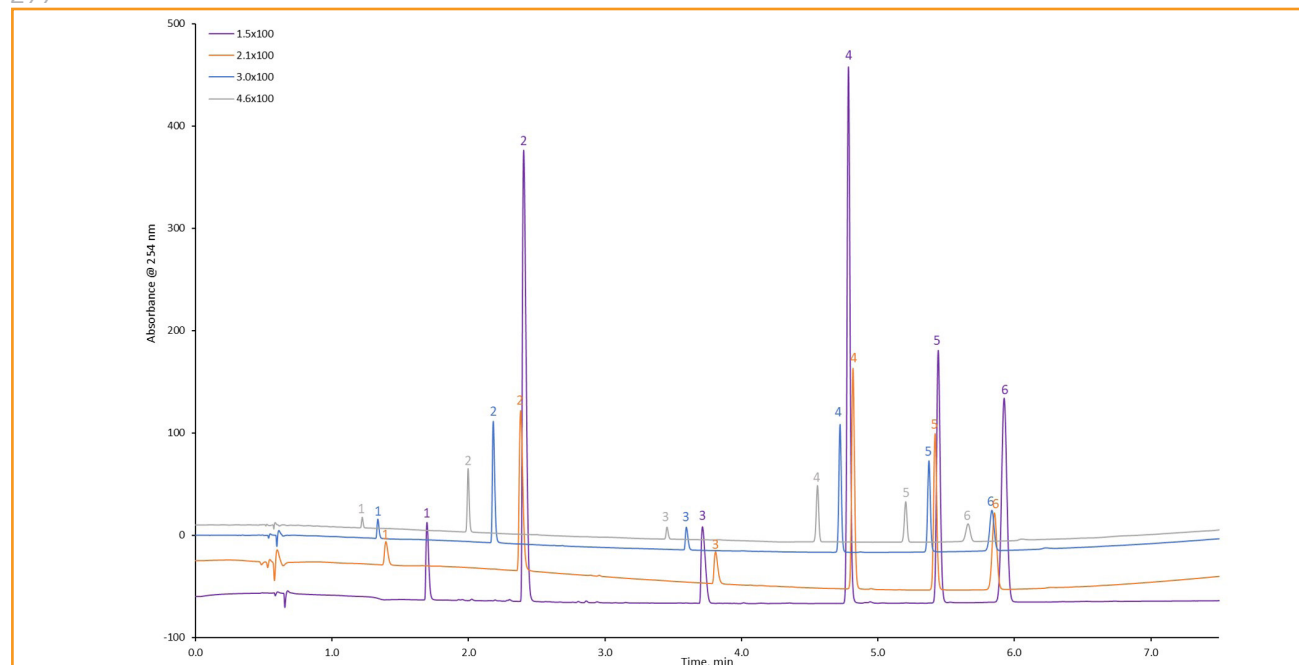




## Impact of Column ID on Sensitivity for Small Molecule Pharmaceuticals

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### TEST CONDITIONS:

**Column:** HALO 90 Å C18, 2.7  $\mu\text{m}$ , 1.5 x 100 mm  
**Part #:** 9281X-602

**Column:** HALO 90 Å C18, 2.7  $\mu\text{m}$ , 2.1 x 100 mm

**Column:** HALO 90 Å C18, 2.7  $\mu\text{m}$ , 3.0 x 100 mm

**Column:** HALO 90 Å C18, 2.7  $\mu\text{m}$ , 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  $\mu\text{L}$

**Sample Solvent:** Water/ACN 50/50

**Data Rate:** 40 Hz

**Response Time:** 0.100 sec.

**Flow Cell:** 1  $\mu\text{L}$

**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.