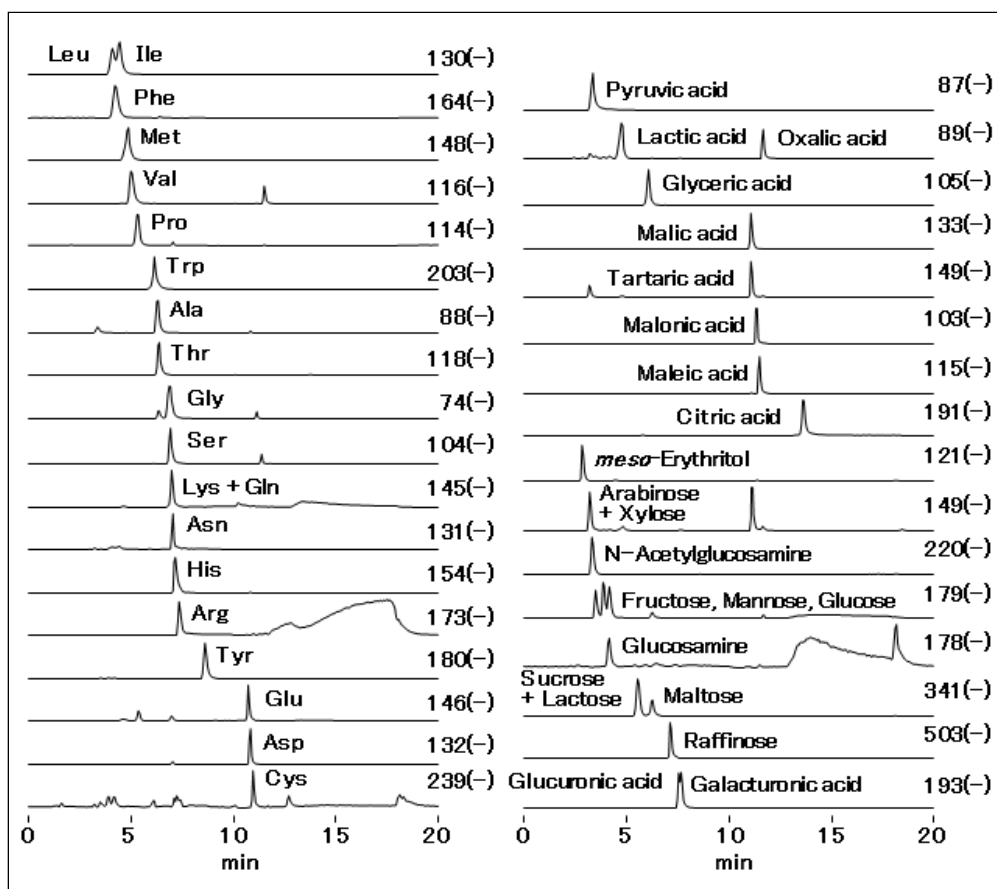


## Simultaneous Analysis of Saccharides, Organic Acids and Amino Acids with LC/MS (VG-50 2D)

HILICpak VG-50, a polymer-based amino column, is suitable for sugar analysis and it is also available for simultaneous analysis of organic acids and amino acids with LC/MS detection under alkaline conditions. High anionic substances can be eluted under alkaline conditions. Furthermore, alkaline conditions promote the deprotonation of hydroxyl groups at the time of ionization. Therefore, alkaline conditions are suitable for high sensitive detection of substances with hydroxyl groups such as saccharides under the negative mode.



Sample : 1 µg/mL each (in H<sub>2</sub>O/CH<sub>3</sub>CN=1/4), 5 µL

Amino acids				
<a href="#">Leu</a>	<a href="#">Ile</a>	<a href="#">Phe</a>	<a href="#">Met</a>	<a href="#">Val</a>
<a href="#">Pro</a>	<a href="#">Trp</a>	<a href="#">Ala</a>	<a href="#">Thr</a>	<a href="#">Gly</a>
<a href="#">Ser</a>	<a href="#">Lys</a>	<a href="#">Gln</a>	<a href="#">Asn</a>	<a href="#">His</a>
<a href="#">Arg</a>	<a href="#">Tyr</a>	<a href="#">Glu</a>	<a href="#">Asp</a>	<a href="#">Cys</a>
Organic acids				
<a href="#">Pyruvic acid</a>	<a href="#">Lactic acid</a>	<a href="#">Oxalic acid</a>	<a href="#">Glyceric acid</a>	<a href="#">Malic acid</a>
<a href="#">Tartaric acid</a>	<a href="#">Malonic acid</a>	<a href="#">Maleic acid</a>	<a href="#">Citric acid</a>	
Saccharides and Sugar alcohols				
<a href="#">meso-Erythritol</a>	<a href="#">Arabinose</a>	<a href="#">Xylose</a>	<a href="#">N-Acetylglucosamine</a>	<a href="#">Fructose</a>
<a href="#">Mannose</a>	<a href="#">Glucose</a>	<a href="#">Glucosamine</a>	<a href="#">Sucrose</a>	<a href="#">Lactose</a>
<a href="#">Maltose</a>	<a href="#">Raffinose</a>	<a href="#">Glucuronic acid</a>	<a href="#">Galacturonic acid</a>	

Column : Shodex HILICpak VG-50 2D (2.0mm I.D. x 150mm)  
 Eluent : (A); 0.5% NH<sub>3</sub> aq. (B); CH<sub>3</sub>CN  
 Linear gradient (High pressure);  
 (B%) 80% (0 to 2min)  
 80% to 10% (2 to 12min)  
 10% (12 to 15min)  
 80% (15 to 20min)  
 Flow rate : 0.2mL/min  
 Detector : ESI-MS (SIM Negative)  
 Column temp. : 40°C

