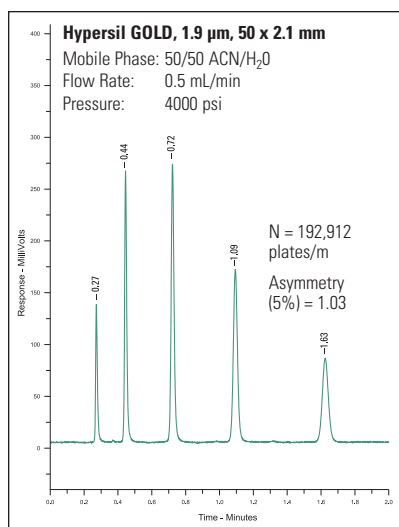


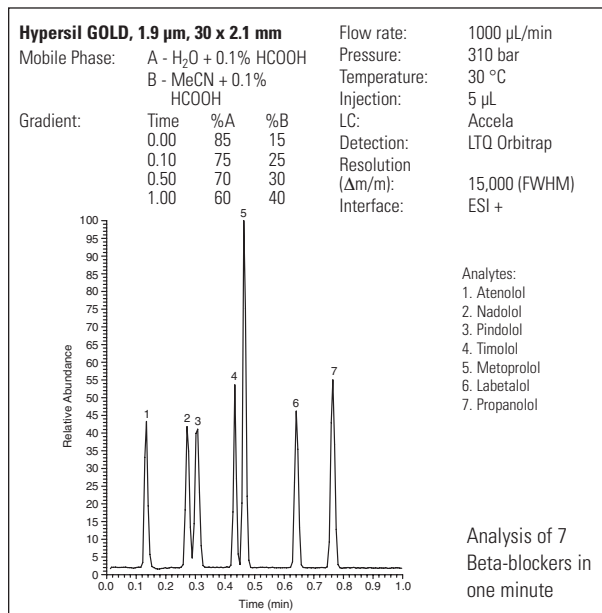
- High throughput and high efficiency applications
- Increased resolution and sensitivity
- A range of selectivities for method development
- Excellent peak shapes for all analyte types

1.9 µm Hypersil GOLD

Small particles to improve speed and efficiency



High efficiency separation at high linear velocity



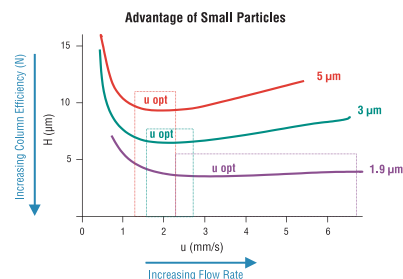
- Analytes:
1. Atenolol
 2. Nadolol
 3. Pindolol
 4. Timolol
 5. Metoprolol
 6. Labetalol
 7. Propranolol

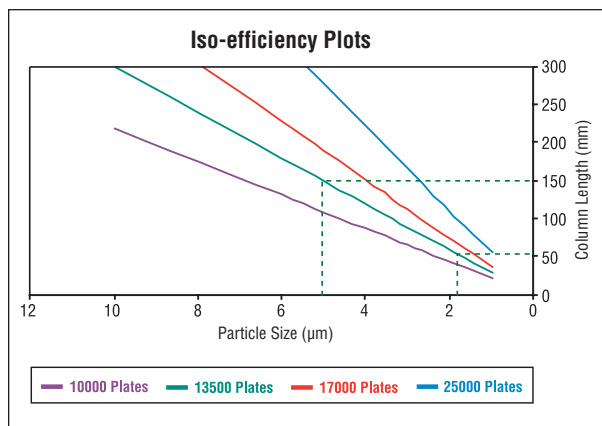
Analysis of 7 Beta-blockers in one minute

High Throughput and High Efficiency Applications

The use of sub-2 µm particles is becoming increasingly popular for applications in either High Throughput Screening (HTS) assays or in Ultra High Pressure Liquid Chromatography (U-HPLC). Columns packed with 1.9 µm Hypersil GOLD™ particles offer a practical solution to improving laboratory throughput with both conventional HPLC or U-HPLC systems. While 1.9 µm Hypersil GOLD columns can be used for U-HPLC applications, the narrow particle size distribution means that high speed and high efficiency separations can still be attained while maintaining the pressure within the range of conventional HPLC systems.

The van Deemter curve (below) illustrates how as the particle size is reduced, the mobile phase velocity (u) that results in optimum efficiency is increased and the curve becomes flatter. Columns packed with 1.9 µm particles can therefore be operated over a wider range of linear velocity while still maintaining high efficiencies. This means that higher flow rates can be used to decrease analysis time without compromising performance. This is illustrated on the left where the separation of 7 beta blockers has been performed in under one minute.

