NEW ChromLine

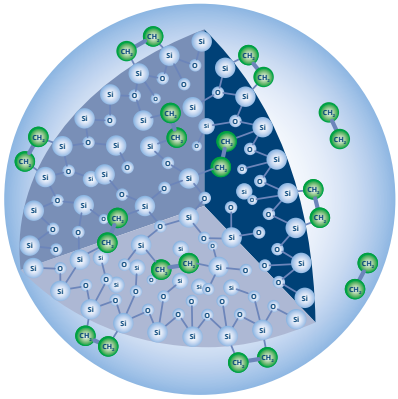
Astra® Hybrid
ChromLine

Smarter Silica for Advanced Performance

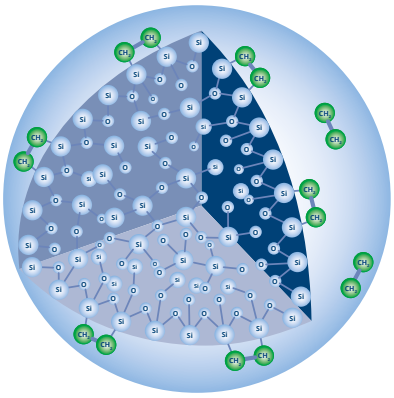
Hybrid Silica – Where Nature Meets Innovation

Hybrid silica fuses the robustness of inorganic silica with the versatility of organic chemistry, creating a material engineered for superior performance. With enhanced durability and refined surface functionality, hybrid silica enables smarter, longer-lasting solutions across advanced industrial and technological applications.

High density end-capping together with **fully hybrid particles** synthetised from scratch deliver superior high alkaline durability compared to partially hybrid solutions.



ASTRA® fully hybrid phase



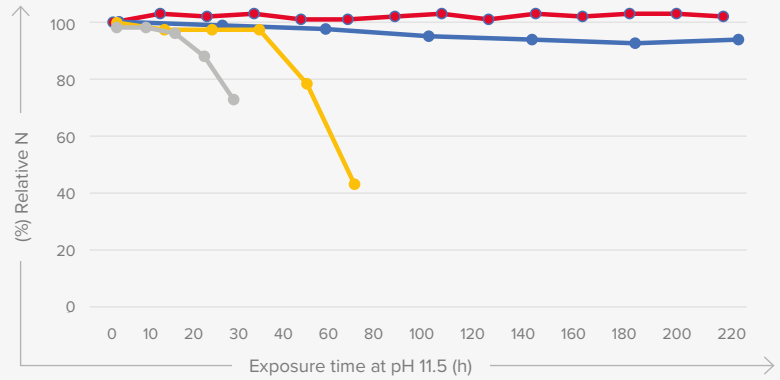
Competitive partially hybrid phase

KEY BENEFITS

- Fully hybrid particles for a wide **pH range from 1 to 12**
- C18 with **improved selectivity** for basic compounds
- **Narrow peaks at low pH** – significant reduction in acid hydrolysis of the C18 ligand
- Enhanced method development **flexibility**
- Double end-capping with unique **surface treatment for superior** peak shape
- **Stability in 100%** aqueous mobile phase, even at elevated pH

Comparison of durability of hybrid columns at pH 11.5

Astra C18-Hybrid maintains performance under pH 11.5 stress, while partially hybrid columns degrade much earlier.



Astra C18-Hybrid	
Competitor A (fully hybrid)	
Competitor B (partially hybrid)	
Competitor C (partially hybrid)	
Column dimension	*150 × 4.6 mm*
Mobile phase	*Methanol/50 mM Potassium phosphate pH 11.5 = 10/90*
Flow rate	*1.0 mL/min, Temperature: 40 °C*

Astra C18-Hybrid specification

Particle size (µm)	Pore size (Å)	Surface area (m^2/g)	Carbon load	pH stability	Endcapping	100% Aqueous Mobile phase	USP code
3, 5	150	185	16 %	1 to 12	Proprietary	✓	L1

Ordering information

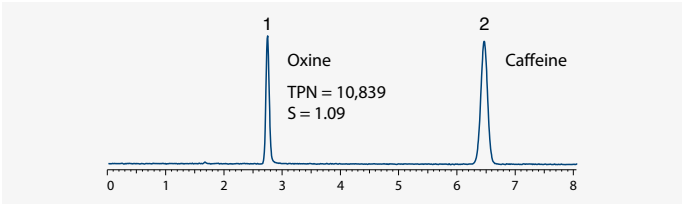
Phase	Particle size	50 × 4.6 mm	150 × 4.6 mm	250 × 4.6 mm
C18-Hybrid	5 µm	AST-6016-LG46	AST-6016-LK46	AST-6016-LM46
C18-Hybrid	3 µm	coming soon	AST-6016-IK46	coming soon

Additional dimensions available on request.

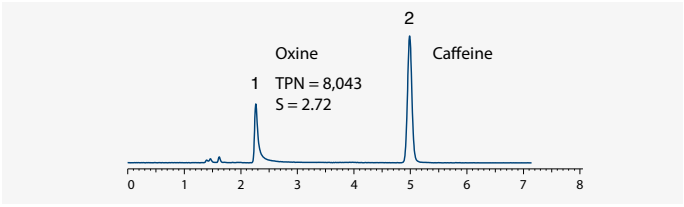
Comparison of various hybrid columns at chelating compounds separation

Chromatograms show excellent separation on Astra C18-Hybrid column compare to fully hybrid and partialy hybrid particles. Astra C18-Hybrid shows better performance even to 1.7 µm column.

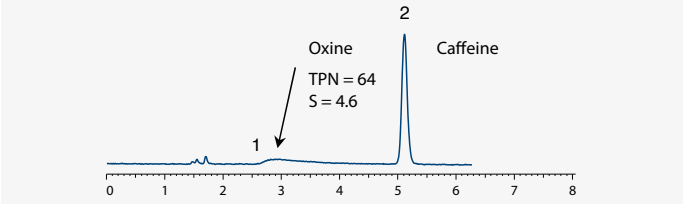
Astra C18-Hybrid 5 µm



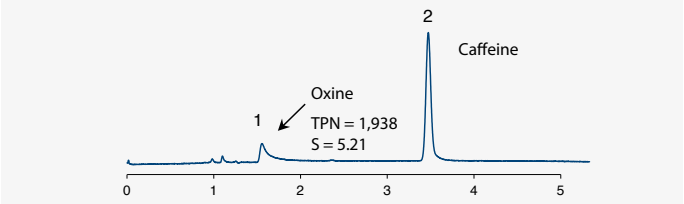
Competitor A 3.5 µm

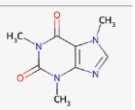


Competitor B 5 µm



Competitor C 1.7 µm



Column dimensions	*150 × 4.6 mm for 3.5 and 5 µm, 100 × 2.1 mm for 1.7 µm*	*Analytes*	*1 = Oxine (CAS 148-24-3)* 
Mobile phase	*Acetonitrile/20 mM Phosphoric acid = 10/90*		*2 = Caffeine (CAS 58-08-2)* 
Flow rate	*1.0 mL/min for 3.5 and 5 µm, 0.2 mL/min for 1.7 µm*		
Temperature	*40 °C*		
Detection	*UV @250 nm*		

ChromLine
The premium product brand of Chromservis s.r.o.
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