from run-to-run, column-to-column, batch-to-batch.
- pH stable from 1.5 to 7.0

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

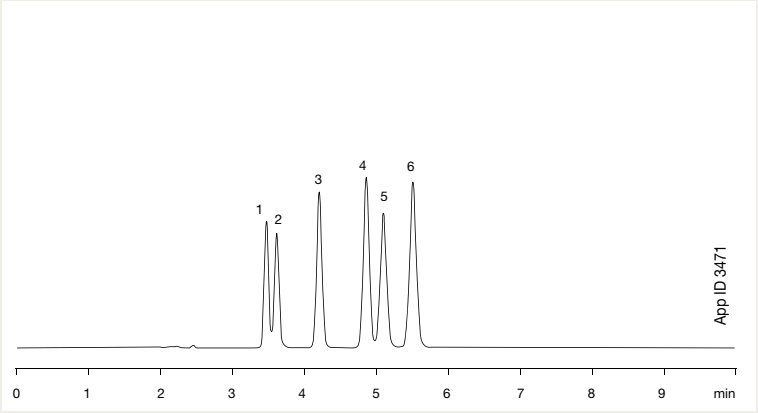
COLUMN-TO-COLUMN REPRODUCIBILITY



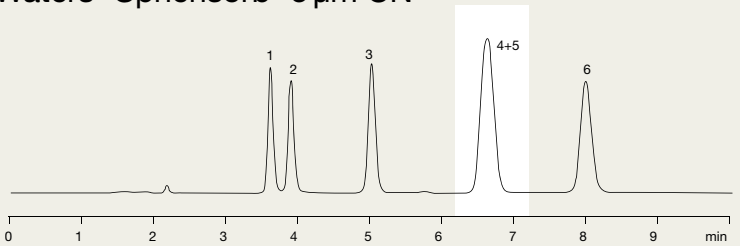
Column: Luna 5 µm CN
Dimension: 150 x 4.6 mm
Mobile Phase: A: Hexane
B: Methylene chloride/
Methanol (80/20), A/B (95:5)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Injection: 5.0 µL
Temperature: Ambient
Sample: 1. Dimethyl phthalate
2. Diethyl phthalate
3. Dibutyl phthalate
4. Dioctyl phthalate

PHTHALATE ESTERS: A COMPARSION OF CN COLUMNS

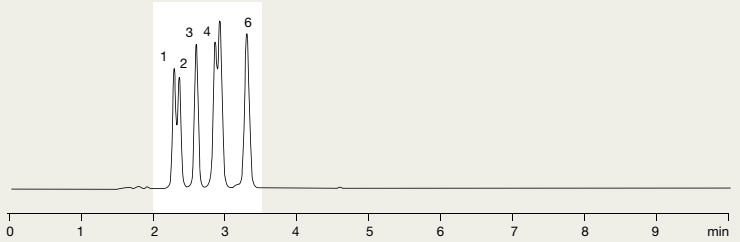
Phenomenex Luna 5 µm CN



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

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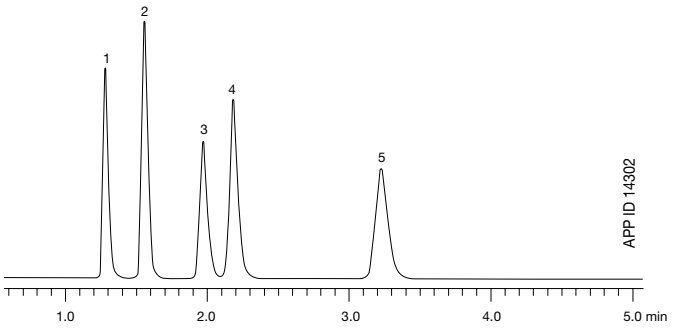
Developed for Ruggedness

Luna® NH_2 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_2 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:

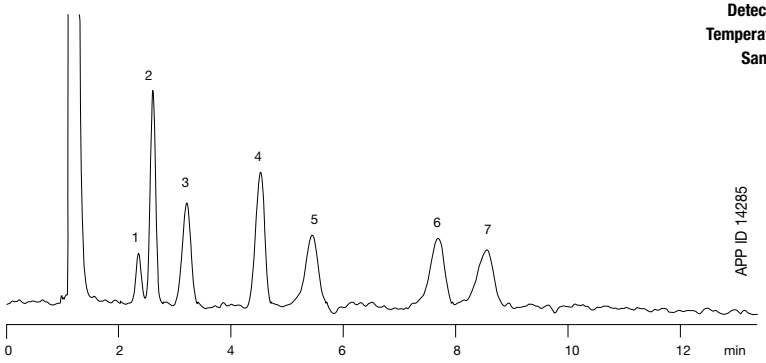
- Long lifetimes and low phase bleed for more reproducible methods
- Excellent retention of simple sugars, complex sugars, sugar alcohols by reverse phase conditions and hydrogen bonding compounds under normal phase conditions
- pH stable from 1.5 to 11.0
- Stable in 100 % aqueous mobile phases

NUCLEIC ACID BASES



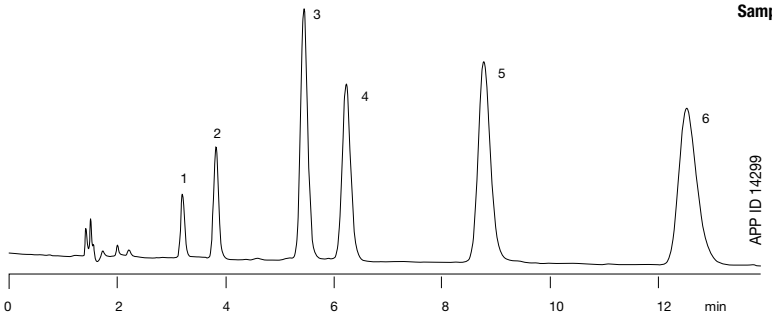
Column: Luna 5 µm NH_2
Dimension: 150 x 4.6 mm
Part No.: 00F-4378-E0
Mobile Phase: Acetonitrile/Water (80:20)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Temperature: 40 °C
Sample:
1. Thymine
2. Uracil
3. Cytosine
4. Adenine
5. Guanosine

SIMPLE SUGARS



Column: Luna 5 µm NH_2
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

STEROIDS



Column: Luna 5 µm NH_2
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

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.

