

VertiSep™ GES

VertiSep™ GES HPLC Columns

- High purity silica offer high stability, efficiency, reproducibility
- Moderate pore size and surface area are perfect for general purpose
- High carbon loading C18 offers high degree of hydrophobicity for high resolution of organic compounds that have similar structures
- Fully endcapped to improve peak symmetry
- Polymeric bonding offers high stability and longer column lifetime
- Economic Price

VertiSep™ GES packings are high purity silica which contains less amounts of metal ions and sulfate contaminants offer high stability at pH 1.5-10.0*, efficiency, column-to-column reproducibility.

VertiSep™ GES packings are moderate pore size and surface area proving general purpose separations of variety of compounds.

VertiSep™ GES reverse phase C18 packings are high carbon loading of 17% offering the high degree of hydrophobicity for high resolution of organic compounds that have similar structures such as polynuclear aromatic hydrocarbons, benzidines, vitamins D2, D3, amino acids.

VertiSep™ GES reverse phase packings are fully endcapped and show selectivity as conventional C18 phases.

VertiSep™ GES packings are polymeric bonding resulting high stability and longer column lifetime.

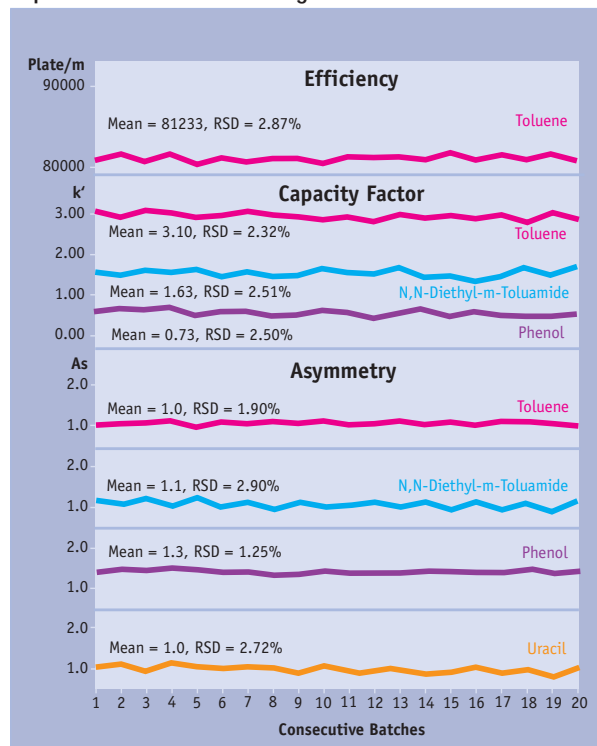
VertiSep™ GES are manufactured by statistic process control of silica synthesis, bonding and column packing. The reproducible column packing method control provides exceptional efficiency, symmetry and reproducible capacity factor.



Specifications

Packing	Particle Size (mm)	Carbon Load (%)	Pore Size (Å)	Pore Volume (mL/g)	Surface Area (m ² /g)	End Capped
C18	3,5,10	17	120	1.0	300	Yes
C8	3,5,10	13	120	1.0	300	Yes
Ph	3,5,10	8	120	1.0	300	Yes
C4	3,5,10	6	120	1.0	300	Yes
CN	3,5,10	3.5	120	1.0	300	Yes
NH2	3,5,10	3	120	1.0	300	No
Si	3,5,10	-	120	1.0	300	No
SAX	5	4	120	1.0	300	No
SCX	5	4	120	1.0	300	No

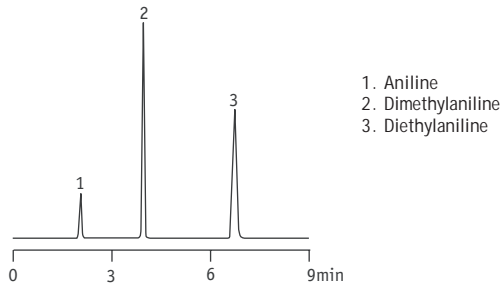
Reproducible Column Packing Method Controls*



*Test Conditions

Column: VertiSep™ GES C18, 5µm, 4.6x250mm
 Mobile Phase: 60:40 Acetonitrile /Water
 Flow Rate: 1.0mL/min
 Detector: UV 254nm
 Sample: Reversed phase test mix

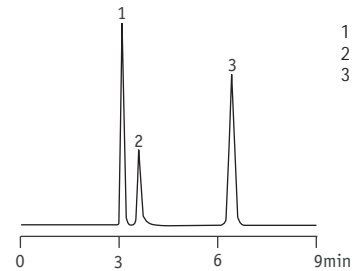
Aromatic Bases



1. Aniline
2. Dimethylaniline
3. Diethylaniline

Column: VertiSep™ GES C18 5µm 150x4.6mm
 Mobile Phase: Acetonitrile:Water:TEA (65:34:1)
 Flow Rate: 1.0mL/min
 Detection: UV254nm

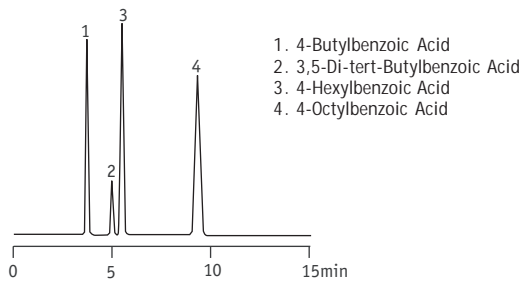
Aromatic Acid



1. Homovanilic Acid
2. Benzoic Acid
3. Salicylic Acid

Column: VertiSep™ GES C18 5µm 150x4.6mm
 Mobile Phase: 0.05M KH₂PO₄, pH3.2:Methanol (60:40)
 Flow Rate: 1.0mL/min
 Detection: UV254nm

