

雷公藤的两种新三萜醇

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TWO NEW TRITERPENOIDS FROM *TRIPTERYGIIUM WILFORDII*

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关键词 雷公藤; 三萜醇

Key words *Tripterygium wilfordii*; Triterpenoids

自湖北产的雷公藤(*Tripterygium wilfordii* Hook f.)的根皮中分离出3个三萜成分,其根皮粗粉的氯仿的提取物,经环己烷、甲醇、氯仿和水分别萃取得4个部分。甲醇层经硅胶柱层析,石油醚-丙酮为洗脱剂,经苯-丙酮结晶及重结晶,得到3个三萜化合物A₁, A₂和B₁。经光谱分析, A₁^(1,2)、A₂^(3,4)均为首次自植物中得到的两个新化合物。

A₁, 无色结晶, mp 276—280°C, 分子量 442, 分子式 C₃₀H₅₀O₂。IR(KBr)cm⁻¹: 3580, 3410(-OH)。¹H NMR(CDCl₃): 0.85(3H, s, -CH₃); 1.00(3H, s, -CH₃); 1.02(3H, s, -CH₃); 1.04(3H, s, -CH₃), 1.13(3H, s, -CH₃), 1.14(3H, s, -CH₃), 1.21(3H, s, -CH₃), 3.23, 3.30(2H, q, Ja, b=8Hz, Ha, Hb, -C₂₈H₂-OH), 3.47(1H, C₃-H, s), 5.63(1H, d, J=6Hz, C₆-H)。¹³C NMR(CDCl₃): 29.4(t, C-1), 27.9(t, C-2), 76.3(d, C-3), 40.6(s, C-4), 141.76(s, C-5), 121.96(d, C-6), 23.7(t, C-7), 42.1(d, C-8), 37.8(s, C-9), 49.8(d, C-10), 27.9(t, C-11), 28.1(t, C-12), 33.2(s, C-13), 34.9(s, C-14), 32.7(t, C-15), 18.3(t, C-16), 39.7(s, C-17), 48.0(d, C-18), 35.9(t, C-19), 30.6(s, C-20), 34.9(t, C-21), 30.5(t, C-22), 29.0(q, C-23), 26.1(q, C-24), 16.1(q, C-25), 20.4(q, C-26), 18.0(q, C-27), 74.5(t, C-28), 32.0(q, C-29), 25.5(q, C-30)。MS m/e: 442(M⁺), 290, 275, 259(基峰), 152, 134, 121, 109, 95, 为任卡漆-5-烯-3β, 28-二醇(Glut-5-en-3β, 28-diol)。

A₂, 无色结晶, mp 245.5—257°C, 分子量 444, 分子式 C₃₀H₅₂O₂。IR(KBr)cm⁻¹: 3600, 3480(-OH)。¹H NMR(C₅D₅N): 0.90(3H, s, -CH₃), 0.99(3H, s, -CH₃), 1.03(6H, d, J=6Hz, C₁₉-CH₃, C₂₀-CH₃), 1.05(6H, s, -CH₃x2), 1.24(3H, s, -CH₃), 1.29(3H, s, -CH₃), 3.45(1H, m, C₃-H)。¹³C NMR(C₅D₅N): 38.9(t, C-1), 27.1(t, C-2), 78.3(d, C-3), 43.4(s, C-4), 74.1(s, C-5), 38.6(t, C-6), 40.8(t, C-7), 40.2(s, C-8), 48.3(d, C-9), 41.7(s, C-10), 21.6(t, C-11), 21.6(t, C-12), 50.0(d, C-13), 34.0(s, C-14), 28.4(t, C-15), 18.9(t, C-16), 37.4(s, C-17), 55.8(d, C-18), 39.3(d, C-19), 42.6(d, C-20), 34.9(t, C-21), 28.9(t, C-22), 28.7(q, C-23), 16.3(q, C-24), 16.3(q, C-25), 15.0(q, C-26), 16.1(q, C-27), 21.9(q, C-28), 18.0(q, C-29), 18.7(q, C-30)。MS m/e: 444(M⁺), 373(基峰), 355, 234, 220, 191, 177, 165, 151, 135, 109, 为乌索-3β, 5α-二醇(Ursan-3β, 5α-diol)。

1991-07-19 收稿, 1992-09-03 修回

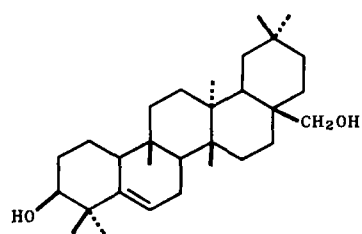
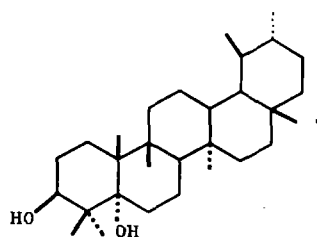
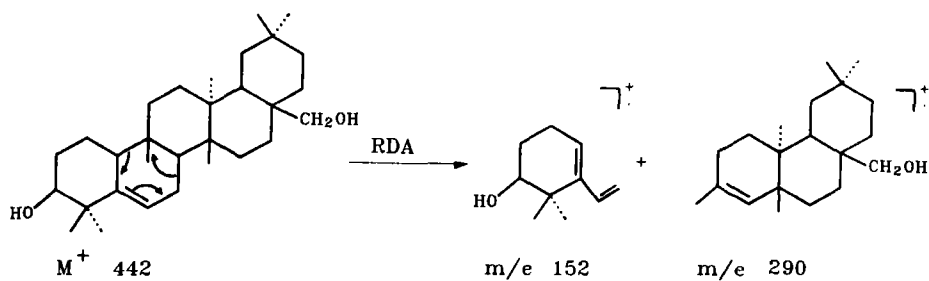
A₁: Glut-5-en-3β,28-diolA₂: Ursan-3β,5α-diol

Fig I

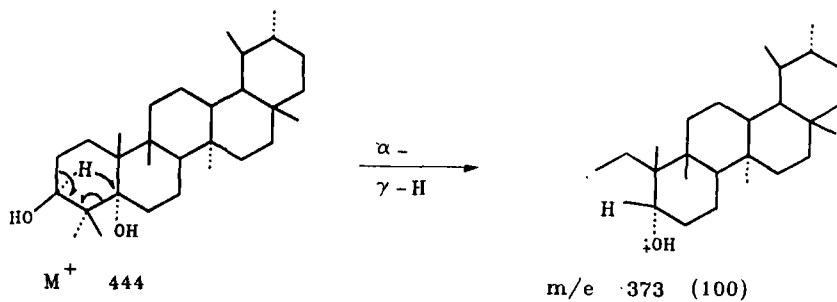


Fig II

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