

## Isolation and Identification of Sterol Compounds from Stem Bark of *Rhus verniciflua* Stokes by Fermentation

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### Objectives

The contact with *Rhus verniciflua* contain urushiol congeners causes irritation, inflammation, or blistering in sensitive individuals. For this reason, interest has been focused on the chemical structure of allergenic compound. Recently, due to allergy of urushiol, there has brought about many scientific studies and methods to remove urushiol. For example, there may be exemplified by a method involving heat treatment, solvent extraction, far-infrared radiation, and enzyme treatment. We have isolated from the stem bark of *R. verniciflua* Stokes by fermentation, which removed urushiol using *Fomitella fraxinea*.

### Materials and Methods

#### ○ Materials

The stem bark of *R. verniciflua* Stokes by fermentation served from RDA.

#### ○ Methods

The stem bark of *R. verniciflua* Stokes by fermentation was extracted with methanol and the concentrated extract was partitioned with n-hexane, CH<sub>2</sub>Cl<sub>2</sub>, ethyl-acetate, n-butanol and H<sub>2</sub>O, successively. From the n-hexane and CH<sub>2</sub>Cl<sub>2</sub> fraction, five compounds were isolated through the repeated silica gel, and ODS column chromatographies.

### Results

The n-hexane and CH<sub>2</sub>Cl<sub>2</sub> fractions were chromatographed over silica gel, and ODS to yield five compounds. The structures of the isolated compounds (see Fig. 2) were identified as stigmast-4-en-3-one, stigmast-4-en-3,6-dione, stigmast-4-en-6β-ol-3-one, stigmast-4-en-6α-ol-3-one and 7-methoxychromone by spectroscopic methods,

particularly NMR, IR, UV/Vis, Mass experiments, and comparison with the literature data.

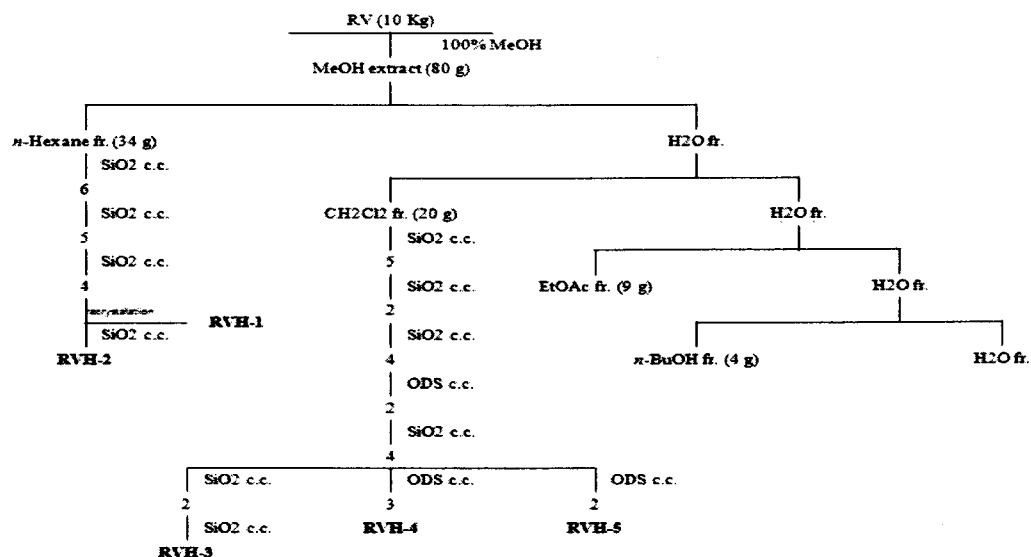


Fig. 1. Scheme of the compounds isolation procedure from the stem bark of *Rhus verniciflua* Stokes

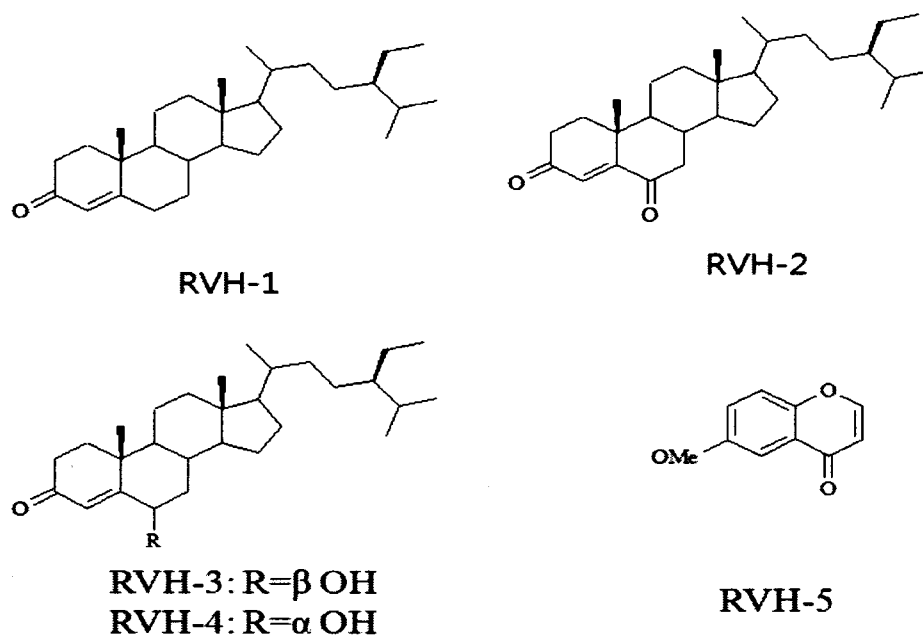


Fig. 2. The structures of compounds isolated from the stem bark of *Rhus verniciflua* Stokes

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