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Solving Baseline Problems in ANP Methods with the Cogent Diamond Hydride Column - Tips & Suggestions

Troubleshooting Inconsistent Baselines in ANP HPLC

When using a gradient method with the Cogent Diamond Hydride™ column in Aqueous Normal Phase (ANP) HPLC, an inconsistent baseline can occur. Below are common causes and practical solutions:

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1. Mobile Phase Filtration

Ensure the mobile phase is filtered before use. A 0.45 µm nylon membrane filter with vacuum filtration is recommended—especially for mobile phases containing dissolved solids like ammonium acetate. In fact, filtering all mobile phases is good practice.

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2. Number of Conditioning Runs

If your mobile phase includes ammonium formate or acetate, baseline stability may require three or more runs before becoming reproducible. This is normal for ANP methods.

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3. Post-Gradient Equilibration

Verify that your gradient includes sufficient **post time** to fully re-equilibrate the column to the starting solvent conditions before each injection.

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4. Blank Injections

Inject multiple blanks to check if the baseline improves. Inconsistency may result from carryover of strongly retained compounds that elute slowly in subsequent runs. If this is the case, modify your method to include stronger eluting conditions at the end of the gradient to wash these compounds out and prevent carryover.

COGENT HPLC Columns™

MicroSolv Technology Corporation
9158 Industrial Blvd. NE, Leland, NC 28451
Tel: (732) 380-8900
Fax: (910) 769-9435
Email: customers@mtc-usa.com
Website: www.mtc-usa.com