Waters
Lab Highlights
An Internal Communication of Applications and Techniques
LAH 0234 3/85
AN/LS/MD/PR/OT

IS THIS WHAT OUR COMPETITORS CONSIDER A REPRODUCIBLE COLUMN?

There are many claims being made by our competitors as to the reproducibility of their columns and that customers should buy their columns because of quality, lifetime or number of theoretical plates. Perhaps the demise of these claims came in June, 1983, with the appearance of a letter on Lichrosorb™ materials used by Brownlee Labs (1).

Clearly, other manufacturers have big problems in controlling quality. To emphasize this point and to make a more dramatic illustration, we have further evidence of poor reproducibility of another one of our competitors' columns. Although there are only two columns and may not be representative of all of their columns, differences in the chemistry are evident.

FIGURE 1

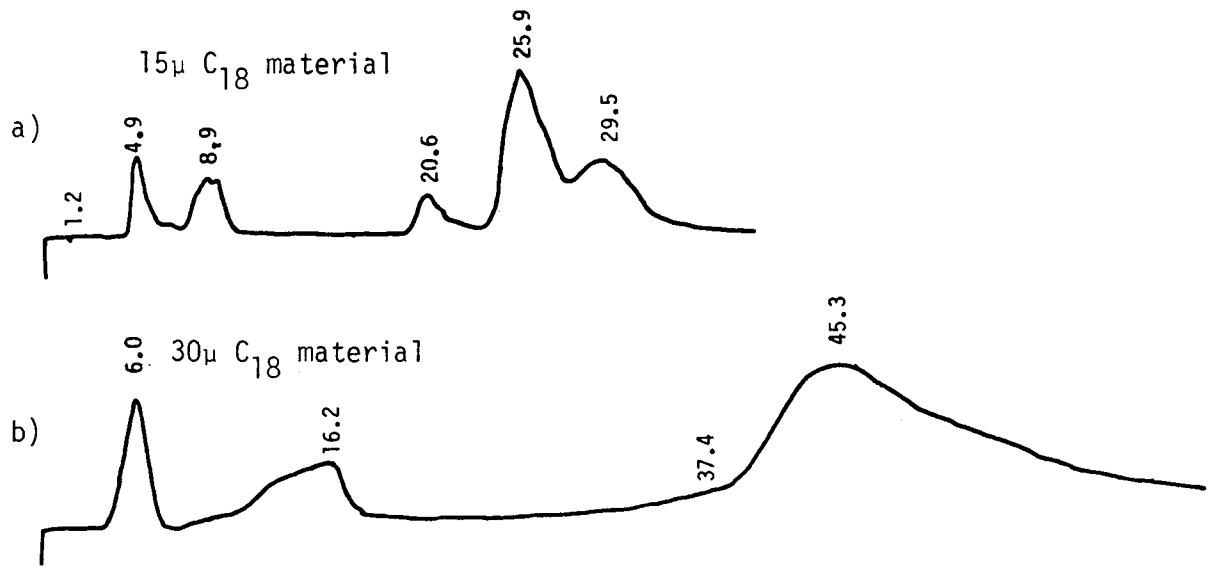

Figure 1a illustrates a group of peptides separated, on a 15 micron C_{18} material. Figure 1b shows the same group of peptides separated on 30 micron C_{18} material. Some band broadening would be expected in Figure 1b because of the larger particle size. However, we would expect the chromatograms to have, at least, a similar profile.

Waters
Division of MILLIPORE 34 Maple St. / Milford, MA 01757 / 617-478-2000
Carmen Santasania

At Waters, insuring column reproducibility is of the utmost concern. A large number of quality control checks are done on our columns (e.g. μBONDAPAK™ C_{18} involves over 40 quality checks). Other factors which indicate our commitment to column quality and reproducibility include our having the packing material (μBONDAPAK™ C_{18}) which is the most widely used and published packing material in the world. Also, our efficiency testing, using the 5 sigma method, is the most sensitive to peak asymmetry and hence poor performance.

Finally, if we do have a problem with column performance or reproducibility, we are ready with our technical and applications knowledge to solve a problem which may arise so that Waters customers will not need to be confronted with chromatograms obtained like those shown above.

1. Waters Lab Highlight LAH 0132, 10/83.