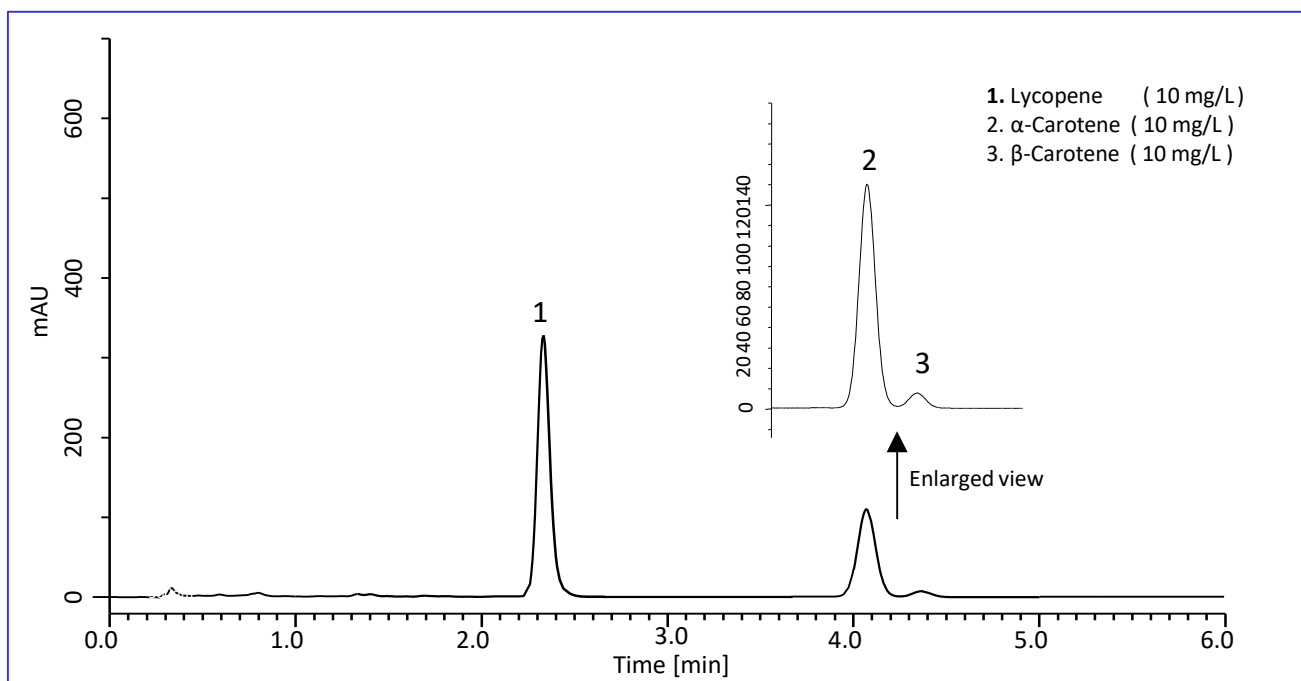


Lycopene is a type of carotenoid. It is found in red fruits and vegetables such as tomatoes, and known to have strong anti-oxidative effect. This note describes a determination method for lycopene in food samples using an HPLC system. In this method, not only retention time of lycopene but also those of  $\alpha$ -carotene and  $\beta$ -carotene were determined.

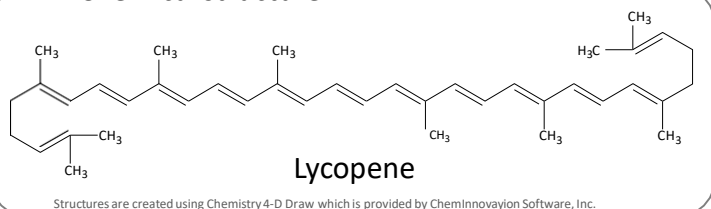
The sample pretreatment is consisted of only liquid extraction and centrifugation. For the HPLC separation, 50 mm length Inertsil ODS-3 column packed with 2  $\mu$ m particle was used. As a result, sharp peaks were obtained from standard solution and food samples within 5 min under lower pressure than 15 MPa (150 bar).

