



Vydac 300 Å columns are a commonly employed range in bioseparations. Following the acquisition of Grace HPLC ranges by Hichrom, Vydac columns continue to be available exclusively from Hichrom in capillary to microbore and analytical to preparative dimensions.

Separate biomolecules from small peptides to large intact proteins with the Vydac family of reversed-phase columns (including Vydac TP, MS, Denali, and Everest) and ion exchange (Vydac 302IC) columns. Reversed-phase columns for a polypeptide separation should be considered on the basis of the polypeptide's hydrophobicity, with molecular weight as a secondary consideration.

Vydac TP

Vydac TP reversed-phase material consists of aliphatic groups bonded to the surface of 300 Å pore diameter silica. The large pores of the TP silica give polypeptide molecules complete access to the interior of the silica pores. Vydac TP silica is the standard that has defined large pore HPLC for polypeptide separations for nearly two decades.

Key Features

- Long column lifetime and negligible phase leaching
- Reliable protein purifications, scalable from analytical to preparative scale
- Referenced in a large number of patents and publications

Vydac TP Phase Specifications

Phase	Functional group	Particle size / μm	Properties	Applications	USP code
218TP	C18	3, 5, 10	First generation polymeric C18 phase with unique selectivity	Small polypeptides 4-5 kDa MW, enzymatic digest fragments, natural and synthetic peptides, multi-ring compounds	L1
238TP	C18	5	First generation monomeric C18 phase	Use for same applications as 218TP, but offers different C18 selectivity	L1
201TP	C18	5, 10	Non-encapped C18 phase	Developed for separation of PAHs	L1
202TP	C18	5	Higher carbon load than 201TP	Developed for separation of PAHs	L1
208TP	C8	3, 5, 10	Less hydrophobic than C18TP phase	Polypeptides 10-20 kDa MW	L7
214TP	C4	5, 10	First generation C4 phase	Glycoproteins, haemoglobin variants, histones, insulin variants, membrane proteins	L26
214ATP	C4	5	C4 phase with lower level of endcapping	Optimised for analysis of human growth hormone	L26
219TP	Diphenyl	5, 10	Lowest capacity first generation diphenyl phase	Polypeptides with aromatic side chains, large hydrophobic proteins, membrane-spanning peptides, lipid peptides, fusion proteins from inclusion bodies	L11

Ordering Information

Capillary Columns

5 μm

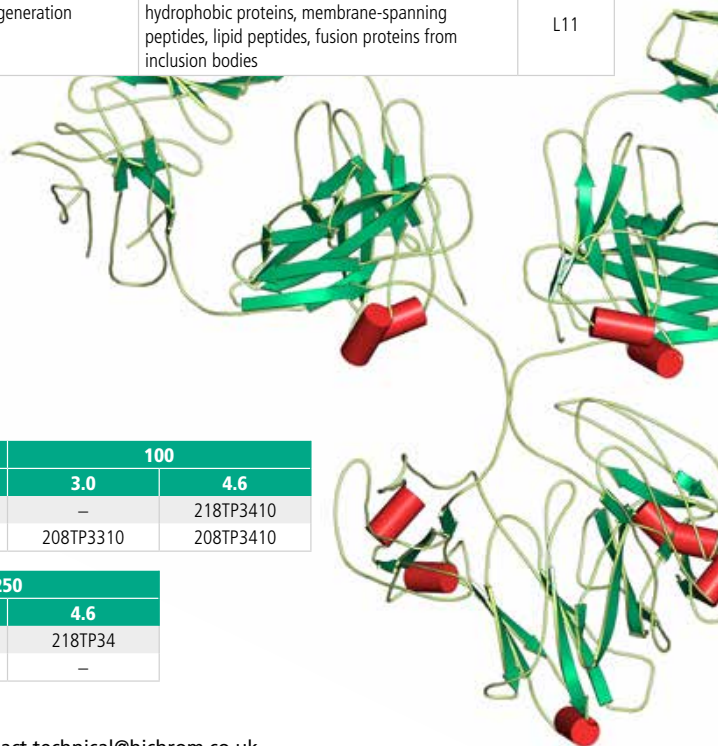
Length / mm	150	
i.d. / mm	0.3	0.5
218TP	218TP5.315	—
214TP	214TP5.315	214TP5.515

