Chinese Chemical Letters Vol. 11, No. 11, pp. 993–994, 2000

A New Compound from *Dalbergia odorifera* T. Chen

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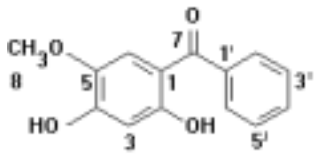
Abstract: A new compound, 2, 4-dihydroxy-5-methoxybenzophenone was isolated from the root and heartwood of *Dalbergia odorifera* T. Chen.

Keywords: Benzophenone, *Dalbergia odorifera*.

The plant *Dalbergia odorifera* T. Chen (Leguminosae) is a high tree, the root and heartwood of this plant is a Chinese traditional medicine named Jiangxiang. It is indigenous to Guangdong province.

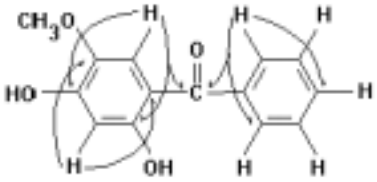
Compound **1** was isolated from the EtOAc extract of plant *Dalbergia odorifera* T. Chen as yellow crystalline powder, mp: 191.2-192.5 ℃. EI-MS (*m/z*): 244 (96), 243 (92), 167 (100), 166 (65), 123 (23), 105 (55), 77 (95). IR ν (KBr) cm^{-1} : 3300 (hydryoxy), 1637 (β-unsaturated carbonyl), 1597, 1571and 1512 (aromatic ring). Its spectrum showed UV λ_{max} nm : 252, 287 (aromatic ring), 362. ^{1}H-NMR (400MHz) ($CDCl_3$, δ): 3.96 (3H, s, H-8), 5.24 (1H, s, -OH), 6.54 (1H, s, H-3), 7.10 (1H, s, H-6), 7.47 (2H, ddd, J=7.6, 7.3, 2.2Hz, H-3′,5′), 7.45 (1H, dd, J=7.3, 2.2 Hz, H-4′), 7.63 (2H, dd, J=7.6, 2.2 Hz, H-2′,6′), 12.48 (1H, s, -OH). The ^{13}C-NMR (100MHz) ($CDCl_3$) and DEPT spectra showed signal at δ 56.2 (C-8), δ 99.9 (C-3), δ 111.8 (C-1), δ 116.7 (C-6), δ 128.3 (C-2′, 6′), δ 128.7 (C-3′,5′), δ 131.4 (C-4′), δ 137.8 (C-4), δ 138.3 (C-1′), δ 153.6 (C-5), δ 160.1 (C-2), δ 200.0(C-7). The partial structure was elucidated from the HMBC spectrum; most of which are shown by arrows in **Figure 2**. In addition, the following ^{13}C-^{1}H long-range correlation was also observed between H-3 and C-1, C-5; H-6and C-2, C-4, C-7; H-8 and C-5; H-2′ and C- 4′, C-6′, C-7 signals . The ^{1}H-^{1}H COSY and HMQC spectra sported assignment of all proton signals. Thus, the structure was determined as 2, 4-dihydroxy-5-methoxy-benzo-phenone.

Figure 1 Structure of compound **1**



1

Figure 2 The HMBC correlation of compound **1**



References

1. Y. Shoji, O. Tetsu, S. Reiko, K. Ryoji, Y. Johji, M. Kazumoto, N. Toshihiro, *Chem. Pharm. Bull.*, **1989**, *37*, 979.
2. O. Tetsu, Y. Shoji, H. Reiko, K. Ryoji, N. Toshihiro, *Chem. Phem. Bull.*, **1990**, *38*, 2750.

Received 19 October 1999
Revised 14 April 2000