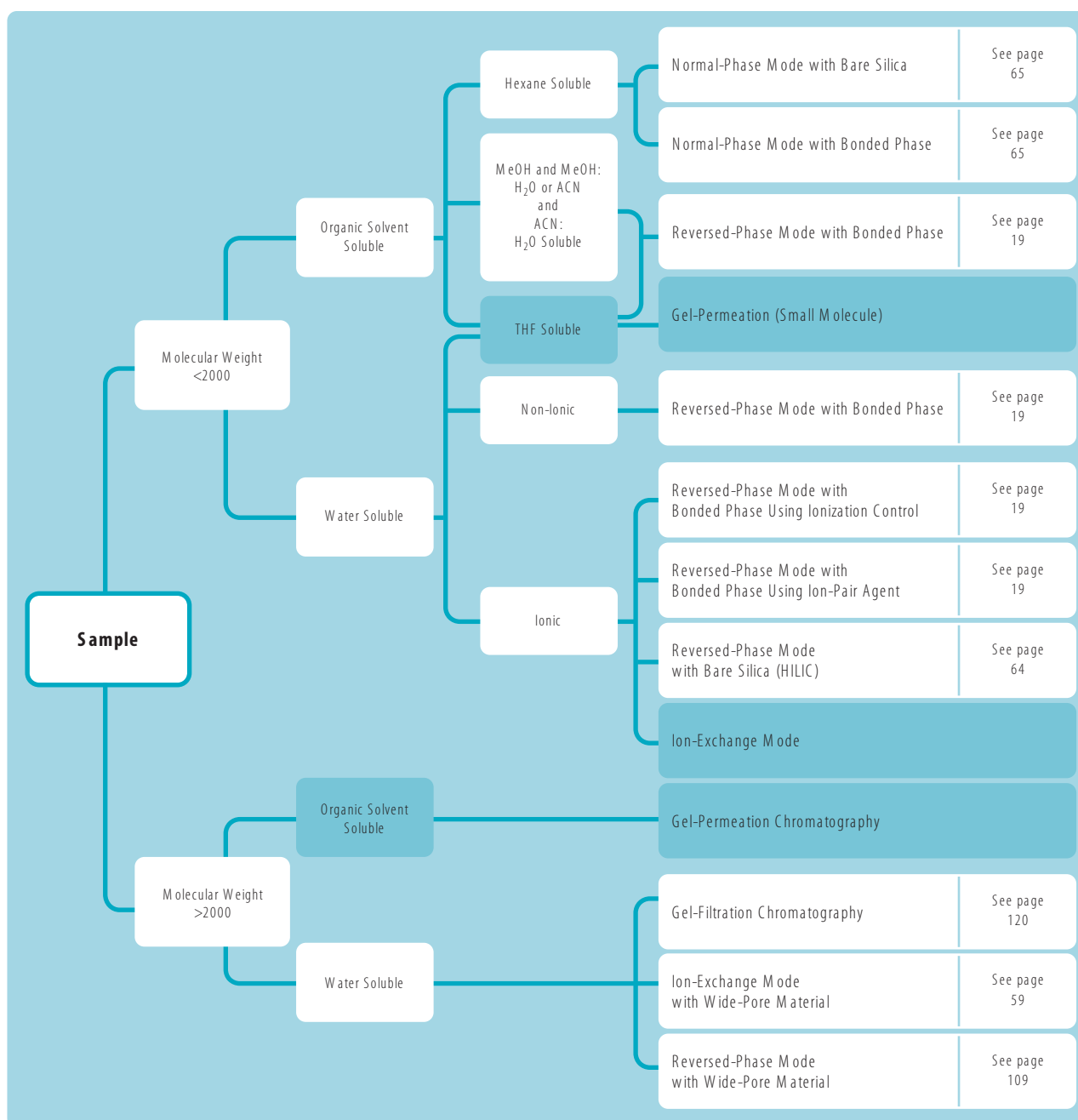


# HPLC Column Selection Guidelines

## HPLC Column Selection Flow Chart

To use the column selection guide diagram below, simply follow the path for your analyte and mobile phase. At the far right, follow your final column selection to the pages indicated.

Please see the *2009-2010 Essential Chromatography and Spectroscopy Catalog* for a complete listing of LC columns and supplies.



