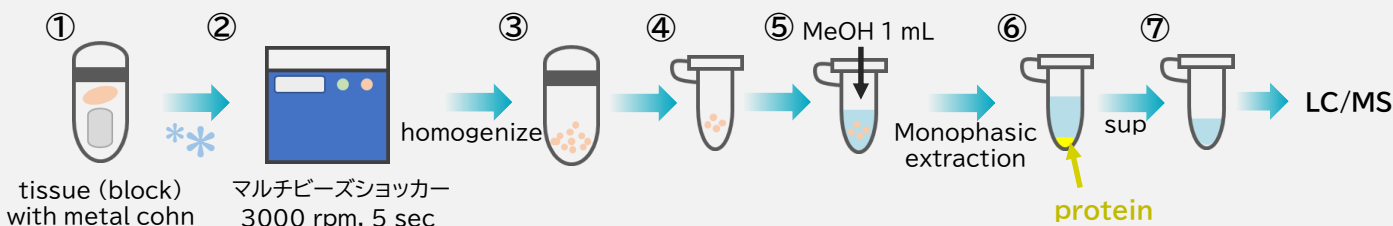


Gelpack GL-HilicAex はHILIC（親水性相互作用クロマトグラフィ）とAEX（陰イオン交換クロマトグラフィ）デュアルモードのカラムで、ワンショットで親水性代謝物を網羅的に測定可能です。今回は、マウスの肝臓組織より抽出した親水性代謝物を分析しました。

## Pretreatment



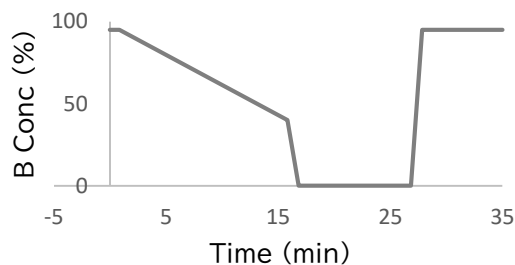
- ① 組織サンプルをメタルコーンと一緒に凍結破砕用チューブに入れる
- ② 液体窒素で5 min以上冷却する
- ③ 破砕（3000 rpm, 5 sec）する
- ④ 破砕された組織およそ20 mgをエッペンチューブにとる
- ⑤ MeOH 1 mLを加える
- ⑥ 抽出処理（ボルテックス1 min, 超音波5 min, 遠心分離 16,000 rpm, 5 min, 4 °C）を行う
- ⑦ 上清400  $\mu$ Lをエッペンチューブにとり、分析サンプルとする

## LC conditions

Instruments : NexeraX2  
 Column : GL-HilicAex (5  $\mu$ m, 2.1 mm I.D. x 150 mm)  
 Flow rate : 0.4 mL/min  
 Solvent A: 40 mM Ammonium hydrogen carbonate in H<sub>2</sub>O (pH 9.8)  
 B: ACN  
 Column temp. : 40 °C  
 Injection volume : 1  $\mu$ L

Binary Gradient:

Time (min)	A (vol%)	B (vol%)
0.50	5	95
15.50	60	40
16.50	100	0
26.50	100	0
27.50	5	95
35.00	5	95

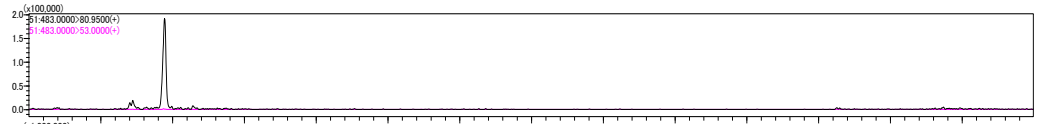


## MS conditions

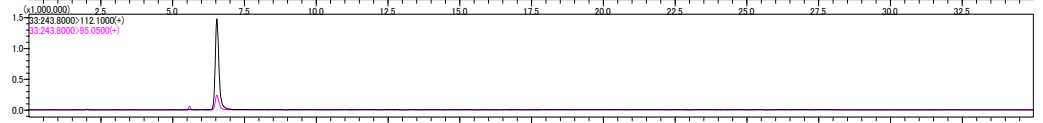
Instruments : LCMS-8060  
 Mode : MRM  
 Polarity : Positive, Negative  
 Dwell time : 2 ms  
 Pause time : 2 ms  
 DL temp. : 250 °C  
 Heat block temp. : 400 °C  
 Interface temp. : 300 °C  
 Nebulizer gas flow : 3.0 L/min  
 Dry gas flow : 10 L min<sup>-1</sup>  
 Heating gas flow : 10 L/min  
 CID gas : 270 MPa