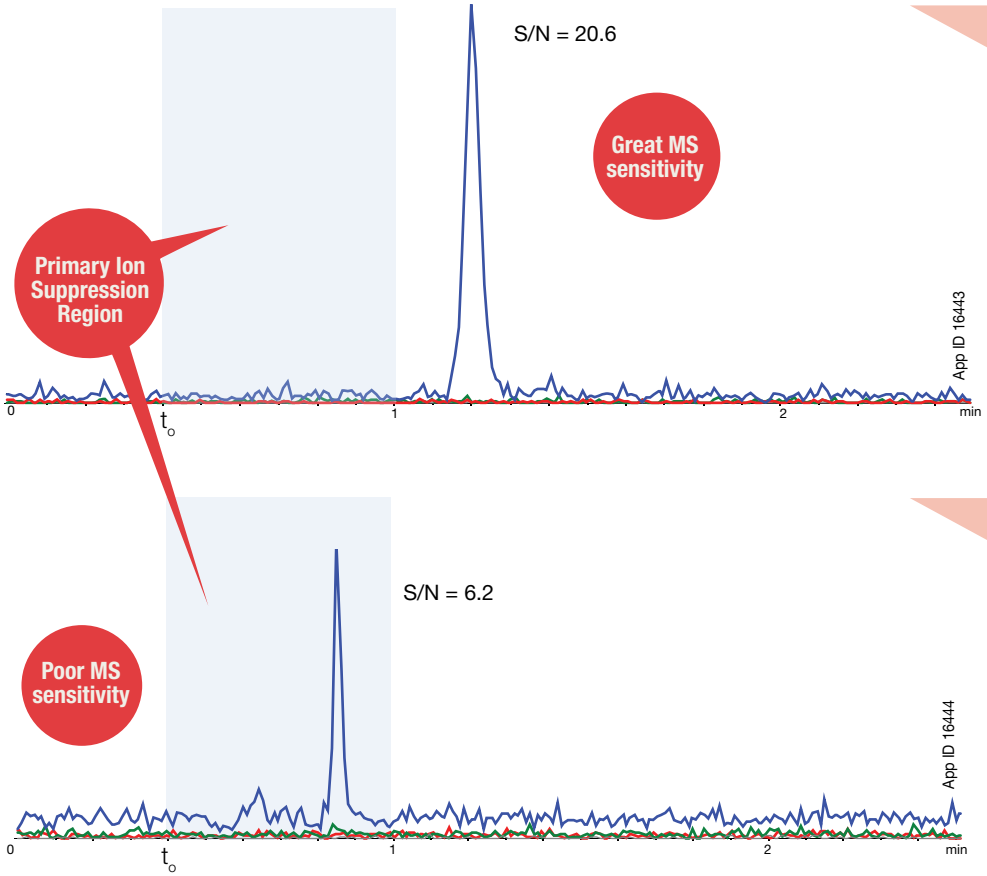
Separation is achieved through the partitioning of polar solutes from the high concentration, water-miscible, organic mobile phase into the hydrophilic surface environment. Polar solutes exhibit increased retention, and elute in the order of increasing hydrophilicity.

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 HILIC MODE

Column: Luna 3 µm 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 µm 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

$t_o \cong 0.5$ min

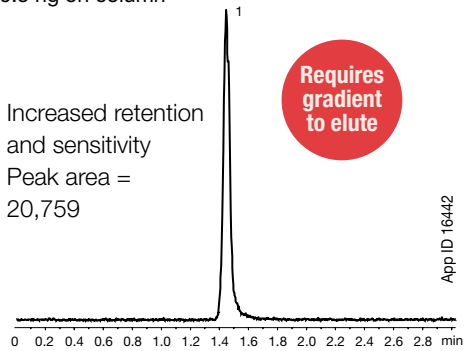
$$k' = 1 = \frac{t_R - t_o}{t_o} = \frac{1 - 0.5}{0.5}$$

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

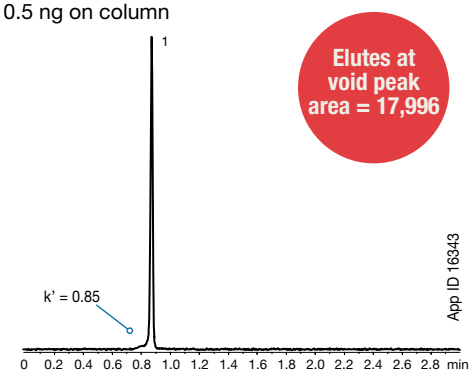
0.5 ng on column



Column: Luna 3 µm 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



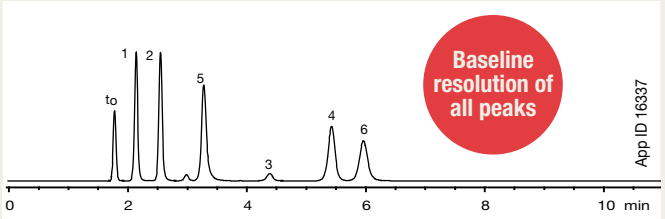
Column: Gemini® 5 µm C18
Dimension: 100 x 2.0 mm
Part No.: 00D-4435-B0
Mobile Phase: Acetonitrile with 0.1 % v/v Formic Acid/ Water with 0.1 v/v % Formic Acid (3:97)
Flow Rate: 0.4 mL/min
Detection: Mass Spectrometer (MS) (ambient)
Temperature: Ambient
Sample: 1. Ribavirin (MRM: 245.2/113.2)

