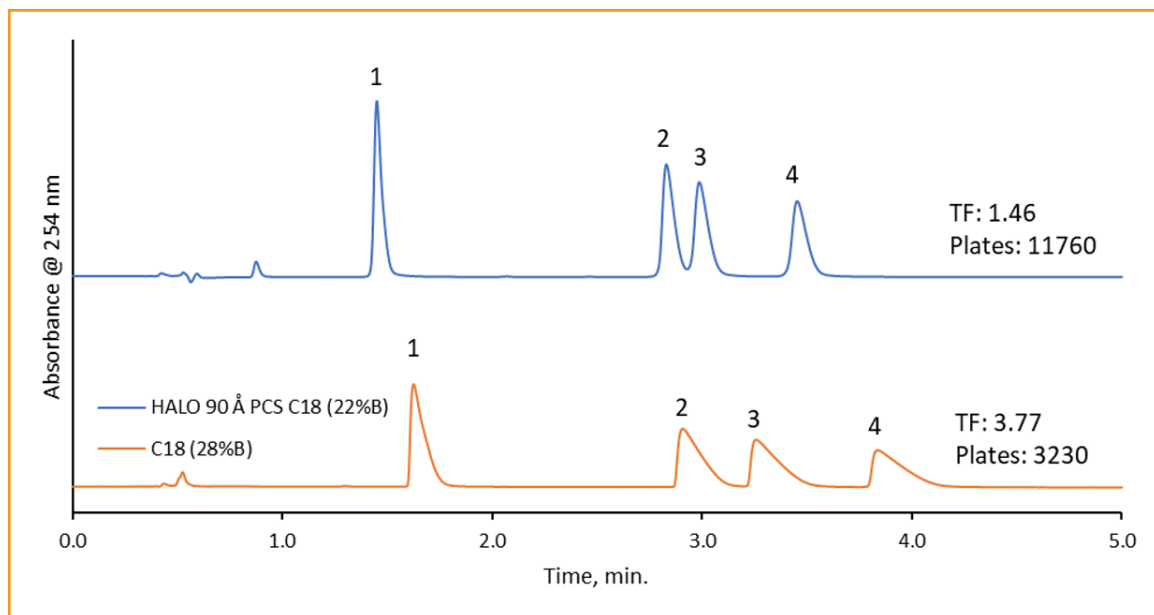




## Separation of Antidepressants Using HALO 90 Å PCS C18 Compared to C18

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### TEST CONDITIONS:

**Column:** HALO 90 Å PCS C18, 2.7 $\mu$ m, 2.1 x 100 mm  
**Part Number:** 92812-617  
**Column:** C18, 2.7  $\mu$ m, 2.1 x 100 mm  
**Mobile Phase A:** Water, 0.1% Formic Acid  
**Mobile Phase B:** Acetonitrile, 0.1% Formic Acid  
**Isocratic:** HALO<sup>®</sup> PCS C18: 22 %B  
                   C18: 28 %B  
**Flow Rate:** 0.4 mL/min  
**Back Pressure:** 242 bar  
**Temperature:** 30 °C  
**Injection:** 0.5  $\mu$ L (31  $\mu$ g)  
**Sample Solvent:** 75/25 Water/ACN  
**Wavelength:** PDA, 254 nm  
**Flow Cell:** 1  $\mu$ L  
**Data Rate:** 40 Hz  
**Response Time:** 0.05 sec.  
**LC System:** Shimadzu Nexera X2

### PEAK IDENTITIES

1. Doxepin
2. Nortriptyline
3. Amitriptyline
4. Trimipramine

Tricyclic antidepressants (TCAs) are considered first generation antidepressants. A mix of four of these antidepressants is separated using the HALO 90 Å PCS C18 column. The positive charged surface (PCS) stationary phase is ideal for basic analytes when using low ionic strength mobile phases such as formic acid. Improved tailing factor and efficiency are observed when compared to a traditional (uncharged) C18 stationary phase.