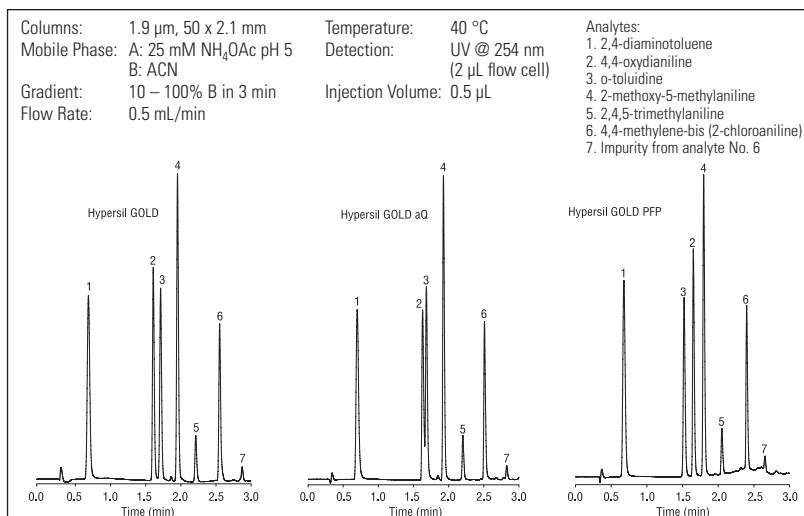




High throughput, high efficiency separations can be obtained with short columns packed with small particles

Increased Resolution and Sensitivity

The outstanding peak symmetry delivered by Hypersil GOLD has already improved productivity in laboratories all over the world. Hypersil GOLD 1.9 µm particles further enhance efficiency, resolution, sensitivity and peak capacity to meet the challenges of high throughput screening requirements in today's labs. Resolution and analysis time are determined by the ratio of column length to particle size, so when the particle size is reduced, column length can also be reduced to maintain constant separation efficiency while reducing the analysis time.



The effect of column chemistry on the separation of aromatic amines. Note the change in elution order for compounds 2 and 3 for Hypersil GOLD PFP.

A Range of Selectivities for Method Development

Thermo Fisher Scientific offers 1.9 µm Hypersil GOLD columns in three chemistries. These offer alternative selectivities, providing enhanced retention or changes in elution order for flexibility in method development.

- **Hypersil GOLD** gives outstanding peak shapes using generic gradients with C18 selectivity.
- **Hypersil GOLD aQ** is a C18 polar endcapped stationary phase which can be used for challenging reverse phase separations employing highly aqueous mobile phases.
- **Hypersil GOLD PFP** is a perfluorinated phenyl stationary phase which can offer alternative selectivity in reverse phase applications.

Excellent Peak Shapes for All Analyte Types

Good peak shape means greater sensitivity. When peaks exhibit tailing, peak height is reduced compromising the sensitivity of the analysis. Enhanced peak height can be particularly critical when low concentrations of an analyte are present, for example in an impurity assay. Using Hypersil GOLD, peak height is enhanced and peak integration calculations are optimized.

Accela High-Speed LC System

The new Accela high-speed chromatographic system provides fast, efficient chromatographic separations over an expansive range of flow rates and pressures (up to 15,000 psi) and optimizes the performance of sub-two micron particle columns, such as 1.9 µm Hypersil GOLD.

1.9 µm Hypersil GOLD Columns



Description	Particle Size	Length (mm)	3.0 mm ID	2.1 mm ID	1.0 mm ID	320 µm ID
Hypersil GOLD	1.9 µm	20	–	25002-022130	–	–
		30	25002-033030	25002-032130	25002-031030	–
		50	25002-053030	25002-052130	25002-051030	25002-050365
		100	–	25002-102130	25002-101030	25002-100365
Hypersil GOLD aQ	1.9 µm	20	–	25302-022130	–	–
		30	25302-033030	25302-032130	25302-031030	–
		50	25302-053030	25302-052130	25302-051030	25302-050365
		100	–	25302-102130	25302-101030	25302-100365
Hypersil GOLD PFP	1.9 µm	20	–	25402-022130	–	–
		30	25402-033030	25402-032130	25402-031030	–
		50	25402-053030	25402-052130	25402-051030	25402-050365
		100	–	25402-102130	25402-101030	25402-100365

Preparative and other custom column dimensions are available. Please call your local Customer Service for more information.

For more Hypersil GOLD applications, visit the **Chromatography Resource Center** at www.thermo.com/columns

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Thermo Hypersil Ltd.,
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Italy +39 02 950 591
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