Unique HILIC Selectivity

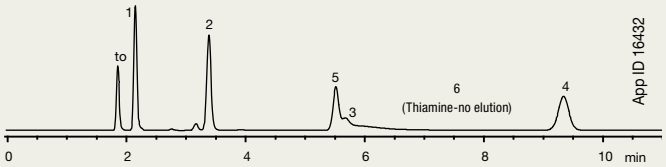
Not all HILIC columns are alike. Luna HILIC columns deliver on the exacting standards you've come to trust from the Luna product line.

HILIC COLUMN COMPARISON

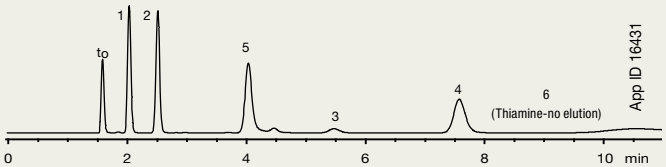
Phenomenex Luna® 5 µm HILIC



Waters® Atlantis® 5 µm HILIC



SeQuant® 5 µm 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

SeQuant and ZIC are registered trademarks of Merck KGaA, Darmstadt, Germany. Waters and Atlantis are registered trademarks of Waters Corporation. Phenomenex is not affiliated with Merck KGaA or Waters Corporation. The comparative data presented here may not be representative for all applications.

Develop Robust Strong Cation Exhange Methods

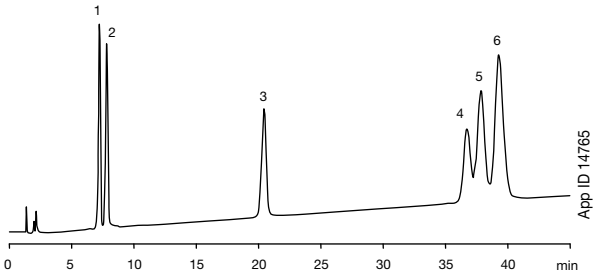
Luna® SCX columns provide excellent resolution and peak shape of basic, cationic compounds. However, most SCX columns show poor peak shape and bad resolution causing many chromatographers to ignore this important phase for small molecule method development, until now.

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:

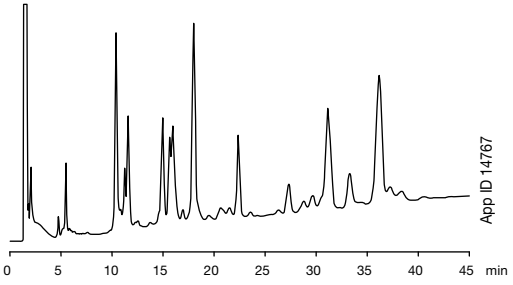
- Resolving power and sharp peak shape to separate complex cationic/basic and nitrogen containing compounds
- Benzene sulfonic acid ligand provides mixed-mode interaction improving separation for 2D peptide applications
- Excellent first dimension of 2D LC applications

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 min
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)

TRYPTIC DIGEST OF BOVINE CYTOCHROME *c*



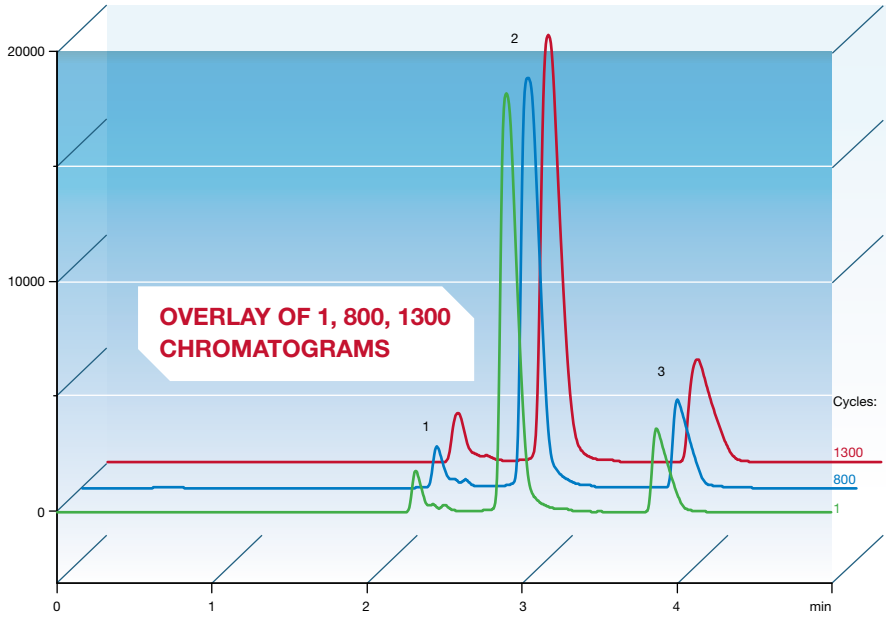
Column: Luna 5 µm SCX
Dimension: 150 x 4.6 mm
Part No.: 00F-4398-E0
Mobile Phase: A: 20 mM Potassium Phosphate, pH 2.5 /25 % Acetonitrile
B: 20 mM Potassium Phosphate, pH 2.5 /25 % Acetonitrile / 350 mM Potassium Chloride
Gradient: 100 % A to 100 % B in 50 min
Flow Rate: 1 mL/min
Temperature: 35 °C
Detection: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

