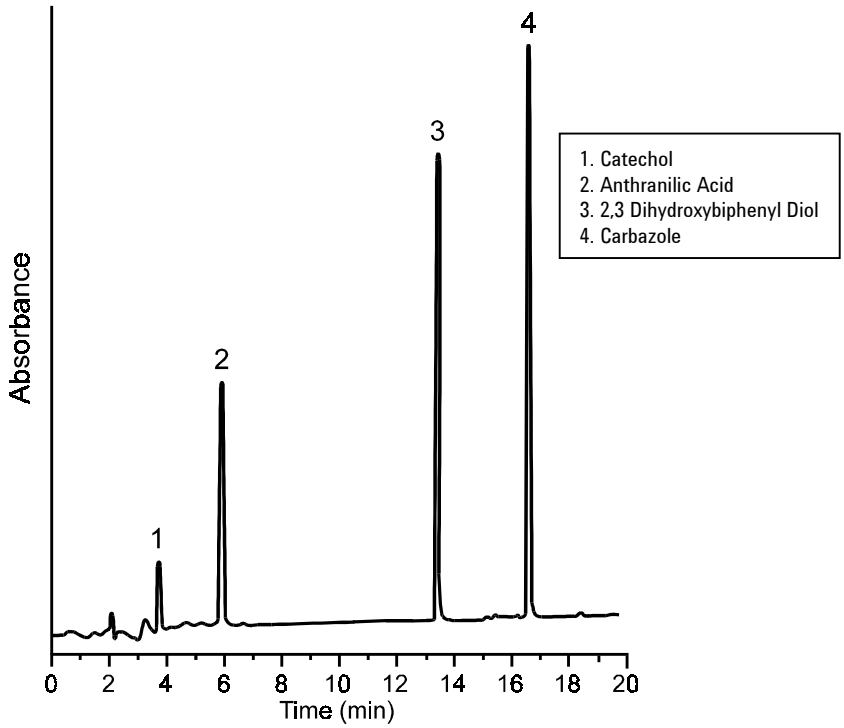
Separation of Catechol and Various Metabolites

Application

Environmental

Robert Ricker

Carbazole is an environmental pollutant of some concern. Sensitive detection of carbazole and related metabolites provides a means of following its breakdown in various sources. The postulated pathway is: **carbazole → 2,3-aminobiphenyl diol → anthranilic acid → catechol**. (The 2nd intermediate is not commercially available and was replaced with 2,3-dihydroxybiphenyl diol, to act as a related marker.)



Courtesy of Phillip Gibbs, Energy Biosystems Corp. The Woodlands, TX;
Rich Willson, University of Houston, Dept. Chemical Engineering, Houston, TX

Conditions:
ZORBAX 300 SB-C18 (4.6 x 150 mm) (Agilent P/N: 883995-902)
Mobile Phase: Gradient 5-60% in 20 min., Wash, 95%B for 2 min.
A) H_2O with 0.1% TFA to pH3 with TEA; B) ACN with 0.085% TFA
Injection 15µL, 250-500 µg/mL each, 1 mL/min, 65°C, Detect. UV (233 nm)

Highlights

- *The resolution of peaks 1 and 2, not previously obtained, was achieved using the ZORBAX 300SB-C18 at low pH.*
- *The steric protecting groups of the ZORBAX SB-C18 stabilize the bonded phase, permitting stable and reproducible chromatography at pH ≤ 1.*

Agilent Technologies

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