Analysis of Organic Acids by Ion Exclusion Chromatography and Single Quadrupole LC/MS

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Introduction

Instrument

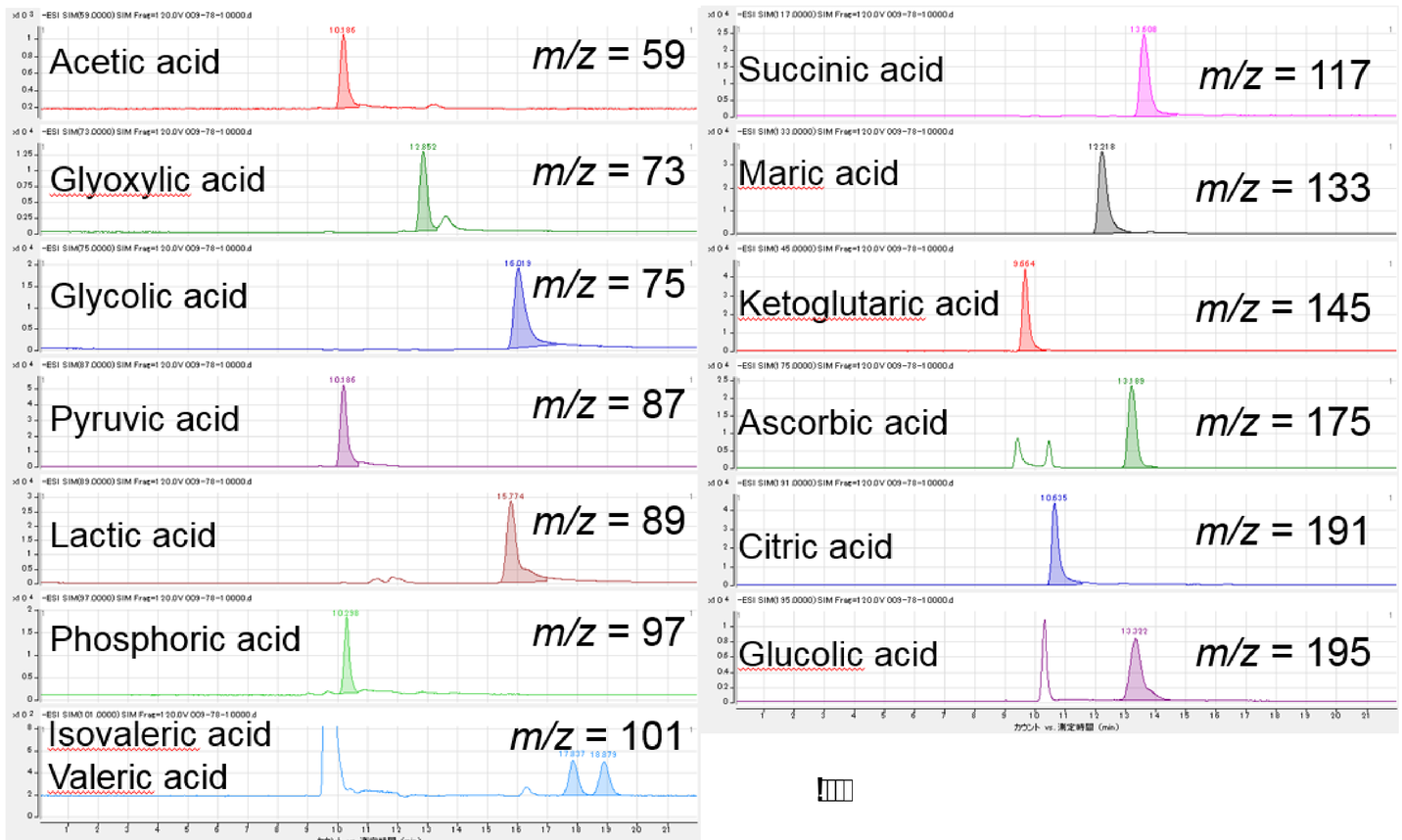
Agilent 1260 Infinity LC
Agilent 6120 Single Quad LCMS

Agilent Hi-Plex Column

Experimental

LC
Column :Agilent Hi-Plex H, 300 x 7.7 mm
Mobile hase 0.01%
B: r
A/B: 70/30,V
0.4 mL/min
:45℃
: 0µL
22PLQ
MS
ESI
N_2, 12 L/min
:200 ℃
:50 psi
: 3000 V (negativeP
MS signal :SIM negative (see table)

