



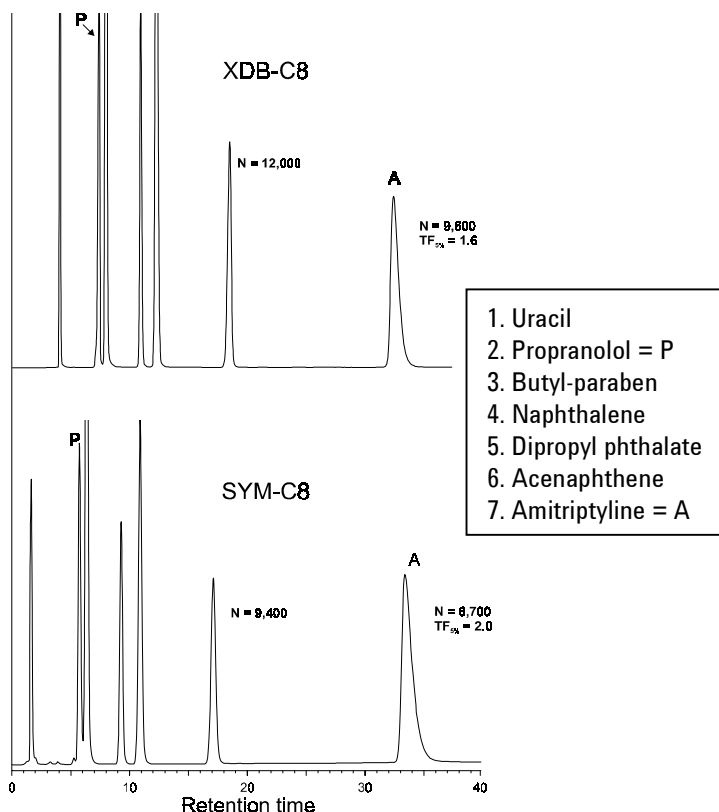
# Effect of eXtra-Dense Bonding and Double End Capping on Peak Shape

Application  
Technical  
Robert Ricker

A variety of HPLC applications now require the mobile phase have a pH 6-8. In this pH range, basic molecules are positively charged and silanols on the column packing ionize to become negatively charged. The attraction between these charges increases tailing of basic compounds in a reversed-phase separation. To achieve the best possible quantitation and resolution of peaks, one should choose columns that minimize this tailing. The chromatograms below show the improved peak shape obtained for neutral and basic (P & A) molecules on a ZORBAX Eclipse™ XDB-C8 and a Symmetry™ C8.

## Highlights

- The Rx silica, eXtra-Dense Bonding and double end capping of Eclipse XDB column packings reduce interaction of basic molecules (P and A) with the packing surface so they chromatograph with good peakshape at neutral pH.
- Eclipse XDB-C8 shows better peak shape than Symmetry C8, even for the strongly basic molecule amitriptyline.



Conditions:  
ZORBAX XDB-C8 (4.6 x 150 mm) (Agilent P/N: 993967-906)  
Mobile Phase: 20mM Potassium Phosphate (pH 7.0): MeOH; 35:65  
Injection 20µL, 1 mL/min, 23°C, Detect. UV(254 nm)



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