

异叶梁王茶的三萜成分

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TRITERPENOIDS FROM NOTHOPANAX DAVIDII

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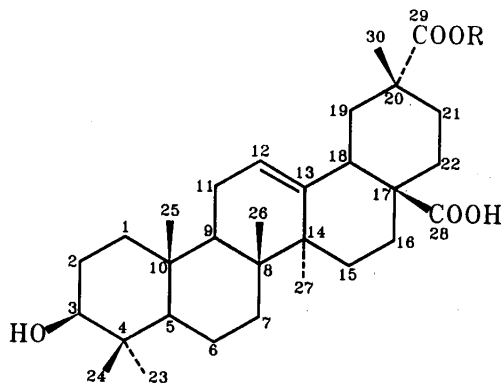
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Key words *Nothopanax davidii*; Triterpenoid

Nothopanax davidii (Fr.) Harms ex Diels (Araliaceae), a well known folk medicine "Liang Wang Cha", is tall tree which grows in Guizhou province, China. The roots and steams are used to remedy rheumatosis and the injuries from falls, fractures, contusions and strains. From the alcohol extract of dried leaves of this plant, we isolated two triterpene glycosides, which gave a new triterpenoid named liangwanin A(1)

Table 1 ¹³C NMR spectral data of 1 and 2 (broadband and DEPT, 100.622MHz, pyridine-d₅, TMS, taken on bruker AM-400 spectrometer)

C	1	2	C	1	2
1	39.12	39.03	17	46.61	46.70
2	28.16	28.14	18	41.04	41.18
3	78.26	78.17	19	40.65	41.11
4	39.45	39.41	20	42.28	42.27
5	55.96	55.88	21	29.04	29.36
6	18.91	18.85	22	32.19	32.43
7	33.40	33.34	23	28.86	28.79
8	39.92	89.87	24	16.58	16.54
9	48.21	48.16	25	15.66	15.59
10	37.53	37.47	26	17.52	17.49
11	23.94	23.91	27	26.13	26.12
12	123.48	123.28	28	179.75	179.9
13	144.16	144.36	29	178.22	180.95
14	42.64	42.60	30	19.75	20.07
15	28.34	28.36	OEt	60.53	
16	23.94	23.91	OEt	14.43	



1. R=Et
2. R=H

comparing that of 2 revealed the ethyl group in 1 took the place of the proton at 29-carbonyl acid in 2. Liangwanin A was therefore deduced to be 29-ethylester of 3 β -hydroxyolean-12-ene-28, 29-dioic acid.

and one known triterpenoid— 3 β -olean-12-ene-28, 29-dioic acid (2) ⁽¹⁾ through acid hydrolyzation. We report here the structure of liangwanin A(1).

Liangwanin A (1) C₃₂H₅₀O₅, mp 265—266°C (colourless needles, from ethanol). $[\alpha]_D^{15} = +27.0^\circ$ (pyridine, C=1), was ethyl ester of aglycone (2) [δ_H 4.18(2H, m, CH₂), δ_C 60.5 (t); δ_H 1.20 (3H, t, J=7.0Hz, CH₃), δ_C 14.4(q)]. Table 1 showed us the very similar ¹³C NMR data of 1 and 2, the only difference was that 1 has an ethyl group. The upfield shift of ¹³C NMR signal of C-29 in com-

References

- [1] Kasai R, Oinaka T, Yang C R et al. Saponins from Chinese folk medicine, "Liang Wang Cha," leaves and stems of *Nothopanax delavayi*, Araliaceae. *Chem Pharm Bull* 1987; 35(4): 1486

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1. 研究论文及简报的基本格式参照本刊 1993 年 (15 卷) 第 1—2 期。
2. 植物材料应附正确的拉丁学名、产地、数量和制备方法。
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5. 实验部分必须简明扼要, 但要使实验化学家能够据此重复出该实验, 可以省略的一些实验细节: (1) 常规衍生物(如乙酰化物)的制备方法; (2) 化合物分离的细节, 如装柱, TLC 板, 柱子及分馏的大小等; (3) 仪器 (不包括型号) 及化学试剂的商业来源。

6. 新化合物采用 IUPAC 命名规则给出一个完整的系统名, 若有必要可再取一个得体的俗名。文中化合物第一次出现时若注有编号, 下文均以编号代表。

7. 每个化合物尽可能标出得率, 如: 化合物 3 (510mg; 0.0031%)。结晶须指明所用溶剂, 如: 白色针晶 (MeOH), 熔点的表示法, 如: mp 259—261 °C。液体化合物的折射率表示法, 如 $n_D^{25} 1.653$ 。

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