OraChrom, Inc.
The Vanguard of Liquid Chromatography.

10-B Henshaw Street Woburn, MA 01801 USA
Phone (781) 932 0151 Fax (781) 932 0787
E-mail: info@orachrom.com www.orachrom.com

APPLICATION NOTE

STYROS® HQ, Strong Anion Exchanger, Compared with STYROS® HPA Weak Anion Exchanger.

In this Application Note we have compared two polymeric stable media to find out the differences and therefore the ample choices they provide in the separation of biologicals.

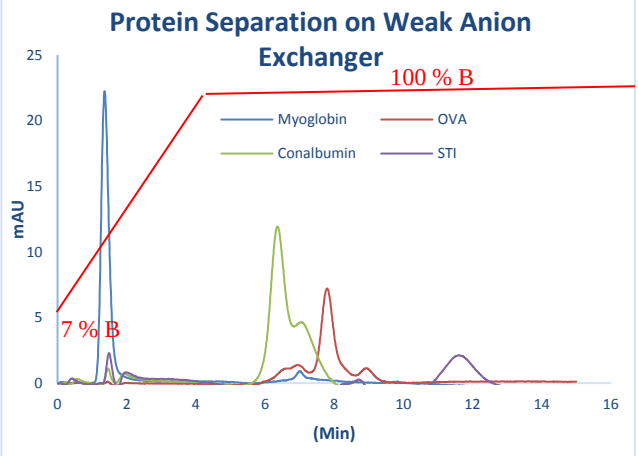

Table 1. Operating parameters.

HPLC System.	Agilent 1260 with thermostatted column compartment and quaternary pump.
Columns	**STYROS® HQ** 2.1 X 100 mm (0.346 ml volume)
Mobile phase.	A: 20 mM Bis-Tris, pH=6 B: A + 1 M NaCl, pH= 6
Flow rates	0.2 ml/min (347 cm/hr of linear velocity)
Gradient	7 to 100 % B in 4 minutes.
Temperature	30°C
Detection	280 nm
Injection volume	3-10 µl
Pressure Drop	3 bars
Sample:	3-10 µg proteins

Notice the low pH needed to operate the weak anion exchanger as in addition to the positive charge generated by the low pH it also has hydrophobic entities involved in the separation.

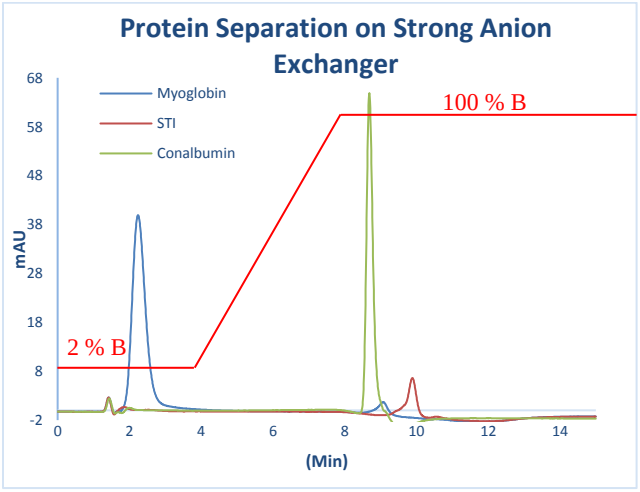

Table 2. Operating parameters.

HPLC System.	Agilent 1260 with thermostatted column compartment and quaternary pump.
Columns	**STYROS® HPA** 2.1 X 100 mm (0.346 ml volume)
Mobile phase.	A: 20 mM Bis-Tris, pH=6 B: A + 1 M NaCl, pH= 6
Flow rates	0.2 ml/min (347 cm/hr of linear velocity)
Gradient	2 % B for 4 minutes, to 100 % B in 8 minutes.
Temperature	30°C
Detection	280 nm
Injection volume	10 µl
Pressure Drop	3 bars
Sample:	10 µg proteins

The strong anion exchanger however at a similar pH by way of comparison, is less retentive and the charges dominate the separating process.
Similar low back pressure is the characteristic of it as well.
These media operate similar to monolith and are not prone to the wall effects that monolithic media suffer from, as they are Simulated-Monolith™.