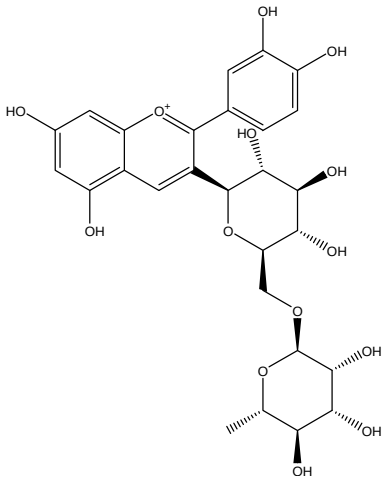
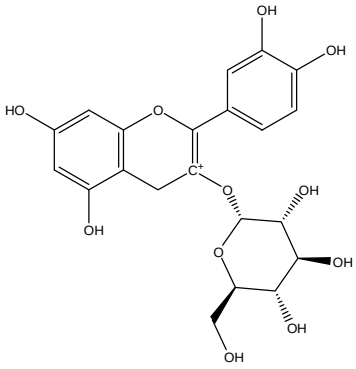
## フラボノイド類 Flavonoids

フラボノイドは，フェニルクロマン骨格を基本構造とする化合物の総称で，植物中に様々形で存在します．CAPCELL CORE $C_{18}$ S2.7（2.1 mm i.d. x 150 mm）を用いて，13 種のフラボノイドを同時に分析しました．流速は通常の流速 200 μL/min の 2 倍としました．各成分は良好なピーク形状で，10 分以内に分離しました（圧力：装置とカラムの分を含め最大 34.7 MPa）.

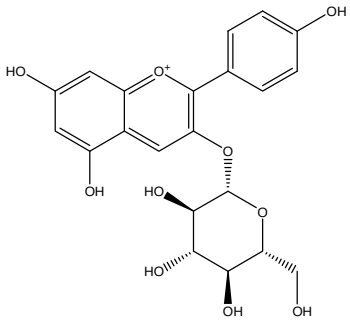
A compound possessing a phenylchromane backbone are generally called “flavonoid”. Many types of flavonids widely occur in plants. Thirteen flavonols were separated with CAPCELL CORE $C_{18}$ S2.7 (2.1 mm i.d. x 150 mm) at a flow rate of 400 μL/min, which corresponds to twice a conventional flow rate for 2.0-2.1 mm i.d. column. The compounds were efficiently separated within ten minutes (max. pressure across instruments and the column: 34.7 MPa).



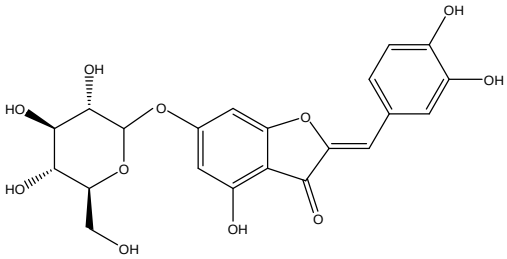
1. シアニジン 3-ルチノシド (1 mmol/L)
   Cyanidin 3-rutinoside (M.W. 595.5)



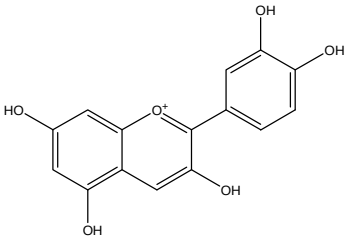
2. シアニジン 3-グルコシド (1 mmol/L)
   Cyanidin 3-glucoside (M.W. 449.4)



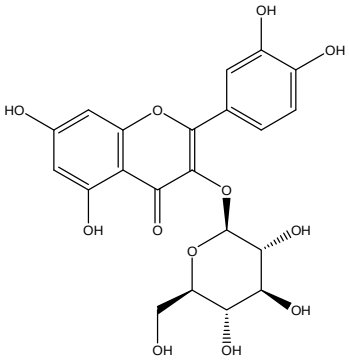
3. ペラルゴニジン 3−グルコシド (1 mmol/L)
   Pelargonidin 3-glucoside (M.W. 433.4)



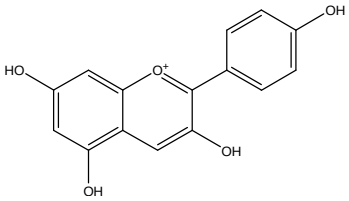
4. オウレウシジン 3−グルコシド (1 mmol/L)
   Aureusidin 3-glucoside (M.W. 448.4)



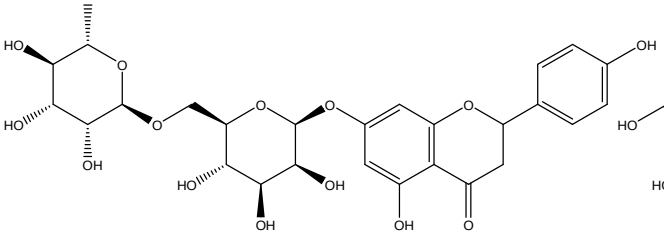
5. シアニジン (1 mmol/L)
Cyanidin (M.W. 287.3)



