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CHEMICAL CONSTITUENTS OF LEAVES OF *Vitex quinata*

Yu-Peng Li,[1*] Min Wang,[2] and Shao-hua Wu[3]

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Vitex quinata belongs to genus the *Vitex* of Verbenaceae. It contains about 250 species worldwide, of which 14 species, 7 varieties, and 3 forms are distributed in China. Many species of *Vitex* are used as traditional medicinal herb. *Vitex quinata* is mainly distributed over the southern and eastern regions of China [1]. It is used in traditional Chinese medicine to treat cough, asthma, fever, and as a tranquilizer. Previously, some compounds such as steroids, flavonoids, diterpenoids, triterpenoids, and iridoids were obtained from this genus [2], and 5 compounds have been isolated from this plant [3]. In order to search for bioactive components, its leaves were investigated.

Dried and minced leaves of *Vitex quinata* (1.5 kg) were extracted three times with EeOH (95%, 5 ×), 48 h each time. The solvent was removed under reduced pressure to give a crude extract (120 g). The aqueous suspension of the extract was partitioned successively with petroleum ether, ethyl acetate, and *n*-BuOH, resulting in petroleum ether (15 g), ethylacetate (20 g), and *n*-BuOH (56 g) extracts. The petroleum ether fraction was chromatographed over a column of silica gel with elution by petroleum ether:acetone to isolate **1** and **2**. The ethylacetate fraction was chromatographed over a column of silica gel with gradient elution by $CHCl_3$–CH_3OH to isolate **3–11**. The structures were elucidated by PMR, ^{13}C NMR, HSQC, HMBC, and MS analysis.

All the data were in good agreement with the literature data. All compounds were isolated from leaves of *Vitex quinata* for the first time. Among them, compounds **2–9** were discovered for the first time from the plant.

Compounds **1** and **2** were identified as *β*-sitosterol and stigmasterol, respectively, by direct comparison with authentic samples. PMR and ^{13}CNMR spectra were used to identify **3–11**.

Compound **3**, yellow crystal, $C_{19}H_{18}O_8$, 189–190°C, was identified as casticin by comparison of physicochemical data and spectral data (EI-MS, PMR, and ^{13}C NMR), which were identical with those reported in the literature [4].

Compound **4**, yellow needles, $C_{15}H_{10}O_6$, 328–330°C; its spectral data (EI-MS, PMR, and ^{13}C NMR) and physicochemical data were identical to those reported for luteolin in the literature [5].

Compound **5**, yellow crystals, $C_{15}H_{10}O_7$, mp > 300°C; its spectral data (EI-MS, PMR, and ^{13}C NMR) and physicochemical data were in accordance with those reported for quercetin in the literature [5].

Compound **6**, yellow crystals, $C_{15}H_{10}O_6$, mp 274–276°C; its spectral data (EI-MS, PMR, and ^{13}C NMR) and physicochemical data were in accordance with those reported for kaempferol in the literature [5].

Compound **7**, yellow crystals, $C_{21}H_{20}O_{12}$, mp 176–178°C; its spectral data (EI-MS, PMR, and ^{13}C NMR) and physicochemical data were in good agreement with those reported for isoquercetrin in the literature [5].

Compound **8**, yellow powder, $C_{21}H_{20}O_{11}$, mp 171–173°C; its spectral data (EI-MS, PMR, and ^{13}C NMR) and physicochemical data were in good agreement with those reported for kaemferol-3-*O*-D-glucopyranoside in the literature [5].

Compound **9**, yellow powder, $C_{21}H_{20}O_{10}$, mp 223–224°C; its spectral data (EI-MS, PMR, and ^{13}C NMR) and physicochemical data were identical to those recorded for isovitexin in the literature [6].

Compound **10**, yellow powder, $C_{21}H_{20}O_{10}$, mp 260–262°C; its spectral data (EI-MS, PMR, and ^{13}C NMR) and physicochemical data were identical to those recorded for vitexin in the literature [7].

Compound **11**, white amorphous powder, $C_{35}H_{60}O_6$, mp 292.5–293.5°C; its spectral data (EI-MS, PMR, and ^{13}C NMR) and physicochemical data were in accordance with those reported for daucosterol in the literature [8].

1) Department of Chemistry, Kunming Medical College, Kunming 650031, P. R. China, fax: +86 871 5332390, e-mail: liyupeng26@126.com; 2) Experimental Centre of Chemistry, Yunnan University, Kunming 650091, P. R. China; 3) Kunming Institute of Physics, Kunming 650223, P. R. China. Published in Khimiya Prirodnykh Soedinenii, No. 3, p. 390, May–June, 2010. Original article submitted December 1, 2008.

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