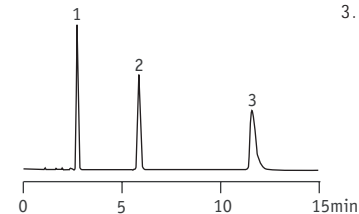
Alkyl Benzoic Acids



1. 4-Butylbenzoic Acid
2. 3,5-Di-tert-Butylbenzoic Acid
3. 4-Hexylbenzoic Acid
4. 4-Octylbenzoic Acid

Column: VertiSep™ GES C18 5µm 150x4.6mm
 Mobile Phase: Acetonitrile:Water:Acetic (65:34:1)
 Flow Rate: 1.0mL/min
 Detection: UV254nm

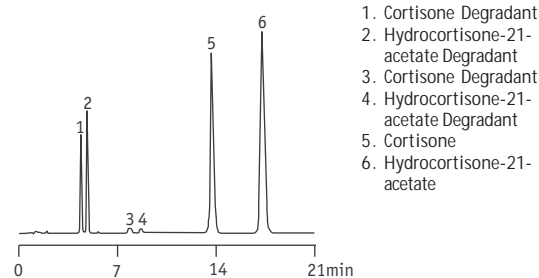
Steroids



1. Hydrocortisone
2. Testosterone
3. Progesterone

Column: VertiSep™ GES C18 5µm 150x4.6mm
 Mobile Phase: Methanol:Water (70:30)
 Flow Rate: 1.0mL/min
 Detection: UV254nm

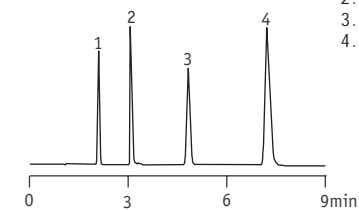
Steroids



1. Cortisone Degradant
2. Hydrocortisone-21-acetate Degradant
3. Cortisone Degradant
4. Hydrocortisone-21-acetate Degradant
5. Cortisone
6. Hydrocortisone-21-acetate

Column: VertiSep™ GES C18 5µm 150x4.6mm
 Mobile Phase: 50mM KH₂PO₄, pH2.75:Acetonitrile (65:35)
 Flow Rate: 1.0mL/min
 Detection: UV252nm

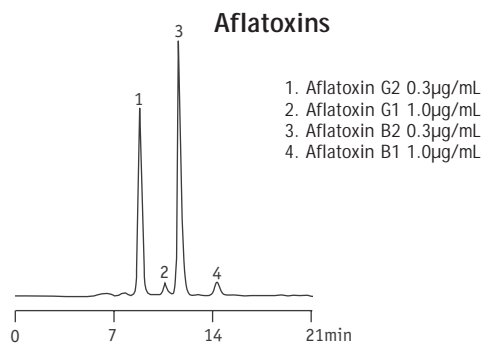
Acids and Bases



1. N,N-Diethylaniline
2. Phenylacetic Acid
3. N,N-Dimethylaniline
4. Phenylvaleric Acid

Column: VertiSep™ GES C18 5µm 150x4.6mm
 Mobile Phase: Acetonitrile:0.05M Potassium Phosphate Buffer, pH3.0 (45:55)
 Flow Rate: 1.0mL/min
 Detection: UV254nm

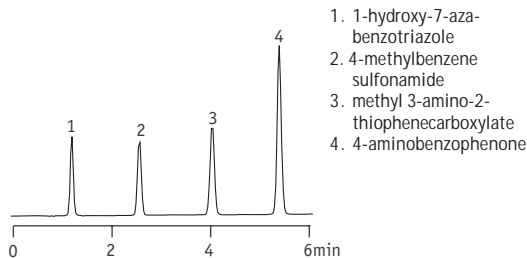
Aflatoxins



1. Aflatoxin G2 0.3µg/mL
2. Aflatoxin G1 1.0µg/mL
3. Aflatoxin B2 0.3µg/mL
4. Aflatoxin B1 1.0µg/mL

Column: VertiSep™ GES C18 5µm 4.6x250mm
 Mobile Phase: DI Water:Acetonitrile:Methanol (60:20:20)
 Flow Rate: 1.0mL/min
 Detection: UV365nm

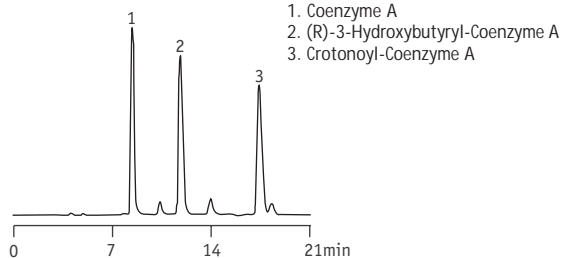
Aromatic Ketone



1. 1-hydroxy-7-aza-benzotriazole
2. 4-methylbenzene sulfonamide
3. methyl 3-amino-2-thiophenecarboxylate
4. 4-aminobenzophenone

Column: VertiSep™ GES C18 5µm 4.6x100mm
 Mobile Phase: A: 0.1%TFA in water,
 B: 0.08%TFA in acetonitrile
 Gradient: Time/%B, 0/0, 4/60
 Flow Rate: 1.0mL/min
 Detection: UV254nm

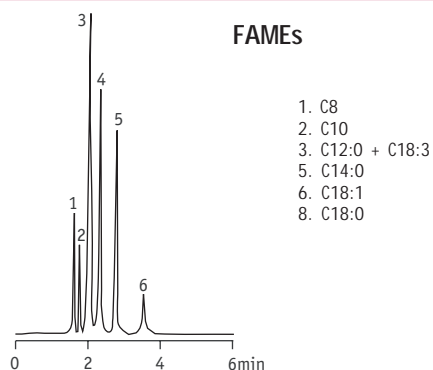
Coenzyme A



1. Coenzyme A
2. (R)-3-Hydroxybutyryl-Coenzyme A
3. Crotonoyl-Coenzyme A

Column: VertiSep™ GES C18 5µm 4.6x250mm
 Mobile Phase: A: Methanol:10mM KH₂PO₄, pH6.5 (0:100)
 B: Methanol:10mM KH₂PO₄, pH6.5 (40:60)
 Gradient: Time/%B, 0/30, 10/80
 Flow Rate: 0.8mL/min
 Detection: UV260nm