Revolutionize Lab-Scale Purification

An advanced column packing and hardware design, Axia columns incorporate patented 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



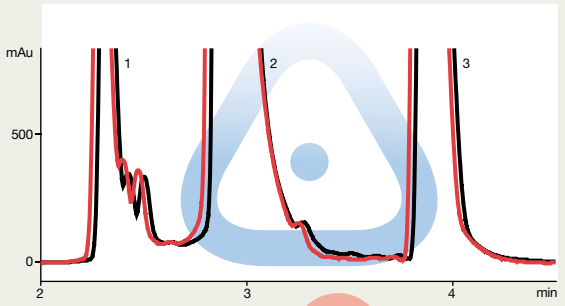
Columns: Luna 5 µm C18(2) Axia Packed
Dimension: 50 x 21.2 mm
Part No.: 00B-4252-P0-AX
Mobile Phase: A: 0.5% TFA in Water
B: 0.5% TFA in Acetonitrile
Gradient: Linear 95:5 to 5:95 (A/B) over 7 min, hold 3 min
Injection Volume: 500 µL
Flow Rate: 30 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample: 1. Triprolidine 1.6 mg
2. Methacycline 16 mg
3. Amitriptyline 5.25 mg

2006 R&D 100 Award Recipient

COMPARE LIFETIME

Axia Packed

Luna® 5 µm C18(2) Axia Packed

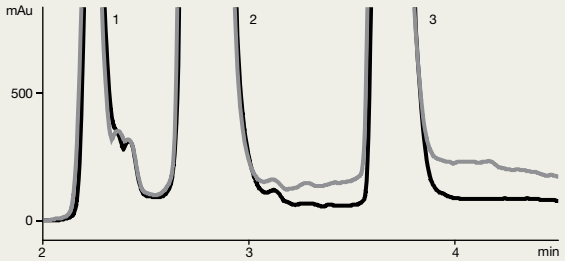


■ First Run ■ 800th Run

VS.

Leading Competitive Preparative Column

Waters® XTerra® 5 µm Prep MS C18 OBD™



■ First Run ■ 120th Run*

*Six columns tested. Best lifetime chosen for comparison.

Conditions 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

Waters and XTerra are registered trademarks of Waters Corporation. OBD is a trademark of Waters Corporation. Phenomenex is not affiliated with Waters Corporation. The comparative data presented here may not be representative for all applications.

*For more detailed information on Axia Preparative columns visit: **www.phenomenex.com/axia***

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.

Developing ultra-fast and efficient methods for potential drugs has become a constant challenge for analysts. Use the chart to the right 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.

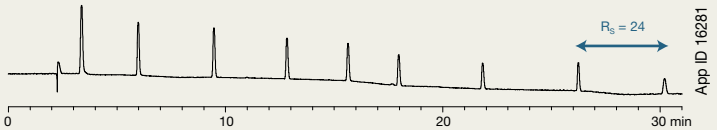
explore LUNA® HST High Speed Technology

Three Solutions to Balance Your Speed With Pressure, Efficiency, and Selectivity

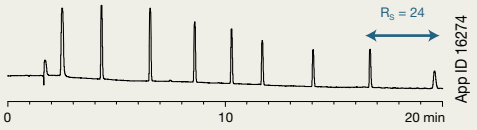
		Speed	Pressure	Efficiency	Selectivity
1	High Speed Technology (HST) Columns	Fast Run Time	< 400 Bar	Highest	Several phases available
2	MercuryMS™ Columns and Cartridges	Fastest Run Time	< 400 Bar	High	Most phases available
3	Monolithic Columns	Fast Run Time	< 200 Bar	Good	Several phases available

HST COLUMNS: 66 % FASTER. NO LOSS IN RESOLUTION

Luna 5 µm C18(2) 250 x 4.6 mm
Flow Rate: 1.5 mL/min

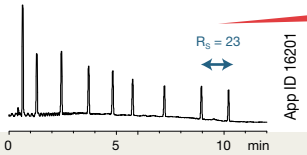


Luna 3 µm C18(2) 150 x 4.6 mm
Flow Rate: 1.5 mL/min



Conditions for all columns:
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_3 to C_{16}

