

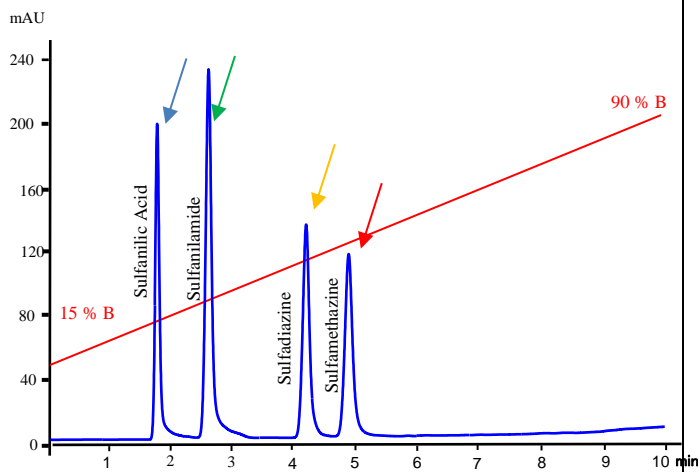
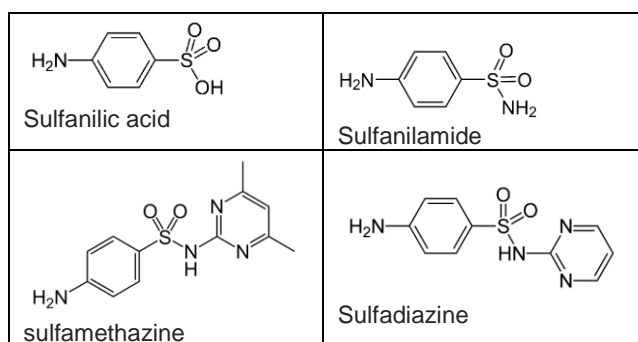
APPLICATION NOTE

STYROS® 2R Simulated-Monolith™ Polymeric Reversed Phase.

Use of Narrow Bore column of 2.1 mm ID using high and low pH's to separate Sulfa drugs and precursor.

The use of polymeric at all pH's is an added advantage for the end user to explore better separations while keeping in mind the compatibility of the solvents' additives with mass spectrometers. The present series of application notes highlight such advantage using Sulfa drugs in acidic and basic pH's with smaller bore columns.

4 small molecules were separated on reversed phase Simulated-Monolith™ of 2.1 x 150 mm column:



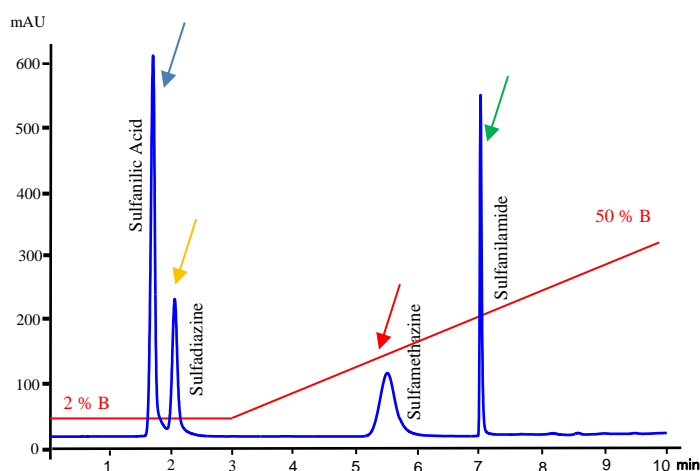
Chromatogram 1
Separation of 4 Sulfa drug on **STYROS® 2R/NB**
Flow Rate: 0.2 ml/min at acidic pH.

Operating parameters.

HPLC System.	Agilent 1290 with thermostatted column compartment.
Columns	STYROS® 2R/NB 2.1 X 150 mm
Mobile phase.	A: 0.075% TFA in H2O B: 0.075% TFA in ACN: H2O 95:5
Flow rate	0.2 ml/min.
Gradient	15 to 90 % B in 10 minutes (~5 cv)
Temperature	60°C
Detection	254 nm

Injection volume	1 µl
Pressure Drop	44 bar (~640 psi) at the start of gradient
Sample:	4 Sulfa drug and precursor acid

The elution changes at pH basic:



Chromatogram 2
Separation of 4 Sulfa drug on **STYROS® 2R/NB**
Flow Rate: 0.2 ml/min at basic pH.

Operating parameters.

HPLC System.	Agilent 1290 with thermostatted column compartment.
Columns	STYROS® 2R/NB 2.1 X 150 mm
Mobile phase.	A: 20 mM NH4OH in H2O, B: ACN: A 95:5
Flow rate	0.2 ml/min.
Gradient	2 % B for 3 min, to 50 % B in 10 minutes (~5 cv)
Temperature	60°C
Detection	254 nm
Injection volume	1 µl
Pressure Drop	37 bar (~540 psi) at the start of gradient
Sample:	4 Sulfa drug and precursor acid

Note the high amount of organic needed for complete sample elution and the low back pressure of the column.

