

Method Application Note

EVUSEP



Key parameters

**Method:**

22.4 minutes MS acquisition time
24.0 minutes cycle time

**Flow:**

2.4 $\mu\text{L}/\text{min}$ equilibration flow
0.6 $\mu\text{L}/\text{min}$ gradient flow

**Column:**

EV1109 Evosep Performance
column, heated to 40 $^{\circ}\text{C}$

1. Get started with 60 SPD

This application note outlines key parameters such as expected high-pressure (HP) pump pressure, a gradient representation, chromatographic performance, and method reproducibility for the Evosep Eno 60 SPD method. Furthermore, it details specified columns and emitters, as well as source specific recommended heating solutions. The application note is intended as a reference for the expected chromatographic performance, which collectively serve as the foundation for downstream data processing and results.

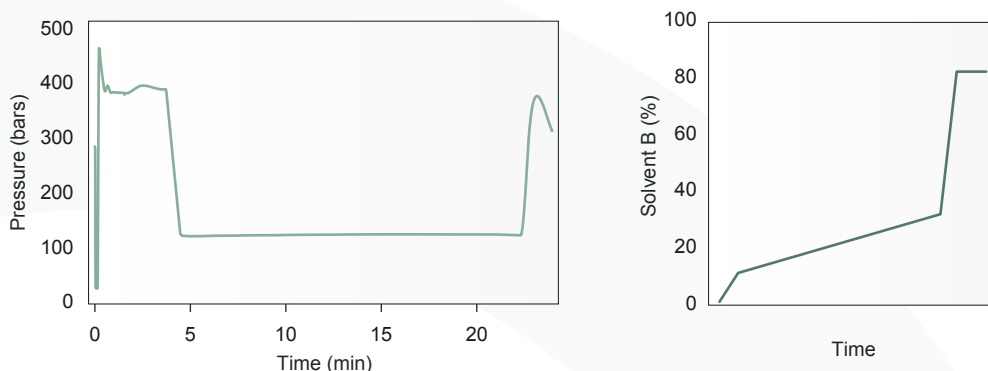


Figure 1: Pump HP pressure profile and gradient representation of the 60 SPD method.

2. Chromatographic elution

The performance of the standardized method is assessed from 50 ng tryptic HeLa digest (Pierce). Total ion current (TIC) and base peak chromato-

grams (BPC) are monitored and a set of diagnostic peptides are extracted to benchmark expected retention times and peak performance.

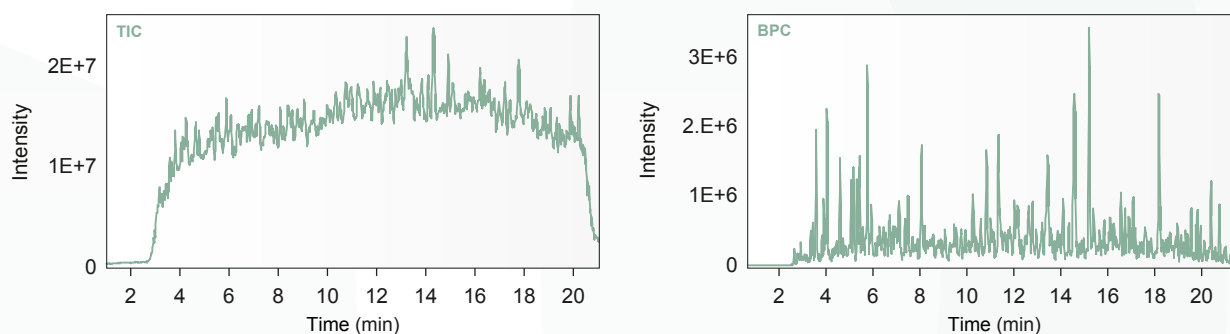


Figure 2: Zoom in on TIC and BPC of 50 ng peptide using the EV1109 column on a timsTOF Pro 2.