Luna 2.5 µm C18(2)-HST 100 x 2.0 mm
Flow Rate: 0.65 mL/min



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

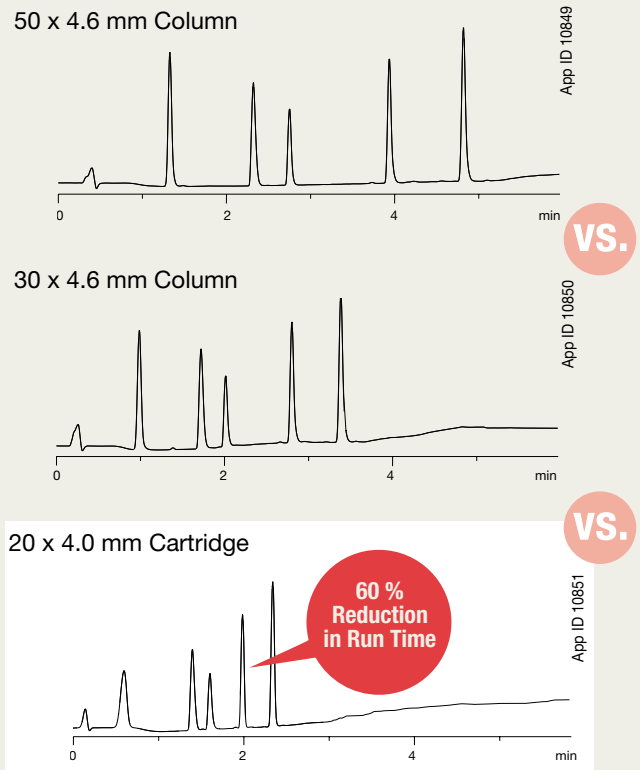
MercuryMS™: Columns and Cartridges

- 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

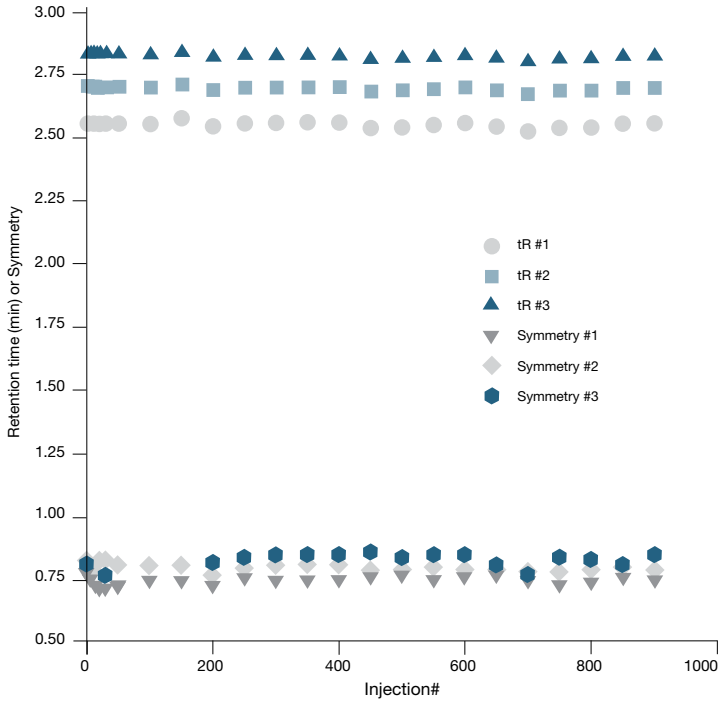


Column: Luna 3 µm C18(2)
Dimension: 50 x 4.6 mm, 30 x 4.6 mm, 20 x 4.0 mm
Mobile Phase: A: 0.1 % Formic acid in Water
B: 0.1 % Formic acid Acetonitrile
Gradient: 95:5 A/B to 5:95 in 6 min for 50 x 4.6 mm
95:5 A/B to 5:95 in 4 min for 30 x 4.6 mm
95:5 A/B to 5:95 in 2.4 min for 20 x 4.0 mm
Flow Rate: 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

2.5 µm High Speed Technology (HST) Columns (mm)						
	50 x 1.0	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	00B-4446-A0	00A-4446-B0	00B-4446-B0	00D-4446-B0	00B-4446-Y0	00D-4446-Y0

3 µm and 5 µm Capillary Columns (mm)						Guard Columns(mm)	
	50 x 0.30	150 x 0.30	50 x 0.50	150 x 0.50	250 x 0.50	20 x 0.30	20 x 0.50
Phases							
3 µm C8(2)	00B-4248-AC	00F-4248-AC	00B-4248-AF	00F-4248-AF	—	—	—
3 µm C18(2)	00B-4251-AC	00F-4251-AC	00B-4251-AF	00F-4251-AF	—	03M -4251-AC	03M -4251-AF
5 µm C8(2)	—	00F-4249-AC	—	—	—	—	—
5 µm C18(2)	00B-4252-AC	00F-4252-AC	00B-4252-AF	00F-4252-AF	00G-4252-AF	—	—
5 µm Phenyl-Hexyl	00B-4257-AC	—	00B-4257-AF	00F-4257-AF	—	—	—

explore LUNA®

MercuryMS™ LC/MS Cartridges (mm)				
	10 x 2.0	10 x 4.0	20 x 2.0	20 x 4.0
Phases				
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
Phenyl-Hexyl	00N-4256-B0-CE	—	00M-4256-B0-CE	00M-4256-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	—	00M-4249-B0-CE	—
Phenyl-Hexyl	00N-4257-B0-CE	—	—	—

CARTRIDGE HOLDERS

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

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

3 µm Microbore and Minibore Columns (mm)							SecurityGuard* Cartridges (mm)
	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							/10pk
Silica(2)	—	00F-4162-A0	00A-4162-B0	00B-4162-B0	00D-4162-B0	00F-4162-B0	AJ0-4347
C8(2)	00B-4248-A0	00F-4248-A0	00A-4248-B0	00B-4248-B0	00D-4248-B0	00F-4248-B0	AJ0-4289
C18(2)	00B-4251-A0	00F-4251-A0	00A-4251-B0	00B-4251-B0	00D-4251-B0	00F-4251-B0	AJ0-4286
CN	—	—	00A-4254-B0	00B-4254-B0	00D-4254-B0	00F-4254-B0	AJ0-4304
Phenyl-Hexyl	00B-4256-A0	00F-4256-A0	00A-4256-B0	00B-4256-B0	00D-4256-B0	00F-4256-B0	AJ0-4350
NH2	—	00F-4377-A0	00A-4377-B0	00B-4377-B0	00D-4377-B0	00F-4377-B0	AJ0-4301
HILIC	—	—	00A-4449-B0	00B-4449-B0	00D-4449-B0	00F-4449-B0	AJ0-8328
PFP(2)	—	00F-4447-A0	00A-4447-B0	00B-4447-B0	00D-4447-B0	00F-4447-B0	AJ0-8326
							for ID: 2.0-3.0 mm