Analytical Columns

3 μm

Length / mm	50			100	
	2.1	3.0	4.6	3.0	4.6
218TP	218TP3205	218TP3305	218TP3405	—	218TP3410
208TP	—	—	208TP3405	208TP3310	208TP3410

Length / mm	150		250	
	2.1	4.6	3.0	4.6
218TP	218TP3215	218TP3415	—	218TP34
208TP	—	—	208TP33	—



Length / mm	Guard cartridges (2/pk) ¹		Guard cartridge kits ²	
i.d. / mm	For 2.1	For 3.0–4.6	For 2.1	For 3.0–4.6
218TP	218GD32/N	218GD34/N	218GK32/N	218GK34/N
208TP	–	208GD34/N	–	208GK34/N

¹ To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).

² Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.

5 µm

Length / mm	30		50		
i.d. / mm	2.1	1.0	2.1	3.0	4.6
218TP	–	218TP5105	218TP5205	218TP5305	218TP5405
238TP	–	238TP5105	238TP5205	–	238TP5405
201TP	201TP5203	201TP5105	201TP5205	–	201TP5405
208TP	–	208TP5105	208TP5205	–	208TP5405
214TP	–	214TP5105	214TP5205	214TP5305	214TP5405
214ATP	–	–	–	–	214ATP5405
219TP	–	219TP5105	219TP5205	–	219TP5405

Length / mm	100			
i.d. / mm	1.0	2.1	3.0	4.6
218TP	218TP5110	218TP5210	–	218TP5410
238TP	238TP5110	–	–	238TP5410
201TP	–	201TP5210	201TP5310	201TP5410
208TP	208TP5110	208TP5210	–	208TP5410
214TP	214TP5110	214TP5210	214TP5310	214TP5410
214ATP	–	214ATP5210	–	–
219TP	–	219TP5210	–	219TP5410

Length / mm	150			
i.d. / mm	1.0	2.1	3.0	4.6
218TP	218TP5115	218TP5215	–	218TP5415
238TP	238TP5115	238TP5215	238TP5315	238TP5415
201TP	201TP5115	201TP5215	201TP5315	201TP5415
202TP	–	–	–	202TP5415
208TP	208TP5115	208TP5215	208TP5315	208TP5415
214TP	214TP5115	214TP5215	214TP5315	214TP5415
214ATP	–	214ATP5215	–	214ATP5415
219TP	219TP5115	219TP5215	219TP5315	219TP5415

Length / mm	250				
i.d. / mm	1.0	2.1	3.0	4.0	4.6
218TP	218TP51	218TP52	218TP53	–	218TP54
238TP	238TP51	238TP52	238TP53	–	238TP54
201TP	201TP51	201TP52	–	201TP540	201TP54
202TP	–	–	–	–	202TP54
208TP	208TP51	208TP52	208TP53	–	208TP54
214TP	214TP51	214TP52	214TP53	–	214TP54
214ATP	–	214ATP52	–	–	214ATP54
219TP	219TP51	219TP52	219TP53	–	219TP54

Length / mm	Guard cartridges (2/pk) ¹			Guard cartridge kits ²		
i.d. / mm	For 1.0	For 2.1	For 3.0–4.6	For 1.0	For 2.1	For 3.0–4.6
218TP	218GD51/N	218GD52/N	218GD54/N	218GK51/N	218GK52/N	218GK54/N
238TP	238GD51/N	238GD52/N	238GD54/N	238GK51/N	238GK52/N	238GK54/N
201TP	–	201GD52/N	201GD54/N	–	201GK52/N	201GK54/N
202TP	–	–	202GD54/N	–	–	202GK54/N
208TP	208GD51/N	208GD52/N	208GD54/N	208GK51/N	208GK52/N	208GK54/N
214TP	214GD51/N	214GD52/N	214GD54/N	214GK51/N	214GK52/N	214GK54/N
214ATP	–	–	214AGD54/N	–	–	214AGK54/N
219TP	–	219GD52/N	219GD54/N	–	219GK52/N	219GK54/N

¹ To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).

² Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.

