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싸주아리쑥 (*Artemisia herba*) 지상부로부터 분리한
Cycloartane-Type Triterpenes

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Cycloartane-Type Triterpenes from the Aerial Parts of Artemisia herba

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실험목적

Artemisia species were distributed above 200 kinds in the world, especially about 38 kinds in Korea, but some species were unidentified. Knowledge of these unidentified plants is very important because there is not only the potential to discover new alternatives for the treatments illnesses, but also the conservation of plants. This species has been used traditionally medicines, among them, the aerial parts of *Artemisia asiatica* (Compositae) has been used for stopping several kinds of bleedings, regulating menses and curing menstrual disorders as well as in alleviating pain. The chemical constituents of genus *Artemisia* have been studied by a number of researchers. For example, terpenes, flavonoids, lignans, phenylpropanoids etc. 'Sajuarisuk' (*Artemisia herba*) is an annual herb which is a kind of *Artemisia asiatica* with 'Sajabalsuk' growing wild in Ganghwa, Korea. The constituents of 'Sajuarisuk' have been reported by Ryu, that is only flavonoid such as eupatilin, jaceosidin. So, in this poster the authors reported the isolation and identification of two cycloartane-type triterpenes from the aerial parts of 'Sajuarisuk'.

재료 및 방법

o 실험재료(Materials)

The aerial parts of 'Sajuarisuk' (*Artemisia herba*), which have been harvested at Ganghwa in 2002 and 2003, were offered from Ganghwa Agricultural R&D Center (Incheon). The 'Sajuarisuk' stored for 2 and 3 years in the air was used in the experiments.

o 실험방법(Methods)

The dried aerial parts of 'Sajuarisuk' (*Artemisia herba*, 8 kg) were extracted

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two times at room temperature with 80% aqueous MeOH (40 L×2). The extracts were partitioned with water (3 L), EtOAc (3 L×2) and n-BuOH (3 L×2), successively. The EtOAc extract (SAE, 102 g) was applied to the silica gel (70-230 mesh) column (8×25 cm) chromatography (c.c.), and eluted with n-hexane - EtOAc (7:1 → 5:1 → 1:1, each 5 L) and CHCl₃ - MeOH (10:1 → 1:1, each 2 L).

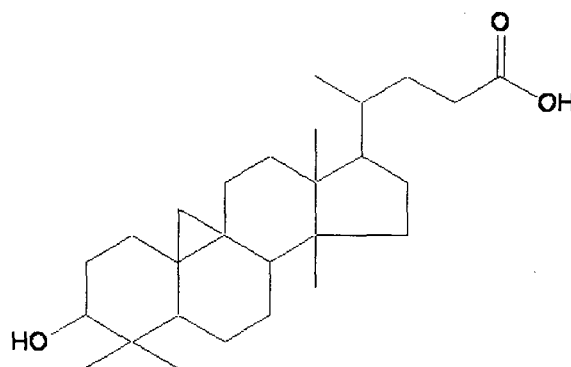It was monitored by thin layer chromatography (TLC) to produce 19 fractions (SAE1 to SAE19).

Phytochemical investigation of these fractions resulted in the isolation and identification of two cycloartane-type triterpenes from EtOAc fraction. Their structures were established by chemical and spectroscopic methods (EI-MS, ¹H NMR, ¹³C NMR, DEPT, COSY, HMQC and HMBC).

결과 및 고찰

The aerial parts of 'Sajuarisuk' (*Artemisia herba*) were extracted with 80% *aq ueous* MeOH, and the concentrated extract was partitioned with EtOAc, n-BuOH and H₂O. From the EtOAc fraction, two cycloartane-type triterpenes were isolated through the repeated silica gel and ODS column chromatographies. From the result of physico -chemical data including NMR and MS, the chemical structures of the compounds we re determined as 1H,19H-cyclopropa[9,10]cyclopenta[a]phenanthrene,9,19-cyclocholan-24 -al and 1H,19H-cyclopropa[9,10]cyclopenta[a]phenanthrene,9,19-cyclocholan-24-oic acid.
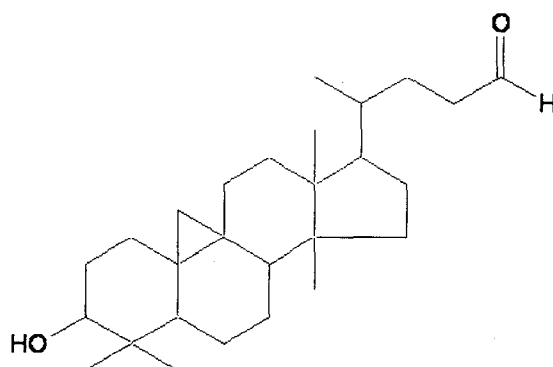
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