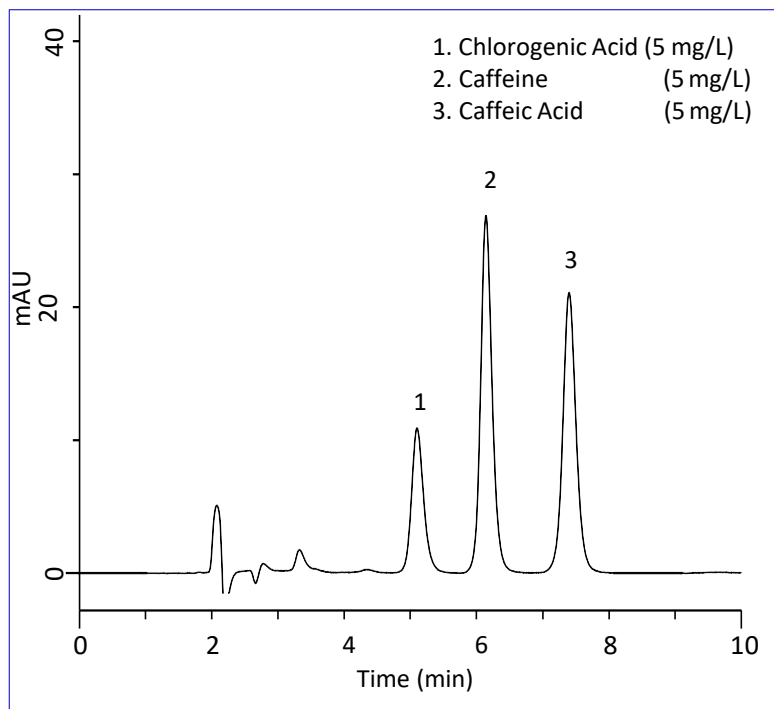


Chlorogenic acid is one of phenolic antioxidants in coffee. It has been researched as anticancer compound by many scientists in recent years. Caffeic acid is a degradation product of chlorogenic acid and increase in process of roasting and extraction, etc.

In this technical note, we introduce a rapid HPLC method to measure chlorogenic acid, caffeine, and caffeic acid.

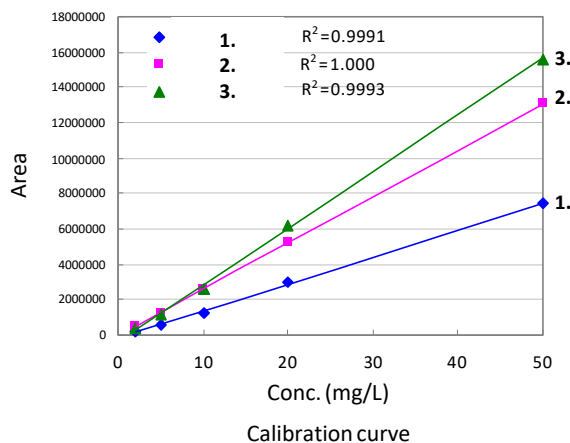
(Y. Tanaka)

Standard Solutions



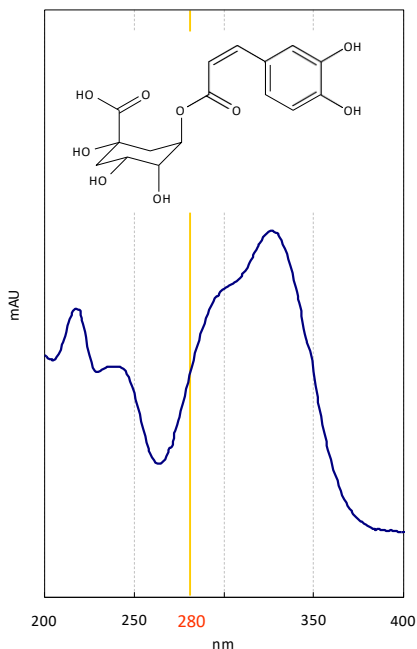
HPLC Conditions

Column : Inertsil ODS-SP
(5 μ m, 150 \times 3.0 mm I.D.)
Eluent : A) CH₃OH
B) 5 mM KH₂PO₄ (pH 2.5, H₃PO₄)
A/B = 30/70, v/v
(Mixed by a gradient mixer)
Flow rate : 0.4 mL/min
Col. temp. : 40 °C
Detection : UV 280 nm (PDA 200 – 400 nm)
Inj. vol. : 10 μ L

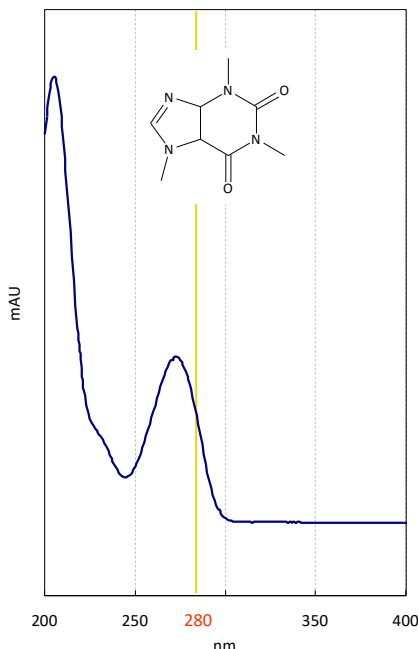


Chemical Structures and UV Spectra (200 – 400 nm)

