

# Fruit Wine Analysis by HPLC

## Application Note

Food and Beverage

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### Introduction

Typically, wine is made by the fermentation of grapes that have been crushed to extract the juice. However, wine can also be made from other fruit juices. This is a cheaper method than using grapes and is therefore becoming more popular.

Most fruits and berries can produce wine, but few of them have the proportions of sugars, acids, tannins, yeast nutrients, and water to deliver a drinkable and stable product. The amounts of fermentable sugars may be low, or the acid content may be too high. Fruit wines may therefore be supplemented with sucrose, or sorbitol may be added as an artificial sweetener.

An Agilent Hi-Plex Ca column can be used to quantify the levels of sugars, artificial sweetener, and alcohols in fruit juice wine, which all contribute to their individual flavors.



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## Materials and Reagents

Column	Agilent Hi-Plex Ca (8% crosslinked), 7.7 × 300 mm, 8 μm (p/n PL1170-6810)
Mobile phase	100% DI H <sub>2</sub> O
Flow rate	0.6 mL/min
Temperature	85 °C
Detector	RI

## Conclusion

The Agilent Hi-Plex Ca column gives very good separation of the main constituents of fruit juice wine, allowing them to be easily quantified. The Hi-Plex Ca column gives good resolution of the components shown. Even at high levels of ethanol, it does not overlap the other components. However, the Hi-Plex Ca column gives sufficient resolution between analytes to prevent this from occurring.

A potentially useful application of this HPLC procedure is in the quality control of traditional wine or in flavor studies of fruit wine made from a variety of different sources.

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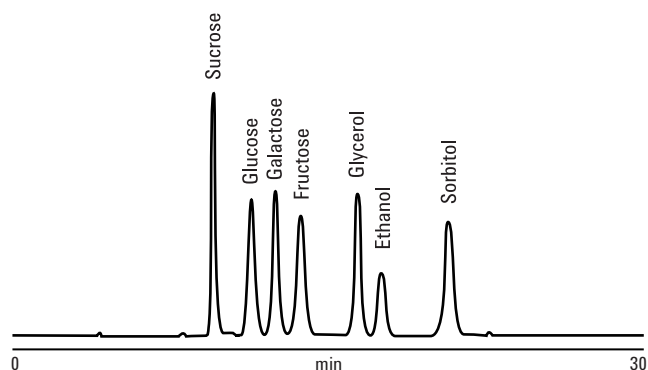


Figure 1. Separation of compounds typically found in fruit wine on an Agilent Hi-Plex Ca column. Ten microliters of a 20 mg/mL solution were injected.

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