

**Analysis of Sweeteners (Sugar Alcohols) in Food:
Application example using evaporative light scattering detector (ELSD)**

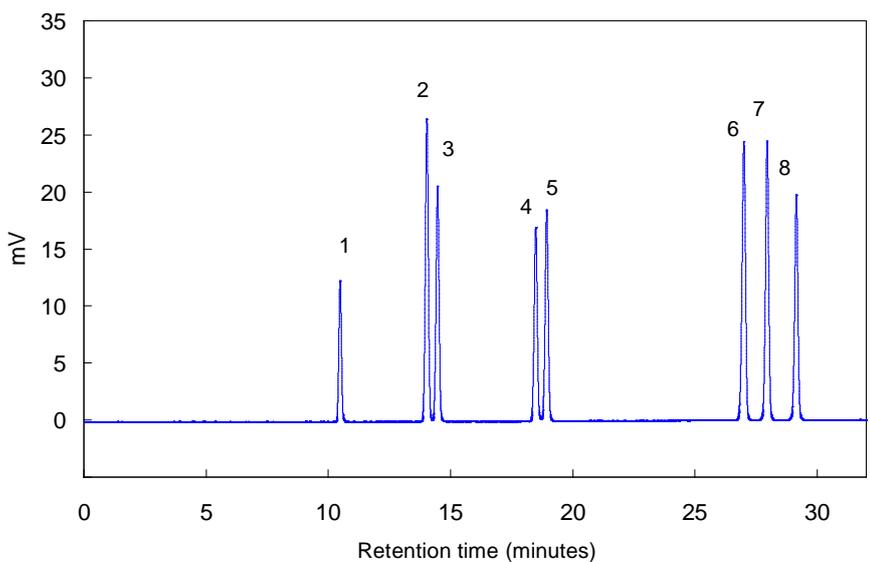
Sugar alcohols are sugars produced by reducing the carbonyl group in aldose or ketose to a hydroxyl group. These sugars are not readily absorbed in the intestine, and thus are used as sweeteners in health foods and low-calorie foods.

RI detectors are generally used to analyze sugar alcohols in food, but because gradient elution cannot be used, simultaneous analysis of more than one component is difficult. Here, various sugar alcohols were separated using the HILIC in gradient elution, with detection performed by ELSD. Also shown are application examples for analysis of sugar alcohols in sugarless candy and functional jelly beverages.

Table 1. Analytical conditions

Column:	TSKgel Amide-80, 3µm, 4.6mmI.D. x 15cm
Mobile phase:	A: water B: acetonitrile
Gradient:	0min (97%B) →30min (70%B) →31min (70%B) →32min (97%B)
Flow rate:	1.0mL/min
Detection:	ELSD (Agilent Technologies) Temp.: 40°C, Nebulizer gas; N2, Gas pressure: 360kPa, Gain; 5
Temperature:	50°C
Injection vol.:	10µL

Figure 1. Chromatogram of sugar alcohols (0.5g/L each)



Samples:	1.erythritol	5. mannitol
	2. adonitol	6. inositol
	3. xylitol	7. maltitol
	4.sorbitol	8. lactitol

