Ribose and Xylose Analyzed by HPLC ELSD - App Note

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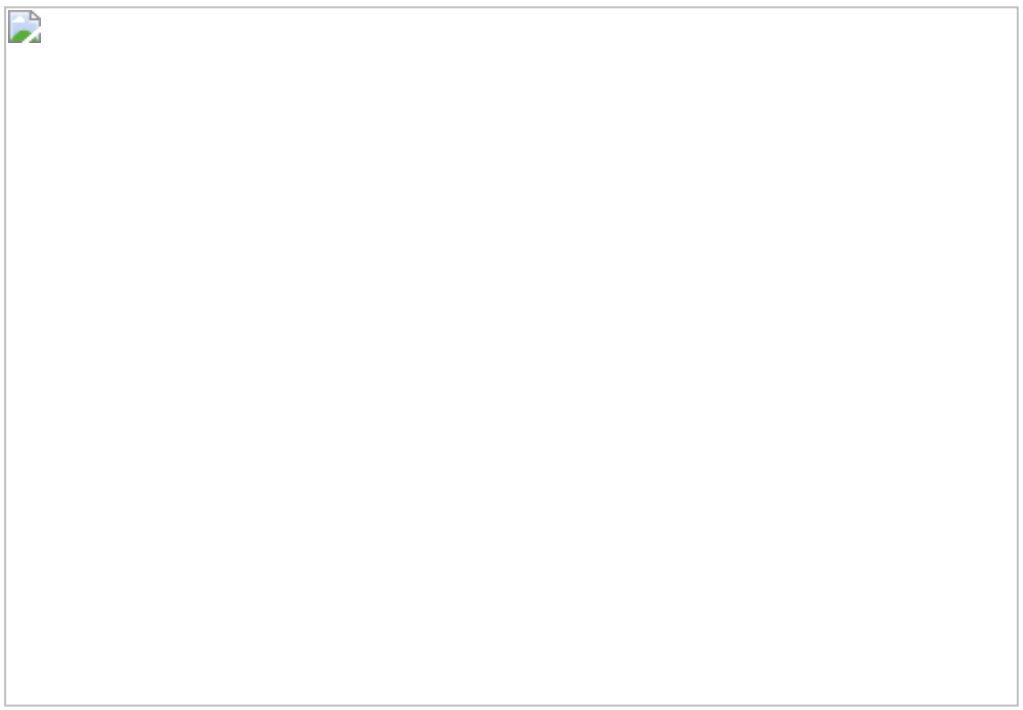
Sugars are challenging to analyze by HPLC due to their polarity and lack of UV absorbance. ELSD enables detection without relying on chromophores. While amine columns are often used for sugar retention, they can react with aldehydes, reducing column life by formation of Schiff bases, resulting in irreversible deactivation of the ligand's retention functionality. The Cogent Amide Column avoids this issue with a less reactive ligand, offering stable retention and separation of Ribose and Xylose.

See this method below for great separation of these two epimers.



Peaks:

1. D-Ribose
2. D-Xylose

Method Conditions:

Column: Cogent Amide™, 4 µm, 100 Å
Catalog No.: 40036-10D
Dimensions: 4.6 x 100 mm

Mobile Phase: 95% Acetonitrile / 5% DI Water / 0.1% Triethylamine (TEA) (v/v)
Flow Rate: 1.0 mL / minute
Detection: ELSD (Gain 8, Temp 50C, Nitrogen: 3.5lb)
Injection Volume: 3 ul

Sample Preparation: D-Ribose and D-Xylose reference standards (1 mg/mL) in diluent of 50% Acetonitrile / 50% DI Water / 0.1% TEA (v/v)

Note: *Ribose and Xylose are aldopentoses that differ only by a chiral center. In addition to the open chain forms, these sugars exist in equilibrium with ring forms (five or six membered) as well as α and β anomers. Both sugars are highly polar and not generally suitable for conventional Reversed Phase retention.*

COGENT HPLC Columns™

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