

Korea, and its aerial parts have been used to treat for asthma and diuresis in Korea folk medicine¹⁾. Literature survey of this plant revealed that no phytochemical and pharmacological studies have been performed. In continuation of our systematic study for Korean Compositae medicinal plants, we have isolated four hydroperoxides from this plant. This plant was collected at Ullung Island and extracted with MeOH. The methanol extract was fractionated with n-hexane, methylene chloride, ethyl acetate and BuOH. The repeated column chromatographic separation of the n-hexane fraction resulted in the isolation of four new hydroperoxides. Their structures have been established by chemical and spectroscopic means. In this poster we demonstrate the isolation and the structure determination of new hydroperoxides.

1) Kim, T. J., Wild flowers of Korea. *Kugilmedia* p. 232 (1996)

[PD2-24] [10/19/2001 (Fri) 14:00 - 17:00 / Hall D]

Triterpenes and Phenolic Constituents from *Viscum album* var. *coloratum*

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Viscum album L. var. *coloratum* (Loranthaceae) has been used in Chinese medicine as anticancer drug^{1,2)}. On reviewing the literatures of this species, flavonoid, triterpene, lectin, polysaccharide and alkaloid were reported³⁾ and some pharmacological activities were investigated⁴⁾. In the course of our search for bioactive compounds from natural sources, we have isolated twelve compounds from this source. Their structures were determined by spectroscopic means to lupeol (1), betulonic acid (2), betulinic acid (3), terminic acid (4), ursolic acid (5), β -sitosterol (6), α -spinasterol (7), oleanolic acid (8), 5-hydroxy-1-(4'-hydroxyphenyl)-7-(4''-hydroxyphenyl)-hepta-1-en-3-on (9), 2'-hydroxy-4',6'-dimethoxychalcone-4-O-glucoside (10), 2'-hydroxy-4',6'-dimethoxychalcone-4-O-[apiosyl(1→2)] glucoside (11) and syringin (12). The cytotoxicity of the isolated compounds was evaluated by SRB assay against five cultured human tumor cell lines.

1) Bae, K.H., The medicinal plants of Korea. *Kyohaksa*, p.79 (2000) 2) Park, W. B. and Kim, H. S., *Yakhak Hoeji*, 38, 418-424 (1994)

3) Fukunaga, T., Kajikawa, I., Nishiya, K., Watanabe, Y., Takeya, K., *Chem. Pharm. Bull.* 35(8), 3292 (1987)

4) Khwajawa, T. A., Dias, C. B. and Pentecost, S. *Oncology*, 43 (Suppl 1), 42 (1986)

[PD2-25] [10/19/2001 (Fri) 14:00 - 17:00 / Hall D]

Sesquiterpenes and Lignans from *Ulmus davidiana* var. *japonica*

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Investigation of the constituents of the stem and root barks of *Ulmus davidiana* var. *japonica* resulted in

the isolation of new diastereomeric guaian-type sesquignans (1, 2) including torlin (3) and eight known lignans, schizandrol A (4), angeloylgomisin H (5), lyoniside (6), nudiposide (7), 5'-methoxyisolariciresinol-9'-O- β -D-xylopyranoside (8), isolariciresinol-9'-O- β -D-xylopyranoside (9), rel-trans-dihydrodehydroconiferyl alcohol 4'-O- α -L-rhamnopyranoside (10) and icariside E3 (11). Compounds 1 and 2 were identified as 7R,8R,10S (1) and 7R,8R,10R (2) diastereomers of 1,8,11-trihydroxy-4-guaian-8-angeloyl-3-one on the basis of their spectral data, respectively.

[PD2-26] [10/19/2001 (Fri) 14:00 - 17:00 / Hall D]

Two new nitroalkyl indole alkaloids from *Saururus chinensis*

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Saururus chinensis (Lour.) Baill. (Saururaceae) is a perennial plant that has been used in the treatment of edema, jaundice and gonorrhoea in Korean folk medicine. In the aerial parts of *Saururus* species, aristolactam alkaloids, quinones, lignans, neolignans and flavonoids have been reported previously. Separation of the methanolic extract of *S. chinensis* resulted in the isolation of two new nitroalkyl indole alkaloids. The structures of these compounds were determined as 2-(6-methoxy-3-indoly)-1-nitroethylene (1) and 2-(3-indoly)-1-nitroethane by spectroscopic techniques.

[PD2-27] [10/19/2001 (Fri) 14:00 - 17:00 / Hall D]

Antioxidant Principles from the Leaves of *Prunus serrulata* var. *spontanea*

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The antioxidant activity of *Prunus serrulata* var. *spontanea* was evaluated for potential to scavenge stable 1,1-diphenyl-2-picrylhydrazyl (DPPH) free radicals, inhibit hydroxyl radicals, inhibit total reactive oxygen species generation in kidney homogenates using 2', 7'-dichlorodihydrofluorescein diacetate (DCHF-DA), and scavenge authentic peroxy nitrates. The methanolic extract of *Prunus serrulata* var. *spontanea* showed strong antioxidant activity in tested model systems, and thus fractionated with several solvents. The antioxidant activity potential of the individual fraction was in the order of ethyl acetate > *n*-butanol > water > dichloromethane fraction. The ethyl acetate soluble fraction exhibiting strong antioxidant activity was further purified by repeated silica gel and Sephadex LH-20 column chromatographies. A new 2-*O*- β -(6'-benzoyl)-glucopyranosyl *o*-(*Z*)-coumaric acid (compound 12), as well as ten known flavonoids [prunetin (compound 1), genistein (compound 2), quercetin (compound 5), prunetin 4'-*O*-glucopyranoside (compound 6), kaempferol 3-*O*- α -arabinofuranoside (compound 7), prunetin 5-*O*- β -glucopyranoside (compound 8), kaempferol 3-*O*- β -xylopyranoside (compound 9), genistin (compound 10), kaempferol 3-*O*- β -glucopyranoside (compound 11), and quercetin 3-*O*- β -glucopyranoside (compound 13)], and two triterpenoids [ursolic acid (compound 3), 2 α -hydroxyursolic acid (compound 4)], were isolated. The structure of a new compound 12 was determined by spectroscopic data analysis. Compounds 5, 12, and 13 showed good activities in all tested model systems. Compounds 2, 4 and 10 showed scavenging activities in the DPPH and peroxy nitrite tests, while compounds 7, 9, and 11 were active in the peroxy nitrite and ROS tests. On the other hand, compounds 1, 3, 6, and 8 did not show any activities in tested model systems.

[PD2-28] [10/19/2001 (Fri) 14:00 - 17:00 / Hall D]

Further Antioxidant Principles from the Needles of *Pinus densiflora*

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