*SecurityGuard™ Analytical Cartridges require universal holder Part No.: KJ0-4282

Ordering Information

3 µm MidBore™ and 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									/10pk	/10pk
Silica(2)	—	00B-4162-Y0	00F-4162-Y0	00A-4162-E0	00B-4162-E0	00C-4162-E0	00D-4162-E0	00F-4162-E0	AJ0-4347	AJ0-4348
C8(2)	00A-4248-Y0	00B-4248-Y0	00F-4248-Y0	00A-4248-E0	00B-4248-E0	00C-4248-E0	00D-4248-E0	00F-4248-E0	AJ0-4289	AJ0-4290
C18(2)	00A-4251-Y0	00B-4251-Y0	00F-4251-Y0	00A-4251-E0	00B-4251-E0	00C-4251-E0	00D-4251-E0	00F-4251-E0	AJ0-4286	AJ0-4287
CN	—	00B-4254-Y0	00F-4254-Y0	00A-4254-E0	00B-4254-E0	00C-4254-E0	00D-4254-E0	00F-4254-E0	AJ0-4304	AJ0-4305
Phenyl-Hexyl	—	00B-4256-Y0	00F-4256-Y0	00A-4256-E0	00B-4256-E0	00C-4256-E0	00D-4256-E0	00F-4256-E0	AJ0-4350	AJ0-4351
NH_2	—	00B-4377-Y0	00F-4377-Y0	—	00B-4377-E0	—	00D-4377-E0	00F-4377-E0	AJ0-4301	AJ0-4302
HILIC	—	00B-4449-Y0	00F-4449-Y0	—	—	—	00D-4449-E0	00F-4449-E0	AJ0-8328	AJ0-8329
PFP(2)	—	00B-4447-Y0	00F-4447-Y0	—	00B-4447-E0	—	00D-4447-E0	00F-4447-E0	AJ0-8326	AJ0-8327
									for ID: 2.0-3.0 mm	3.2-8.0 mm

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								/10pk
Silica(2)	—	—	—	00A-4274-B0	00B-4274-B0	00F-4274-B0	00G-4274-B0	AJ0-4347
C5	—	—	—	00A-4043-B0	00B-4043-B0	00F-4043-B0	—	AJ0-4292
C8 (2)	—	00F-4249-A0	—	00A-4249-B0	00B-4249-B0	00F-4249-B0	00G-4249-B0	AJ0-4289
C18 (2)	00B-4252-A0	00F-4252-A0	00G-4252-A0	00A-4252-B0	00B-4252-B0	00F-4252-B0	00G-4252-B0	AJ0-4286
CN	—	—	—	—	00B-4255-B0	00F-4255-B0	—	AJ0-4304
Phenyl-Hexyl	00B-4257-A0	—	—	00A-4257-B0	00B-4257-B0	00F-4257-B0	00G-4257-B0	AJ0-4350
NH2	00B-4378-A0	00F-4378-A0	—	00A-4378-B0	00B-4378-B0	00F-4378-B0	00G-4378-B0	AJ0-4301
PFP(2)	—	—	—	00A-4448-B0	00B-4448-B0	00F-4448-B0	—	AJ0-8326
								for ID: 2.0-3.0 mm

5 µm MidBore and 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								/10pk	/10pk
Silica(2)	—	00B-4274-Y0	00F-4274-Y0	—	—	00B-4274-E0	—	AJ0-4347	AJ0-4348
C5	—	—	00F-4043-Y0	—	—	00B-4043-E0	—	AJ0-4292	AJ0-4293
C8(2)	00A-4249-Y0	00B-4249-Y0	00F-4249-Y0	00G-4249-Y0	00A-4249-E0	00B-4249-E0	00C-4249-E0	AJ0-4289	AJ0-4290
C18(2)	00A-4252-Y0	00B-4252-Y0	00F-4252-Y0	00G-4252-Y0	00A-4252-E0	00B-4252-E0	00C-4252-E0	AJ0-4286	AJ0-4287
CN	—	00B-4255-Y0	00F-4255-Y0	00G-4255-Y0	00A-4255-E0	00B-4255-E0	00C-4255-E0	AJ0-4304	AJ0-4305
Phenyl-Hexyl	—	00B-4257-Y0	00F-4257-Y0	00G-4257-Y0	00A-4257-E0	00B-4257-E0	00C-4257-E0	AJ0-4350	AJ0-4351
NH2	—	00B-4378-Y0	00F-4378-Y0	00G-4378-Y0	00A-4378-E0	00B-4378-E0	—	AJ0-4301	AJ0-4302
SCX	—	—	00F-4398-Y0	—	—	00B-4398-E0	—	AJ0-4307	AJ0-4308
HILIC	—	—	00F-4450-Y0	—	—	—	—	AJ0-8328	AJ0-8329
PFP(2)	—	00B-4448-Y0	00F-4448-Y0	—	—	00B-4448-E0	—	AJ0-8326	AJ0-8327
								for ID: 2.0-3.0 mm	3.2-8.0 mm

SecurityGuard™ Analytical Cartridges require universal holder Part No.: KJ0-4282

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

Terms and Conditions
Subject to Phenomenex Standard Terms & Conditions, which may be viewed at www.phenomenex.com/TermsAndConditions

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Disclaimer
Comparative separations may not be representative of all applications. Phenomenex is in no way affiliated with Agilent, Sigma-Aldrich Co., LLC., Waters Corp., Macherey-Nagel, Thermo or Merck KGaA, Darmstadt, Germany.