親水性代謝物のLC/MS分析結果

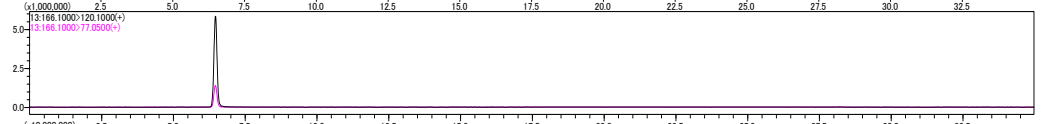
Deoxythymidine  
5'-triphosphate



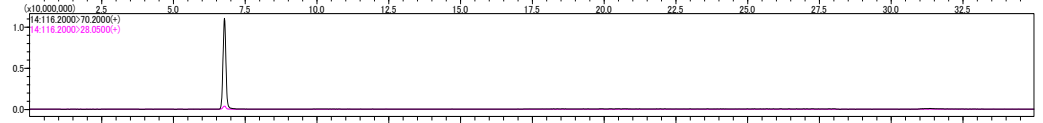
Cytidine



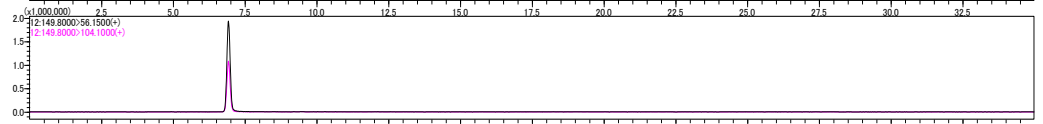
L-Phenylalanine



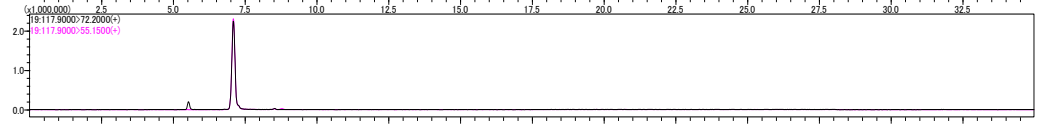
L-Proline



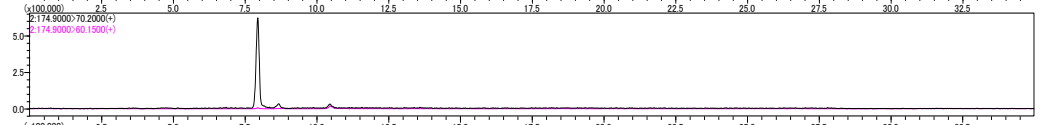
L-Methionine



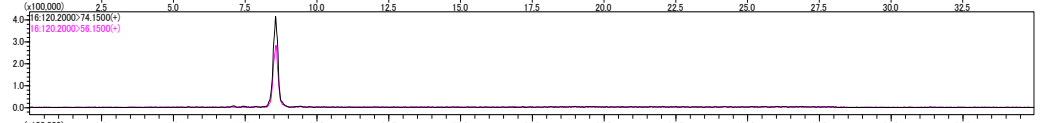
L-Valine



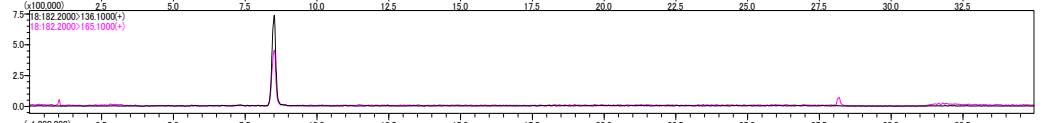
L-Arginine



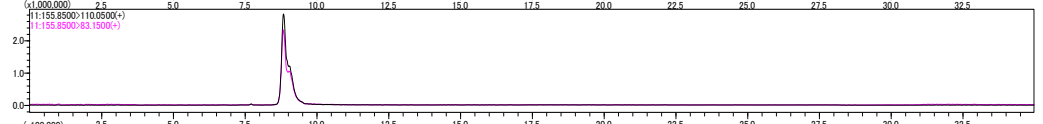
L-Threonine



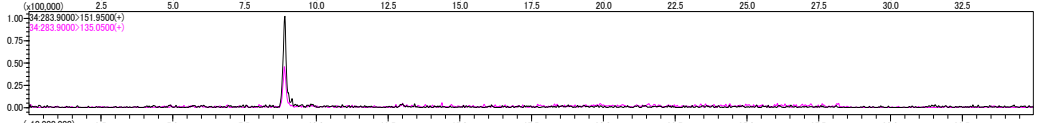
L-Tyrosine



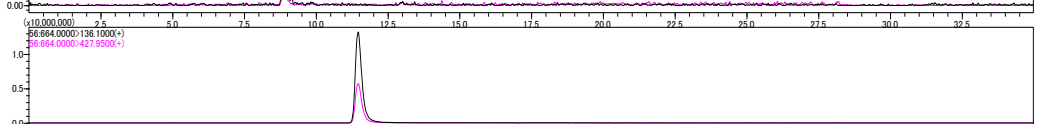
L-Histidine



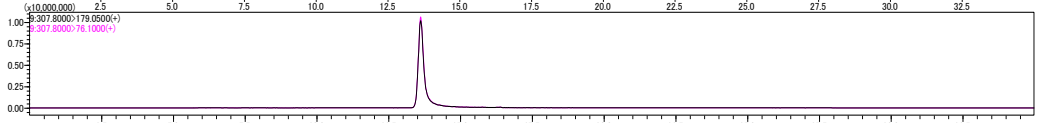
Guanosine



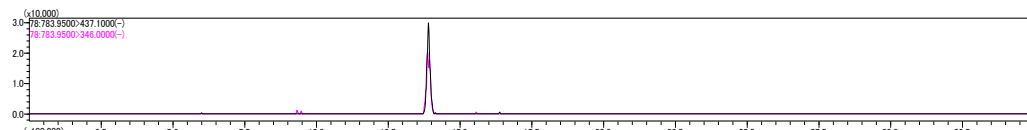
