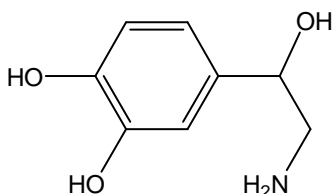


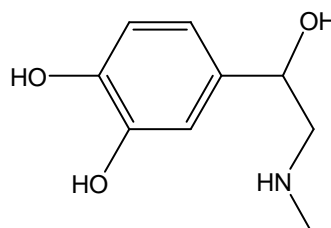
フェニルアラニン及び関連化合物 Phenylalanine and related compounds

必須アミノ酸の一つである，L-フェニルアラニンは，生体内で L-チロシンとなり，さらに L-ドーパ，ドーパミン，ノルエピネフリン，エピネフリンといった神経伝達ホルモンに変換されます．CAPCELL CORE ADME S2.7 (2.1 mm i.d. x 100 mm) を用いてこれらの化合物を一斉分析した例を示します．(圧力：装置とカラム分を含めて 20.1 MPa)

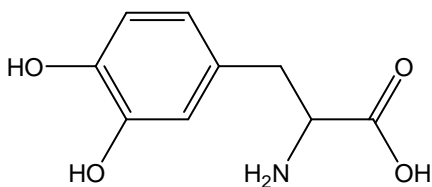
L-Phenylalanine, one of the essential amino acids, is known to be converted to L-tyrosine *in vivo*, and converted further to neurotransmitters, such as L-dopa, dopamine, norepinephrine, and epinephrine. These compounds were simultaneously analyzed with CAPCELL CORE ADME S2.7 (2.1 mm i.d. x 100 mm). (Pressure: 20.1 MPa across instruments and the column).



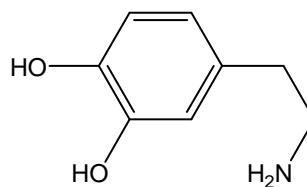
1. ノルエピネフリン (100 $\mu\text{g/mL}$)
Norepinephrine (M.W. 169.2)



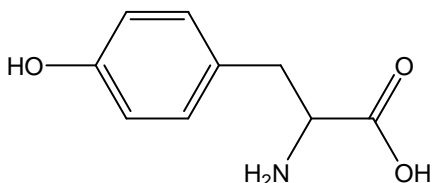
2. エピネフリン (100 $\mu\text{g/mL}$)
Epinephrine (M.W. 183.2)



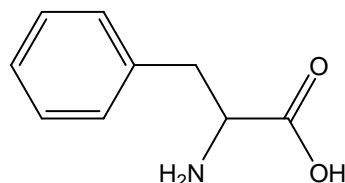
3. L-ドーパ (100 $\mu\text{g/mL}$)
L-DOPA (M.W. 197.2)



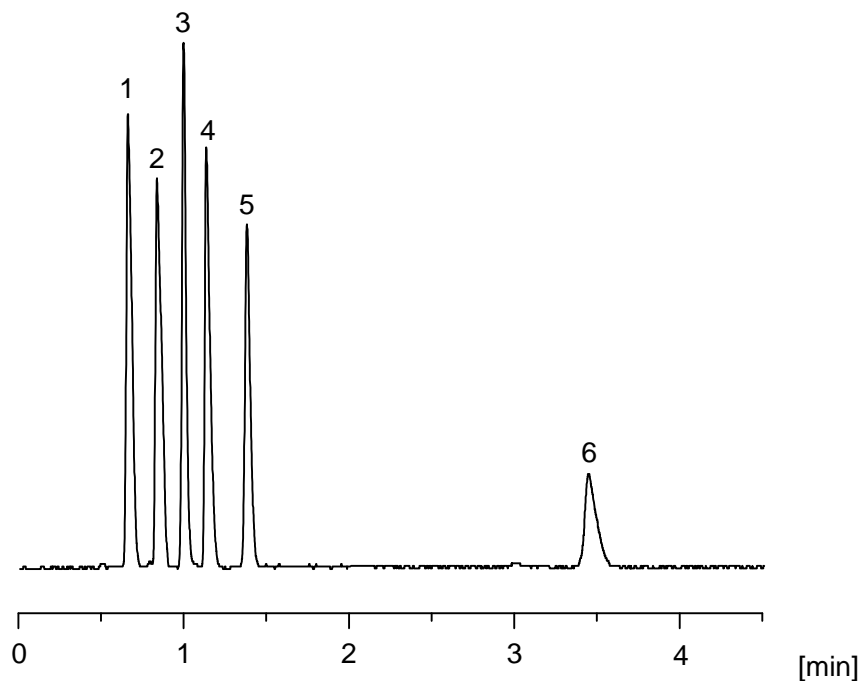
4. ドーパミン (100 $\mu\text{g/mL}$)
Dopamine (M.W. 153.2)



5. L-チロシン (100 $\mu\text{g/mL}$)
L-Tyrosine (M.W. 181.2)



6. L-フェニルアラニン (100 $\mu\text{g/mL}$)
L-Phenylalanine (M.W. 165.2)



【HPLC Conditions】

Column : CAPCELL CORE ADME S2.7 ; 2.1 mm i.d. x 100 mm
 Mobile phase : 20 mmol/L HCOONH₄ (adjusted at pH3.0 with HCOOH) / CH₃CN = 99 / 1
 Flow rate : 400 μL/min
 Temperature : 40 °C
 Detection : PDA 254 nm
 Inj. vol. : 3 μL
 Sample dissolved in : Epinephrine and norepinephrine were separately dissolved in 0.1 vol% formic acid at 1 mg/mL. L-Tyrosine was dissolved in water at 200 μg/mL. Other compounds were dissolved in the mobile phase at 1 mg/mL. 5 mL of the tyrosine solution and 1 mL of other five solutions were mixed together (totally 10 mL, containing each compound at 100 μg/mL).