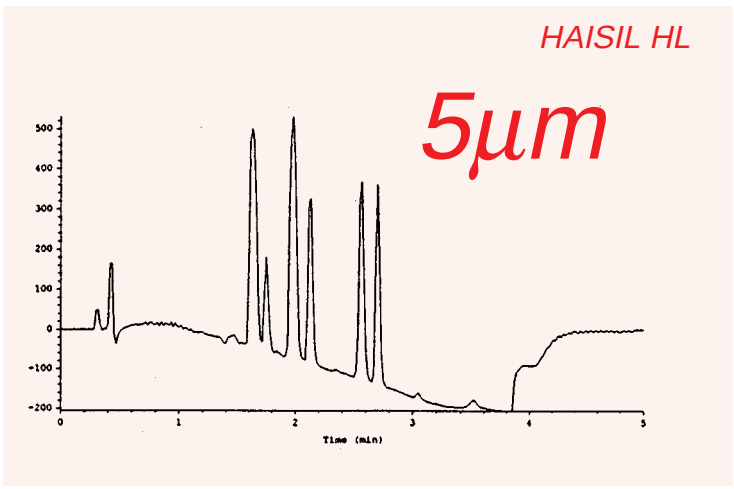
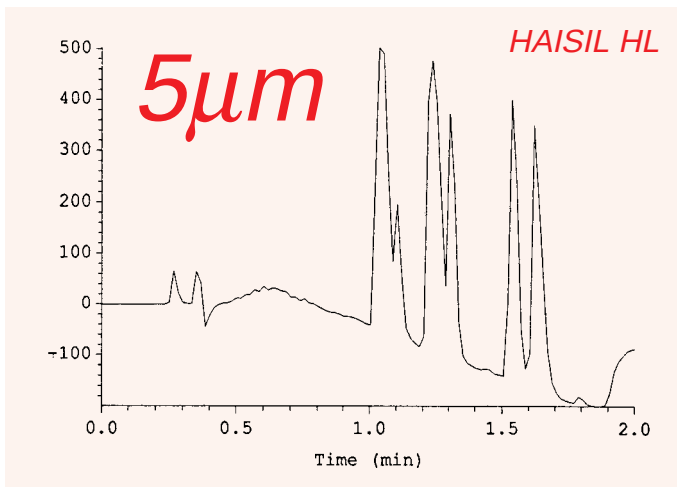
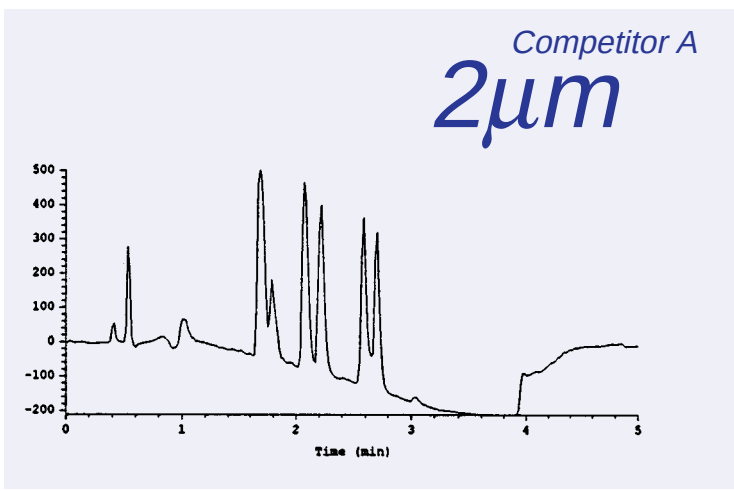
Combinatorial Chemistry
Speed and Selectivity

HAISIL HL

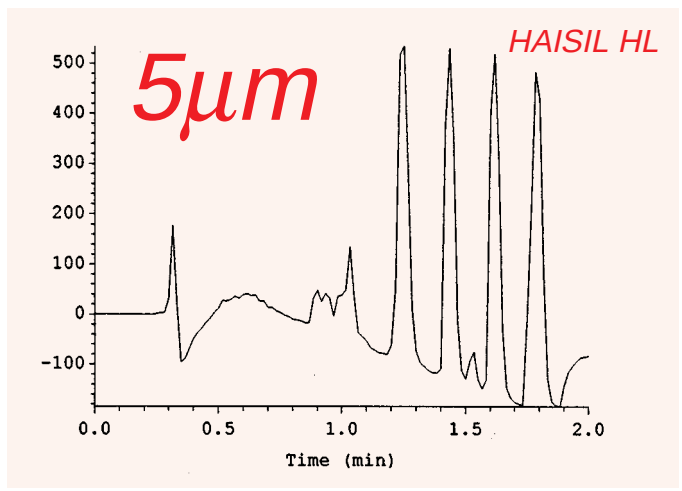




A six component library analyzed with an extremely fast gradient on a HAISIL HL C18 5µm 50x4.6mm column (top) and Competitor A's new 30x4.6mm 2µm column (bottom).



The same six component library shown at the left analyzed on HAISIL HL and two Competitor's 2µm C18 Columns using the same solvent system but a slower gradient.



A four component library analyzed with a fast gradient on a HAISIL HL C18 5µm (top) and Competitor A's new 30x4.6mm 2µm column (bottom).

Combinatorial Chemistry....
Why 2µm columns will not address this new technology's high throughput requirements.

Combinatorial Chemistry is another example of an emerging technology that is going to place new demands on HPLC for speed and assay robustness.

Industry innovators continue to introduce "new" technology HPLC columns based on non-porous and porous particles with 2µm or smaller diameters. There have even been rumblings about columns packed with 1µm particles. Don't hold your breath! The physical constraints of column diameter, particle size, and column length were described over 20 years ago, but we have a penchant for ignoring these teachings as we get swept away by today's marketing enthusiasm.

The following chromatograms illustrate how much more important the roles of selectivity and good column packing technology are in comparison to particle size when it comes to sheer horsepower in HPLC separations.

This important point is illustrated by the analysis of two combinatorial libraries on two manufacturers' 2µm columns and comparing the results of the same analysis on a short HAISIL HL C18 5µm column.

The objective of this study is to resolve the two multicomponent mixtures with a fast gradient in as little as two minutes. In each case the 5µm HAISIL HL C18 column clearly out performed the 2µm alternatives.