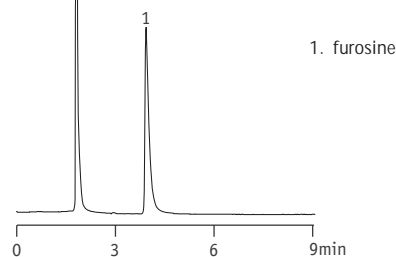
FAMES



1. C8
2. C10
3. C12:0 + C18:3
5. C14:0
6. C18:1
8. C18:0

Column: VertiSep™ GES C18 5µm 4.6x250mm
 Mobile Phase: Acetonitrile:Acetone (60:40)
 Flow Rate: 1.0mL/min
 Detection: R401 refractometer

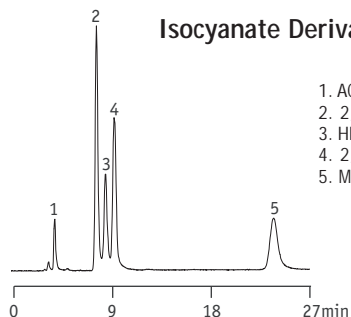
Furosine



1. furosine

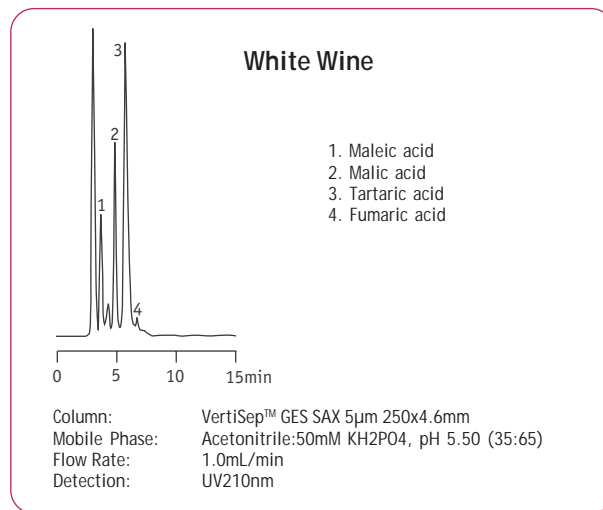
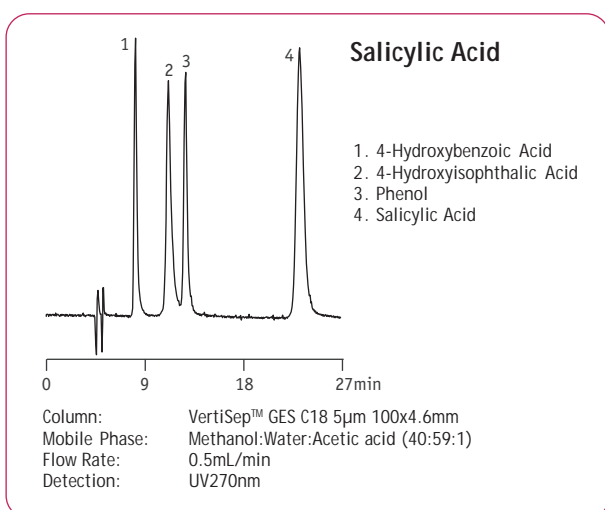
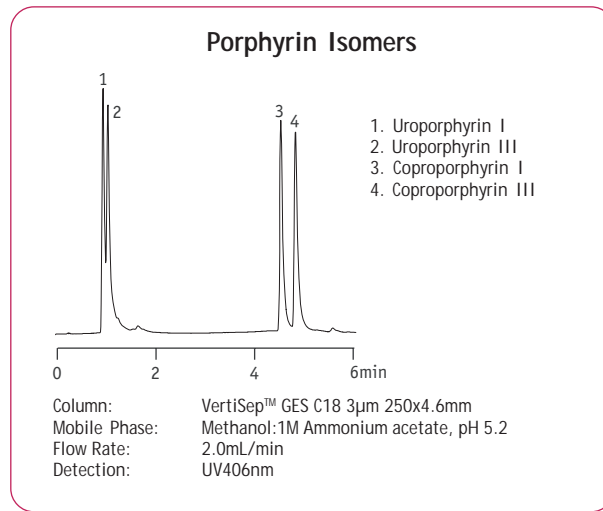
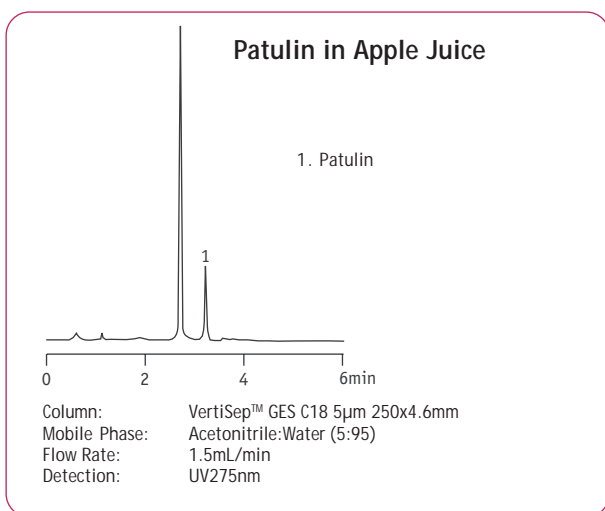
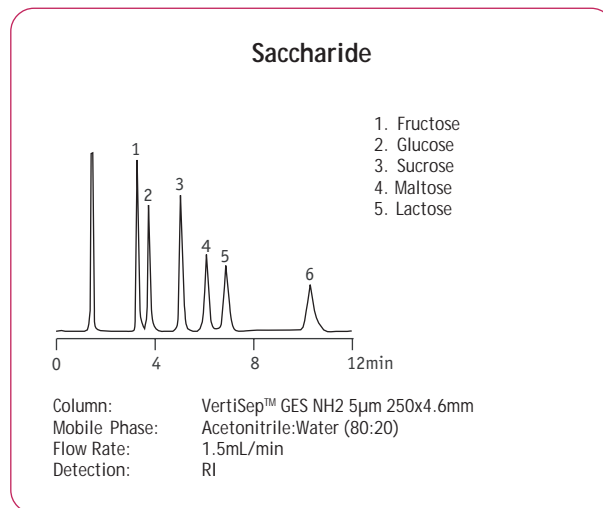
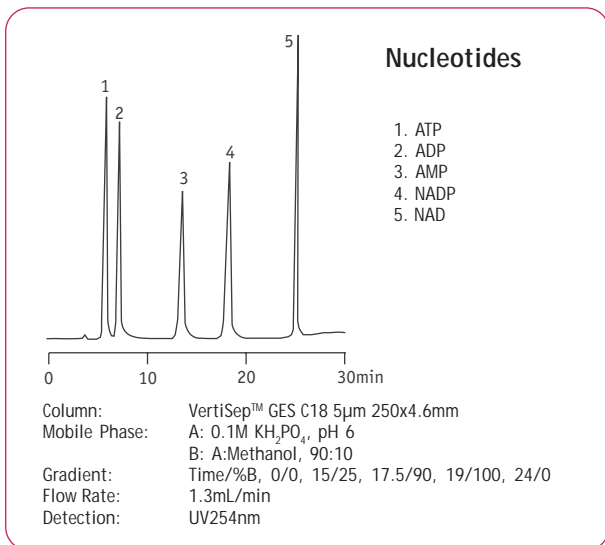
Column: VertiSep™ GES C8 5µm 4.6x250mm
 Mobile Phase: 0.06M sodium acetate, pH 4.3
 with acetic acid
 Flow Rate: 2.0mL/min
 Detection: UV280nm, 0.1 AUFS