Nicotinamide  
adenine  
dinucleotide



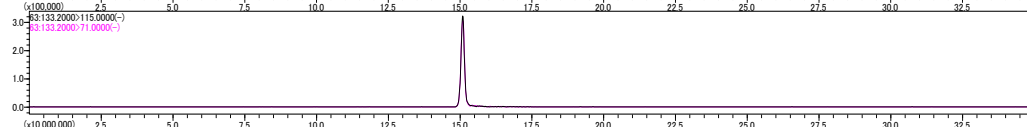
Reduced  
glutathione



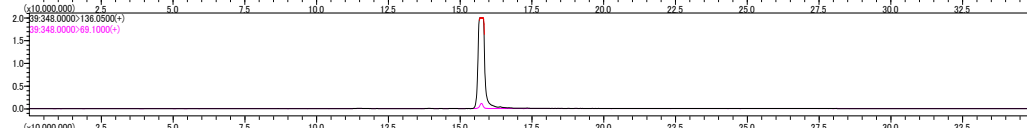
Flavin adenine dinucleotide



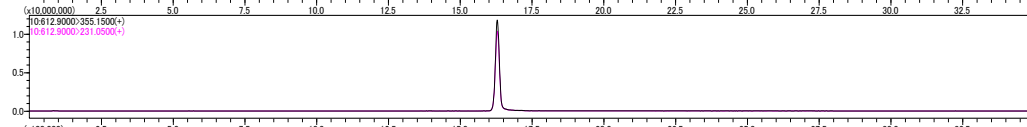
Malic acid



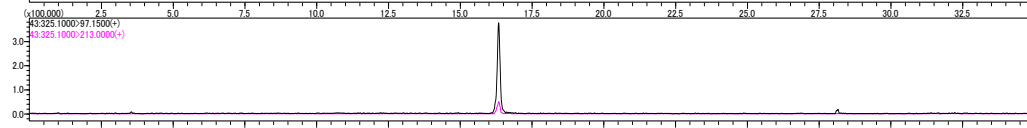
Adenosine 5'-monophosphate



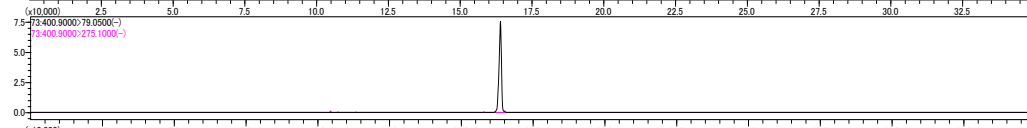
Oxidized glutathione



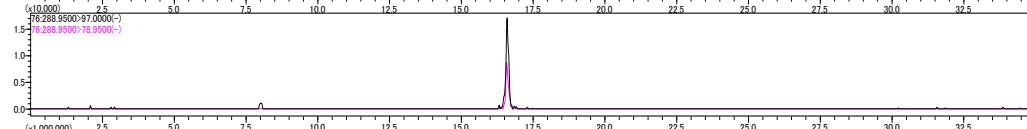
Uridine 5'-monophosphate



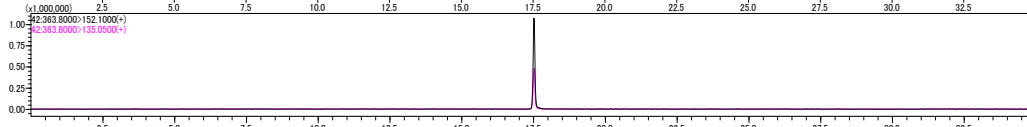
Deoxythymidine 5'-diphosphate



D-Sedoheptulose 7-phosphate



Guanosine 5'-monophosphate



<Note> データ提供: (大)九州大学 生体防御医学研究所 馬場研究室 助教 中谷航太氏

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