

Phytochemical communication

Ferulic acid esters from *Euphorbia hylonomia*

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Abstract

Octacosyl *cis*-ferulate (**1**), along with the *trans* isomer (**2**), cholest-5-en-3 β -ylhexadecanoate, chrysophanol and octadecanoic acid was isolated from the roots of *Euphorbia hylonomia*.

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1. Plant

Euphorbia hylonomia Hand.-Mazz. (Euphorbiaceae), roots collected from Shennongjia (Hubei, China) in November 2001 were identified by Prof. Shishigui, Shennongjia Drug Administration. A voucher specimen (200129) is deposited in the Faculty of Pharmaceutical Sciences, Tongji Medical College.

2. Uses in traditional medicine

Against liver cancer and cirrhosis [1].

3. Previously isolated classes of constituents

Tannins [1], triterpenoids and sesquiterpenoids [2,3].

4. New-isolated constituents

Octacosyl *cis*-ferulate (**1**), white snowflakes, m.p. 101–103 °C; HRFAB MS *m/z* 586.2085 [M]⁺ (calcd for C₃₈H₆₆O₄, 586.2081). ¹H NMR (500 MHz, in CDCl₃) and ¹³C NMR(100 MHz, in CDCl₃): see Table 1.

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Table 1
 ^1H NMR and ^{13}C NMR of compounds **1** and **2**

C	δ_{H} (J in Hz)		δ_{C}	
	1	2	1	2
1	—	—	127.2	127.0
2	7.74 (1H, <i>s</i>)	7.01 (1H, <i>s</i>)	112.7	109.2
3	—	—	145.0	146.7
4	—	—	147.0	147.8
5	6.86 (1H, <i>d</i> , J 8.2)	6.89 (1H, <i>d</i> , J 8.2)	113.8	114.6
6	7.04 (1H, <i>d</i> , J 8.2)	7.05 (1H, <i>d</i> , J 8.2)	125.5	123.0
7	6.77 (1H, <i>d</i> , J 12.9)	7.58 (1H, <i>d</i> , J 15.9)	143.5	144.6
8	5.80 (1H, <i>d</i> , J 12.9)	6.27 (1H, <i>d</i> , J 15.9)	116.9	115.7
C=O			167.3	167.3
OMe-3	3.90 (3H, <i>s</i>)	3.90 (3H, <i>s</i>)	55.9	55.9
1' -CH ₂	4.09 (2H, <i>t</i> , J 6.7)	4.17 (2H, <i>t</i> , J 6.85)	64.4	64.6
2' -CH ₂	1.61 (2H, <i>t</i> , J 6.7)	1.69 (2H, <i>t</i> , J 6.85)	31.9	31.9
28' -CH ₃	0.86 (3H, <i>t</i> , J 6.7)	0.86 (3H, <i>t</i> , J 6.6)	14.0	14.0

Octacosyl *trans*-ferulate (**2**) [4,5], white needles. ^1H NMR (500 MHz, in CDCl_3) and ^{13}C NMR (100 MHz, in CDCl_3): see Table 1, (Fig. 1).

Cholest-5-en-3 β -ylhexadecanoate, chrysophanol and octadecanoic acid [6–8] were also isolated.

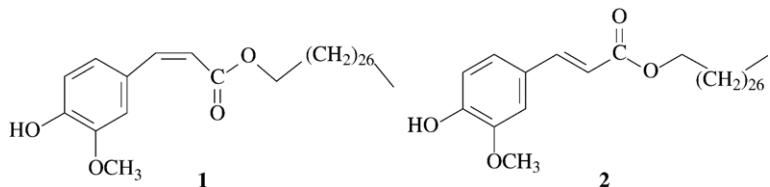


Fig. 1. Compounds **1** and **2**.

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