Isocyanate Derivatives Mixture

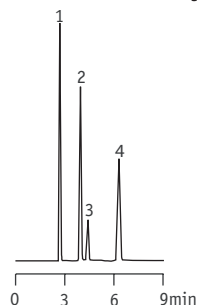


1. ACN/DMSO
2. 2,6-TDI
3. HDI
4. 2,4-TDI
5. MDI

Column: VertiSep™ GES CN 5µm 4.6x250mm
 Mobile Phase: 0.05M Ammonium acetate in
 70:30 Water:Acetonitrile, pH 6.0
 Flow Rate: 0 min - 1mL/min
 15 min - 2mL/min
 Detection: Fluorescence, 240nm excitation,
 370nm emission



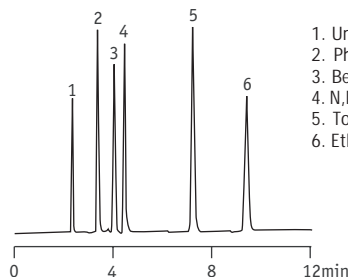
Alkyl Benzoic Acids



1. 4-Butylbenzoic Acid
2. 3,5,-di-tert-Butylbenzoic Acid
3. 4-Hexylbenzoic Acid
4. 4-Octylbenzoic Acid

Column: VertiSep™ GES C8 5µm 4.6x150mm
 Mobile Phase: Acetonitrile:Water:Acetic Acid (65:34:1)
 Flow Rate: 1.0mL/min
 Detection: UV254nm

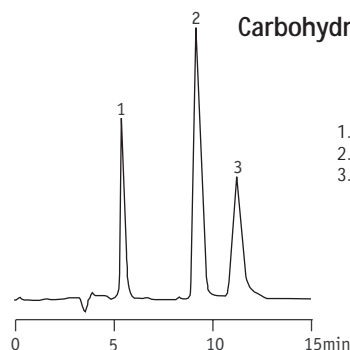
Base/Neutral Mix



1. Uracil
2. Phenol
3. Benzaldehyde
4. N,N-Diethyl-m-toluamide
5. Toluene
6. Ethylbenzene

Column: VertiSep™ GES C18 5µm 4.6x250mm
 Mobile Phase: Acetonitrile:Water (65:35)
 Flow Rate: 1.0mL/min
 Detection: UV254nm

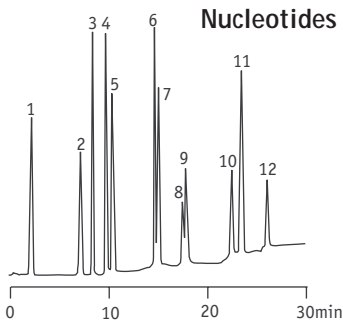
Carbohydrates from Wine



1. Ethanol
2. Glucose
3. Sucrose

Column: VertiSep™ GES NH2 10µm 4.6x250mm
 Mobile Phase: Acetonitrile:Water (75:25)
 Flow Rate: 3.0mL/min
 Detection: RI

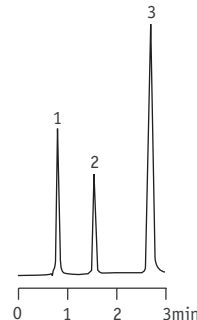
Nucleotides



1. CMP
2. AMP
3. UMP
4. GMP
5. CDP
6. ADP
7. UDP
8. CTP
9. GDP
10. ATP
11. UTP
12. GTP

Column: VertiSep™ GES SAX 5µm 4.6x250mm
 Mobile Phase: A: 5mM NH4H2PO4, pH2.8
 B: 750mM NH4H2PO4, pH 3.7
 Gradient: Time/%B, 0/0, 3/100
 Flow Rate: 1.0mL/min
 Detection: UV254nm

