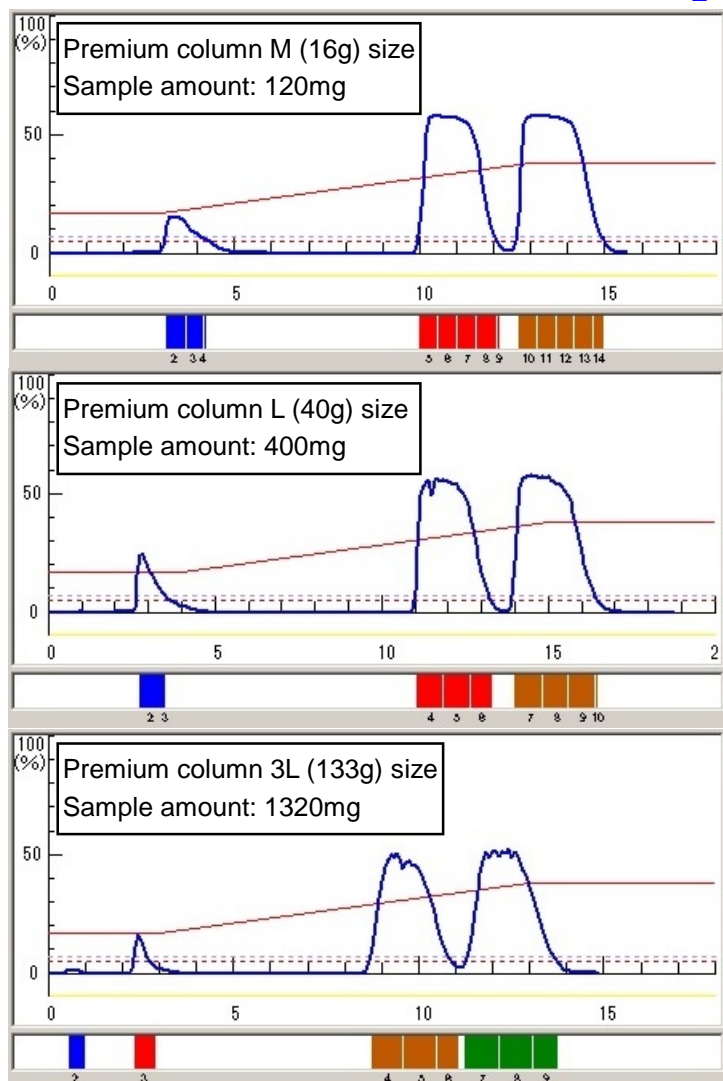
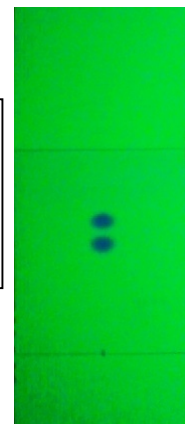


## Smart Chromatography

# Good sample separations can be consistently achieved.



Resolution ( $R_s$ ) and elution position of separation stays the same regardless of column size and flow rate.



Samples and stationary phase always interact in the same manner per each column volume regardless of sample, column size and flow rate.



Determine  $N$  (theoretical plate number).  
Determine sample loading amount.

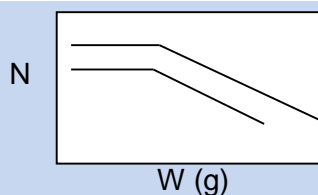
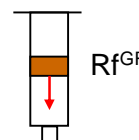
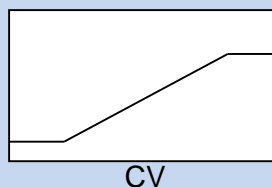
**The same resolution ( $R_s$ ) in sample separation can be achieved regardless of column size.**

A sample always moves in the same manner in a column by the gradient calculated and developed by Yamazen's proprietary equation.

**This is the sample run carried out by Yamazen's proprietary Sample-Movement-Control (SMC) equation.**

### Samples are always eluted at a same position.

The gradient is developed based on the equivalent  $R_f$  converted from solvent strength and column volume (CV). Thus, samples runs are always carried out under the same elution method. Samples move along the same elution path calculated by the SMC equation, assuring good sample separations at a consistent resolution. Sample load calculation gives the maximum sample load for any selected column prior to run for the convenience of the chemist.



Elution position (CV):

$$\int_0^X R_f^{GR} \cdot dCV = 1$$

$$X = XE \cdot CV$$