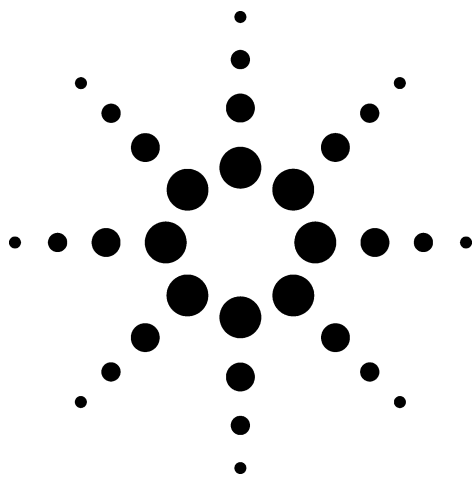
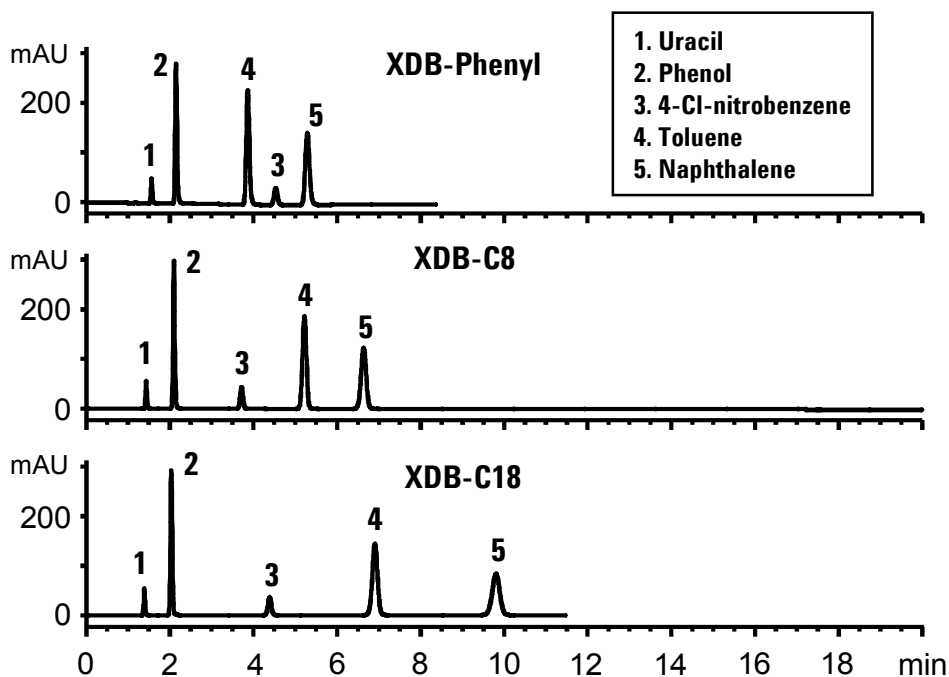




# Selectivity of the ZORBAX Eclipse Series

Application  
Technical  
Robert Ricker

Factors influencing resolution are selectivity ( $\alpha$ ), retention ( $k'$ ), and efficiency ( $N$ ). Here, two of the factors,  $k'$  and  $N$ , are constant. This is because factors that effect  $N$  (flow rate, column length, and particle size) and  $k'$  (mobile phase), are identical in these analyses. The other factor, selectivity, is dependent on mobile and stationary phase. Since mobile phase is the same, differences in resolution and selectivity are solely due to use of different bonded phases. Thus, each column offers distinct selectivity and resolution. Add another tool to the separation-science toolbox.



Conditions: LC: Agilent 1100  
Columns: ZORBAX Eclipse XDB-C18 4.6 x 150 mm (Agilent P/N: 993967-902)  
ZORBAX Eclipse XDB-C8 4.6 x 150 mm (Agilent P/N: 993967-906)  
ZORBAX Eclipse XDB-Phenyl 4.6 x 150 mm (Agilent P/N: 993967-912)  
Mobile Phase: MeOH : H<sub>2</sub>O (70:30)  
UV: 254 nm; Flow: 1.0 mL / min.; Temp: Amb.

## Highlights

- Note differences in resolution and elution order of peaks 3 and 4 depending on the phenyl or alkyl (C8 or C18) bonded phase used.
- Change of bonded phase is a quick method development tool for changing selectivity and resolution.
- ZORBAX Eclipse XDB offers extended column performance in the intermediate pH range.
- ZORBAX Eclipse XDB offers reproducible symmetrical peaks for rugged quantitation.



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