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Antioxidative activity of prenylated xanthenes from *Cudrania tricuspidata*

Byong Won Lee, Jin Hwan Lee, Jin Hyu Kin, Woo Duk Seo,
Min Suk Yang and Ki Hun Park

Department of Agricultural Chemistry, Gyeongsang National University

The eight prenylated xanthenes were isolated from a root bark of *Cudrania tricuspidata*. The structures were fully characterized as 1,3,7-trihydroxy-4-(1,1-dimethyl-2-propenyl)-5,6-(2,2-dimethylchromeno)-xanthone (1), cudraxanthone C (2), cudraxanthone D (3), isocudranixanthone A (4), 1,3,6,7-tetrahydroxy-4-(1,1-dimethyl-2-propenyl)-8-prenylxanthone (5), cudraxanthone L (6), cudraxanthone M (7) and macluraxanthone B (8) with the aid of HMBC NMR technique and X-ray crystallography. The prenylated xanthenes were established the free radical scavenging activities [1,1-diphenyl-2-picrylhydrazyl (DPPH) radical, superoxide anion and hydroxyl radical] through electron spin resonance (ESR). Compound 3-8, nonprotected vicinal-hydroxylated xanthenes, showed a potent scavenging effect on DPPH radical (IC_{50} 10-30 mM). In superoxide radical scavenging activities, 2,5-substituent xanthone (6 and 7) displayed much stronger scavenging activities (IC_{50} 23 and 26 mM) than other compounds (IC_{50} 50-90 mM). On hydroxyl radical, 4,8-substituent xanthone (2, 3 and 5) showed significant scavenging activities (IC_{50} 20-25 mM). The compound 3-8, having a good activity to DPPH radical, showed a good inhibitory activity of oxidation of LDL (IC_{50} 1-7 mM).

