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[Lab. of Pharmacognosy]

Flavonoid Compounds in Roots of *Sophora tetraptera*.

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Two novel flavonoid compounds, an isoflavanone, tetrapterol A, and a pterocarpan, tetrapterol B, and three new isoflavanones, tetrapterols C-E, were isolated from the roots of *Sophora tetraptera*, in addition to eight known phenolic compounds (kenusanone A, lespdeol B, euchrenone a, lonchocarpol A, cajanone, maackiain, isoneoratenol and pentacosanyl caffeate). The two novel compounds had a common characteristic partial structure which is derived from a geranyl group which forms a new chromatic ring after cyclization with a hydroxyl group located at a side ring in a flavonoid framework and dehydrogenation. The new isoflavanones had a geranyl or isoprenyl group on their A or B ring. The structures were determined by analysis of spectral data, particular, 2D-NMR.

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Isoflavonoids in Roots of *Sophora secundiflora*.

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In continuous studies on chemosystematics of the genus *Sophora*, we have previously determined the structures of flavonoids and stilbenoids in several *Sophora* species; *S. leachiana*, *S. koreensis*, *S. fraseri*, *S. exigua*, *S. prostrata* and *S. tetraptera*. In present paper, we describe the isolation and structure determination of 12 phenolic compounds including three new isoflavonoid in the roots of *S. secundiflora*. This evergreen shrub or tree, native to Mexico and the southern U.S.A. The structures of new compounds (secundiflorols A-C) were determined by spectral analysis including 2D NMR techniques.

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Two Xanthenes from Roots of *Calophyllum inophyllum*.

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In our previous papers, the structures of three new xanthenes, caloxanthenes A-C in the root bark of *Calophyllum inophyllum* were described as well as the structure of the simple oxygenated xanthenes in the root heart. The chemical composition between the root bark and root heartwood is markedly different. To characterize the localization of the xanthenes based on the presence or absence of isoprenyl group(s), xanthone derivatives in the underground parts were further isolated. From the root bark of *C. inophyllum*, a new xanthone, caloxanthone D, and from the root heartwood, another new xanthone, caloxanthone E, in addition to four known xanthenes were isolated. These structures were determined by analysis of NMR spectral data.