(K. Suzuki)

## A Chromatogram Obtained from Standard Solution



### Chemical structure



### Conditions

**Column** : Inertsil ODS-3  
(2  $\mu$ m, 50 x 3.0 mm I.D.)  
Cat.No. 5020-84662

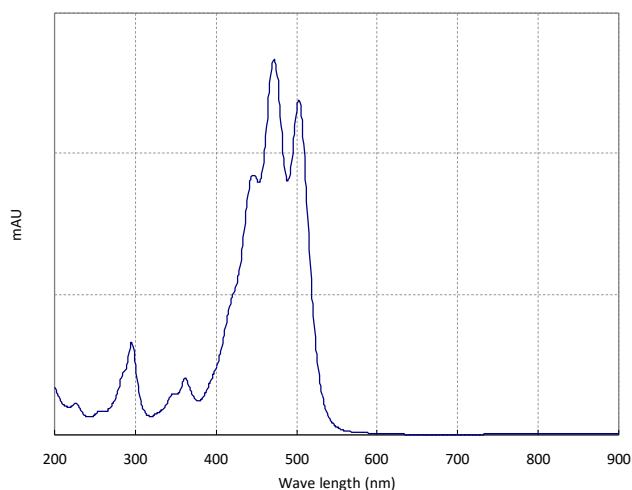
**Eluent** : CH<sub>3</sub>CN

**Flow rate** : 1.2 mL/min (Approx. 14 MPa)

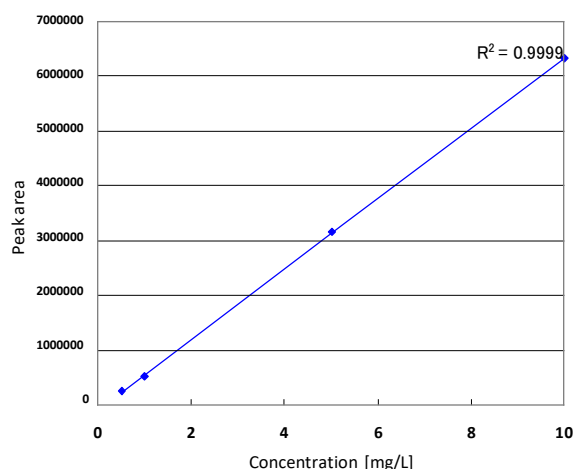
**Col. Temp.** : 45 °C

**Detection** : PDA 470 nm

**Inj. Vol.** : 20  $\mu$ L



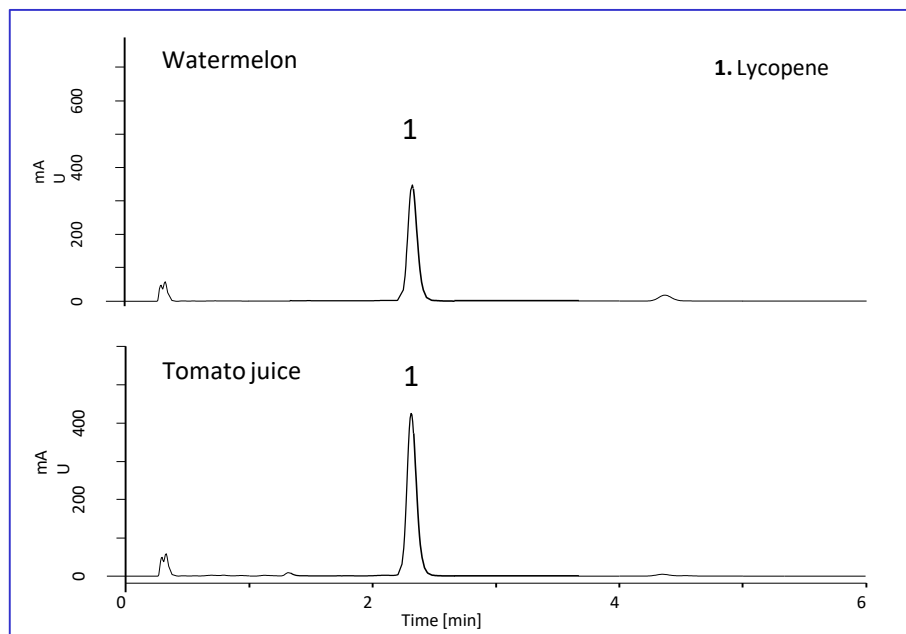
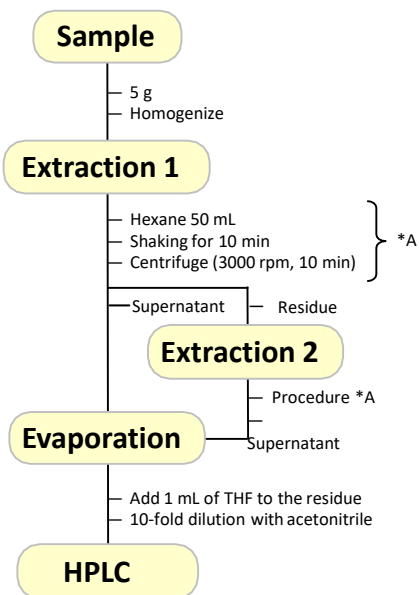
Absorption spectrum of lycopene



Calibration curve for lycopene

## Chromatograms Obtained from Food Samples

### An Example of Sample Pretreatment



If high recovery ratio is required, not single but multiple extraction (procedure \*A) should be carried out.

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