

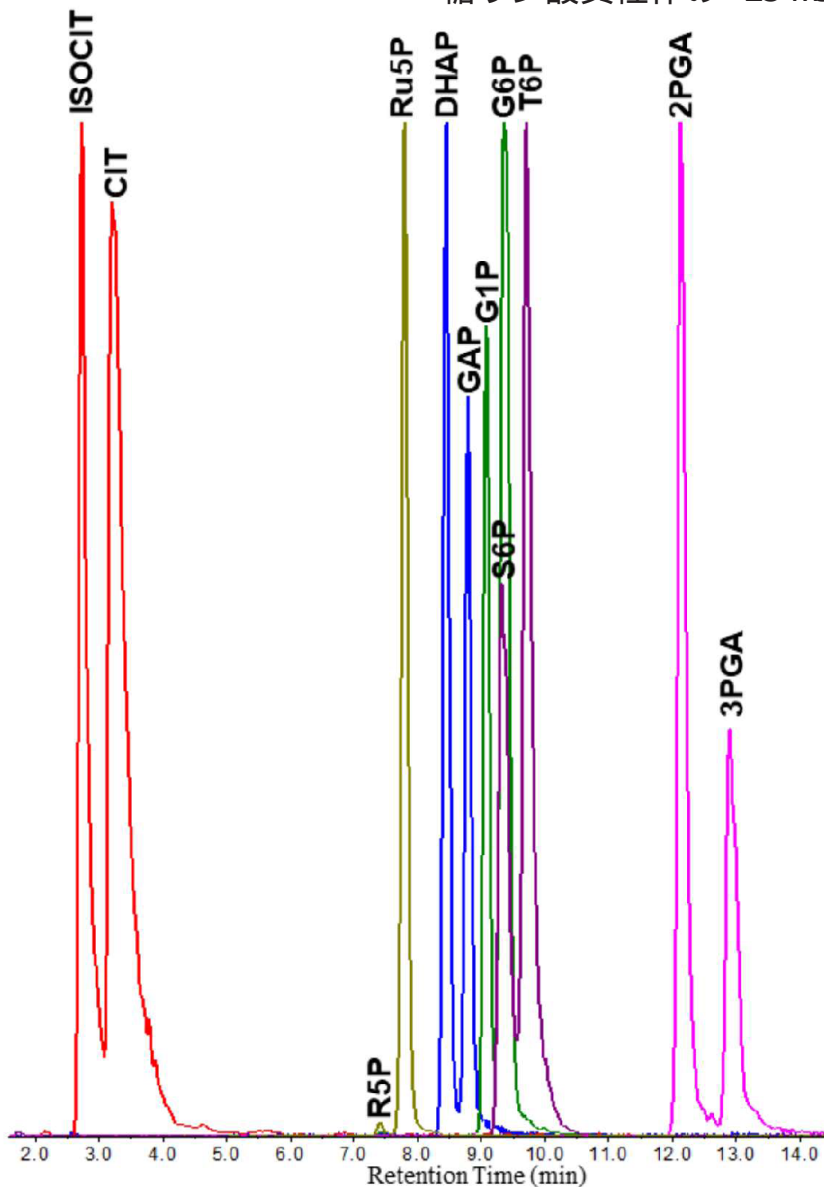
Intrada Organic Acid

150 x 2 mm

HPLC COLUMN APPLICATION

LC-MS/MS: Isomer separation of central metabolites using the multi-modal properties of a hybrid column

糖リン酸異性体の LC-MS 分析



Organic Acids:

CIT: citrate
ISOCIT: isocitrate
m/z 191/173

Triose Phosphates:

2PGA: 2-phosphoglyceric acid
3PGA: 3-phosphoglyceric acid
m/z 185/79

DHAP: dihydroxyacetone

phosphate
GAP: glyceraldehyde phosphate
m/z 169/97

Pentose Phosphates:

R5P: ribose 5-phosphate
Ru5P: ribulose 5-phosphate
m/z 229/79

Hexose Phosphates:

G1P: glucose 1-phosphate
G6P: glucose 6-phosphate
m/z 259/97

Disaccharide Phosphates:

S6P: sucrose 6-phosphate
T6P: trehalose 6-phosphate
m/z 421/79

Detection limits for different polar central metabolites varies between **150 fmol and 11 pmol**

Intrada Organic Acid, 150 x 2 mm

A: 1% formic acid in 75% acetonitrile

B: 100mM ammonium formate in 10% acetonitrile

0.225mL/min: 0%B(0-1min), 0-12%B(1-5min), 12%B(5-7min), 12-16%B(7-8min), 16%B(8-10min), 14-25%B(10-13min), 25-100%B(13-15min)

0.25mL/min: 100%B(15-19.5min), 100-0%B(19.5-20min), 0%B(20-25min)

40°C, 3-5µL injection, MS/MS (ESI, M-H Negative, Q1/Q3)

Reference: "An efficient LC-MS method for isomer separation and detection of sugars, phosphorylated sugars, and organic acids" Koley et al. , Journal of experimental botany, 73(9), 2938-2952, 2022

Courtesy of Dr. Somnath Koley, Donald Danforth Plant Science Center, USA