

Determination of Carbohydrates in Coffee Using Compact Ion Chromatography System

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Key Words

Integrion, CarboPac SA10, EGC 500, HPAE-PAD, Sugars

Introduction

This application proof note demonstrates a fast, high-resolution HPAE-PAD method for determining common sugars of interest in food and beverages. In this proof note, the method is performed using a Thermo Scientific™ Dionex™ Integrion™ HPIC™ system. The Thermo Scientific™ Dionex™ CarboPac™ SA10 column used in Application Note 280¹ is replaced with CarboPac SA10-4 μ m column, which delivers faster and greater resolution separations. Using the method described here, the effect of brewing heat and time on sugar content of coffee samples is studied.

Method

IC System:	Thermo Scientific Dionex Integrion HPIC system
Columns:	Thermo Scientific Dionex CarboPac SA10-4 μ m Analytical (4 × 250 mm) Thermo Scientific Dionex CarboPac SA10-4 μ m Guard (4 × 50 mm)
Eluent:	1 mM KOH
Flow Rate:	1.5 mL/min
Injection Volume:	0.4 μ L (push full)
Temperature:	40 °C
Detection:	Pulsed amperometric detection, disposable Au electrode

Reference

1. Thermo Scientific Application Note 280: Carbohydrate in Coffee: AOAC Method 995.13 vs a New Fast Ion Chromatography Method. Sunnyvale, CA [Online] <http://www.thermoscientific.com/content/dam/tfs/ATG/CMD/CMD%20Documents/Application%20&%20Technical%20Notes/Chromatography/Liquid%20Chromatography/Liquid%20Chromatography%20Accessories/AN-280-IC-Carbohydrates-Coffee-HPAE-PAD-AN70231-EN.pdf> (accessed Jan. 14, 2016)

For application support, visit the [AppsLab Library](#) where you can find detailed method information, chromatograms and related compound information. All the information needed to run, process and report the analysis is available in ready-to-use eWorkflows, which can be executed directly in your chromatography data system. www.thermoscientific.com/appslab

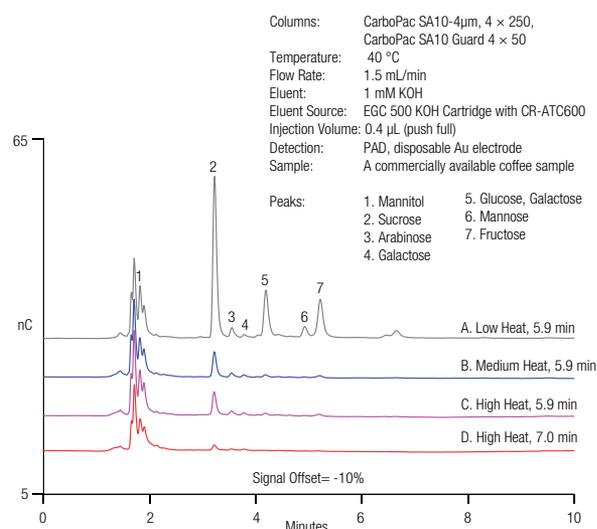


Figure 1. Separation and detection of sugar in coffee sample under four brewing conditions: A) Low heat for 5.9 min, B) Medium heat for 5.9 min, C) High heat for 5.9 min, D) High heat for 7.0 min.

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