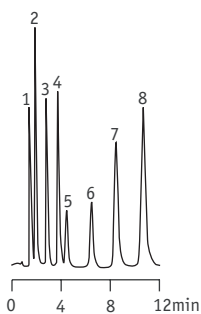
Aromatic Hydrocarbons



1. Toluene
2. Nitrobenzene
3. 2,6-Dinitrotoluene

Column: VertiSep™ GES CN 5µm 4.6x100mm
 Mobile Phase: 1% Ethyl Acetate in Hexane
 Flow Rate: 2.0mL/min
 Detection: UV254nm

Aromatic Ketones



1. Benzamide
2. Benzyl Alcohol
3. Acetophenone
4. Methyl Benzoate
5. Phenetole
6. Naphthalene
7. Benzophenone
8. Biphenyl

Column: VertiSep™ GES PH 5µm 4.6x100mm
 Mobile Phase: Methanol:Water (60:40)
 Flow Rate: 1.0mL/min
 Detection: UV254nm

Ordering Information					
Phase	Particle Size (µm)	Formats	I.D. Length (mm)	QTY	Part No.
VertiSep™ GES					
C18	3	Ultra-Fast	2.1 x 10	1	03AA-B111
	3	Ultra-Fast	2.1 x 20	1	03AA-B611
	3	Ultra-Fast	2.1 x 50	1	03AA-B211
	3	LC/MS	2.1 x 100	1	03AA-B311
	3	LC/MS	2.1 x 150	1	03AA-B411
	3	LC/MS	3.2 x 100	1	03AA-C311
	3	LC/MS	3.2 x 150	1	03AA-C411
	3	Analytical	4.0 x 100	1	03AA-D311
	3	Analytical	4.0 x 150	1	03AA-D411
	3	Analytical	4.6 x 100	1	03AA-E311
	3	Analytical	4.6 x 150	1	03AA-E411
	3	Hi-Speed	7.8 x 50	1	03AA-G211
	3	Analytical	7.8 x 100	1	03AA-G311
	5	LC/MS	2.1 x 100	1	03AA-B321
	5	LC/MS	2.1 x 150	1	03AA-B421
	5	LC/MS	3.2 x 100	1	03AA-C321
	5	LC/MS	3.2 x 150	1	03AA-C421
	5	Analytical	4.0 x 100	1	03AA-D321
	5	Analytical	4.0 x 150	1	03AA-D421
	5	Analytical	4.0 x 250	1	03AA-D521
	5	Hi-Speed	4.6 x 50	1	03AA-E221
	5	Analytical	4.6 x 100	1	03AA-E321
	5	Analytical	4.6 x 125	1	03AA-EC21
	5	Analytical	4.6 x 150	1	03AA-E421
	5	Analytical	4.6 x 250	1	03AA-E521
	5	Analytical	7.8 x 100	1	03AA-G321
	5	Prep	10.0 x 150	1	03AA-H421
	5	Prep	10.0 x 250	1	03AA-H521
	5	Prep	21.2 x 150	1	03AA-I421
	5	Prep	21.2 x 250	1	03AA-I521
	10	Prep	10.0 x 150	1	03AA-H431
	10	Prep	10.0 x 250	1	03AA-H531
10	Prep	21.2 x 150	1	03AA-I431	
10	Prep	21.2 x 250	1	03AA-I531	
10	Prep	30.0 x 150	1	03AA-J431	
10	Prep	30.0 x 250	1	03AA-J531	
10	Prep	50.0 x 150	1	03AA-K431	
10	Prep	50.0 x 250	1	03AA-K531	

Ordering Information					
Phase	Particle Size (µm)	Formats	I.D. Length (mm)	QTY	Part No.
VertiSep™ GES					
C8	3	Ultra-Fast	2.1 x 10	1	03AB-B111
	3	Ultra-Fast	2.1 x 20	1	03AB-B611
	3	Ultra-Fast	2.1 x 50	1	03AB-B211
	3	LC/MS	2.1 x 100	1	03AB-B311
	3	LC/MS	2.1 x 150	1	03AB-B411
	3	LC/MS	3.2 x 100	1	03AB-C311
	3	LC/MS	3.2 x 150	1	03AB-C411
	3	Analytical	4.0 x 100	1	03AB-D311
	3	Analytical	4.0 x 150	1	03AB-D411
	3	Analytical	4.6 x 100	1	03AB-E311
	3	Analytical	4.6 x 150	1	03AB-E411
	3	Hi-Speed	7.8 x 50	1	03AB-G211
	3	Analytical	7.8 x 100	1	03AB-G311
	5	LC/MS	2.1 x 100	1	03AB-B321
	5	LC/MS	2.1 x 150	1	03AB-B421
	5	LC/MS	3.2 x 100	1	03AB-C321
	5	LC/MS	3.2 x 150	1	03AB-C421
	5	Analytical	4.0 x 100	1	03AB-D321
	5	Analytical	4.0 x 150	1	03AB-D421
	5	Analytical	4.0 x 250	1	03AB-D521
	5	Analytical	4.6 x 100	1	03AB-E321
	5	Analytical	4.6 x 125	1	03AB-EC21
	5	Analytical	4.6 x 150	1	03AB-E421
	5	Analytical	4.6 x 250	1	03AB-E521
	5	Analytical	7.8 x 100	1	03AB-G321
	5	Prep	10.0 x 150	1	03AB-H421
	5	Prep	10.0 x 250	1	03AB-H521
	5	Prep	21.2 x 150	1	03AB-I421
	5	Prep	21.2 x 250	1	03AB-I521
	10	Prep	10.0 x 150	1	03AB-H431
	10	Prep	10.0 x 250	1	03AB-H531
	10	Prep	21.2 x 150	1	03AB-I431
10	Prep	21.2 x 250	1	03AB-I531	
10	Prep	30.0 x 150	1	03AB-J431	
10	Prep	30.0 x 250	1	03AB-J531	
10	Prep	50.0 x 150	1	03AB-K431	
10	Prep	50.0 x 250	1	03AB-K531	

