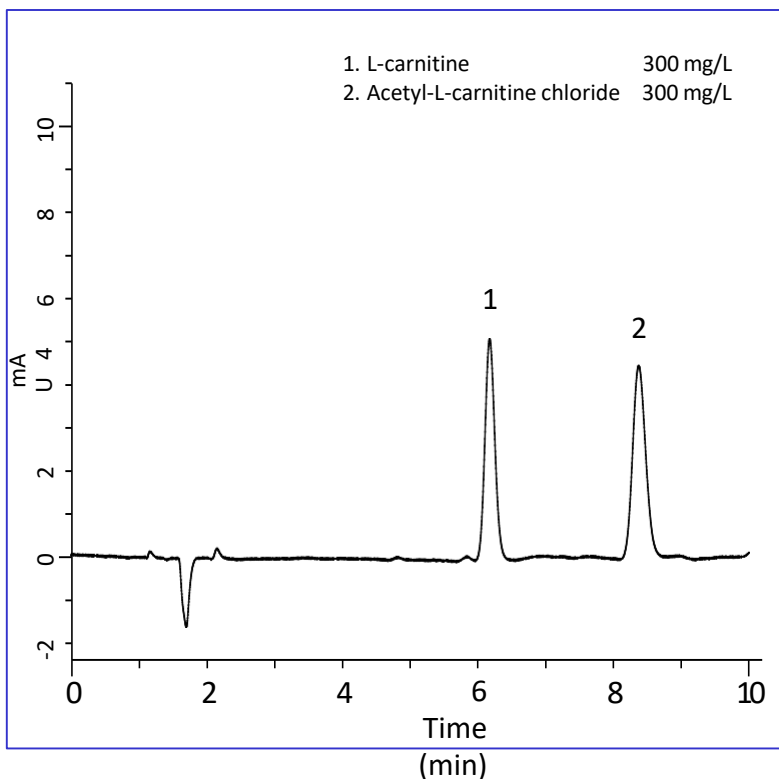


It is said that L-carnitine is effective for fat burning and for dieting, acetyl-L-carnitine is effective for brain aging prevention and for reducing fatigue. Acetyl-L-carnitine is a metabolite of L-carnitine. Both compounds are used as components of supplements, etc.

In this technical note, we introduce a HPLC method to measure L-carnitine and acetyl-L-carnitine with UV detector and reversed phase column. L-carnitine is very hydrophilic compounds, though it was retained on ODS column with ion-pair reagent and separated from impurities in an energy drink and a supplement.

Standard Solutions



HPLC Conditions

Column : Inertsil ODS-3
(5 μ m, 150 \times 4.6 mm I.D.)

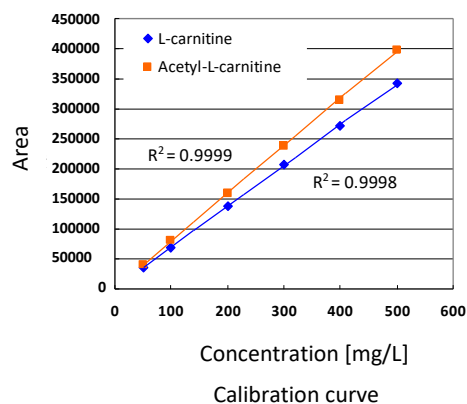
Eluent : A) CH₃OH
B) 5 mM
1-Nonanesulfonic Acid Sodium Salt, 20 mM NaH₂PO₄ (pH 2.5, H₃PO₄)
A/B = 30/70, v/v
(Mixed by a gradient mixer)

Flow rate : 1.0 mL/min

Col. temp. : 40 °C

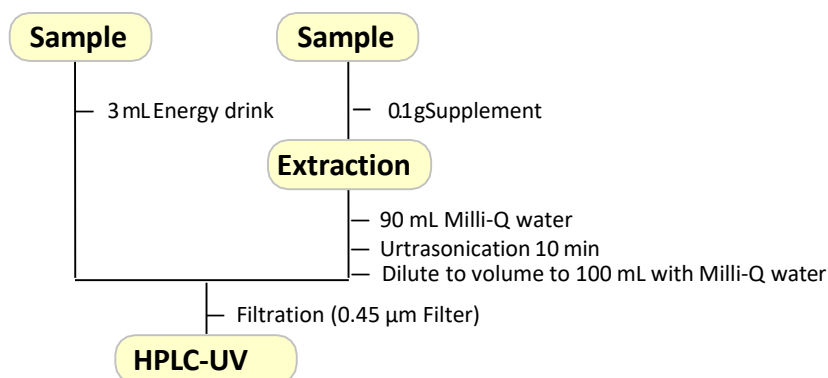
Detection : UV 210 nm

Inj. vol. : 10 μ L

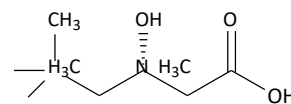


Analysis of energy drink and supplement example

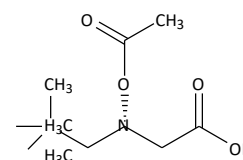
Sample preparation method example



Chemical Structure

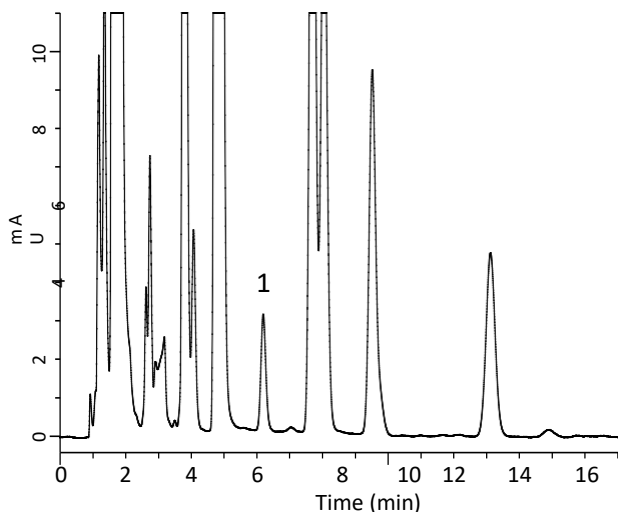


L-carnitine

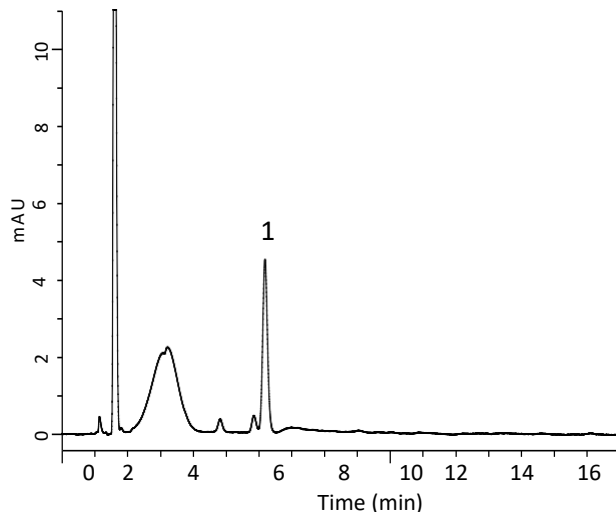


Acetyl L-carnitine

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

Energy drink**Supplement**

1. L-carnitine

**HPLC Column**

Inertsil ODS-3 5 μ m, 150 \times 4.6 mm I.D.
Cat. No. 5020-01731

Syringe Filter

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

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