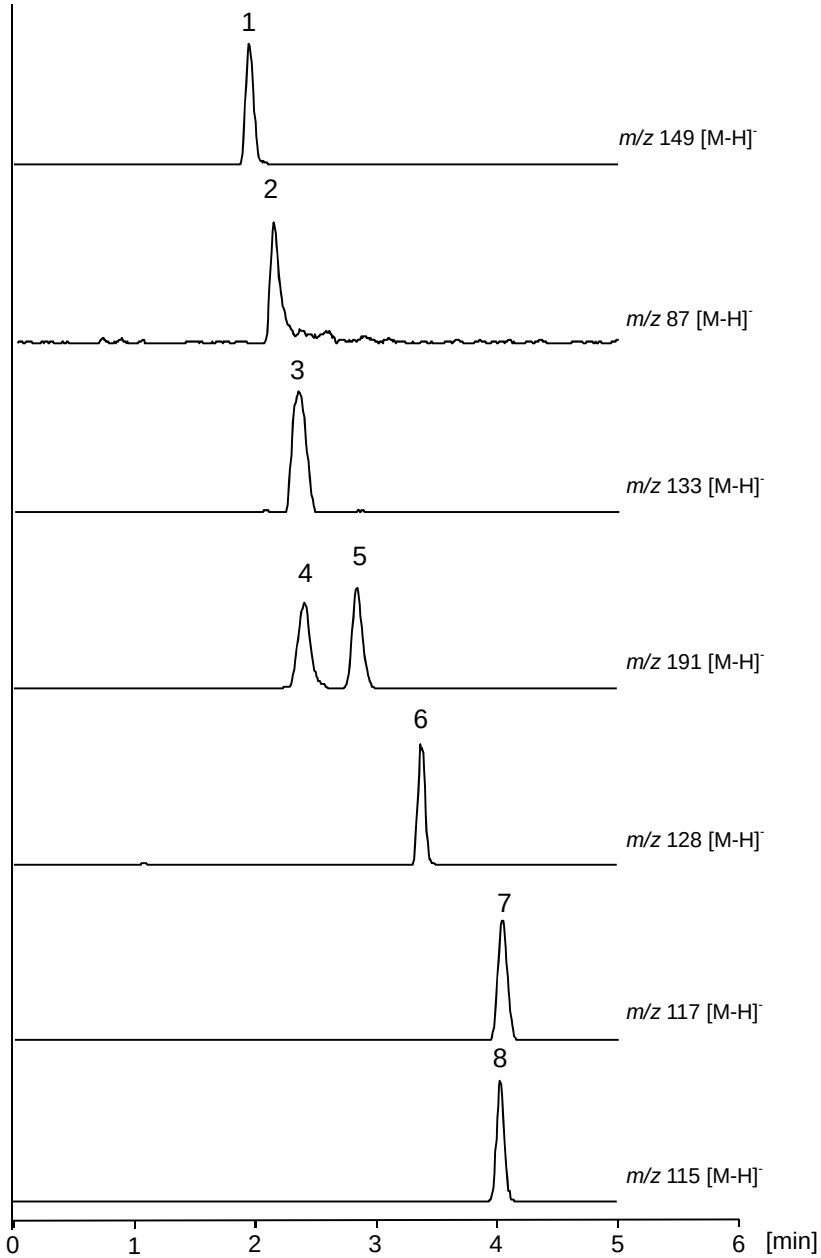
有機酸　Organic acids

8種類の有機酸について，LC-MSにて測定した例を示します．CAPCELL PAK ADME S3（2.1 mm i.d. x 150 mm）は，カルボキシル基を有する極性の高い有機酸に対しても大きな保持が得られるカラムです．移動相に有機溶媒を5%添加した系において，8種類の保持が可能でした.

Shown here is LC-MS analysis of eight organic acids are shown. CAPCELL PAK ADME S3 (2.1 mm i.d. x 150 mm) could increase the retention of the organic acids which are highly polar compounds because of having the carboxyl groups in the structures.

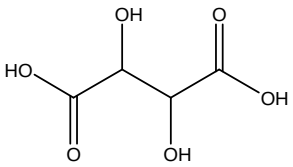


1. 酒石酸 (50 μg/mL)
   Tartaric acid (M.W. 150.1)
2. ピルビン酸 (50 μg/mL)
   Pyruvic acid (M.W. 88.1)
3. リンゴ酸 (50 μg/mL)
   Malic acid (M.W. 134.1)
4. イソクエン酸 (50 μg/mL)
   Isocitric acid (M.W. 192.1)
5. クエン酸 (50 μg/mL)
   Citric acid (M.W. 192.1)
6. ピログルタミン酸 (50 μg/mL)
   Pyroglutamic acid (M.W. 129.1)
7. コハク酸 (50 μg/mL)
   Succinic acid (M.W. 118.0)
8. フマル酸 (50 μg/mL)
   Fumaric acid (M.W. 116.1)

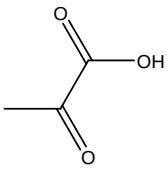
【HPLC Conditions】

Column	: CAPCELL PAK ADME S3 ; 2.1 mm i.d. x 150 mm
Mobile phase	: 10 mmol/L $HCOONH_4$, 0.2 vol% HCOOH / CH_3OH = 95 / 5
Flow rate	: 200 μL/min
Temperature	: 40 ˚C
Detection	: MS
Ionization	: ESI negative
Inj. vol.	: 2 μL
Sample dissolved in	: Eight standard compounds were dissolved in 5 vol% CH_3OH at 1000 μg/mL. Equal volume of eight solutions were mixed together, and then, diluted with 10 mmol/L $HCOONH_4$, 0.2vol% HCOOH.

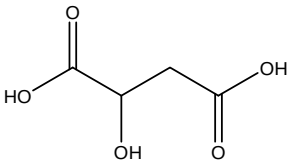
※ 1 μg/mL = 1 ppm



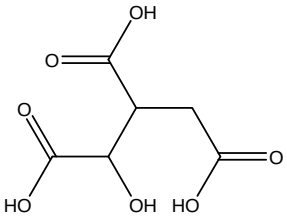
1. Tartaric acid



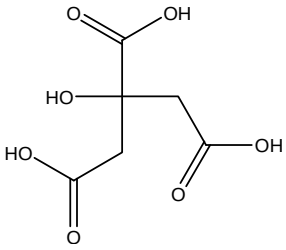
2. Pyruvic acid



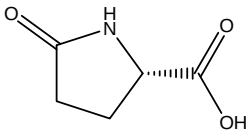
3. Malic acid



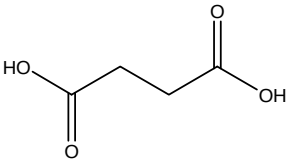
4. Isocitric acid



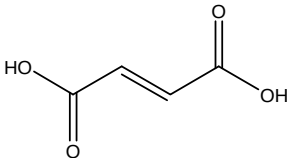
5. Citric acid



6. Pyroglutamic acid



7. Succinic acid



8. Fumaric acid