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Ordering Information					
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VertiSep™ GES					
Ph	3	Ultra-Fast	2.1 x 10	1	03AD-B111
	3	Ultra-Fast	2.1 x 20	1	03AD-B611
	3	Ultra-Fast	2.1 x 50	1	03AD-B211
	3	LC/MS	2.1 x 100	1	03AD-B311
	3	LC/MS	2.1 x 150	1	03AD-B411
	3	LC/MS	3.2 x 100	1	03AD-C311
	3	LC/MS	3.2 x 150	1	03AD-C411
	3	Analytical	4.0 x 100	1	03AD-D311
	3	Analytical	4.0 x 150	1	03AD-D411
	3	Analytical	4.6 x 100	1	03AD-E311
	3	Analytical	4.6 x 150	1	03AD-E411
	3	Hi-Speed	7.8 x 50	1	03AD-G211
	3	Analytical	7.8 x 100	1	03AD-G311
	5	LC/MS	2.1 x 100	1	03AD-B321
	5	LC/MS	2.1 x 150	1	03AD-B421
	5	LC/MS	3.2 x 100	1	03AD-C321
	5	LC/MS	3.2 x 150	1	03AD-C421
	5	Analytical	4.0 x 100	1	03AD-D321
	5	Analytical	4.0 x 150	1	03AD-D421
	5	Analytical	4.0 x 250	1	03AD-D521
	5	Analytical	4.6 x 100	1	03AD-E321
	5	Analytical	4.6 x 125	1	03AD-EC21
	5	Analytical	4.6 x 150	1	03AD-E421
	5	Analytical	4.6 x 250	1	03AD-E521
	5	Analytical	7.8 x 100	1	03AD-G321
	5	Prep	10.0 x 150	1	03AD-H421
	5	Prep	10.0 x 250	1	03AD-H521
	5	Prep	21.2 x 150	1	03AD-I421
	5	Prep	21.2 x 250	1	03AD-I521
	10	Prep	10.0 x 150	1	03AD-H431
	10	Prep	10.0 x 250	1	03AD-H531
	10	Prep	21.2 x 150	1	03AD-I431
	10	Prep	21.2 x 250	1	03AD-I531
	10	Prep	30.0 x 150	1	03AD-J431
	10	Prep	30.0 x 250	1	03AD-J531
	10	Prep	50.0 x 150	1	03AD-K431
	10	Prep	50.0 x 250	1	03AD-K531

Ordering Information					
Phase	Particle Size (µm)	Formats	I.D. Length (mm)	QTY	Part No.
VertiSep™ GES					
C4	3	Ultra-Fast	2.1 x 10	1	03AC-B111
	3	Ultra-Fast	2.1 x 20	1	03AC-B611
	3	Ultra-Fast	2.1 x 50	1	03AC-B211
	3	LC/MS	2.1 x 100	1	03AC-B311
	3	LC/MS	2.1 x 150	1	03AC-B411
	3	LC/MS	3.2 x 100	1	03AC-C311
	3	LC/MS	3.2 x 150	1	03AC-C411
	3	Analytical	4.0 x 100	1	03AC-D311
	3	Analytical	4.0 x 150	1	03AC-D411
	3	Analytical	4.6 x 100	1	03AC-E311
	3	Analytical	4.6 x 150	1	03AC-E411
	3	Hi-Speed	7.8 x 50	1	03AC-G211
	3	Analytical	7.8 x 100	1	03AC-G311
	5	LC/MS	2.1 x 100	1	03AC-B321
	5	LC/MS	2.1 x 150	1	03AC-B421
	5	LC/MS	3.2 x 100	1	03AC-C321
	5	LC/MS	3.2 x 150	1	03AC-C421
	5	Analytical	4.0 x 100	1	03AC-D321
	5	Analytical	4.0 x 150	1	03AC-D421
	5	Analytical	4.0 x 250	1	03AC-D521
	5	Analytical	4.6 x 100	1	03AC-E321
	5	Analytical	4.6 x 125	1	03AC-EC21
	5	Analytical	4.6 x 150	1	03AC-E421
	5	Analytical	4.6 x 250	1	03AC-E521
	5	Analytical	7.8 x 100	1	03AC-G321
	5	Prep	10.0 x 150	1	03AC-H421
	5	Prep	10.0 x 250	1	03AC-H521
	5	Prep	21.2 x 150	1	03AC-I421
	5	Prep	21.2 x 250	1	03AC-I521
	10	Prep	10.0 x 150	1	03AC-H431
	10	Prep	10.0 x 250	1	03AC-H531
	10	Prep	21.2 x 150	1	03AC-I431
	10	Prep	21.2 x 250	1	03AC-I531
	10	Prep	30.0 x 150	1	03AC-J431
	10	Prep	30.0 x 250	1	03AC-J531
	10	Prep	50.0 x 150	1	03AC-K431
	10	Prep	50.0 x 250	1	03AC-K531

