SUPPLEMENTARY MATERIAL

Two new Oleanane Triterpenoid Saponins from *Elsholtzia bodinieri*

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Two new oleanane triterpenoid saponins, bodiniosides Q (**1**) and R (**2**), along with five known saponins, niga-ichigoside F1 (**3**), 3-*O*-[*β*-D-glucopyranosyl]-28-*O*-[*α*-L-rhamnopyranosyl-(1→2)-*β*-D-glucopyranosyl] arjunolic acid (**4**), asiaticoside E (**5**), sericoside (**6**), bodinioside E (**7**), were isolated from the aerial parts of *Elsholtzia bodinieri*. The structures of **1** and **2** were characterized by spectroscopic techniques and chemical evidence as 3-*O*-*β*-D-xylopyranosyl-2*α*, 23-dihydroxy-olean-12-en-28-oicacid 28-*O*-*α*-L-rhamnopyranosyl-(1→2)-*β*-D-glucopyranoside (**1**) and 3-*O*-*β*-D-xylopyranosyl-2*α*,23-dihydroxy-olean-12-en-28-oicacid 28-*O*-[*β*-D-glucopyranosyl-(1→4)-*α*-L-rhamnopyranosyl-(1→2)]-*β*-D-glucopyranoside (**2**). Compounds **1**, **3**, and **5** exhibited weak anti-influenza activity against strain A/WSN/33/2009 (H1N1), with inhibition rate of 11.63%, 17.01% and 16.98%, respectively.

Key words: *Elsholtzia bodinieri*; oleanane triterpenoid; saponins; anti-icnfluenza virus activities

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List of Contents

Table S2. ^{1}H and ^{13}C NMR data for compounds **1** and **2** in pyridine-d_5 (150/600 MHz)

Position	**1**		Position	**2**	
	δ mult.	δ mult. (J in Hz)		δ mult.	δ mult. (J in Hz)
1	47.9	1.17 (overlap)	1	47.0	1.17 (overlap)
2	66.8	4.21 (m)	2	66.7	4.12 (m)
3	88.2	3.30 (m)	3	88.2	3.70 (m)
4	41.9		4	41.8	
5	47.2	0.93 (m)	5	47.3	1.26 (m)
6	18.6	1.52 (m)	6	18.6	1.67 (m)
7	33.0	1.36 (m)	7	32.9	1.85 (m)
8	41.9		8	41.8	
9	48.1	1.82 (m)	9	48.1	1.69 (m)
10	37.7		10	37.8	
11	23.9	1.98 (m)	11	23.6	1.92 (m)
12	122.4	5.42 (br. s)	12	123.2	5.39 (br. s)
13	144.1		13	144.0	
14	44.6		14	44.6	
15	28.5	2.13 (m)	15	28.4	2.32 (m)
16	23.3	2.33 (m)	16	23.3	2.03 (m)
17	48.1		17	48.0	
18	42.2	3.08 (d, J = 13.6)	18	42.2	3.09 (d, J =13.5)
19	46.2	1.70 (m)	19	44.6	1.66 (m)
20	30.6		20	30.6	
21	33.9	1.31 (m)	21	33.8	1.38 (m)
22	33.0	1.66 (m)	22	32.9	1.65 (m)
23	63.4	4.34 (m)	23	66.7	4.40 (m)
24	14.6	0.96 (s)	24	14.6	0.92 (s)
25	17.4	1.03 (s)	25	17.4	1.00 (s)
26	17.4	1.10 (s)	26	17.5	1.08 (s)
27	30.6	1.15 (s)	27	30.6	1.13 (s)
28	176.3		28	176.3	
29	33.0	0.83 (s)	29	32.9	0.81 (s)
30	25.7	0.78 (s)	30	25.8	0.78 (s)
3-Xyl					
1	106.3	5.02 (d, J = 7.3)	1	107.0	5.16 (d, J = 7.3)

