

## Reasons for using direct adaptive Di-Ad HPLC column connectors – Tips & Suggestions

### How to reduce peak broadening due to poor column connections

The spring-loaded “Direct Adaptive” Di-Ad™ HPLC column connectors were designed for speed and convenience when changing between different column brands on your instrument.

In the example below, we demonstrate how this error-free process using DiAd fittings can also reduce peak broadening from common poor connections.



Trace	Fitting Used	Height (mAU)	Plates (N)
<b>Black</b>	PEEK	31.33	6306
<b>Red</b>	Poorly Inserted PEEK	30.36	6023
<b>Blue</b>	Di-Ad™	35.37	7160

### Method Conditions:

**Direct Adaptive HPLC column connector:** Double end fitting

**Catalog No.:** [49910-10-DD](#)

**Dimensions:** 0.010" ID x 1/16th" OD, 100mm long

**Column:** Cogent Bidentate C8™, 4µm, 100Å.

**Catalog No.:** [40008-10P](#)

**Dimensions:** 4.6mm x 100mm

**Mobile Phase:** 40% acetonitrile / 60% DI water 0.1 % formic acid

**Injection vol.:** 1µL

**Flow rate:** 1.0mL / minute

**Detection:** UV 254nm

**Sample Preparation:** 0.1mg / mL phenol in mobile phase.

**Notes:** Column efficiency: theoretical plates (N) 1/2 Height  $N = 5.54((t_r/W)^2)$

$t_r$  = Retention time of peak

W = Width of peak measured at 1/2 height



Printed from the Chrom Resource Center

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Date: 07-03-2024