

Chiral LC/MS: Method development and mobile phases

ChromTech chiral columns **CHIRAL-AGP**, **CHIRAL-CBH** and **CHIRAL-HSA** are all shipped with a Method Development Schemes.

Development of a new method for MS-detection

Two Method Development Schemes are available, one for conventional detection (ie. UV, fluorescence etc.) and one for MS-detection. It is important that you characterize your compound before choosing column and starting the method development.

If your compound is an **amine** choose:

CHIRAL-AGP

Separates all types of amines: primary, secondary, tertiary and quart. amm. compounds Especially good when the steric bulk is bigger, ie. secondary and tertiary amines

CHIRAL-CBH

Separates especially well amines with a smaller steric bulk, ie. primary and secondary amines.

If your compound is an **acid or nonprotolyte** choose:

CHIRAL-AGP

Separates all types of acids, weak acids and strong carboxylic acids.

Separates all types of nonprotolytic compounds.

CHIRAL-HSA

Separates especially well hydrophilic acids and ampholytes.

Next step is to choose the appropriate Method Development Scheme.

On CHIRAL-AGP there are three different schemes depending on the compound type:

1. Hydrophobic amine
2. Hydrophilic amine, weak acid, nonprotolyte
3. Strong acid

On CHIRAL-HSA there are two different schemes:

1. Acid
2. Non-protolyte

On CHIRAL-CBH there is only one scheme:

1. Hydrophilic and hydrophobic amine

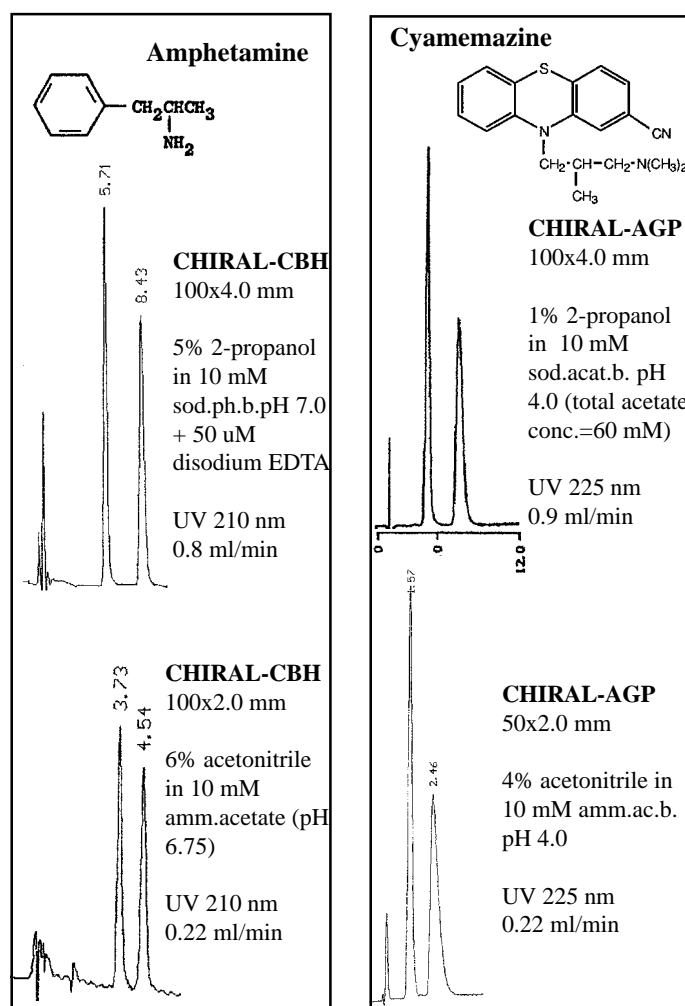
Making a method compatible with MS-detection

Most methods in the Chiral Application Handbook and on www.chromtech.co.uk on ChromTech's chiral columns are optimized for UV or fluorescence detection. However, these methods can easily be converted to methods compatible with MS-detection.

The type and concentration of buffer is important when developing methods for MS-detection. Methods based on phosphate or other nonvolatile buffers can easily be transformed to MS compatible methods, by changing to ammonium acetate or ammonium formate buffers. Only small changes in the composition are mostly needed, if any.

In most cases short columns are preferred as well as columns with a small inner diameter.

Below is an example of a converted method, going from a 4 mm ID column and a mobile phase containing a sodium phosphate (or acetate) buffer to a 2 mm ID column and a mobile phase containing an ammonium acetate buffer.



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