2	75.6	4.04 (overlap)	2	75.3	3.97 (overlap)
3	78.5	4.14 (overlap)	3	78.6	4.01 (overlap)
4	71.2	4.21 (overlap)	4	71.6	4.29 (overlap)
5	67.2	4.33 (overlap)	5	67.2	4.40 (overlap)
		3.61 (overlap)			3.54 (overlap)
28-*O*-sugar					
Glc					
1	94.8	6.19 (d, *J* = 8.1)	1	94.6	6.16 (d, *J* = 8.2)
2	75.3	4.04 (t, *J* = 8.6)	2	76.3	4.11 (t, *J* = 7.8)
3	79.7	4.20 (t, *J* = 8.2)	3	79.2	4.41 (t, *J* = 8.3)
4	70.7	4.18 (t, *J* = 9.0)	4	71.1	4.61 (t, *J* = 9.5)
5	78.9	4.17 (overlap)	5	78.8	4.49 (overlap)
6	61.9	4.49 (overlap)	6	62.8	4.38 (dd, *J* = 11.7, 5.3)
		4.41 (dd, *J* = 12.1, 2.0)			4.30 (dd, *J* = 11.7, 2.2)
Rha					
1	101.4	6.11 (br. s)	1	101.3	6.46 (br. s)
2	72.2	4.40 (dd, *J* = 3.2, 1.5)	2	71.6	4.21 (overlap)
3	72.4	4.56 (overlap)	3	72.4	4.73 (dd, *J* = 9.1, 3.2)
4	73.8	4.42 (t, *J* = 9.0)	4	85.4	3.98 (t, *J* = 9.1)
5	69.7	4.55 (overlap)	5	70.7	4.25 (overlap)
6	18.6	1.75 (d, *J* = 6.1)	6	18.2	1.86 (d, *J* = 6.0)
Glc'					
			1	106.3	5.03 (d, *J* = 7.3)
			2	76.5	4.02 (dd, *J* = 8.5, 7.3)
			3	78.6	3.33 (t, *J* = 8.5)
			4	71.1	3.09 (t, *J* = 9.4)
			5	78.3	3.07 (overlap)
			6	63.5	3.85 (dd, *J* = 12.1, 5.2) 3.55 (dd, *J* = 12.1, 2.1)

