



## The **SiChrom<sup>™</sup>** Accelerated Liquid Chromatograph System

### **Onyx<sup>™</sup> Advantages & Benefits: Monolithic vs. Particle-Based Structure**

Until recently, HPLC columns have been made of particle-based materials, usually silica. By their very nature, small particles, when packed tightly into an HPLC column, create a significant resistance to the flow of the solvent/sample mixture along with other limitations highlighted below.

#### **Traditional Silica "Particle-Based" Column**

- **Individual silica particles**
- **High flow resistance:**  
Limits ability to shorten run times
- **High backpressure:**  
Reduces life of pumps, seals, and column
- **Reduced throughput:**  
Long run times
- **Bed splitting and voiding possible:**  
Shortens column life and affects reproducibility, lowers efficiency

#### **Onyx<sup>™</sup> "Monolithic" Column**

- **Monolithic porous silica rod**
- **High flow rates:**  
Due to high porosity
- **Low backpressures:**  
Less stress on system and column
- **Increased throughput:**  
Significantly shorter run times

- **No inlet bed settling:**  
Increased reliability, reproducibility, and lifetime, maintains efficiency

**Note: FIAlab Instruments is not affiliated with [Phenomenex](#).**  
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