Axia column and packing technology is patented by Phenomenex. U.S. Patent No. 7, 674, 383

Gemini and Kinetex EVO are patented by Phenomenex. U.S. Patent Nos. 7,563,367 and 8,658,038 and foreign counterparts.

SecurityGuard is patented by Phenomenex. U.S. Patent No. 6,162,362
CAUTION: this patent only applies to the analytical-sized guard cartridge holder, and does not apply to SemiPrep, PREP or ULTRA holders, or to any cartridges.

Ordering Information

5 µm Analytical and Semi-Prep Columns (mm)					SecurityGuard™ Cartridges (mm)	
	100 x 4.6	150 x 4.6	250 x 4.6	250 x 10	4 x 3.0*	10 x 10‡
Phases					/10pk	/3pk
Silica(2)	00D-4274-E0	00F-4274-E0	00G-4274-E0	00G-4274-N0	AJ0-4348	AJ0-7223
C5	00D-4043-E0	00F-4043-E0	00G-4043-E0	00G-4043-N0	AJ0-4293	AJ0-7372
C8(2)	00D-4249-E0	00F-4249-E0	00G-4249-E0	00G-4249-N0	AJ0-4290	AJ0-7222
C18(2)	00D-4252-E0	00F-4252-E0	00G-4252-E0	00G-4252-N0	AJ0-4287	AJ0-7221
CN	00D-4255-E0	00F-4255-E0	00G-4255-E0	00G-4255-N0	AJ0-4305	AJ0-7313
Phenyl-Hexyl	00D-4257-E0	00F-4257-E0	00G-4257-E0	00G-4257-N0	AJ0-4351	AJ0-7314
NH2	00D-4378-E0	00F-4378-E0	00G-4378-E0	00G-4378-N0	AJ0-4302	AJ0-7364
SCX	00D-4398-E0	00F-4398-E0	00G-4398-E0	00G-4398-N0	AJ0-4308	AJ0-7369
HILIC	00D-4450-E0	00F-4450-E0	00G-4450-E0	00G-4450-N0	AJ0-8329	AJ0-8902
PFP(2)	00D-4448-E0	00F-4448-E0	00G-4448-E0	00G-4448-N0	AJ0-8327	AJ0-8376
					for ID: 3.2-8.0 mm	9-16 mm

Luna 10 µm-*PREP*	Columns	Bulk Media				
	250 x 4.6mm	1 kg	5 kg	10 kg	50 kg	100 kg
Phases						
C18(3)	00G-4616-E0	04K-4616	04L-4616	04M-4616	04N-4616	04P-4616
C8(3)	00G-4623-E0	04K-4623	04L-4623	04M-4623	04N-4623	04P-4623
Silica(3)	00G-4617-E0	04K-4617	04L-4617	04M-4617	04N-4617	04P-4617

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
5 µm									
Silica(2)	00B-4274-P0-AX	00D-4274-P0-AX	00F-4274-P0-AX	00G-4274-P0-AX	—	—	00G-4274-U0-AX	AJ0-7229	AJ0-8312
C5	—	—	00F-4043-P0-AX	00G-4043-P0-AX	—	—	—	—	—
C8(2)	00B-4249-P0-AX	00D-4249-P0-AX	00F-4249-P0-AX	00G-4249-P0-AX	00B-4249-U0-AX	00D-4249-U0-AX	—	AJ0-7840	AJ0-8302
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	AJ0-7839	AJ0-8301
CN	00B-4255-P0-AX	—	00F-4255-P0-AX	00G-4255-P0-AX	—	00D-4255-U0-AX	—	AJ0-8220	AJ0-8311
Phenyl-Hexyl	00B-4257-P0-AX	00D-4257-P0-AX	00F-4257-P0-AX	00G-4257-P0-AX	—	00D-4257-U0-AX	00G-4257-U0-AX	AJ0-7841	AJ0-8303
NH2	—	00D-4378-P0-EX	00F-4378-P0-AX	00G-4378-P0-AX	—	—	—	AJ0-8162	AJ0-8309
PFP(2)	00B-4448-P0-AX	00D-4448-P0-AX	00F-4448-P0-AX	00G-4448-P0-AX	—	00D-4448-U0-AX	00G-4448-U0-AX	AJ0-8377	AJ0-8378
HILIC	00B-4450-P0-AX	00D-4450-P0-AX	00F-4450-P0-AX	00G-4450-P0-AX	—	—	00G-4450-U0-AX	AJ0-8829	AJ0-8830
								for ID: 18-29 mm	30-49 mm