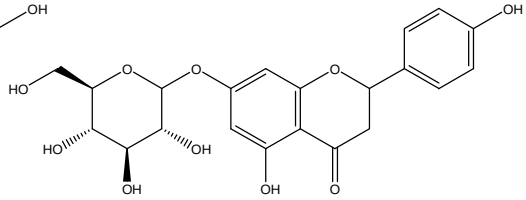
6. ケルセチン 3-グルコシド (1 mmol/L)
Quercetin 3-glucoside (M.W. 464.4)



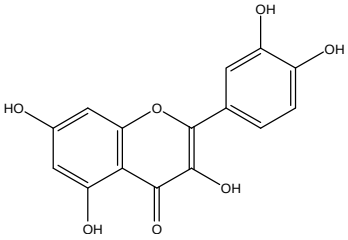
7. ペラルゴニジン (1 mmol/L)
Pelargonidin (M.W. 271.3)



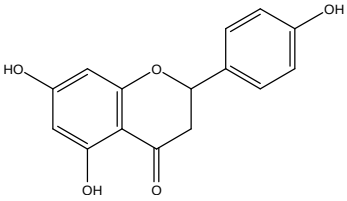
8. ナリンゲニン 7-ルチノシド (1 mmol/L)
Naringenin 7-rutinoside (M.W. 580.5)



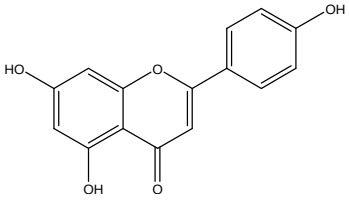
9. ナリンゲニン 7-グルコシド (1 mmol/L)
Naringenin 7-glucoside (M.W. 434.4)



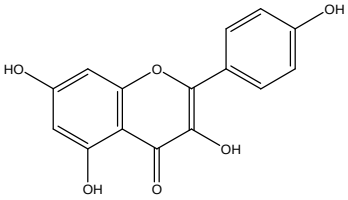
10. ケルセチン (1 mmol/L)
Quercetin (M.W. 302.2)



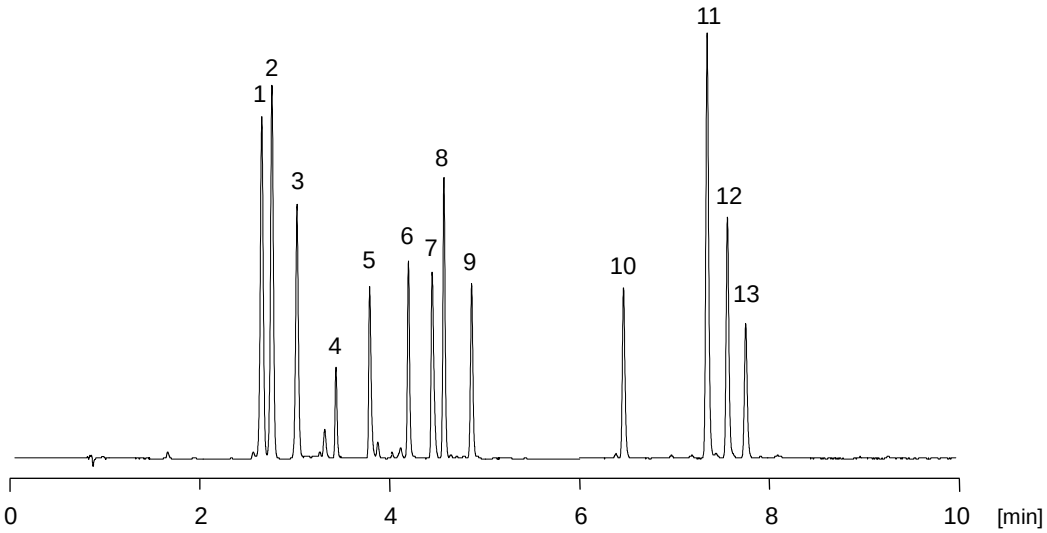
11. ナリンゲニン (1 mmol/L)
Naringenin (M.W. 272.3)



12. アピゲニン (1 mmol/L)
Apigenin (M.W. 270.2)



13. ケンフェロール (1 mmol/L)
Kaempferol (M.W. 286.2)




【HPLC Conditions】

| | |
|---|---|
| Column | : CAPCELL CORE $C_{18}$ S2.7 ; 2.1 mm i.d. x 150 mm |
| Mobile phase | : A) 5 vol% HCOOH, B) 5 vol% HCOOH, $CH_3CN$<br>B 5 % (0 min) → 45 % (9.5 min) → 5 % (9.6 min) Gradient |
| Flow rate | : 400 μL/min |
| Temperature | : 40 ˚C |
| Detection | : UV 280 nm |
| Inj. vol. | : 0.5 μL |
| Sample dissolved in | : Anthocyanins were dissolved in dimethyl sulfoxide at 100 mmol/L.<br>Aureusidin 6-glucoside was dissolved in ethanol at 10 mmol/L.<br>Other compounds were dissolved in ethanol at 100 mmol/L.<br>Aureusidin 6-glucoside solution 100 μL, and other solutions 10 μL were added together, and diluted to 10 mL with the $CH_3OH$. |