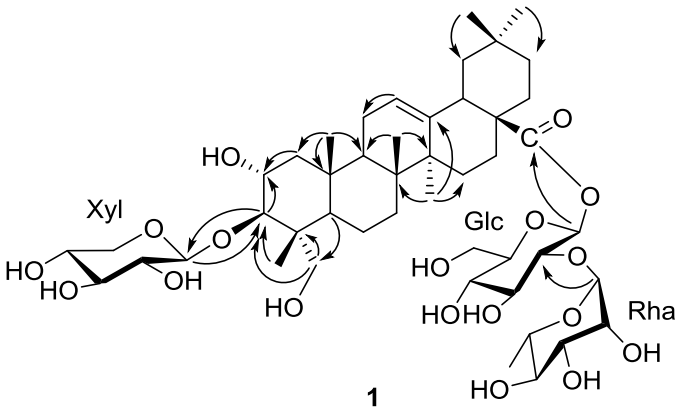


Figure S1. Key HMBC correlation of compound **1**

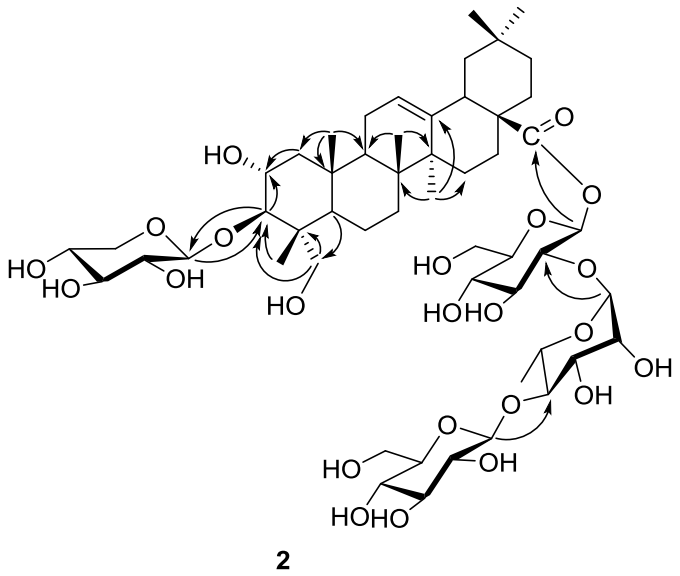


Figure S2. Key HMBC correlation of compound **2**

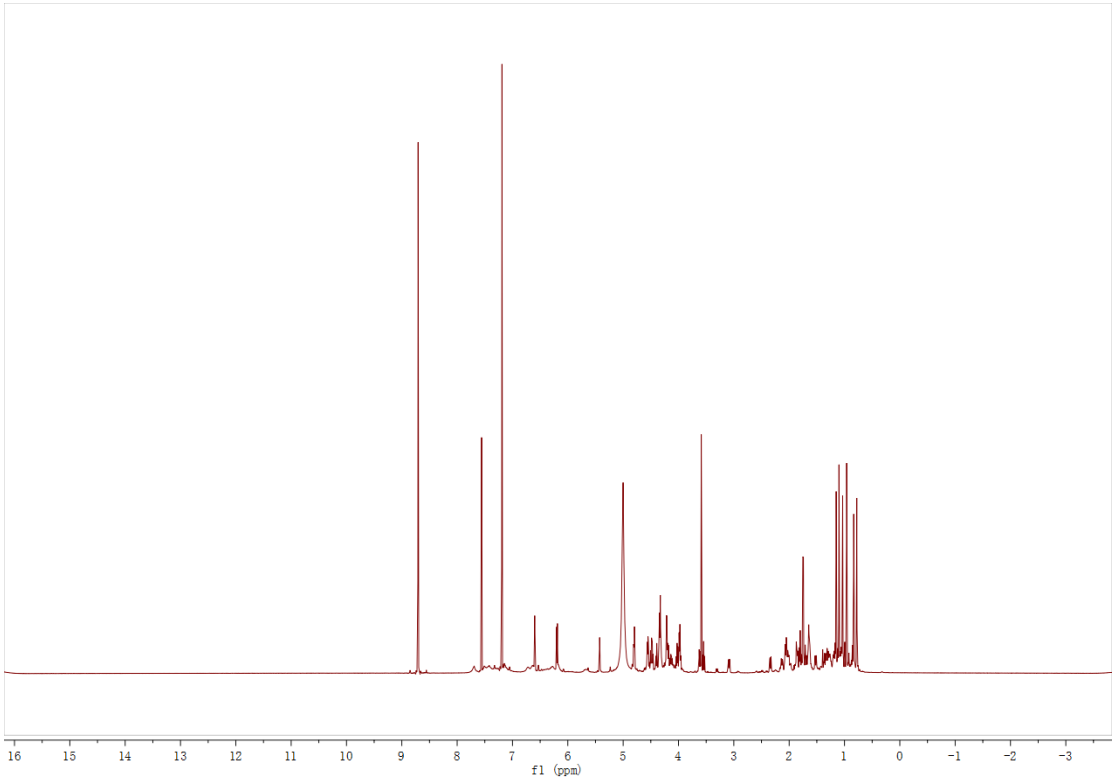


Figure S3. ^{1}H NMR spectrum of compound **1**(600 MHz, pyridine-d_5)