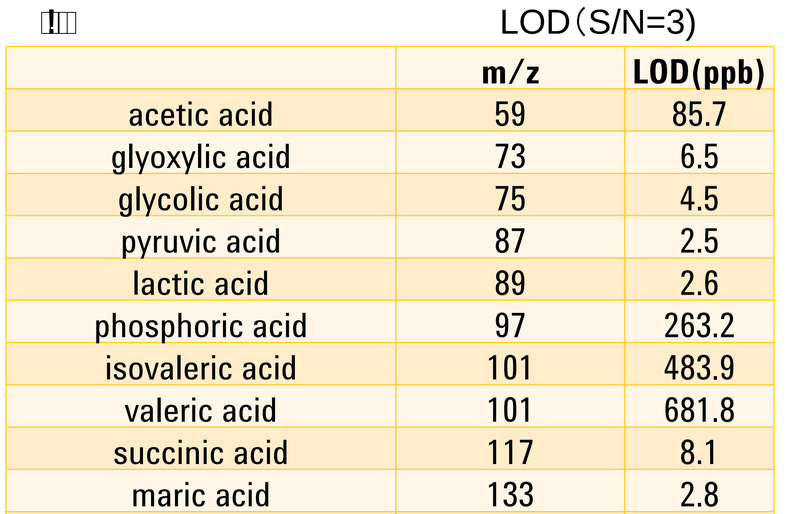
SIM table	m/z	fragmentor
Ketoglutaric acid	145	90
Acetic acid	59	120
Pyruvic acid	87	90
Phosphoric acid	97	120
Citric acid	191	110
Maric acid	133	100
Glyoxylic acid	73	110
Ascorbic acid	175	120
Succinic acid	117	100
Lactic acid	89	100
Glycolic acid	75	100
Isovaleric acid Valeric acid	101	100



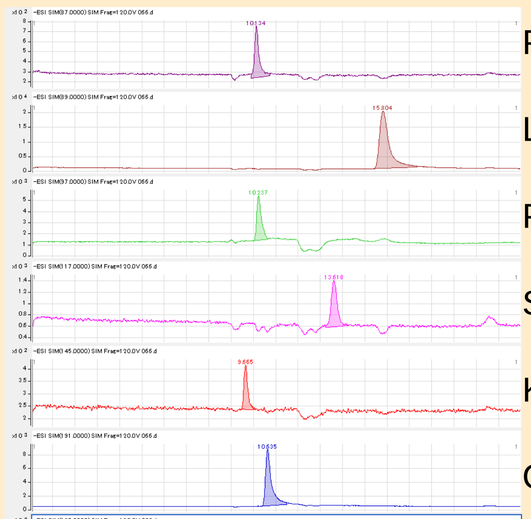
Results and discussion

LOD（S/N=3）

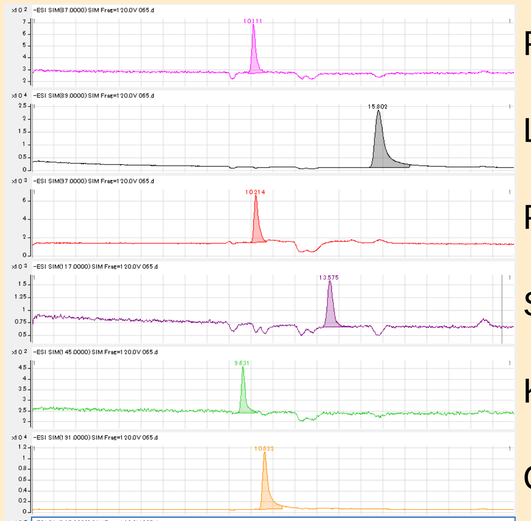
	m/z	LOD(ppb)
acetic acid	59	85.7
glyoxylic acid	73	6.5
glycolic acid	75	4.5
pyruvic acid	87	2.5
lactic acid	89	2.6
phosphoric acid	97	263.2
isovaleric acid	101	483.9
valeric acid	101	681.8
succinic acid	117	8.1
maric acid	133	2.8
ketoglutaric acid	145	3.1
ascorbic acid	175	4.9
citric acid	191	31.9
glucolic acid	195	5.7



Sample L



Sample R



Conclusions