Figure 2. Pretreatment of functional jelly beverages and sugarless candy

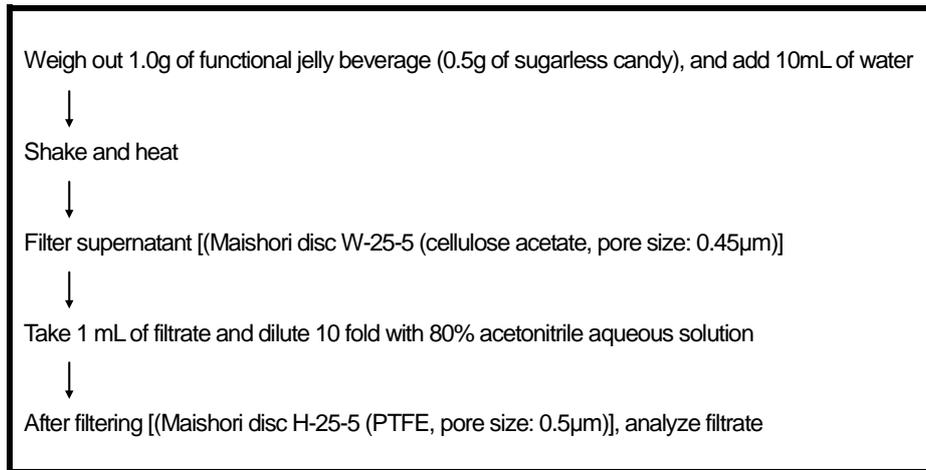


Figure 3. Chromatogram of functional jelly beverage

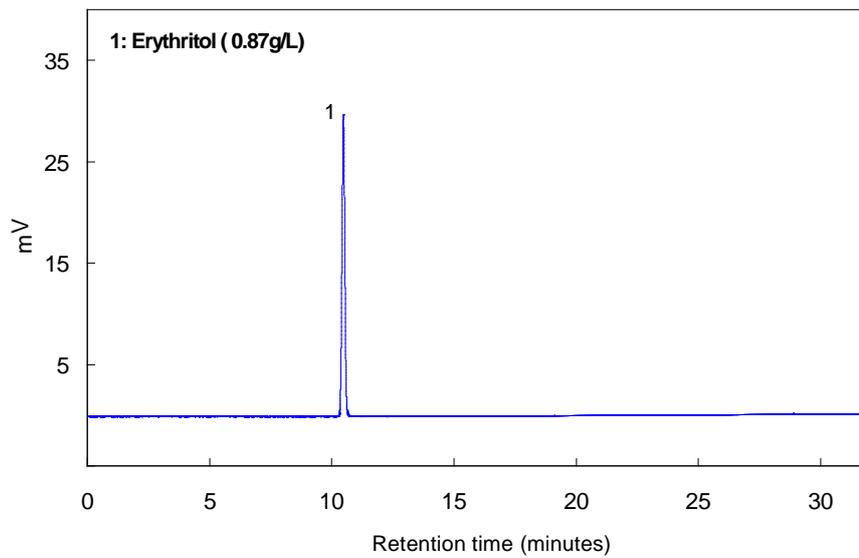
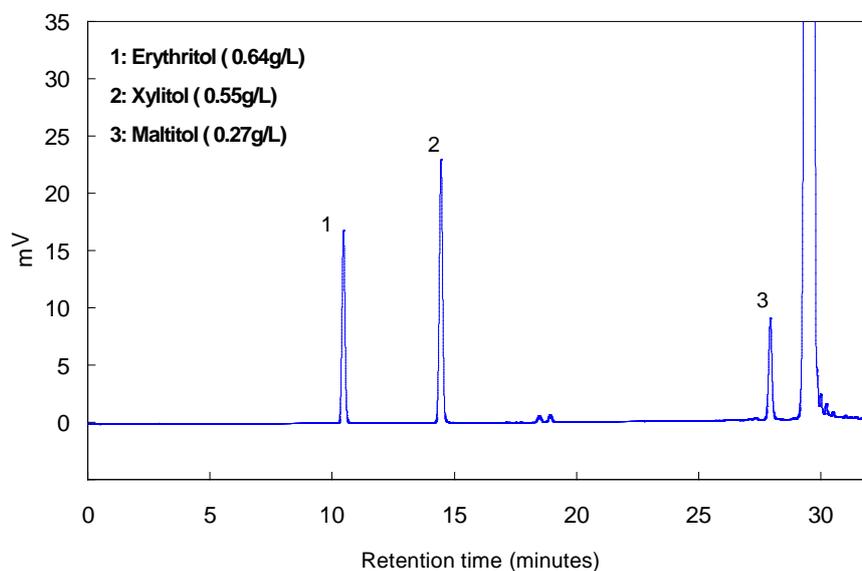


Figure 4. Chromatogram of sugarless candy



TOSOH

TOSOH BIOSCIENCE

TOSOH Bioscience LLC
3604 Horizon Drive, Suite 100
King of Prussia, PA 19406
Orders & Service: (800) 366-4875
Fax: (610) 272-3028
www.separations.us.tosohbioscience.com
email: info.tbl@tosoh.com