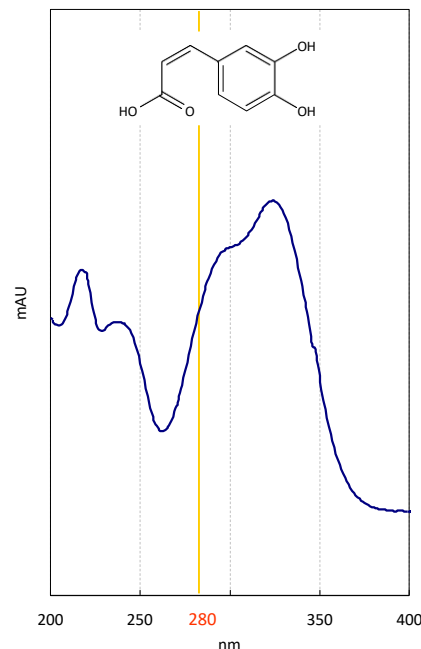
Structures are created using Chemistry 4-D Draw which is provided by ChemInnovation Software, Inc.



Chlorogenic Acid



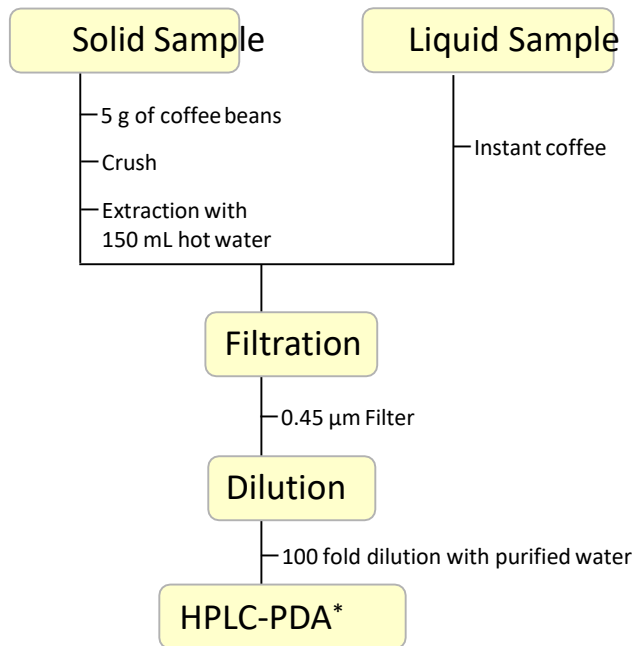
Caffeine



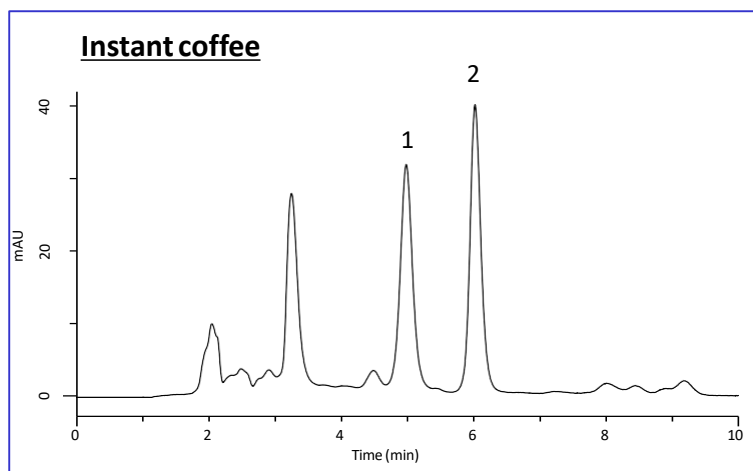
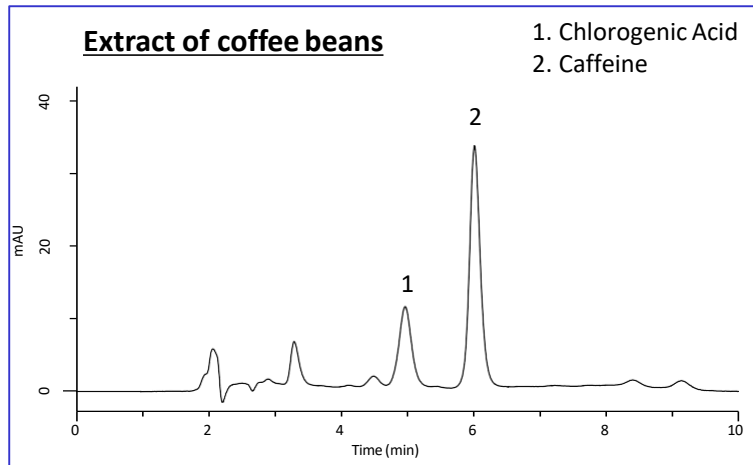
Caffeic Acid

Analysis of Coffee example

Sample preparation method example



* PDA (Photo Diode Array Detector)



HPLC Column

Inertsil ODS-SP 5 µm, 150 × 3.0 mm I.D.
Cat. No. 5020-02725

Syringe Filter

GL Chromato Disk Sample Filters 25A
PORE SIZE 0.45 µm
Cat. No. 5040-28512

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