

PCTsil C18: A Versatile HPLC column

PromoChrom Technologies Ltd.

If you are not sure where to start and you can not afford many HPLC columns, PCTsil C18 should be a good choice for you. Here are the reasons:

1. Wide application range. PCTsil C18 can give good peak shape and separation for polar, semi polar, and non polar compounds. It can also give excellent peak shape for basic compounds, thanks to its high purity silica with special surface modification.
2. High sample capacity. Its large surface area enables it to take larger injection volumes and to be more tolerant to sample solvents not compatible to HPLC mobile phase.
3. Easy method development. PCTsil C18 has a wide pH range (1.6 to 9.0) and can use 100% water. It tends to give good peak shape over a wide range of pH and mobile phase composition. So even if the method is not well optimized, you are still able to obtain satisfactory results.

Below are three examples for different types of compounds.

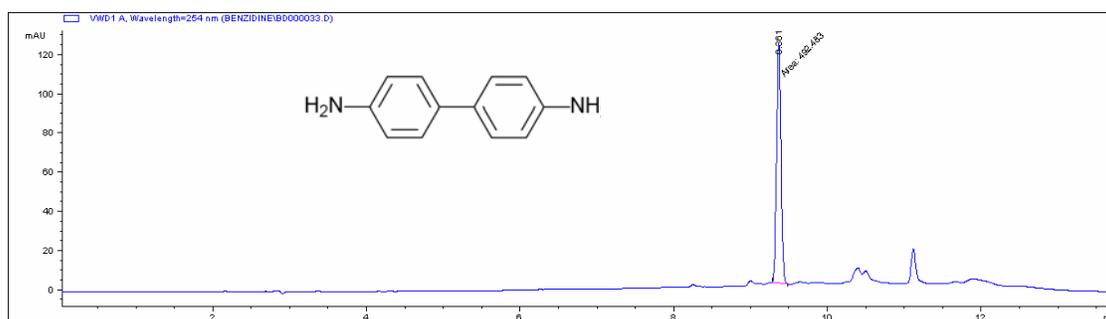


Figure 1. Direct analysis of benzidine in water at 40 ppb using on-line SPE for large volume injection. Sample volume 10 mL using online SPE. Mobile phase, a gradient of acetonitril and ammonium acetate buffer; flow rate, 1.5 mL/min; column, PCTsil C18, 4.6 x 250 mm, 5 μ m; detection, 254 nm.

Benzidine has two amino groups and tends to give tailing and broad peak if the column silica is not inert enough or the mobile phase is not suitable. In the above analysis 10 mL sample was loaded and column switching was used, benzidine gives an excellent peak even with large volume injection and column switching.

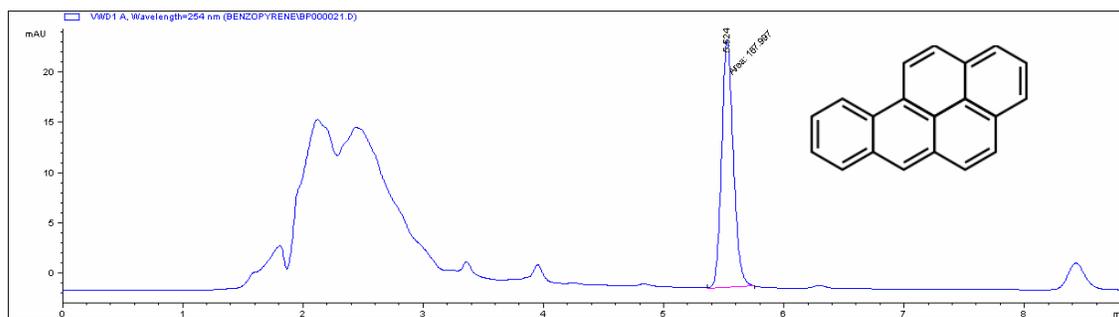


Figure 2. Direct analysis of benzo(a)pyrene in water at 2.5 ppb level using on-line SPE for large volume injection. Sample volume, 20 mL; Mobile phase, 100% methanol; flow rate, 1.5 mL/min; column PCTsil C18, 4.6 x 250 mm, 5 μ m; Detection, 252 nm.

The above analysis uses 20 mL sample and column switching. A very good peak shape is still maintained.

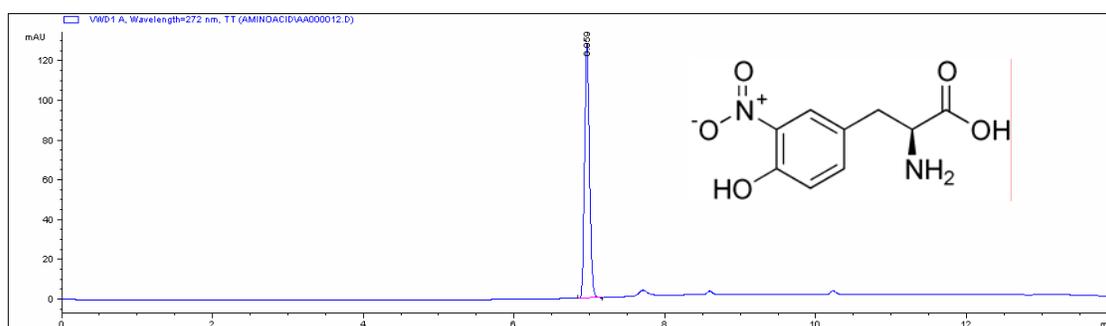


Figure 3. Analysis of nitrotyrosine. Sample volume, 20 μ L; Mobile phase, A = 0.1% TFA buffer (pH 2.1), B = methano, increase B from 10% to 100% over 8 minutes; flow rate, 1.5 mL/min; column PCTsil C18, 4.6 x 250 mm, 5 μ m; detection, 272 nm.

Column properties

Surface area: 380 cm^2/g
 Carbon loading: 18%
 pH range: 1.6-9.0

Order information

Part number	Dimension	Particle size	Price (US\$)
PS18-03-21-50	2.1 x 50 mm	3 μ m	295.00
PS18-03-21-100	2.1 x 100 mm	3 μ m	368.00
PS18-05-21-100	2.1 x 100 mm	5 μ m	358.00
PS18-05-21-150	2.1 x 150 mm	5 μ m	438.00
PS18-05-46-150	4.6 x 150 mm	5 μ m	398.00
PS18-05-46-250	4.6 x 250 mm	5 μ m	438.00