



ProntoPEARL sub2 HPLC Columns

- **Two particle types**
 - 1.8 μm totally porous (TPP) for high-speed separations of small molecules
 - 1.5 μm non-porous (NPP) for high-speed separation of proteins
- **Multiple bonded phases**
 - TPP available in C18-EPS, C8-EPS, aminopropyl
 - NPP available in C18
- **Optimized hardware design**
 - 14, 20, 25, 30, 50, 75 and 100 mm lengths
 - 2.0, 3.0, 4.6 mm internal diameter

A New Generation of Columns for Increased Productivity

ProntoPEARL columns are engineered for Ultra Fast Chromatography. Columns of totally porous particles (TPP) are available in lengths from 14 mm to 100 mm. Non-porous columns (NPP) come in lengths of 14 mm to 50mm. Due to the extraordinary efficiency of these 1.8 μm and 1.5 μm particles (200,000 plates per meter guaranteed), it is possible to drastically reduce analysis times without negatively impacting resolution.

Reduce Analysis Time 90% Using Standard HPLC Equipment

High back pressure can be a major deterrent to using micro-particle columns. The process used to manufacture ProntoPEARL columns, however, assures a narrow particle size distribution, eliminating "fines" from the packed column bed. A 50 mm ProntoPEARL column can be operated in a conventional HPLC system at flow rates up to 3.0 ml/min. Since a column of this size is equivalent to a conventional 150 mm 5 μm column, you can easily achieve a 90% reduction in analysis time within the pressure and flow limits of your current liquid chromatograph.

FIGURE 11
Separation of Polyphenols

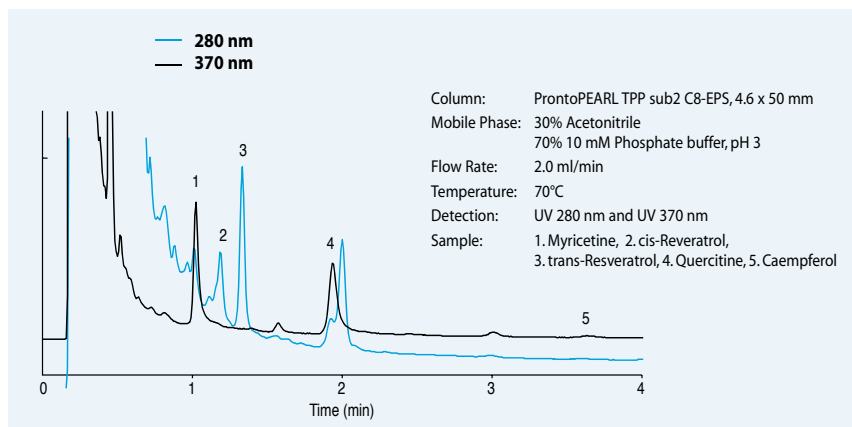


TABLE 1
ProntoPEARL sub2 Specifications

Phase	Pore Size (Å)	Particle Size (μm)	Surface area(m^2/g)	Carbon Loading (%)
Pronto PEARL sub2 TPP C18-EPS	80	1.8	300	16
Pronto PEARL sub2 TPP C8-EPS	80	1.8	300	8
Pronto PEARL sub2 TPP APS	80	1.8	300	3.5
Pronto PEARL sub2 NPP C18	NA	1.5	2	0.5

FIGURE 12
Fast Protein Separation

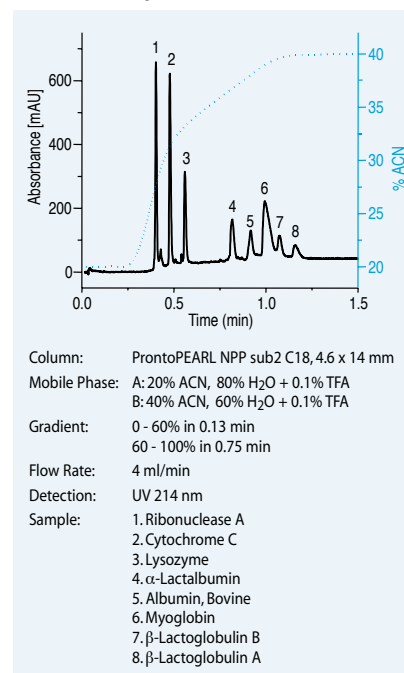
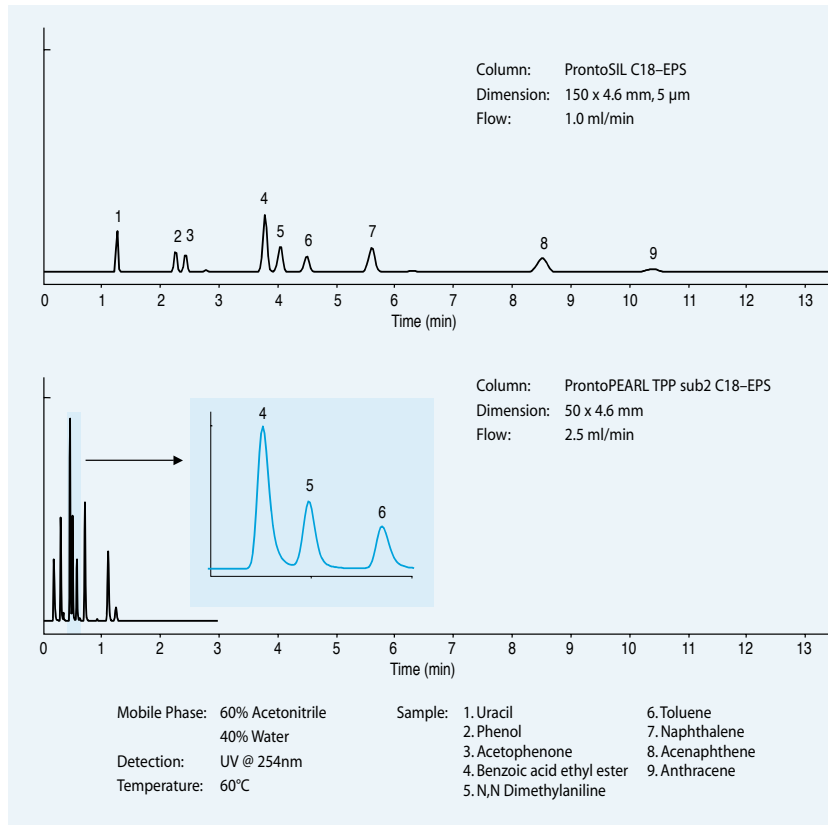