3. Consistent chromatography

A 50 ng HeLa sample was measured on three different Evosep Eno systems and associated EV1109 columns. Five diagnostic peptides spanning the gradient were extracted and the

full width at half maximum (FWHM) for each peak was calculated using the Skyline software. Additionally, the retention time reproducibility was calculated based on 15 injections.

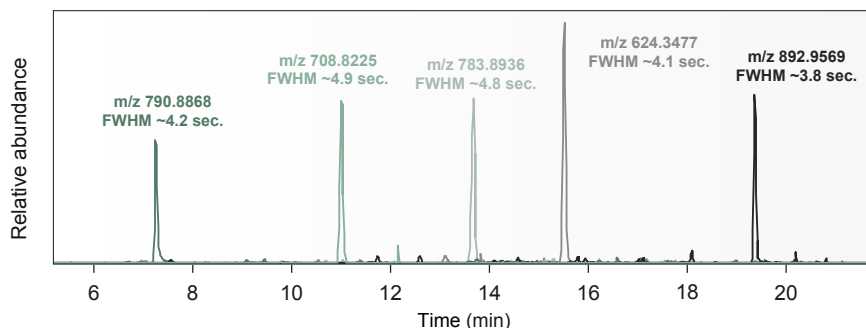


Figure 3: Extracted ion chromatograms and FWHM of selected peptides.

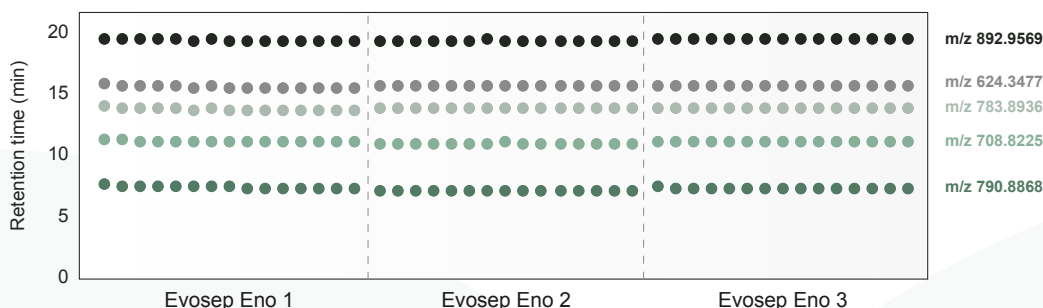


Figure 4: Retention time reproducibility of selected peptides across three different Eno instruments and columns, 50 ng HeLa (n=15).

4. Emitters and column heating

Table 1: Overview of MS connections and column ovens to use with the EV1109 column.

Source	Details	
Agilent Nanospray	Emitter:	Stainless steel emitters XL, ID 30 µm (EV1117, Evosep)
	Column oven:	Evosep Pod for Agilent Nanospray (EV1191, Evosep)
Bruker CaptiveSpray series	Emitter:	Captive Spray 2 Emitter, 20 µm ID (1811107, Bruker)
	Column oven:	Column Toaster (Bruker)
SCIEX OptiFlow Turbo V	Emitter:	SteadySpray Electrode Low micro 1-10 µl/min (5061574, SCIEX)
	Column oven:	Micro column heater (SCIEX)
Thermo Scientific EASY-Spray	Emitter:	Stainless steel emitters, ID 30 µm (EV1086, Evosep)
	Column oven:	Evosep Pod for Thermo EasySpray (EV1187, Evosep)
Thermo Scientific Nanospray	Emitter:	Stainless steel emitters, ID 30 µm (EV1086, Evosep)
	Column oven:	Evosep Pod for Thermo Nanospray Flex (EV1194, Evosep)
Waters	Emitter:	Stainless steel emitters, ID 30 µm (EV1086, Evosep)
	Column oven:	Evosep Pod for Waters NanoLockSpray (EV1189, Evosep)

Evosep Eno is for General Laboratory Use.