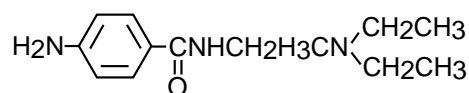
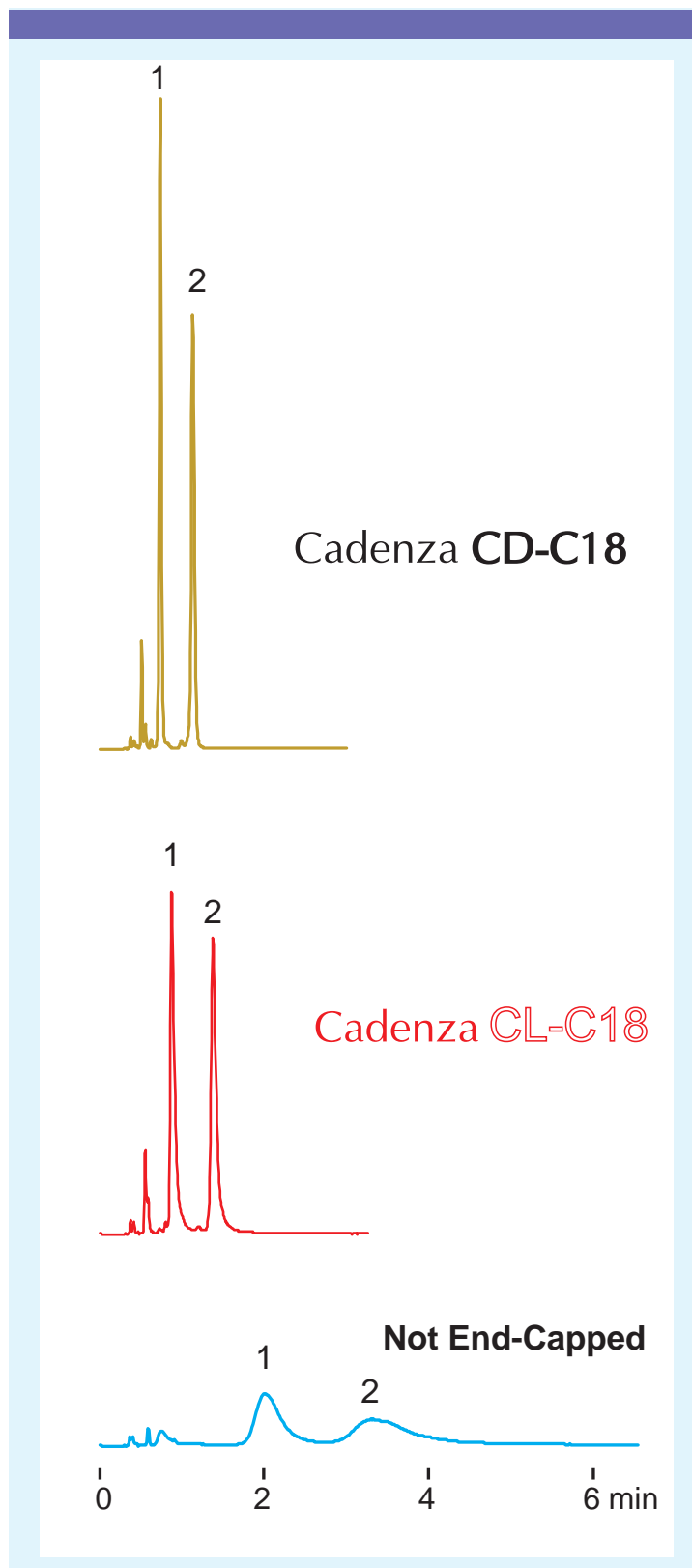


Cadenza CL-C18  
Cadenza CD-C18

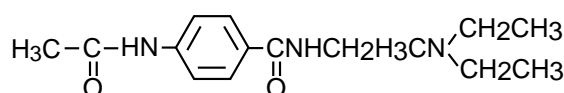
30 x 4.6 mm

Technical

## Separation properties for basic compounds on CL-C18



1. procainamide



2. N-acetylprocainamide

30 x 4.6 mm  
50mM HCOONH<sub>4</sub> /ACN = 90 /10  
1 mL/min, 37 deg.C, 260 nm

Cadenza CL-C18 design concept is to have an optimized amount of residual silanols (as opposed to the fully end-capped CD-C18 column).

Almost all new ODS phases are fully end-capped. In many cases, baseline separation is not possible on such ODS phases. The traditional thought that "silanol is a bad functional group" has led scientists to believe that they should only use fully end-capped ODS phases. However, an ODS phase with residual silanols is useful in that it can offer different selectivity than fully end-capped ODS phase.

The figure shows that the amount of residual silanols on CL-C18 is considerably less than not end-capped phase. This optimized amount of residual silanols allows for better peak shape for basic compounds than not end-capped ODS phase. In addition, retention for the basic compounds is longer on CL-C18 than CD-C18. This design concept provides a balance of peak shape and selectivity due to residual silanols.

An important design concept of CL-C18 is that the base silica, ODS ligand density and first end-capping process is the same as CD-C18. The only difference between these two phases is the amount of residual silanols. So an advantage to using CD-C18 and CL-C18 under the same conditions is to get unknown structural or dissociation information from silanol interaction.