

Ultra-high resolution MicroLC Columns

Unprecedented resolution and sensitivity approach nanoLC

Stainless steel capillary (0.1-0.3 mm i.d.) columns

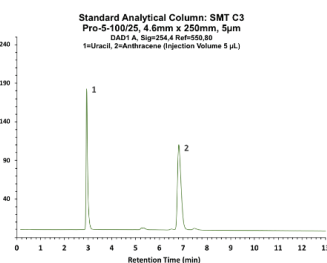
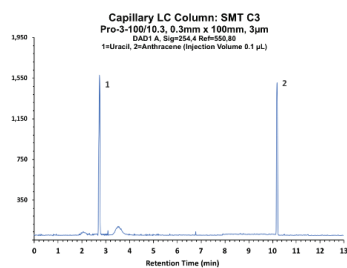
Flow rates between 5-100 uL/min at conventional LC pressure

- Peaks with plate counts over 1 million
- Many phases available including HILIC (amide, bare silica), C18, C3, C4, C8, etc.- Advanced SAM technology by SMT
- Particle sizes from sub-2 µm to 5 µm
- 100% end-capped
- Withstand high temperatures to 90° C
- Three carbon loadings from high to low: OD, Pro and ODL to optimize selectivity for applications in proteomics, metabolomics, lipidomics, environmental, drug discovery, etc.



Model number: PST-uLC-um-cm-A-phase-pore-i.d.-OD/Pro/ODL, µm = 1.7, 1.9, 3, 4, 5; cm = 10 or 20 cm in length, A= 100-120 Å for small molecules and peptides, 300 Å for large proteins, i.d. = 0.3 standard - other i.d.'s < 1 mm available

For example: PST-uLC-3-10-Amide-120-0.3 is a HILIC amide column packed with 3 µm particles with 120 angstrom pores, 0.3 mm i.d., and 10 cm long. HILIC columns do not have a carbon loading index. Please contact us for questions.



0.3 mm uLC column vs. 4.6 mm column

Sample size	0.1 uL	5 uL
UV Sensitivity	1550	190
Anthracene peak plate count	>2 million	~10K

Table 1: Column Performance: Standard Analytical vs Capillary Column

Capillary Column Suitability Test						
SMT-C3, Pro-3-100/10.3, 0.3mm x 100mm, 3µm						
Sample	Flow rate (ml/min)	Retention time (min)	Resolution (R)	Selectivity	Symmetry	N (column efficiency)
Uracil	0.10	2.74	-	-	0.78	72806
Anthracene	0.10	10.18	2E+02	3.70	1.14	2243342

Standard Analytical Column Suitability Test						
SMT-C3, Pro-5-100/25, 4.6mm x 250mm, 5µm						
Sample	Flow rate (ml/min)	Retention time (min)	Resolution (R)	Selectivity	Symmetry	N (column efficiency)
Uracil	1.00	2.95	-	-	0.75	12185
Anthracene	1.00	6.82	20.09	2.31	0.79	9624

Performance (UV) comparison between the PST-uLC column and a conventional 4.6 mm i.d. column at a flow rate of 100 uL/min. The separation of uracil and anthracene was performed isocratically with a buffer of 30%/70% water.

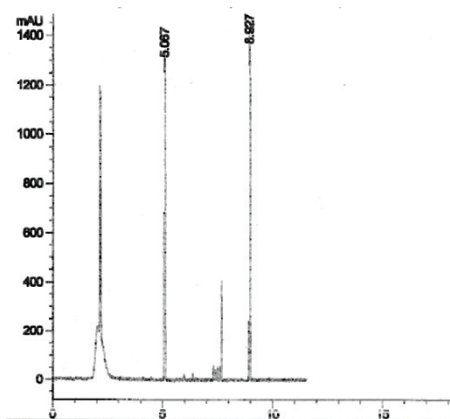
We thank SMT, SMT, our column packing partner, for sharing these data.

Ordering Information:
(610) 876.6081 info@phoenix-st.com www.phoenix-st.com

Ultra-high resolution MicroLC Columns

Unprecedented resolution and sensitivity approach nanoLC and GC at a flow rate of 100 $\mu\text{L}/\text{min}$ without a μHPLC

HILIC (Amide), 3 μm



Typical test date with UV detection

- Isocratic (30% ACN/70% Water)
- Peak 1: Uracil
- Peak 2: Anthracene
- Extremely narrow peaks: 1-3 seconds
- 10x sensitivity of conventional 4.6 mm column
- Conventional LC run pressures indicate extremely well-ordered packing

C18, OD (high carbon loading, ~24%), 3 μm

