## B081 Two new neolignan derivatives of *Phyllanthus ussuriensis*

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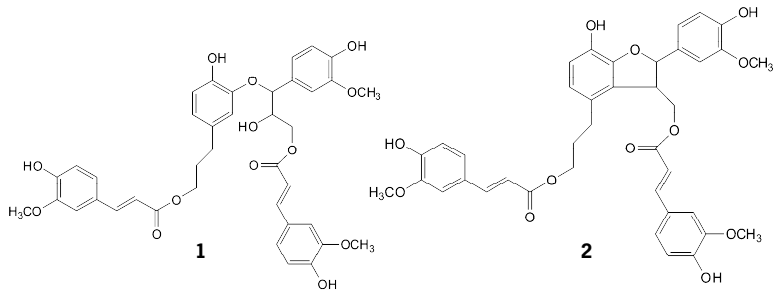
*Phyllanthus ussuriensis* Rupr. et Maxim. (Euphorbiaceae) is widely distributed in Korea, and has long been used in folk medicine to treat kidney and urinary bladder disturbances, intestinal infections, diabetes, and hepatitis. Reported chemical constituents of this species are only one flavonoid (quercetin-3-O-rutinoside), two gallotannins (gallic acid, methyl gallate), and two ellagitannins (corilagin, geraniin) (1).
An investigation of the $CHCl_3$ fraction of *P. ussuriensis* led to the isolation of two new neolignan derivatives, 3-(4-hydroxy-3-methoxy-phenyl)-acrylic acid 3-(4-hydroxy-3-{2-hydroxy-1-(4-hydroxy-3-methoxy-phenyl)-3-[3-(4-hydroxy-3-methoxy-phenyl)-acryloyloxy]-propoxy}-phenyl)-propyl ester (**1**) and 3-(4-hydroxy-3-methoxy-phenyl)-acrylic acid 3-{7-hydroxy-2-(4-hydroxy-3-methoxy-phenyl)-3-[3-(4-hydroxy-3-methoxy-phenyl)-acryloyloxymethyl]-2,3-dihydro-benzofuran-4-yl}-propyl ester (**2**). The structural elucidations of these compounds were based on the analysis of spectroscopic data.




**References: 1.** I. Ham et al. (2001) Yakhak Hoeji 45: 237-244.

## B082 Inhibition of HIV-1 reverse transcriptase by phlorotannins from *Ecklonia cava*

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The bioassay-directed isolation of a Phaeophyton, *Ecklonia cava* afforded four phlorotannin derivatives, eckol (1), dieckol (1), bieckol (2), and phlorofucofuroeckol (3). Among these compounds, bieckol and dieckol exhibited the inhibitory activity on human immunodeficiency virus type 1 (HIV-1) reverse transcriptase (RT) with $IC_{50}$ values of 0.51±0.34, 5.3± 2.8 μM, respectively. The inhibitory activity of bieckol was comparable to that ($IC_{50}$ value of 0.28±0.15 μM) of nevirapine, a reference compound. Enzyme kinetic assay showed that bieckol inhibited the RNA dependent DNA synthesis (RDDS) activity of HIV-1 RT competitively against dUTP/dTTP with a Ki value of 0.84 μM. This result suggest that bieckol may act as a selective HIV-1 RT inhibitor through binding to the dNTP binding site.

*Acknowledgements*: This research was supported by a grant from the Ministry of Maritime Affairs & Fisheries of Korea (19980024).

**References: 1.** Fukuyama, Y. et al. (1985) Chem. Lett. 739-742. **2.** Fukuyama, Y. et al. (1989) Chem. Pharm. Bull. 37: 2438-2440. **3.** Fukuyama, Y. et al. (1990) Chem. Pharm. Bull. 38: 133-135.