Senior Field Application Scientist Scott Krepich answers your questions on UHPLC column selection and shares industry-specific tips

In this free webinar, Scott Krepich, Senior Field Application Scientist, Phenomenex Inc., gave an informative presentation on column selection for UHPLC and shared industry-specific tips on method screening and development.

Read on for highlights of the Q&A session with Scott, or if you missed it, watch the webinar on-demand.

Q: When would you suggest using Core-Shell versus fully porous HPLC columns?

A: My go-to is the Core-Shell, as it gives the highest efficiency. Exceptions would be when I need a high retention, due to factors such as strong solvent effects, large volume injection or inability to get good retention on the Core-Shell column despite decreasing the mobile phase strength. Another time I would learn towards Core-Shell over fully porous columns is when I want to use methanol as the organic modifier, which gives a more viscous mobile phase. However, porous columns will have an advantage in loading capacity, as well as when you have very polar compounds which aren't retained when using the Core-Shell.

Q: What type of back pressures do you typically encounter when using Core-Shell

HPLC columns?

A: You'd get the same back pressure as a fully porous column with the same particle diameter. Back pressure is inversely proportional to the square of the particle size, so, whether it's a Core-Shell or fully porous, the parameters which contribute to back pressure will be: the particle size, flow rate and internal diameter (linear velocity), and the viscosity of the mobile phase. Therefore, it's the particle diameter, rather than the particle morphology, which contributes to back pressure.

Q: I've just purchased a Waters ACQUITY UPLC System. Are the Kinetex and Luna Omega UHPLC columns compatible with this system and how do I set these columns up on this system?

A: Yes, the Kinetex and Luna Omega columns are completely compatible with ACQUITY systems. The only consideration when setting up these columns on the system is the port gaps. However, the port gaps in the inlets and outlets for UHPLC are very similar and about the same. If you use the stainless-steel fittings you're going to want to marry them to each individual column; but this is the case whether it's a Phenomenex column or a Waters column. When they have this standard fitting with the floating ferrule, they are universal for all columns.

Watch the full webinar on-demand, or learn more about Phenomenex columns.

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