Baseline separation of chlorophenols as a result of outstanding steric selectivity of YMC-Triart C18 ExRS

Chlorophenols are used as pesticides, bleaching agents and disinfectants. Due to their extreme chemical stability they become concentrated within the food chain. As they are highly toxic their presence in the environment needs to be avoided and monitored carefully. The various compounds in this group differ only in the amount and/or position of the chlorine substituents. With YMC-Triart C18 ExRS a baseline separation is possible! The high carbon content of this unique U(H)PLC- phase enables steric recognition.

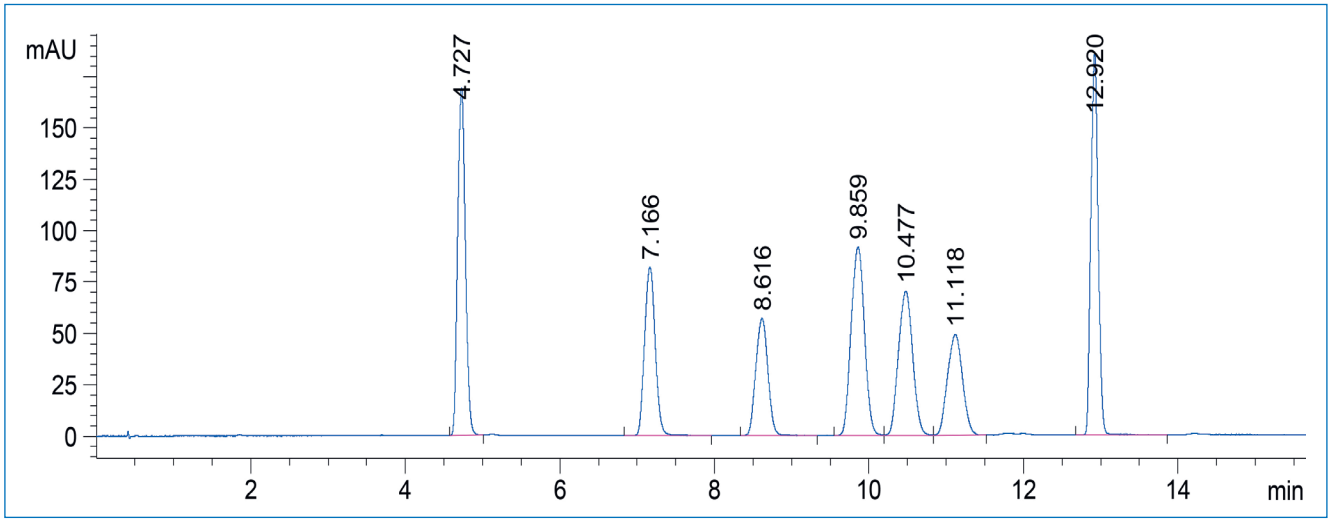

Figure 1: Separation of seven chlorophenols using YMC-Triart C18 ExRS.

Table 1: Method details

Column	YMC-Triart C18 ExRS 1.9 µm, 8 nm, 75 x 3 mm ID	
Part No.	TAR08SP9-L503PT	
Eluent	A: Water + 0.1% Formic acid B: Methanol + 0.1% Formic acid	
Gradient	Time [min] 0 8.1 11 11.1 20	Eluent B [%] 44 50 51.5 65 65
Flow rate	0.7 mL/min	
Temperature	40 °C	
Detection	UV at 280 nm	
Injection	1 µL, 0.7 mg/mL each dissolved in methanol	

Table 2: Chlorophenols analysed

Retention time	Analyte	Structure
4.7 min	4-Chlorophenol	
7.1 min	2,6-Dichlorophenol	
8.9 min	2,3-Dichlorophenol	
9.6 min	2,5-Dichlorophenol	
10.5 min	2,4-Dichlorophenol	
11.1 min	3,4-Dichlorophenol	
12.9 min	3,5-Dichlorophenol