

Analysis of sugar with OR detector

An optical rotation detector allows the selective detection of optically active materials.

In the present report, a dedicated HPLC optical rotation detector (OR-990) and a differential refractive index detector (RI-930) were used to analyze sugar in foodstuffs.

Fig. 1 shows the chromatogram of a standard sample.

As meso-erythritol is optically inactive, it was detected only by RI.

Fig. 2 shows an example of analyzing a canned black tea beverage.

Meso-erythritol was detected in a non-sugar black tea, and 3 types of sugar, in lemon tea.

Conditions:

Column: Finepak SIL NH2-5
 Eluent: CH₃CN / 0.3% H₃PO₄ (pH3) = 85 / 15
 OR-990 Gain: x100
 Flow rate: 1.0 ml/min
 Column temperature: 40 degree celsius
 Injection volume: 10 μl
 Sample: STD mixture (each 10 mg/ml) Tea

Keywords: 1. Sugar, 2. STD mixture Tea, 3. SIL-NH₂, 4. ORD, RI

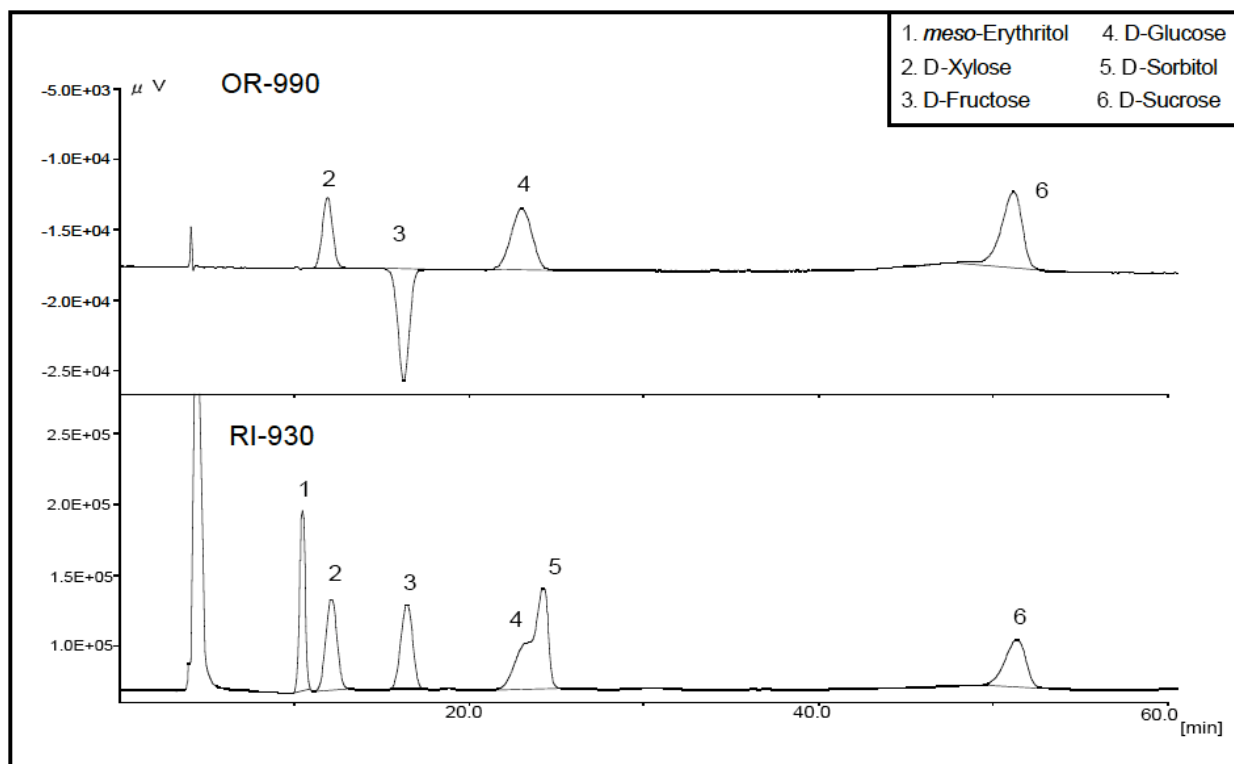


Fig. 1 Chromatogram of standard samples

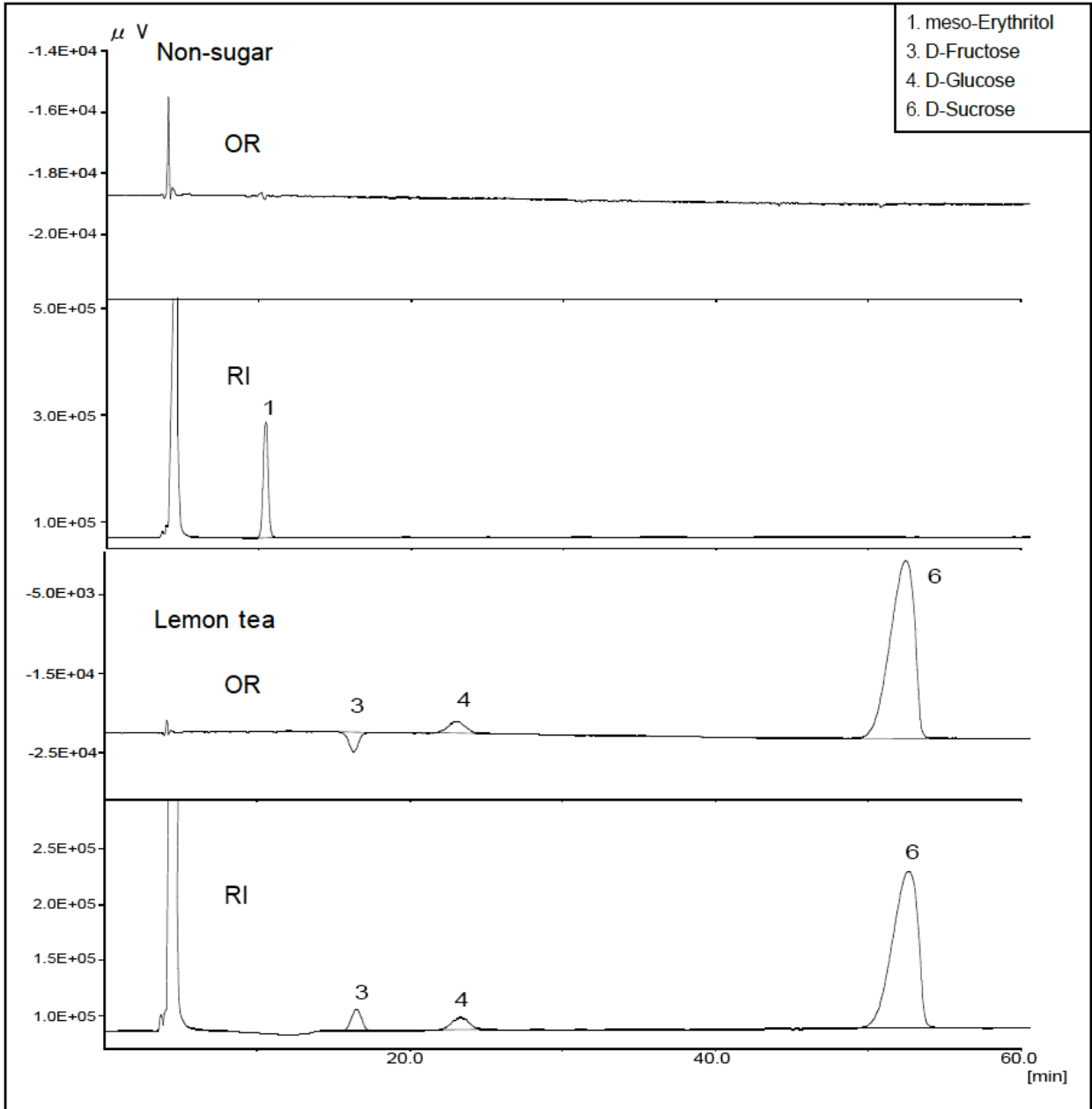


Fig. 2 Chromatogram of STD mixture tea