Composition of the essential oil of flowers of Chloranthus spicatus (Thunb.) Makino

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Abstract: The composition of the essential oil of the flowers of Chloranthus spicatus (Thunb.) Makino (Chloranthaceae) was investigated using capillary GC-GC/MS, preparative GC and NMR techniques. Forty-seven compounds were identified either by comparing their retention indices and mass spectra with a library of authentic samples established under identical experimental conditions or, by isolating the compounds and deriving their structures by one- and two-dimensional NMR investigations. Thus, four minor components, viz. chloranthalactone A (0.5%), isogermafurenolide (0.7%), eudesma-4(15),7(11),9-trien-12-olide (0.5%), and 7?-hydroxyeudesm-4-en-6-one (3.3%), were isolated for the first time as constituents of the essential oil of the flowers of C. spicatus and their structures established. The major components of the oil include (Z)-?-ocimene (6.3%), allo-aromadendrene (6.2%), sarisane (2-allyl-4,5-methylenedioxyanisol, 4.2%) and selina-4(15),7(11)-diene (6.4%).

Author Keywords: (Z)-?-ocimene; 7?-hydroxyeudesm-4-en-6-one; Allo-aromadendrene; Chloranthalactone A; Chloranthus spicatus; Essential oil; Eudesma-4(15),7(11),9-trien-12-olide; Isogermafurenolide; Sarisane; Selina-4(15),7(11)-diene

Index Keywords: Composition; Gas chromatography; Mass spectrometry; Nuclear magnetic resonance spectroscopy; Allo-aromadendrene; Chloranthalactone; Chloranthus spicatus; Eudesmaolide; Hydroxyeudesm; Isogermafurenolide; Sarisane; Selinadiene; Essential oils; 7alpha hydroxyeudesm 4 en 6 one; aromadendrene; chloranthalactone a; Chloranthus spicatus extract; essential oil; eudesma 4(15),7(11),9 trien 12 olide; isogermafurenolide; natural product; ocimene; plant extract; sarisane; selina 4(15),7(11) diene; unclassified drug; article; capillary gas chromatography; chemical structure; Chloranthus spicatus; controlled study; flower; herb; mass spectrometry; nonhuman; nuclear magnetic resonance spectroscopy; quantitative analysis; structure analysis; Chloranthaceae; Chloranthus spicatus

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