Determination of Sugars in Fruit Juice Using a Compact IC System

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Key Words

HPIC, HPAE-PAD, Integrion, CarboPac PA20, Sugar, Glucose, Fructose, Sucrose, Fruit Juice

Introduction

Excess sugar consumption is tied to poor health outcomes. The Nutrition Labeling and Education Act requires that for a pre-packaged food or drink the amount of sugar be displayed on the Nutrition Facts label. This application proof note demonstrates a high-performance anion-exchange with pulsed amperometric detection (HPAE-PAD) method to accurately determine sugar concentrations. The method is performed using a Thermo Scientific™ Dionex™ Integrion™ HPIC™ system, which allows fast determination of sugars in fruit juice with no eluent preparation or sample derivatization.

Method

IC System:	Thermo Scientific Dionex Integrion HPIC system
Columns:	Thermo Scientific™ Dionex™ CarboPac™ PA20 Analytical (3 × 150 mm) Thermo Scientific Dionex CarboPac PA20 Guard (3 × 30 mm)
Eluent:	33 mM KOH
Flow Rate:	0.5 mL/min
Injection Volume:	10 µL
Temperature:	30 °C
Detection:	Pulsed amperometry, with four-potential carbohydrate waveform, using a Thermo Scientific Dionex Gold on PTFE Disposable Electrode

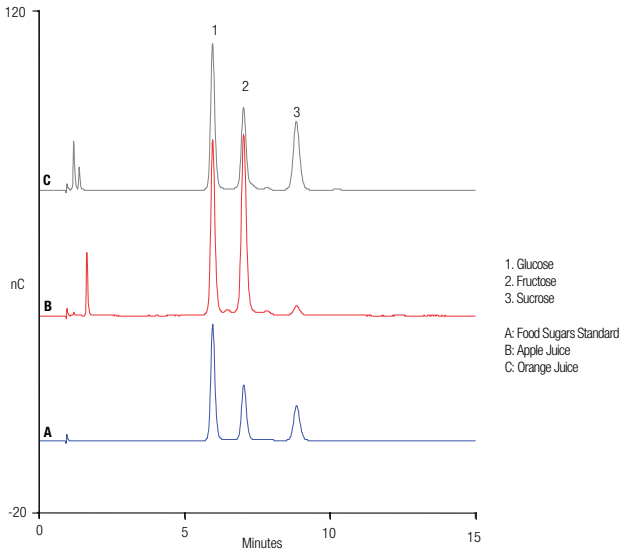

Figure 1. Separation of sugars in fruit juice using HPIC.

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

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