Ⅱ-96

Terpenoids from Strawberry (*Fragaria ananassa* Duch.) Calyx

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딸기 (*Fragaria ananassa* Duch.) 꽃받침으로부터 터페노이드의 분리 및 구조동정

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Objectives

Strawberry (*Fragaria ananassa* Duch.) is one of the popular fruit belonging to the rosaceae family. *Fragaria ananassa* is well known to have antioxidant activity because they have a lot of anthocyanins. In our preliminary experiment, the calyx of *Fragaria ananassa* also showed high antioxidant activity which is almost same as that of green tea. This study was initiated for isolation and identification of secondary metabolites to show antioxidant activity from the *Fragaria ananassa*.

Materials and Methods

○ Materials

The calyx of *Fragaria ananassa* were offered by GFC Co.(Suwon). ^{1}H-NMR (400 MHz) and ^{13}C-NMR (100 MHz) spectra were recorded on Varian Unity Inova AS-400 FT-NMR spectrometer (California, USA).

○ Methods

The calyxies of *Fragaria ananassa* (8.5 kg) were extracted with 80% aqueous MeOH and the concentrated extract was partitioned with EtOAc, *n*-BuOH, and H_2O, successively. Silica gel and octadecyl silica gel (ODS) column chromatographies were used for the isolation of the terpenoids.

Results

From the EtOAc fraction, two terpenoids were isolated. On the basis of spectroscopic methods, such as ^{1}H-NMR, ^{13}C-NMR, DEPT and 2D-NMR (COSY, HSQC, HMBC), the chemical structures of the compounds were determined to be α-tocopherol **(1)** and oleanolic acid **(2)**. Compound **1** is well known as the most powerful natural antioxidant. These compounds have been first isolated from the calyx of *Fragaria ananassa*.

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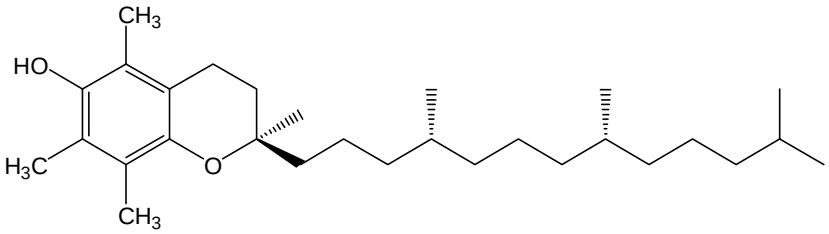
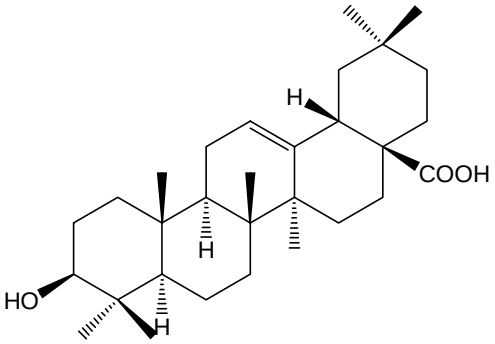


compound 1



compound 2

Fig.1. The structures of two compounds were isolated from the calyx of *Fragaria ananassa.*