SEMINAR: HIGH PERFORMANCE - HOW TO GET THE MOST OUT OF YOUR LC OR GPC INSTRUMENT

The Measure of Confidence

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A FREE seminar designed to get the highest performance from your LC or GPC instrument.

Our technical experts will provide you with the valuable tools needed to accelerate your instrument towards unmatched performance and productivity. This seminar is designed to give you real-world knowledge that you can apply immediately in your lab.

Register today at agilent.com/chem/HiPerf

You won't want to miss this excellent opportunity and space is limited.

Date and Location

Tuesday, September 10, 2013
Courtyard Marriott in Sherman Oaks,
15433 Ventura Blvd
Sherman Oaks, CA 91403
(818) 981-5400

Agilent Technologies

Getting the Most out of your LC or GPC Instrument and Columns!

Join us as Agilent technical experts provide you with valuable tools on how to speed up your analysis and maximize your resolution with your LC or GPC. Whether or not you have an Agilent instrument, this seminar is designed to get you the highest performance from your system.

Registration is free but seating is limited. To guarantee your spot, register today at **www.agilent.com/chem/HiPerf**

Agenda Morning Session 8:30 am – 12:30

8:30 – 9:00 am	Registration and Continental Breakfast
9:00 – 10:00 am	The One Minute Chromatographer
10:00 – 10:15 am	Break
10:15 – 11:15 am	Controlling the Big Bang LC Separation in UHPLC
11:15 – 11:30 am	Break
11:30 am – 12:30 pm	Gel Permeation Chromatography Basics and Beyond

Agenda Afternoon Session 12:30 pm – 4:00 pm

12:30 – 1:30 pm	Complimentary Lunch and Networking
1:00 – 1:30 pm	Registration for Afternoon Session
1:30 – 2:30 pm	Biomolecule Principles, Applications and Products
2:00 – 2:15 pm	Break
2:30 – 3:30 pm	Achieving Superior GPC Results Through the Correct Column Selection
3:30 – 4:00 pm	Q & A Session

Abstracts

The One Minute Chromatographer

The current demanding laboratory environment is requiring everyone to produce more, faster with fewer resources. UHPLC instrumentation and column chemistries is one tool that the chromatographer can utilize to meet needs, however UHPLC does have some drawbacks. Not all laboratories can be equipped with expensive UHPLC instrumentation and in some applications, UHPLC column clogging is an often cited issue. Perhaps most important, many chromatographers work with partners that do not have access to UHPLC and thus need to convert UHPLC methods to HPLC while still maintaining required resolution and speed. Poroshell, Agilent Technologies proprietary superficially porous column technology can solve these issues. Poroshell technology provides a cost effective alternative tool enabling rapid chromatography on HPLC instrumentation. We will discuss how Agilent's patented production process provides multiple column chemistries that provide lot-to-lot reproducibility and robustness. Examples of conversion from UHPLC to Poroshell HPLC to allow your partner laboratories the ability to perform required analyses on existing HPLC instrumentation will be highlighted.

Controlling the Big Bang LC Separation in UHPLC

The process of sample introduction in UHPLC seems simple enough-a dissolved sample is transferred into the LC, the sample separates in the ultra-high efficiency column and flows to the detector in record time. Simple. Not really-it is more like controlled chaos. Bang! The sample is met with a fast moving flow of mobile phase that may or may not be compatible with your sample solvent. The sample molecules are chaotically diluted by the mobile phase before it reaches the column. The sample slams into the column inlet and needs to be in a tight band as the separation starts on impact with the column bed. It leaves the column in discrete bands which again suffer dilution effects before it reaches the detector - all in less than 10 minutes. From the moment of injection to the final detection, the volume in the system, and how you control it, has serious effects on the quality of the chromatographic peak and data generated. This presentation deals with these injection and volume effects, what you need to know for better control and making the best use of your UHPLC instrument. You will learn how to properly scale UHPLC conditions, set efficient injection volume and concentration, optimize the injection process, minimize the extra-column volume in the system, and set optimum data collection parameters to produce the best chromatography using the new generation of UHPLC columns.

Biocolumn Principles, Applications and Products

In order for a biomolecule to be considered by the FDA as a therapeutic molecule, biopharmaceutical companies have to prove efficacy, stability, and safety. HPLC methods are an important technique used to prove these biomolecules are stable and the degradation products and impurities found in their drug formulations are safe. The three most commonly used bioanalytical HPLC columns are size exclusion (SEC), ion-exchange (IEX), and reversed-phase (RP)

In this presentation, we will look at new SEC, IEX, and RP biocolumns designed to improve resolution, speed, and reproducibility; the mechanism of these separation techniques; how to optimize conditions for the best resolution in the least amount of time; and an overview of typical biocolumn applications, such as aggregation analysis by SEC, charge variant analysis using IEX, peptide mapping, and analysis of intact proteins by RP.

We will explore:

- Improved resolution with size-exclusion separations utilizing Bio-SEC 3 µm particles
- Fast SEC using Bio-SEC columns for aggregation analysis under 5 minutes
- Improved resolution for weak and strong ion exchange using Bio-IEX 5, 3, and 1.7 µm particles
- 1.8 µm 300 Å Agilent ZORBAX Stablebond 1200 bar RP columns for maximum efficiency and speed on UHPLC systems and selectivity advantages from four bonded phases
- More efficient mass transfer and sharper peaks for large molecules, such as proteins, on superficially porous Poroshell 300 particles when using standard HPLC systems
- Benefits of pH/temperature stability and larger 1000 Å and 4000 Å pore sizes available on our polymeric PLRPS reversed-phase columns

Abstracts

Achieving Superior GPC Results Through Column Selection

The technique of Gel Permeation Chromatography is conceptually simple: It is a separation based on size where no enthalpic interactions are observed. In Practice, GPC is often much more involved yielding involved method development and data that can be difficult to interpret. Though GPC can seem mystifying at times, 90% of success is achieved by using the proper columns for your application. During this seminar we will discuss what is new in GPC column technology, different types of stationary phases and how to choosing the best columns can yield:

1. Improved resolution
2. Improved reproducibility
3. Improved accuracy
4. Improved analysis time

The goal of the seminar is to illustrate how proper GPC column selection can make the difference between good and great chromatography.

GPC Basics and Beyond

GPC/SEC, Gel Permeation Chromatography or Size Exclusion Chromatography, is a non-interactive chromatographic technique that separates analytes based on their size in solution. It is often used in laboratories for determination of a polymers' molecular weight distribution but has many other uses.

In this talk we will:

- Review GPC theory
- Discuss why molecular weight distribution is important
- Cover key column selection criteria
- Look at examples of common mistakes and pitfalls relating to solvent choice, calibration standards
- Show how key parameters like concentration, flow rate, and injection volume can affect your separation
- Speak about maximizing data significance by using advanced detection methods