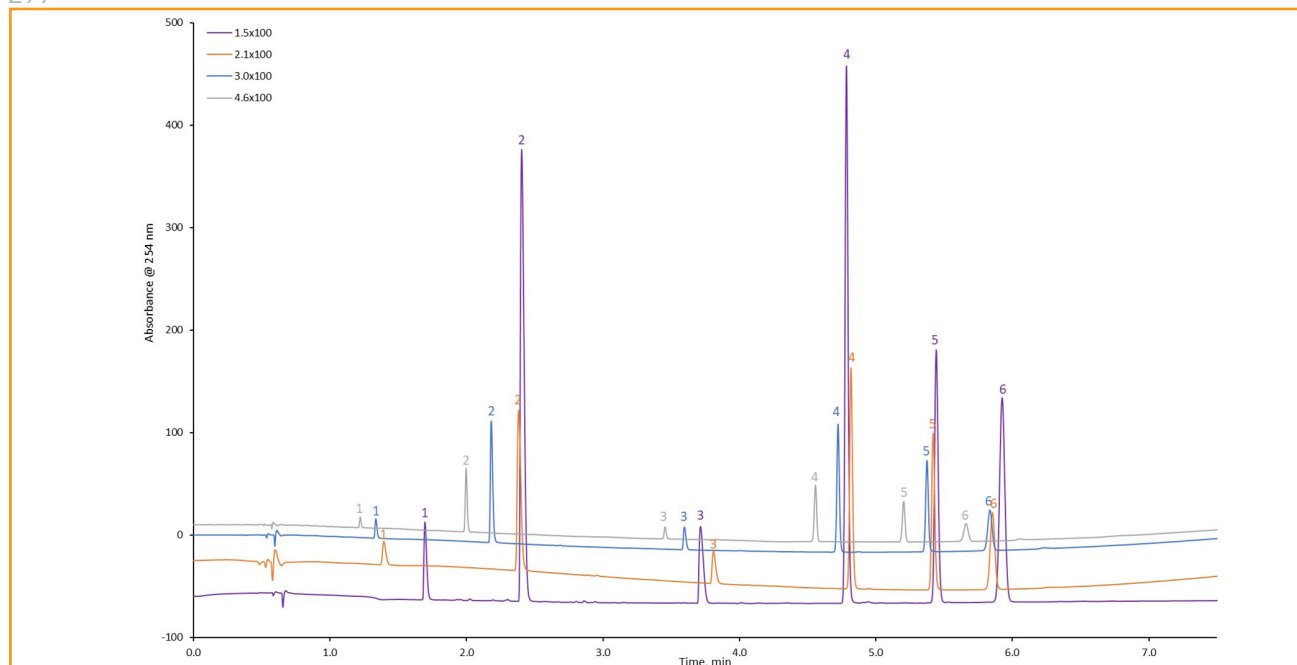# HALO®

Impact of Column ID on Sensitivity for Small Molecule Pharmaceuticals

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TEST CONDITIONS:

Column: HALO 90 Å C18, 2.7 μm, 1.5 x 100 mm
Part #: 9281X-602
Column: HALO 90 Å C18, 2.7 μm, 2.1 x 100 mm
Column: HALO 90 Å C18, 2.7 μm, 3.0 x 100 mm
Column: HALO 90 Å C18, 2.7 μm, 4.6 x 100 mm
Mobile Phase A: Water/ 0.1% DFA
Mobile Phase B: ACN/ 0.1% DFA

Gradient:

Time (min)	%B
0.00	05
9.00	85
9.50	05
10.00	05

Flow Rate: 0.2 mL/min for 1.5 mm
0.4 mL/min for 2.1 mm
0.8 mL/min for 3.0 mm
1.88 mL/min for 4.6 mm
Pressure: 313 bar/1.5 mm
238 bar/2.1 mm
277 bar/3.0 mm
400 bar/4.6 mm
Temperature: 35 °C
Detection: UV 254 nm, PDA
Injection Volume: 1.0 μL
Sample Solvent: Water/ACN 50/50
Data Rate: 40 Hz
Response Time: 0.100 sec.
Flow Cell: 1μL
Instrument: Shimadzu Nexera X2

PEAK IDENTITIES

1. Atenolol
2. Pindolol
3. Propranolol
4. Indoprofen
5. Naproxen
6. Warfarin

Sensitivity in UV applications can be increased with simple changes in column dimensions. It is known that by switching to smaller ID columns, the response from the UV detector increases as well when the same injection volume and concentration are used. The comparisons above show the impact of column ID on sensitivity. By reducing the column ID from 4.6 mm to 1.5 mm, there is a significant increase in sensitivity.
*The 1.5 mm column was run on a reduced dispersion system.

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