SUPPLEMENTARY MATERIAL

Chemical constituents and antitumor activity from *Paris polyphylla* Smith var. *yunnanensis*

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Eleven compounds were isolated from the rhizomes of *Paris polyphylla* Smith var. *yunnanensis*. Their structures were elucidated on the basis of rigorous 1D and 2D NMR experiments as well as comparison with the literature data. To the best of our knowledge, compound **1** was only predicted by UPLC/Q-TOF MS^E and the NMR spectroscopic data was given for the first time. The cytotoxic activities of all compounds on mouse B16 cells were evaluated. Among the tested molecules, compounds **6-9** showed strong cytotoxicities while compound **1** did not show significant effect.

Keywords: *Paris polyphylla* Smith var. *yunnanensis*; steroidal saponins; antitumor activity; Liliaceae

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Figure S1. ^1H -NMR spectrum of compound 1 in pyridine- d_5

Figure S2. ^{13}C -NMR spectrum of compound 1 in pyridine- d_5

Figure S3. HSQC spectrum of compound **1** in pyridine-*d*₅

Figure S4. ¹H-¹H COSY spectrum of compound **1** in pyridine-*d*₅

Figure S5. HMBC spectrum of compound **1** in pyridine-*d*₅

Figure S6. NOESY spectrum of compound **1** in pyridine-*d*₅

Figure S7. Selected COSY, HMBC, and NOESY correlations of compound **1**

Table S1.

^1H (600 MHz), ^{13}C (150 MHz) NMR spectroscopic data of compound **1** (pyridine- d_5)^a

No.	$\delta_{\text{H}}(\text{ppm})$	$\delta_{\text{C}}(\text{ppm})$	No.	$\delta_{\text{H}}(\text{ppm})$	$\delta_{\text{C}}(\text{ppm})$
1	3.84, dd (12.0, 4.2)	84.5, CH	1-O-Glc		
2eq	2.64, m	38.0, CH ₂	1	4.77, d (7.2)	100.3, CH
2ax	2.38, q (11.9)		2	4.12, m	76.7, CH
3	3.74, m	68.4, CH	3	4.02, o	88.8, CH
4eq	2.54, m	44.0, CH ₂	4	3.76, o	70.3, CH
4ax	2.67, m		5	3.76, o	78.0, CH
5	---	139.7, C	6a	4.45, br d (11.0)	63.6, CH ₂
6	5.54, br d (5.7)	125.1, CH	6b	4.14, m	
7eq	1.76, m	32.1, CH ₂	Rha		
7ax	1.43, o ^b		1	6.38, br s	102.0, CH
8	1.47, o	33.4, CH	2	4.75, o	72.7, CH
9	1.60, o	50.5, CH	3	4.55, o	72.7, CH
10	---	43.1, C	4	4.29, t (9.4)	74.5, CH
11eq	2.82, m	24.4, CH ₂	5	4.78, m	69.9, CH
11ax	1.60, o		6	1.70, d (6.1)	19.5, CH ₃
12eq	1.94, m	40.5, CH ₂	Xyl		
12ax	1.50, m		1	4.91, d (7.8)	105.5, CH
13	---	41.3, C	2	3.95, t (8.1)	75.0, CH
14	1.19, m	57.3, CH	3	4.06, m	78.7, CH
15a	1.82, m	32.8, CH ₂	4	4.09, o	70.7, CH
15b	1.44, o		5a	4.24, dd (11.3, 5.1)	67.5, CH ₂

16	4.60, m	83.8, CH	5b	3.67, t (10.6)	
17	2.02, dd (8.7, 6.3)	58.5, CH	24-O-Fuc		
18	1.07, s	15.4, CH ₃	1	5.72, d (8.2)	104.1, CH
19	1.36, s	17.4, CH ₃	2	4.55, o	70.9, CH
20	3.35, q (6.8)	46.6, CH	3	4.74, o	73.8, CH
21a	4.19, dd (10.6, 7.4)	62.7, CH ₂	4	4.09, o	73.9, CH
21b	4.02, o		5	4.55, o	70.5, CH
22	---	112.0, C	6	1.47, d (6.5)	17.2, CH ₃
23	4.47, d (3.9)	72.1, CH			
24	4.79, d (3.9)	82.6, CH			
25	---	144.3, C			
26eq	4.04, d (12.0)	61.9, CH ₂			
26ax	4.91, d (12.0)				
27a	5.19, br s	113.9, CH ₂			
27b	5.07, br s				

^a Full assignments of the protons and carbons were accomplished by analysis of COSY, HSQC, and HMBC spectra, and coupling pattern and coupling constants (*J* in Hz) are in parentheses.

^b Overlapped signals were given without designating multiplicity.