Analysis of Phenols in Water with Star 9080 EC Detector

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Varian Application Note
Number 19

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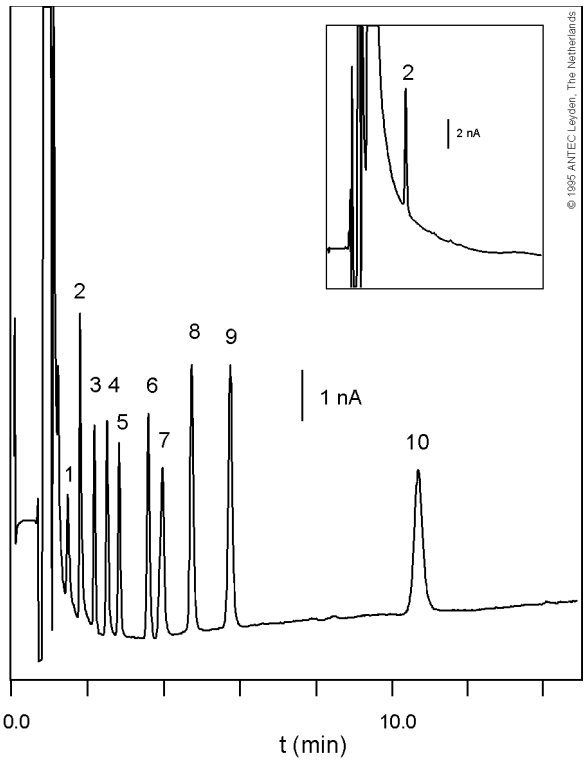
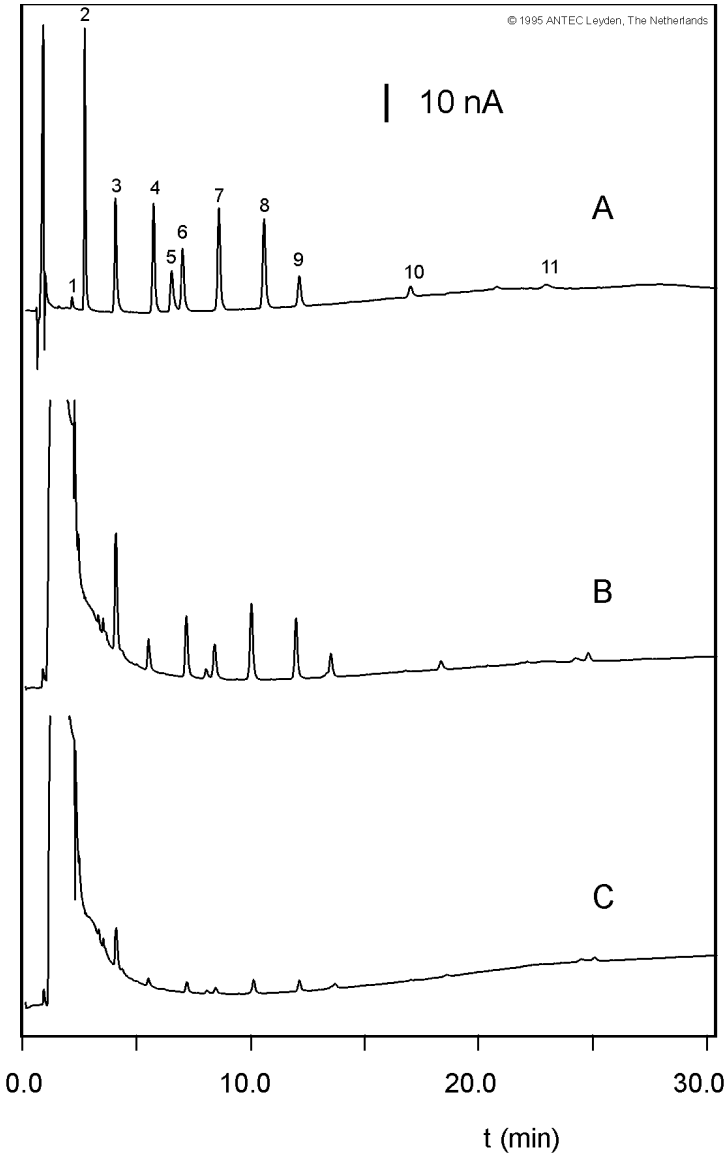
Key Words: *Star 9080, phenols, environmental*



Analysis of a standard mixture of priority pollutants as listed by the US Environmental Protection Agency (EPA). The mixture contains: 2,4-dinitrophenol (1), phenol (2), 4-nitrophenol (3), 2-methyl-4,6-dinitrophenol (4), 2-chlorophenol (5), 2-nitrophenol (6), 2,4-dimethylphenol (7), 4-chloro-3-methylphenol (8), 2,4-dichlorophenol (9), and 2,4,6-trichlorophenol (10). Inset: polluted river water containing 8 ppb phenol.

Detector	Varian Star 9080 Amperometric Electrochemical Detector
Column	ODS, 100 x 4.6 mm, 3 μ
Flow rate	1.5 mL/min
Mobile phase	50 mM HAc/NaAc, pH 4.0, 35% acetonitrile
Sample	100 - 1000 nM phenols, 20 μL injection
Temperature	30 ^{o}C
Flowcell	2.74 mm Glassy Carbon working electrode
E-cell	1200 mV (*vs.* Ag/AgCl)

On-column Concentration of Phenols



A: 20 µL injection of 200 ppb standard
B: 2000 µL injection of 2 ppb standard
C: 2000 µL injection of 0.5 ppb standard

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These data represent typical results.
For further information, contact your local Varian Sales Office.