Ordering Information					
Phase	Particle Size		I.D.		
	(µm)	Formats	Length (mm)	QTY	Part No.
VertiSep™ GES					
CN	3	2.1 x 10	2.1 x 10	1	03AE-B111
	3	2.1 x 20	2.1 x 20	1	03AE-B611
	3	2.1 x 50	2.1 x 50	1	03AE-B211
	3	2.1 x 100	2.1 x 100	1	03AE-B311
	3	2.1 x 150	2.1 x 150	1	03AE-B411
	3	3.2 x 100	3.2 x 100	1	03AE-C311
	3	3.2 x 150	3.2 x 150	1	03AE-C411
	3	4.0 x 100	4.0 x 100	1	03AE-D311
	3	4.0 x 150	4.0 x 150	1	03AE-D411
	3	4.6 x 100	4.6 x 100	1	03AE-E311
	3	4.6 x 150	4.6 x 150	1	03AE-E411
	3	7.8 x 50	7.8 x 50	1	03AE-E511
	3	7.8 x 100	7.8 x 100	1	03AE-G211
	5	2.1 x 100	2.1 x 100	1	03AE-G311
	5	2.1 x 150	2.1 x 150	1	03AE-B321
	5	3.2 x 100	3.2 x 100	1	03AE-B421
	5	3.2 x 150	3.2 x 150	1	03AE-C321
	5	4.0 x 100	4.0 x 100	1	03AE-C421
	5	4.0 x 150	4.0 x 150	1	03AE-D321
	5	4.0 x 250	4.0 x 250	1	03AE-D421
	5	4.6 x 50	4.6 x 50	1	03AE-D521
	5	4.6 x 100	4.6 x 100	1	03AE-E321
	5	4.6 x 125	4.6 x 125	1	03AE-EC21
	5	4.6 x 150	4.6 x 150	1	03AE-E421
	5	4.6 x 250	4.6 x 250	1	03AE-E521
	5	7.8 x 100	7.8 x 100	1	03AE-G321
	5	10.0 x 150	10.0 x 150	1	03AE-H421
	5	10.0 x 250	10.0 x 250	1	03AE-H521
	5	21.2 x 150	21.2 x 150	1	03AE-I421
	5	21.2 x 250	21.2 x 250	1	03AE-I521
	10	10.0 x 150	10.0 x 150	1	03AE-H431
10	10.0 x 250	10.0 x 250	1	03AE-H531	
10	21.2 x 150	21.2 x 150	1	03AE-I431	
10	21.2 x 250	21.2 x 250	1	03AE-I531	
10	30.0 x 150	30.0 x 150	1	03AE-J431	
10	30.0 x 250	30.0 x 250	1	03AE-J531	
10	50.0 x 150	50.0 x 150	1	03AE-K431	
10	50.0 x 250	50.0 x 250	1	03AE-K531	

Ordering Information					
Phase	Particle Size		I.D.		
	(µm)	Formats	Length (mm)	QTY	Part No.
VertiSep™ GES					
NH2	3	Ultra-Fast	2.1 x 10	1	03AF-B111
	3	Ultra-Fast	2.1 x 20	1	03AF-B611
	3	Ultra-Fast	2.1 x 50	1	03AF-B211
	3	LC/MS	2.1 x 100	1	03AF-B311
	3	LC/MS	2.1 x 150	1	03AF-B411
	3	LC/MS	3.2 x 100	1	03AF-C311
	3	LC/MS	3.2 x 150	1	03AF-C411
	3	Analytical	4.0 x 100	1	03AF-D311
	3	Analytical	4.0 x 150	1	03AF-D411
	3	Analytical	4.6 x 100	1	03AF-E311
	3	Analytical	4.6 x 150	1	03AF-E411
	3	Hi-Speed	7.8 x 50	1	03AF-G211
	3	Analytical	7.8 x 100	1	03AF-G311
	5	LC/MS	2.1 x 100	1	03AF-B321
	5	LC/MS	2.1 x 150	1	03AF-B421
	5	LC/MS	3.2 x 100	1	03AF-C321
	5	LC/MS	3.2 x 150	1	03AF-C421
	5	Analytical	4.0 x 100	1	03AF-D321
	5	Analytical	4.0 x 150	1	03AF-D421
	5	Analytical	4.0 x 250	1	03AF-D521
	5	Analytical	4.6 x 100	1	03AF-E321
	5	Analytical	4.6 x 125	1	03AF-EC21
	5	Analytical	4.6 x 150	1	03AF-E421
	5	Analytical	4.6 x 250	1	03AF-E521
	5	Analytical	7.8 x 100	1	03AF-G321
	5	Prep	10.0 x 150	1	03AF-H421
	5	Prep	10.0 x 250	1	03AF-H521
	5	Prep	21.2 x 150	1	03AF-I421
	5	Prep	21.2 x 250	1	03AF-I521
	10	Prep	10.0 x 150	1	03AF-H431
	10	Prep	10.0 x 250	1	03AF-H531
10	Prep	21.2 x 150	1	03AF-I431	
10	Prep	21.2 x 250	1	03AF-I531	
10	Prep	30.0 x 150	1	03AF-J431	
10	Prep	30.0 x 250	1	03AF-J531	
10	Prep	50.0 x 150	1	03AF-K431	
10	Prep	50.0 x 250	1	03AF-K531	



Ordering Information					
Phase	Particle Size (µm)	Formats	I.D. Length (mm)	QTY	Part No.
VertiSep™ GES					
Silica	3	Ultra-Fast	2.1 x 10	1	03AG-B111
	3	Ultra-Fast	2.1 x 20	1	03AG-B611
	3	Ultra-Fast	2.1 x 50	1	03AG-B211
	3	LC/MS	2.1 x 100	1	03AG-B311
	3	LC/MS	2.1 x 150	1	03AG-B411
	3	LC/MS	3.2 x 100	1	03AG-C311
	3	LC/MS	3.2 x 150	1	03AG-C411
	3	Analytical	4.0 x 100	1	03AG-D311
	3	Analytical	4.0 x 150	1	03AG-D411
	3	Analytical	4.6 x 100	1	03AG-E311
	3	Analytical	4.6 x 150	1	03AG-E411
	3	Hi-Speed	7.8 x 50	1	03AG-G211
	3	Analytical	7.8 x 100	1	03AG-G311
	5	LC/MS	2.1 x 100	1	03AG-B321
	5	LC/MS	2.1 x 150	1	03AG-B421
	5	LC/MS	3.2 x 100	1	03AG-C321
	5	LC/MS	3.2 x 150	1	03AG-C421
	5	Analytical	4.0 x 100	1	03AG-D321
	5	Analytical	4.0 x 150	1	03AG-D421
5	Analytical	4.0 x 250	1	03AG-D521	
5	Analytical	4.6 x 100	1	03AG-E321	
5	Analytical	4.6 x 125	1	03AG-EC21	
5	Analytical	4.6 x 150	1	03AG-E421	
5	Analytical	4.6 x 250	1	03AG-E521	
5	Analytical	7.8 x 100	1	03AG-G321	
5	Prep	10.0 x 150	1	03AG-H421	
5	Prep	10.0 x 250	1	03AG-H521	
5	Prep	21.2 x 150	1	03AG-I421	
5	Prep	21.2 x 250	1	03AG-I521	
10	Prep	10.0 x 150	1	03AG-H431	
10	Prep	10.0 x 250	1	03AG-H531	
10	Prep	21.2 x 150	1	03AG-I431	
10	Prep	21.2 x 250	1	03AG-I531	
10	Prep	30.0 x 150	1	03AG-J431	
10	Prep	30.0 x 250	1	03AG-J531	
10	Prep	50.0 x 150	1	03AG-K431	
10	Prep	50.0 x 250	1	03AG-K531	
SCX	5	Analytical	4.6 x 150	1	03AI-E421
	5	Analytical	4.6 x 250	1	03AI-E521
SAX	5	Analytical	4.6 x 150	1	03AH-E421
	5	Analytical	4.6 x 250	1	03AH-E521