Adapted with permission from "Practical HPLC Methodology and Applications," Brian A. Bidlingmeyer, John Wiley & Sons, Inc., New York, p. 109

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## HPLC Column Selection Guidelines

**Quick Guide to ZORBAX Reversed-Phase Bonded Phases**

<b>Modern ZORBAX RP-HPLC Columns</b>	<b>Recommended Uses and Applications</b>	<b>Page No.</b>
Eclipse Plus Available in RRHD and RRHT, 1.8 µm	<ul style="list-style-type: none"> <li>• Excellent first choice for method development</li> <li>• Long life from pH 2-9 for reliable separations of basic, acidic and neutral compounds</li> <li>• Superior peak shape with basic compounds</li> <li>• High resolution and efficiency with 1.8, 3.5 and 5 µm columns</li> <li>• Rigorous QA/QC testing for greater long-term reproducibility</li> </ul>	22
Poroshell 120	<ul style="list-style-type: none"> <li>• Superficially porous particles for high efficiency at low pressure</li> <li>• Sub 2-micron like efficiency with a 2.7 µm particle</li> <li>• Endcapped and non-endcapped C18 phases for selectivity optimization</li> <li>• Compatible with 400 bar and 600 bar LC's</li> </ul>	20
Eclipse XDB Available in RRHT, 1.8 µm	<ul style="list-style-type: none"> <li>• Four selectivity choices for flexible method development</li> <li>• High performance over a wide pH range, pH 2-9</li> <li>• Good peak shape for acids, bases and neutrals</li> <li>• Long lifetime with extra dense bonding and double endcapping</li> <li>• Fast, ultra-fast, and high resolution separations using 1.8 and 3.5 µm columns</li> <li>• Choices from capillary to prep</li> </ul>	30
StableBond (SB) Available in RRHD and RRHT, 1.8 µm	<ul style="list-style-type: none"> <li>• Basic, acidic, neutral compounds</li> <li>• Exceptional stability at low pH</li> <li>• Use of high temperature (up to 90°C for C18, 80°C for C8, C3, Phenyl, CN, and Aq) and low pH as an added selectivity tool</li> <li>• Widest selection of bonded phases for different selectivity (C18, C8, C3, CN, Phenyl, Aq)</li> <li>• Uses mobile phases for LC/MS with formic acid, acetic acid, or TFA</li> <li>• Uses mobile phases with TFA for peptide and protein separation</li> <li>• Rapid separations using 1.8 and 3.5 µm columns</li> </ul>	39
ZORBAX Rx Available in RRHT, 1.8 µm	<ul style="list-style-type: none"> <li>• General separation of basic, acidic and neutral compounds at low pH with different selectivity than SB columns</li> <li>• Rx-C8 is the same as SB-C8</li> </ul>	48
Bonus-RP Available in RRHT, 1.8 µm	<ul style="list-style-type: none"> <li>• Separating basic compounds in higher aqueous mobile phases</li> <li>• General separation of basic, neutral, acidic compounds at mid-range pH or low pH; especially stable at low pH</li> <li>• Separating peptides for different selectivity</li> <li>• Rapid separations using 3.5 µm columns</li> </ul>	54
Extend-C18 Available in RRHT, 1.8 µm	<ul style="list-style-type: none"> <li>• Separating basic compounds above their pKa in free base form; separation of basic, acidic, neutral compounds at high pH; up to pH 11.5</li> <li>• Uses ammonium hydroxide as mobile phase additive with LC/MS with small molecules or peptides</li> <li>• Separating at high, mid-range and low pH for selectivity changes</li> <li>• Rapid separations using 3.5 µm columns</li> </ul>	50
<b>Original ZORBAX Columns</b>	<b>Recommended Uses and Applications</b>	<b>Page No.</b>
ZORBAX	<ul style="list-style-type: none"> <li>• General separation of basic, acidic, neutral compounds at low pH with different selectivity than SB columns; higher number of active silanols than SB</li> <li>• "Mixed mode" separation at more neutral pH values</li> </ul>	64
ZORBAX ODS Classic (non-endcapped)	<ul style="list-style-type: none"> <li>• General separation of basic, acidic, neutral compounds at mid-range to low pH with different selectivity than SB or XDB columns</li> </ul>	64