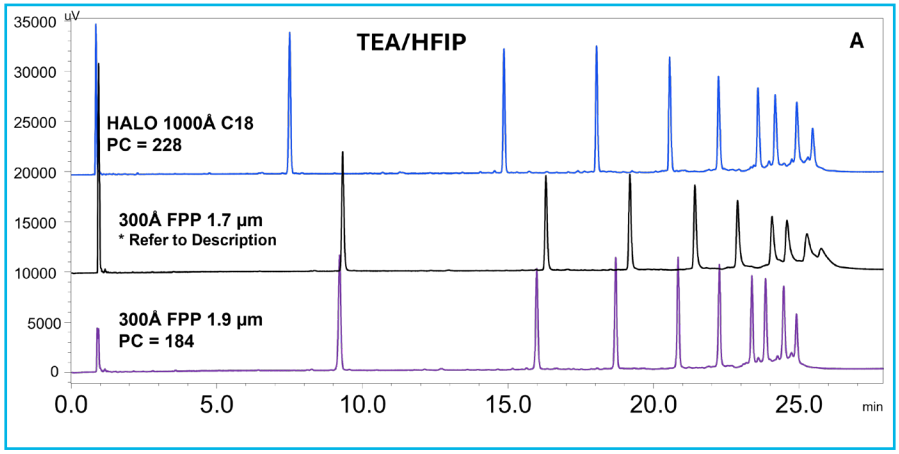
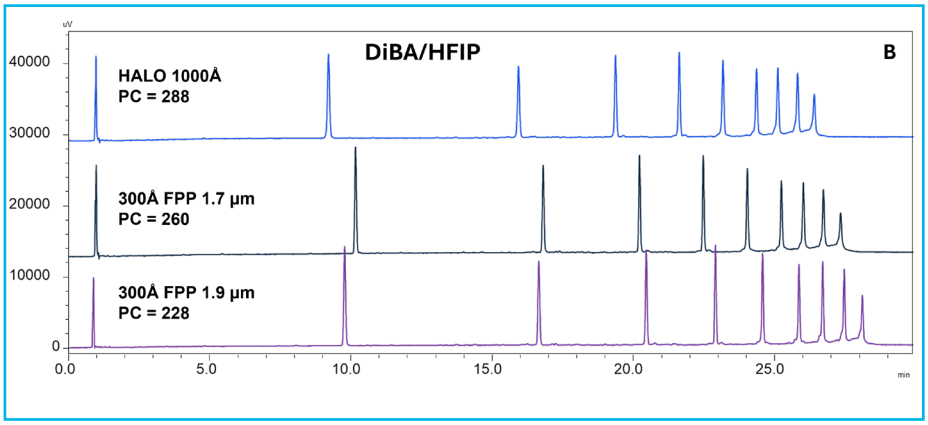
Advantage of HALO 1000 Å over Competitor Columns for Oligonucleotides





TEST CONDITIONS:

Column: HALO 1000 Å OLIGO C18, 2.7 µm, 2.1 x 100 mm
Mobile Phase:
Plot A
A: 15mM TEA/50mM HFIP pH - 8.9
B: 50/50 Water/ACN
Plot B
A: (90)/5/5 (10mM DiBA/100mM HFIP)/MeOH/ACN
B: 50/50 Water/ACN

Gradient:	**Time**	**%B**
	0.0	5
	30.0	12

Flow Rate: 0.4mL/min.

Back Pressure: 1000 Å HALO® - 241 bar
300 Å FPP 1.7µm - 540 bar
300 Å FPP 1.9µm - 286 bar
Temperature: 60 ºC
Injection: 1.0 µL of ssDNA (10µg/mL)
Sample Solvent: 10mM Tris/1mM EDTA
Wavelength: PDA, 260 nm
Flow Cell: 1 µL
Data Rate: 40 Hz
Response Time: 0.05 sec.
LC System: Shimadzu Nexera X2

Separations of oligonucleotides using the HALO 1000 Å superficially porous particle (SPP) material were compared to those achieved with commercially available wide-pore (300 Å) sub-2 µm silica particles. The HALO 1000 Å OLIGO C18 SPP demonstrated modest improvements in peak widths under TEA/HFIP conditions and exhibited a greater gradient range (DeltaT) between the 20- and 100-base oligonucleotides, contributing to a higher peak capacity (PC) along with lower backpressure. Across all columns, peak shapes for larger oligonucleotides improved using the more hydrophobic DiBA/HFIP mobile phase. The enhanced peak capacities observed with the 1000 Å SPP material were attributed to both narrower peak widths at 50% height and the broader gradient span of the separation.

**Due to the heavily tailed peak 10, peak capacity could not be correctly calculated.*