10 µm

Length / mm	50	150	250			Guard cartridges (2/pk) ¹	Guard cartridge kits ²
i.d. / mm	4.6	4.6	1.0	2.1	4.6	For 3.0–4.6	For 3.0–4.6
218TP	–	218TP10415	218TP101	218TP102	218TP104	218GD104/N	218GK104/N
201TP	–	201TP10415	–	–	201TP104	201GD104/N	201GK104/N
208TP	208TP10405	208TP10415	–	–	208TP104	208GD104/N	208GK104/N
214TP	–	214TP10415	214TP101	–	214TP104	214GD104/N	214GK104/N

¹ To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).

² Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.



Vydac TP continued

10–15 µm

Length / mm	150	250
i.d. / mm	4.6	4.6
218TP	5119751	218TP10154
214TP	–	214TP10154
214TP	–	214TP101015

15–20 µm

Length / mm	50	100	150	250	Guard cartridges (2/pk) ¹	Guard cartridge kits ²
i.d. / mm	4.6	4.6	4.6	4.6	For 3.0-4.6	For 3.0-4.6
218TP	218TP1520405	218TP1520410	218TP1520415	–	–	–
208TP	–	208TP1520410	–	–	–	–
214TP	–	–	–	214TP15204	214GD15204/N	214GK15204/N

¹To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).

²Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.

20–30 µm

Length / mm	150
i.d. / mm	4.6
218TP	218TP2030415

Semi-preparative and Preparative Columns

5 µm

Length / mm	100		150	250	Guard cartridges (2/pk) ¹	Guard cartridge kits ²
i.d. / mm	10	22	10	10	For 10–22	For 10–22
218TP	218TP51010	–	218TP51015	218TP510	218GCC510	218FSK510
238TP	–	–	–	238TP510	–	–
201TP	–	–	–	201TP510	–	–
208TP	208TP51010	–	–	208TP510	208GCC510	208FSK510
214TP	214TP51010	214TP52210	214TP51015	214TP510	214GCC510	214FSK510
214ATP	–	–	–	214ATP510	–	–
219TP	–	–	–	219TP510	219GCC510	219FSK510

¹To be used with semi-prep guard holder (GCH10) and column coupler for All-Guard cartridges (HI-081).

²Includes holder (GCH10), column coupler (HI-081), and 1 guard cartridge.

10 µm

Length / mm	100	150		250		Guard cartridges (2/pk) ¹
i.d. / mm	22	10	22	10	22	For 10–22
218TP	218TP102210	218TP101015	218TP102215	218TP1010	218TP1022	218GCC1010
208TP	–	–	–	208TP1010	208TP1022	208GCC1010
214TP	–	214TP101015	214TP102215	214TP1010	214TP1022	214GCC1010
219TP	–	–	–	219TP1010	219TP1022	219GCC1010

¹To be used with semi-prep guard holder (GCH10) and column coupler for All-Guard cartridges (HI-081).

10–15 µm

Length / mm	150		250		Guard cartridges – 12 µm (2/pk) ¹	Guard cartridge kits – 12 µm ²
i.d. / mm	10	22	10	22	For 10–22	For 10–22
218TP	–	–	218TP101510	218TP101522	218GCC1210	218FSK1210
208TP	–	–	208TP101510	208TP101522	208GCC1210	208FSK1210
214TP	214TP10151015	214TP10152215	214TP101510	214TP101522	214GCC1210	214FSK1210

¹To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).

²Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.

15–20 µm

Length / mm	100	150	250		Guard cartridges (2/pk) ¹
i.d. / mm	22	22	10	22	For 10–22
218TP	218TP15202210	218TP15202215	218TP152010	218TP152022	–
208TP	–	–	–	–	–
214TP	–	–	214TP152010	214TP152022	214GCC152010

¹To be used with semi-prep guard holder (GCH10) and column coupler for All-Guard cartridges (HI-081).

Vydac MS

Vydac MS is a further development of the Vydac range for reversed-phase separation of biomolecules. A proprietary surface treatment and bonding process give Vydac MS columns unique selectivity. A variety of reversed-phases makes this product line suitable for the analysis of small peptides to large intact proteins.

