# Waters<sup>®</sup> Alliance<sup>™</sup> LC/MS System



#### Instrument Design

Alliance HT

Analytical Conditions

Parallel Processing

## Key Words:

High Throughput, Waters Alliance HT , Symmetry columns, software control, cycle time LC/MS Methods Development: Faster Gradient Chromatography by Optimizing the Instrumentation and Software (Part 2) Jeanne B. Li, Waters Corporation, Milford, MA USA

## Why is faster gradient chromatography required?

- High throughput applications screening combinatorial libraries
- Shorter chromatographic run times
- More samples per day, per week
- More efficient laboratory

**Result** is

cycle time

(3 cycles)

faster

#### How can this be accomplished?

- Optimize the HPLC gradient system the *new* Waters Alliance HT<sup>™</sup>
- Improved software for control of the HPLC system



**Optimization of the HPLC system** is required for fast gradient chromatography. The HPLC design includes minimal system volume, accurate and reproducible solvent composition, smooth solvent delivery at flow rates compatible with LC/MS. Even greater benefits were obtained from new software development in **Waters Alliance HT System** that permit **parallel processing** of samples, where some functions occur simultaneously. Definitions: Delay = gradient delay, draw = drawing up of sample, load = fill injector loop. Each group of peaks and the diagram represent one complete cycle. The cycle time decreases and throughput increases with each advanced successive software function. Two-minute cycle times are now achievable with the push of a few buttons.