Ordering Information					
Phase	Particle Size (µm)	Formats	I.D. Length (mm)	QTY	Part No.
VertiSep™ GES Guard					
C18	3	Guard	2.1 x 10	2	03AA-B113
	3	Guard	3.2 x 10	2	03AA-C113
	3	Guard	4.0 x 10	2	03AA-D113
	3	Guard	4.6 x 10	2	03AA-E113
	5	Guard	2.1 x 10	2	03AA-B123
	5	Guard	3.2 x 10	2	03AA-C123
	5	Guard	4.0 x 10	2	03AA-D123
	5	Guard	4.6 x 10	2	03AA-E123
	5	Guard	10.0 x 10	2	03AA-H123
	5	Guard	21.2 x 10	2	03AA-I123
C8	3	Guard	2.1 x 10	2	03AB-B113
	3	Guard	3.2 x 10	2	03AB-C113
	3	Guard	4.0 x 10	2	03AB-D113
	3	Guard	4.6 x 10	2	03AB-E113
	5	Guard	2.1 x 10	2	03AB-B123
	5	Guard	3.2 x 10	2	03AB-C123
	5	Guard	4.0 x 10	2	03AB-D123
	5	Guard	4.6 x 10	2	03AB-E123
	5	Guard	10.0 x 10	2	03AB-H123
	5	Guard	21.2 x 10	2	03AB-I123
Ph	3	Guard	2.1 x 10	2	03AD-B113
	3	Guard	3.2 x 10	2	03AD-C113
	3	Guard	4.0 x 10	2	03AD-D113
	3	Guard	4.6 x 10	2	03AD-E113
	5	Guard	2.1 x 10	2	03AD-B123
	5	Guard	3.2 x 10	2	03AD-C123
	5	Guard	4.0 x 10	2	03AD-D123
	5	Guard	4.6 x 10	2	03AD-E123
	5	Guard	10.0 x 10	2	03AD-H123
	5	Guard	21.2 x 10	2	03AD-I123
C4	3	Guard	2.1 x 10	2	03AC-B113
	3	Guard	3.2 x 10	2	03AC-C113
	3	Guard	4.0 x 10	2	03AC-D113
	3	Guard	4.6 x 10	2	03AC-E113
	5	Guard	2.1 x 10	2	03AC-B123
	5	Guard	3.2 x 10	2	03AC-C123
	5	Guard	4.0 x 10	2	03AC-D123
	5	Guard	4.6 x 10	2	03AC-E123
	5	Guard	10.0 x 10	2	03AC-H123
	5	Guard	21.2 x 10	2	03AC-I123
C4	10	Guard	10.0 x 10	2	03AC-H133
	10	Guard	21.2 x 10	2	03AC-I133

Ordering Information						
Phase	Particle Size (µm)	Formats	I.D. Length (mm)	QTY	Part No.	
VertiSep™ GES Guard*						
CN	3	Guard	2.1 x 10	2	03AE-B113	
	3	Guard	3.2 x 10	2	03AE-C113	
	3	Guard	4.0 x 10	2	03AE-D113	
	3	Guard	4.6 x 10	2	03AE-E113	
	5	Guard	2.1 x 10	2	03AE-B123	
	5	Guard	3.2 x 10	2	03AE-C123	
	5	Guard	4.0 x 10	2	03AE-D123	
	5	Guard	4.6 x 10	2	03AE-E123	
	5	Guard	10.0 x 10	2	03AE-H123	
	5	Guard	21.2 x 10	2	03AE-I123	
NH2	3	Guard	2.1 x 10	2	03AF-B113	
	3	Guard	3.2 x 10	2	03AF-C113	
	3	Guard	4.0 x 10	2	03AF-D113	
	3	Guard	4.6 x 10	2	03AF-E113	
	5	Guard	2.1 x 10	2	03AF-B123	
	5	Guard	3.2 x 10	2	03AF-C123	
	5	Guard	4.0 x 10	2	03AF-D123	
	5	Guard	4.6 x 10	2	03AF-E123	
	5	Guard	10.0 x 10	2	03AF-H123	
	5	Guard	21.2 x 10	2	03AF-I123	
Si	3	Guard	2.1 x 10	2	03AG-B113	
	3	Guard	3.2 x 10	2	03AG-C113	
	3	Guard	4.0 x 10	2	03AG-D113	
	3	Guard	4.6 x 10	2	03AG-E113	
	5	Guard	2.1 x 10	2	03AG-B123	
	5	Guard	3.2 x 10	2	03AG-C123	
	5	Guard	4.0 x 10	2	03AG-D123	
	5	Guard	4.6 x 10	2	03AG-E123	
	5	Guard	10.0 x 10	2	03AG-H123	
	5	Guard	21.2 x 10	2	03AG-I123	
SCX	5	Guard	4.6 x 10	2	03AI-E123	
	SAX	5	Guard	4.6 x 10	2	03AH-E123

*Guard holder required

Ordering Information			
Description	QTY	Part No.	
Guard Holder with Coupler			
For column I.D. 2.1-7.8 mm	1	0300-0001	
For column I.D. 10 mm	1	0300-0002	
For column I.D. 21.2 mm	1	0300-0003	