Key Features

- 300 Å pore size spherical silica
- Four reversed-phase chemistries
- Excellent peak shape with little or no TFA
- High protein recoveries make scale-up easy

Vydac MS Phase Specifications

Phase	Functional group	Particle size / μm	Properties	Applications	USP code
218MS	C18	5, 10	Polymeric bonding, highest hydrophobic interaction and unique geometric selectivity	Use for simple enzymatic digests (<12 proteins) or biomolecules 0–5 kDa MW	L1
238MS	C18	5	Monomeric bonding offers increased peptide interaction and generally yields higher peak counts	Use for same applications as 218MS, but offers different C18 selectivity	L1
208MS	C8	5, 10	Lower hydrophobicity is better for larger biomolecules	Ideal for biomolecules 5–10 kDa MW	L7
214MS	C4	5, 10	Lower capacity than C18 or C8, suitable for hydrophobic proteins or when minimal organic solvent is desired	Ideal for biomolecules >10 kDa MW, intact proteins, antibodies, oligonucleotides, human growth hormone	L26

Ordering Information

Capillary Columns

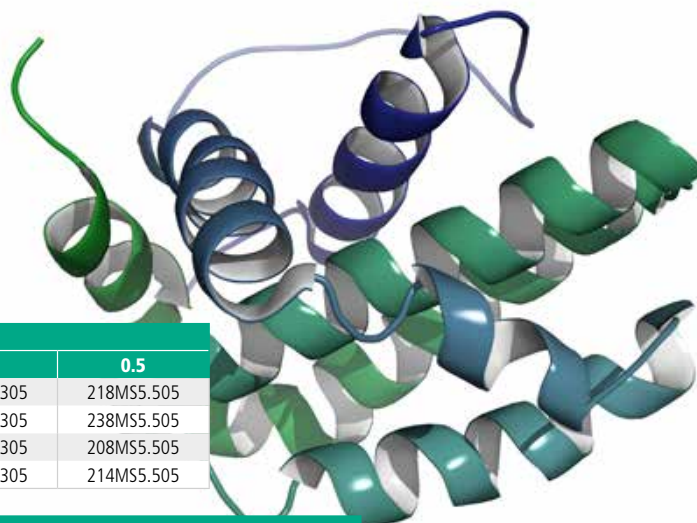
5 μm

Length / mm	50			
i.d. / mm	0.075	0.15	0.3	0.5
218MS	218MS5.07505	218MS5.1505	218MS5.305	218MS5.505
238MS	238MS5.07505	238MS5.1505	238MS5.305	238MS5.505
208MS	208MS5.07505	208MS5.1505	208MS5.305	208MS5.505
214MS	214MS5.07505	214MS5.1505	214MS5.305	214MS5.505

Length / mm	100				
i.d. / mm	0.075	0.1	0.15	0.3	0.5
218MS	218MS5.07510	–	218MS5.1510	218MS5.310	218MS5.510
238MS	238MS5.07510	–	238MS5.1510	238MS5.310	238MS5.510
208MS	208MS5.07510	208MS5.1010	208MS5.1510	208MS5.310	208MS5.510
214MS	214MS5.07510	–	214MS5.1510	214MS5.310	214MS5.510

Length / mm	150			
i.d. / mm	0.075	0.15	0.3	0.5
218MS	218MS5.07515	218MS5.1515	218MS5.315	218MS5.515
238MS	238MS5.07515	238MS5.1515	238MS5.315	238MS5.515
208MS	208MS5.07515	208MS5.1515	208MS5.315	208MS5.515
214MS	214MS5.07515	214MS5.1515	214MS5.315	214MS5.515

Length / mm	250			
i.d. / mm	0.075	0.15	0.3	0.5
218MS	218MS5.07525	218MS5.1525	218MS5.325	218MS5.525
238MS	238MS5.07525	238MS5.1525	238MS5.325	238MS5.525
208MS	208MS5.07525	208MS5.1525	208MS5.325	208MS5.525
214MS	214MS5.07525	214MS5.1525	214MS5.325	214MS5.525



Analytical Columns

5 µm

Length / mm	20		50		
i.d. / mm	2.1	4.6	1.0	2.1	4.6
218MS	218MS5202	218MS5402	218MS5105	218MS5205	218MS5405
238MS	–	–	238MS5105	238MS5205	–
208MS	–	–	208MS5105	208MS5205	–
214MS	–	–	214MS5105	214MS5205	214MS5405

