

# QuickSplit™ Makeup-Flow Splitters

## for Mass Directed Fraction Collection

### Adjustable Makeup-Flow Splitter Performance

The chromatographic data below compares the dispersion (band broadening), measured as variance, at 10  $\mu\text{L}/\text{min}$ . between an ideal system with direct flow (**Figure below left**) and a split system incorporating the *ASI QuickSplit* Adjustable Makeup-Flow Splitter (**Figure below right**). Split flow variance is measured with and without the addition of a small amount of makeup flow. The data proves conclusively that *ASI* splitter dead volume does not contribute significantly to overall system dispersion. It also demonstrates the advantages of adding a makeup flow not only to improve peak shape but acts as an additional tool to optimize the timing sequence between Mass Spectrometer detector and the fraction collector.

#### Conditions:

HPLC System: Shimadzu LC10 AD VP  
Detector: UV @254 on column  
Solvent: Water  
Injection vol: direct 600 nL, split 135  $\mu\text{L}$

#### Variance Calculation:

$$\text{Variance} = \text{Sigma}^2 = (\text{Wh} \times \text{F})^2 = \mu\text{L}^2$$

Wh = Peak width at half height

F = Flow rate

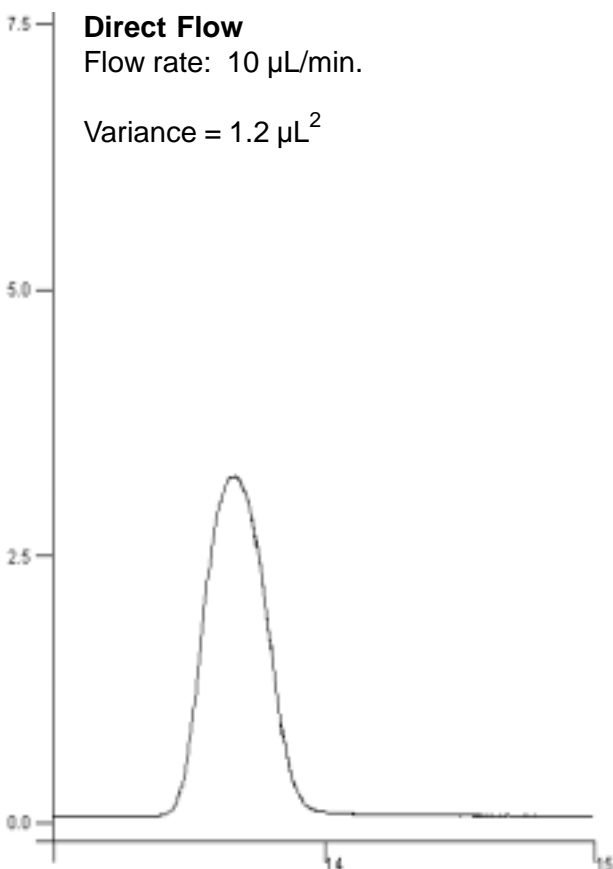


Figure left

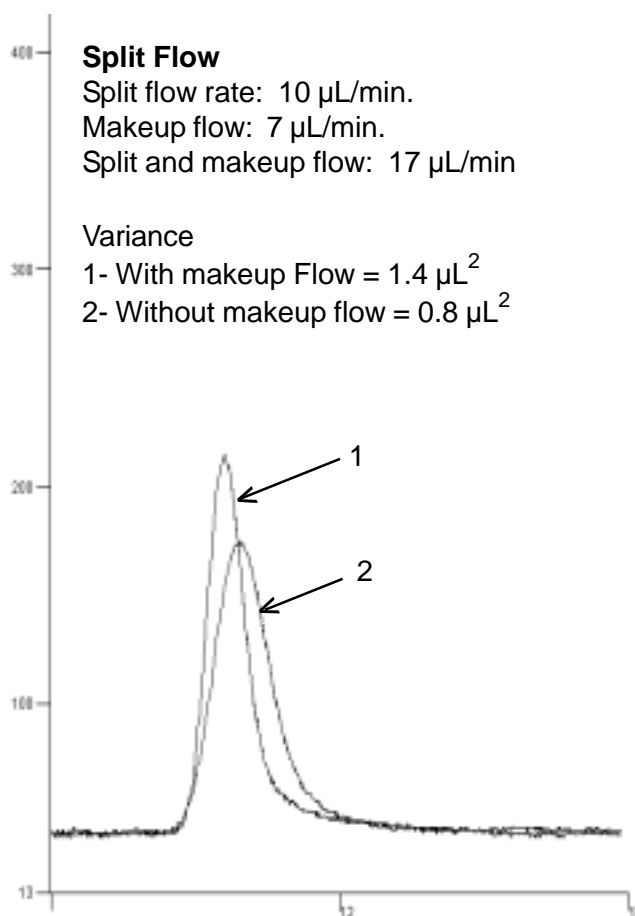


Figure right