10 µm Analytical and Semi-Prep Columns			SecurityGuard Cartridges (mm)	
	250 x 4.6	250 x 10	4 x 3.0*	10 x 10‡
Phases			/10 pk	/3 pk
Silica(2)	00G-4091-E0	00G-4091-N0	AJ0-4348	AJ0-7223
C5	00G-4092-E0	00G-4092-N0	AJ0-4293	AJ0-7372
C8(2)	00G-4250-E0	00G-4250-N0	AJ0-4290	AJ0-7222
C18(2)	00G-4253-E0	00G-4253-N0	AJ0-4287	AJ0-7221
CN	00G-4300-E0	00G-4300-N0	AJ0-4305	AJ0-7313
Phenyl-Hexyl	00G-4285-E0	00G-4285-N0	AJ0-4351	AJ0-7314
NH2	00G-4379-E0	00G-4379-N0	AJ0-4302	AJ0-7364
SCX	00G-4401-E0	00G-4401-N0	AJ0-4308	AJ0-7369
			for ID: 3.2-8.0 mm	9-16 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	15 x 21.2**	15 x 30 ◊
Phases									/ea	/ea
10 µm										
Silica(2)	—	—	—	00G-4091-P0-AX	—	—	00G-4091-U0-AX	00G-4091-V0-AX	AJ0-7229	AJ0-8312
C5	—	00D-4092-P0-AX	—	00G-4092-P0-AX	—	—	—	00G-4092-V0-AX	—	—
C8(2)	00B-4250-P0-AX	—	00F-4250-P0-AX	00G-4250-P0-AX	—	—	—	00G-4250-V0-AX	AJ0-7840	AJ0-8302
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	AJ0-7839	AJ0-8301
CN	—	—	—	00G-4300-P0-AX	—	—	—	—	AJ0-8220	AJ0-8311
Phenyl-Hexyl	—	—	00F-4285-P0-AX	00G-4285-P0-AX	—	—	00G-4285-U0-AX	—	AJ0-7841	AJ0-8303
NH_2	—	—	—	00G-4379-P0-AX	—	—	—	—	AJ0-8162	AJ0-8309
									for ID: 18-29 mm	30-49 mm

*SecurityGuard Analytical Cartridges require holder, Part No.: KJ0-4282
‡SemiPrep SecurityGuard Cartridges require holder, Part No.: AJ0-9281

**PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8223
◊ PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8277

Introducing the Core-Shell Advantage

KINETEX®
Core-Shell Technology

Complementary and Orthogonal Selectivities

To provide alternative and orthogonal selectivity phases, Kinetex columns are available in 8 selectivities: EVO C18, XB-C18, C18, C8, Biphenyl, Phenyl-Hexyl, F5, and HILIC, for resolution of a wide range of compounds from polar to hydrophobic, aromatic, and isomeric.

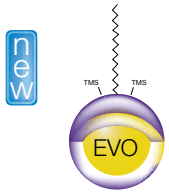
Kinetex Core-Shell

- High particle density helps create optimal bed structure which reduces band broadening effects of Eddy Diffusion
- Ultra-high performance on UHPLC systems
- Reduced diffusion path improves efficiency

Fully Porous

- Less homogenuous bed structure leads to performance loss
- Diffusion path limits efficiencies
- Band broadening due to frictional heating as flow rate increases

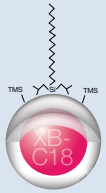
Kinetex EVO C18



Novel pH 1-12 stable C18 that delivers robust methods and improved peak shape for bases

pH Range: 1 – 12
USP Classification: L1
Effective Carbon Load: 11 %

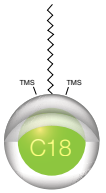
Kinetex XB-C18



This unique C18 phase yields increased hydrogen bonding with hydrophobic selectivity, resulting in improved peak shape for basic compounds and increased retention of acidic compounds

pH Range: 1.5 – 8.5*
USP Classification: L1
Effective Carbon Load: 10 %

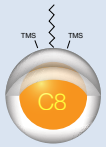
Kinetex C18



Balanced C18 phase that provides the highest degree of hydrophobic selectivity relative to the other Kinetex phases

pH Range: 1.5 – 8.5*
USP Classification: L1
Effective Carbon Load: 12 %

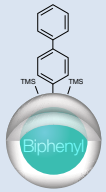
Kinetex C8



Moderate hydrophobic and steric selectivity is offered, bringing ultra-high performance to USP L7 and other octyl silane methods

pH Range: 1.5 – 8.5*
USP Classification: L7
Effective Carbon Load: 8 %

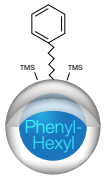
Kinetex Biphenyl



100 % aqueous stable reversed phase chemistry with hydrophobic, aromatic, and enhanced polar selectivity

pH Range: 1.5 – 8.5*
USP Classification: L11
Effective Carbon Load: 11 %

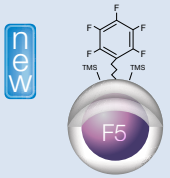
Kinetex Phenyl-Hexyl



Aromatic and moderate hydrophobic selectivity result in the great retention and separation of aromatic hydrocarbons

pH Range: 1.5 – 8.5*
USP Classification: L11
Effective Carbon Load: 11 %

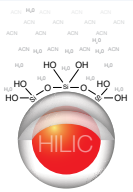
Kinetex F5



Highly reproducible pentafluorophenyl phase exceptional for halogenated, conjugated, isomeric, or highly polar compounds

pH Range: 1.5 – 8.5*
USP Classification: L43
Effective Carbon Load: 9 %

Kinetex HILIC

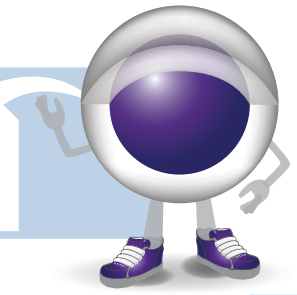


Used under HILIC running conditions, this phase provides the highest polar selectivity for retention and separation of hydrophilic compounds

pH Range: 2.0 – 7.5
USP Classification: L3
Carbon Load: –

*Columns are pH stable from 1.5-10 under isocratic conditions. Columns are pH stable 1.5-8.5 under gradient conditions.

Visit
www.phenomenex.com/kinetex
to learn more about Kinetex



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