Length / mm	100			
i.d. / mm	1.0	2.1	3.0	4.6
218MS	218MS5110	218MS5210	218MS5310	218MS5410
238MS	238MS5110	238MS5210	–	238MS5410
208MS	208MS5110	208MS5210	–	–
214MS	214MS5110	214MS5210	214MS5310	214MS5410

Length / mm	150				200
i.d. / mm	1.0	2.1	3.0	4.6	1.0
218MS	218MS5115	218MS5215	–	218MS5415	218MS5120
238MS	238MS5115	238MS5215	–	238MS5415	–
208MS	208MS5115	208MS5215	208MS5315	208MS5415	–
214MS	214MS5115	214MS5215	214MS5315	214MS5415	–

Length / mm	250			
i.d. / mm	1.0	2.1	3.0	4.6
218MS	218MS51	218MS52	218MS53	218MS54
238MS	238MS51	238MS52	–	238MS54
208MS	208MS51	208MS52	–	208MS54
214MS	214MS51	214MS52	214MS53	214MS54

Length / mm	Guard cartridges (2/pk) ¹			Guard cartridge kits ²		
i.d. / mm	For 1.0	For 2.1	For 3.0-4.6	For 1.0	For 2.1	For 3.0-4.6
218MS	218GD51MS/N	218GD52MS/N	218GD54MS/N	218GK51MS/N	218GK52MS/N	218GK54MS/N
238MS	238GD51MS/N	238GD52MS/N	238GD54MS/N	238GK51MS/N	238GK52MS/N	238GK54MS/N
208MS	208GD51MS/N	208GD52MS/N	208GD54MS/N	208GK51MS/N	208GK52MS/N	208GK54MS/N
214MS	214GD51MS/N	214GD52MS/N	214GD54MS/N	214GK51MS/N	214GK52MS/N	214GK54MS/N

¹To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).

²Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.

10 µm

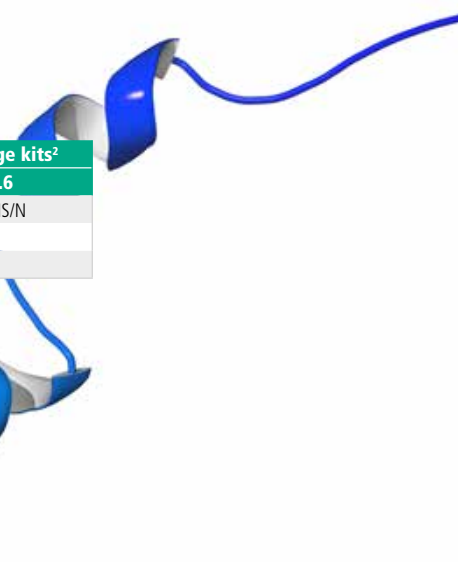
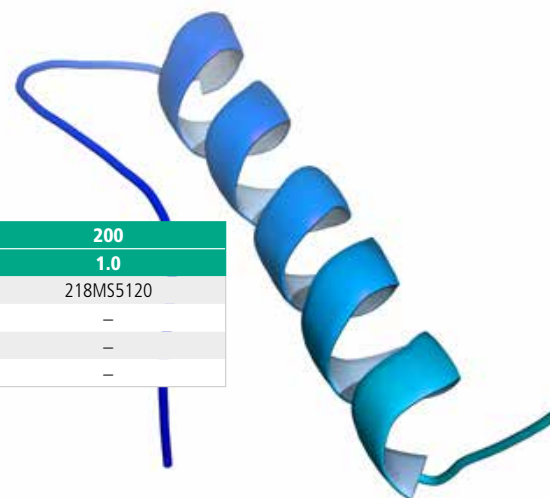
Length / mm	250		Guard cartridges (2/pk) ¹	Guard cartridge kits ²
i.d. / mm	1.0	4.6	For 3.0-4.6	For 3.0-4.6
218MS	218MS101	218MS104	218GD104MS/N	218GK104MS/N
208MS	–	208MS104	–	–
214MS	–	214MS104	–	–

¹To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).

²Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.