FIGURE 13
The Performance Test



Reach Lower Detection Limits

Because of the high efficiency and lower dispersion rates of ProntoPEARL columns, it is now possible to achieve higher mass sensitivity and therefore lower detection limits than formerly obtained using conventional particles. To realize the full gain in both efficiency and sensitivity, extra column volume in the instrument should be minimized. It is recommended that tubing from the sample injector through the detector be replaced with precision cut 0.005" stainless steel. A data acquisition rate of 60 Hz is also required.

ProntoPEARL sub2 TPP Ordering Information

Dimensions (mm)	Particle Size (µm)	C18 - EPS	C8 - EPS	NH ₂
2.0 x 14	1.8	0102C18ATP018	0102C08ATP018	0102C190TP018
3.0 x 14	1.8	0103C18ATP018	0103C08ATP018	0103C190TP018
4.6 x 14	1.8	0146C18ATP018	0146C08ATP018	0146C190TP018
2.0 x 20	1.8	A202C18ATP018	A202C08ATP018	A202C190TP018
3.0 x 20	1.8	A203C18ATP018	A203C08ATP018	A203C190TP018
4.6 x 20	1.8	A246C18ATP018	A246C08ATP018	A246C190TP018
2.0 x 25	1.8	0202C18ATP018	0202C08ATP018	0202C190TP018
3.0 x 25	1.8	0203C18ATP018	0203C08ATP018	0203C190TP018
4.6 x 25	1.8	0246C18ATP018	0246C08ATP018	0246C190TP018
2.0 x 30	1.8	0302C18ATP018	0302C08ATP018	0302C190TP018
3.0 x 30	1.8	0303C18ATP018	0303C08ATP018	0303C190TP018
4.6 x 30	1.8	0346C18ATP018	0346C08ATP018	0346C190TP018
2.0 x 50	1.8	0502C18ATP018	0502C08ATP018	0502C190TP018
3.0 x 50	1.8	0503C18ATP018	0503C08ATP018	0503C190TP018
4.6 x 50	1.8	0546C18ATP018	0546C08ATP018	0546C190TP018
2.0 x 75	1.8	0702C18ATP018	0702C08ATP018	0702C190TP018
3.0 x 75	1.8	0703C18ATP018	0703C08ATP018	0703C190TP018
4.6 x 75	1.8	0746C18ATP018	0746C08ATP018	0746C190TP018
2.0 x 100	1.8	1002C18ATP018	1002C08ATP018	1002C190TP018
3.0 x 100	1.8	1003C18ATP018	1003C08ATP018	1003C190TP018
4.6 x 100	1.8	1046C18ATP018	1046C08ATP018	1046C190TP018

ProntoPEARL sub2 NPP Ordering Information

Dimensions (mm)	Particle Size (µm)	C18
2.0 x 14	1.5	0102Z189NP015
3.0 x 14	1.5	0103Z189NP015
2.0 x 20	1.5	A202Z189NP015
3.0 x 20	1.5	A203Z189NP015
4.6 x 20	1.5	A246Z189NP015
2.0 x 25	1.5	0202Z189NP015
3.0 x 25	1.5	0203Z189NP015
4.6 x 25	1.5	0246Z189NP015
2.0 x 30	1.5	0302Z189NP015
3.0 x 30	1.5	0303Z189NP015
4.6 x 30	1.5	0346Z189NP015
2.0 x 50	1.5	0502Z189NP015
3.0 x 50	1.5	0503Z189NP015
4.6 x 50	1.5	0546Z189NP015