10–15 µm

Length / mm	250
i.d. / mm	4.6
214MS	214MS10154





**Semi-preparative and Preparative Columns
5 µm**

Length / mm	250
i.d. / mm	10
218MS	218MS510
208MS	208MS510
214MS	214MS510

10 µm

Length / mm	150	250	
	22	10	22
218MS	218MS102215	218MS1010	218MS1022
208MS	208MS102215	–	208MS1022
214MS	–	214MS1010	214MS1022

10–15 µm

Length / mm	250	Guard cartridges – 12 µm (2/pk) ¹
i.d. / mm	22	For 22
214MS	214MS101522	214FSK1210MS

¹To be used with semi-prep guard holder (GCH10) and column coupler for All-Guard cartridges (HI-081).

For column dimensions not listed here,
please contact
+44 (0)118 930 3660 or
technical@hichrom.co.uk
to discuss your requirements

Vydac Everest

Everest columns (238EV) have unique selectivity and sensitivity, which are the result of bonding technology that improves C18 surface coverage and deactivates residual silanols. Leading 300 Å C18 chemistries have had carbon coverage in the 2.8 to 3.6 $\mu\text{mol m}^{-2}$ range. Everest C18 coverage is in excess of 4 $\mu\text{mol m}^{-2}$ and approximates the theoretical limit based on surface area. The increased shielding of the base silica increases column lifetime and reduces the amount of TFA required to shield the silica.

Key Features

- Unique selectivity for hydrophilic and hydrophobic peptides
- 300 Å pore size spherical silica
- Excellent sensitivity with little or no TFA in mobile phase
- Ideal for complex enzymatic digests (>12 proteins)

Ordering Information

Capillary Columns

5 μm

Length / mm	50			100		
i.d. / mm	0.075	0.3	0.5	0.075	0.15	0.3
C18	238EV5.07505	238EV5.305	238EV5.505	238EV5.07510	238EV5.1510	238EV5.310

Length / mm	150			250		
i.d. / mm	0.075	0.15	0.3	0.5	0.15	0.3
C18	238EV5.07515	238EV5.1515	238EV5.315	238EV5.515	238EV5.1525	238EV5.325

Analytical Columns

5 μm

Length / mm	50		100		150		
i.d. / mm	1.0	4.6	2.1	3.0	1.0	2.1	4.6
C18	238EV5105	238EV5405	238EV5210	238EV5310	238EV5115	238EV5215	238EV5415

Length / mm	250			Guard cartridges (2/pk) ¹		Guard cartridge kits ²
i.d. / mm	1.0	2.1	4.6	For 2.1	For 3.0-4.6	For 3.0-4.6
C18	238EV51	238EV52	238EV54	238GD52EV/N	238GD54EV/N	238GK54EV/N

¹To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).

²Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.

Semi-preparative Columns

5 μm

Length / mm	250	Guard cartridges (2/pk) ¹
i.d. / mm	10	For 10-22
C18	238EV510	238GCC510EV

10 μm

Length / mm	250
i.d. / mm	22
C18	238EV1022

¹To be used with semi-prep guard holder (GCH10) and column coupler for All-Guard cartridges (HI-081).

Column: Vydac Denali C18, 5 μm , 150 x 4.6 mm (*p/n*: 218DE5415)

Mobile phase: A: 1 % Acetic Acid in Water
B: 1 % Acetic Acid in Acetonitrile

Gradient:

Time / min	0	25	26	27	28
% A	07	49	30	30	70
% B	30	51	70	70	30

Flow rate: 1 mL min⁻¹

Detector: UV at 280 nm

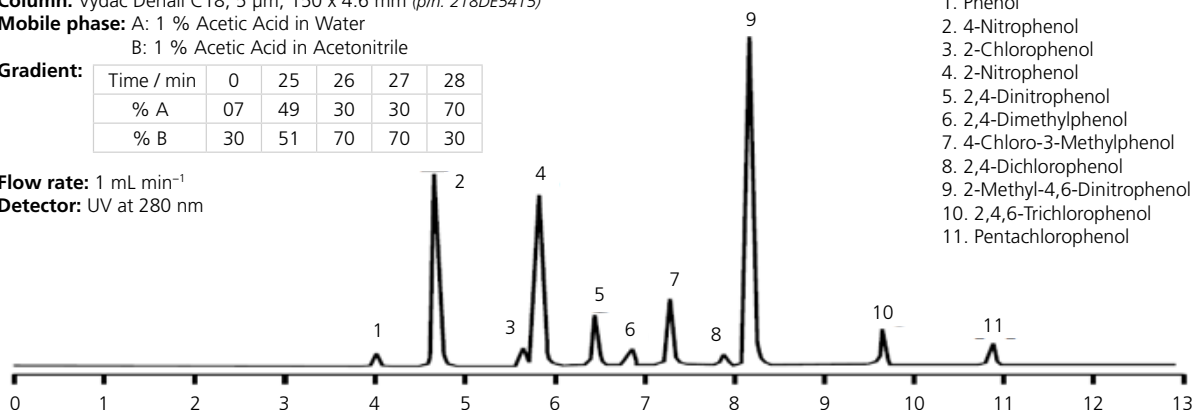


Figure 6. EPA 604 Phenols Mixture

Vydac Denali

Vydac Denali (238DE) is a 120 Å C18 bonded phase with high carbon coverage, suitable for the analysis of both acidic and basic analytes. It has applications for small molecule analyses of interest to pharmaceutical and environmental laboratories.

Key Features

- High retentiveness
- LC/MS of small molecules
- Fully scalable from capillary to process

Ordering Information

Capillary Columns

5 µm

Length / mm	50			
i.d. / mm	0.075	0.15	0.3	0.5
C18	238DE5.07505	238DE5.1505	238DE5.305	238DE5.505

Length / mm	100	150		250	
i.d. / mm	0.075	0.075	0.15	0.5	0.3
C18	238DE5.07510	238DE5.07515	238DE5.1515	238DE5.515	238DE5.325

Analytical Columns

5 µm

Length / mm	50				100			
i.d. / mm	1.0	2.1	3.0	4.6	1.0	2.1	3.0	4.6
C18	238DE5105	238DE5205	238DE5305	238DE5405	238DE5110	238DE5210	238DE5310	238DE5410

Length / mm	150				250		
i.d. / mm	1.0	2.1	3.0	4.6	1.0	2.1	4.6
C18	238DE5115	238DE5215	238DE5315	238DE5415	238DE51	238DE52	238DE54

Length / mm	Guard cartridges (2/pk) ¹			Guard cartridge kits ²		
i.d. / mm	For 1.0	For 2.1	For 3.0-4.6	For 1.0	For 2.1	For 3.0-4.6
C18	238GD51DE/N	238GD52DE/N	238GD54DE/N	238GK51DE/N	238GK52DE/N	238GK54DE/N

¹To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).

²Includes holder (80101/N), column coupler (HI-081), and 1 guard cartridge.

10 µm

Length / mm	50	150	250		300
i.d. / mm	4.6	4.6	4.0	4.6	4.6
C18	238DE10405	238DE10415	DE-10C18-250DF	238DE104	DE-10C18-300DF
Silica	—	—	—	5174066	—

Semi-preparative and Preparative Columns

5 µm

Length / mm	100	150		250
i.d. / mm	10	10	22	10
C18	238DE51010	5174053	238DE52215	238DE510
Silica	—	5174054	—	—

10 µm

Length / mm	150		250		Guard cartridges (2/pk) ¹
i.d. / mm	10	22	10	22	For 10-22
C18	238DE101015	238DE102215	238DE1010	238DE1022	238GCC1010DE
Silica	—	5174057	5174063	—	—

¹To be used with semi-prep guard holder (GCH10) and column coupler (HI-081).

Vydac 302IC Anion-Exchange

Vydac 302IC is a low capacity anion-exchange (quaternary amine) material based on a high purity 10 µm large pore size silica.

Key Features

- Well referenced for non-suppressed ion chromatography applications
- Used with standard HPLC systems for analysis of common ions
- Widely used for environmental analysis

Ordering Information

Analytical Columns

10 µm

Length / mm	100	250		Guard cartridges (2/pk) ¹
i.d. / mm	4.6	2.1	4.6	For 4.6
302IC	302IC4610	302IC102	302IC4.6	302GD4/N

¹To be used with All-Guard cartridge holder (80101/N) and column coupler for All-Guard cartridges (HI-081).