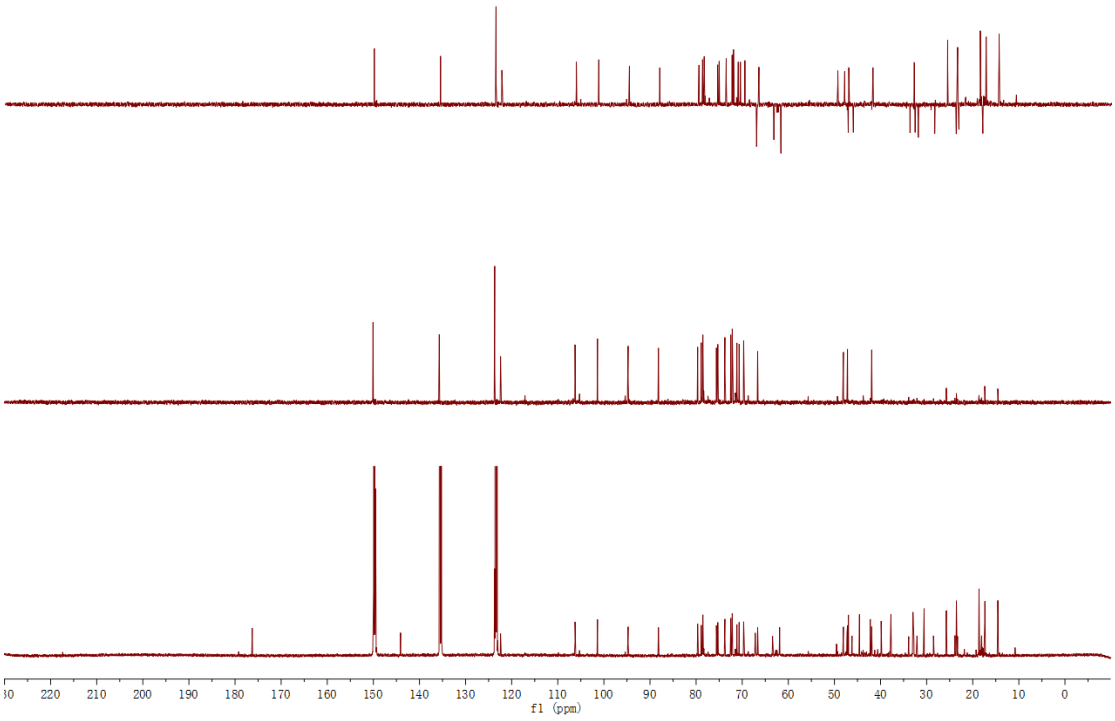


Figure S4. ^{13}C NMR spectrum of compound **1**(150 MHz, pyridine-d_5)

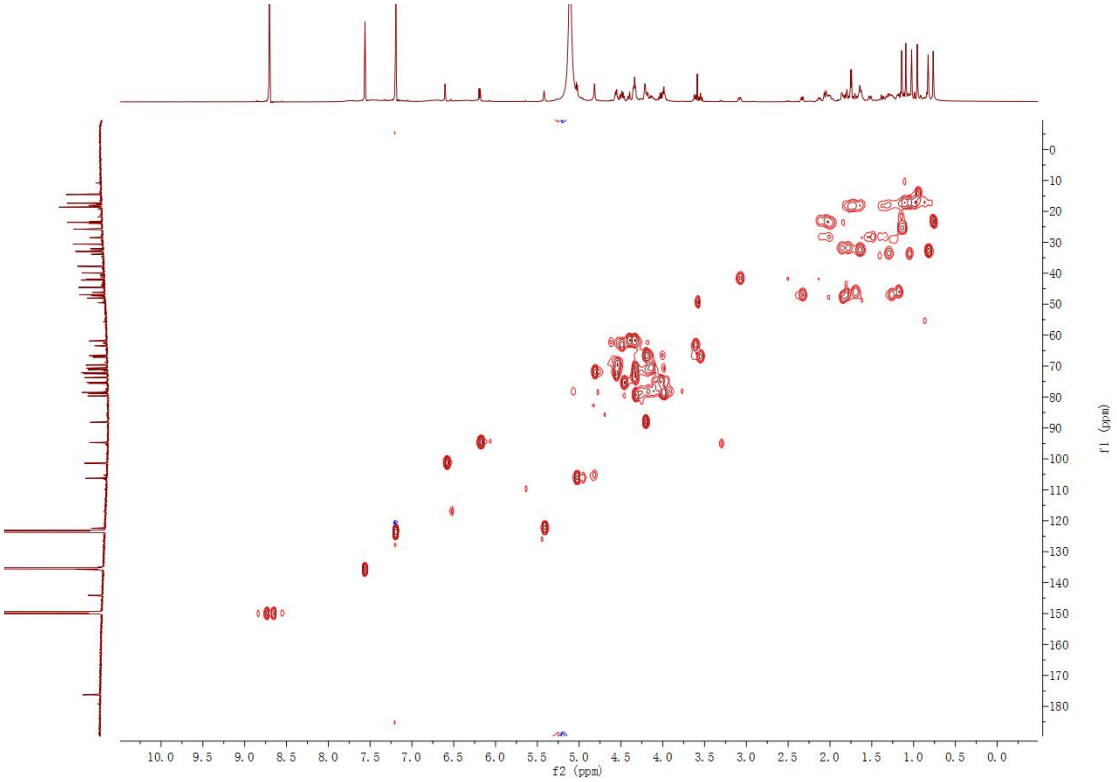


Figure S4. HSQC spectrum of compound **1**

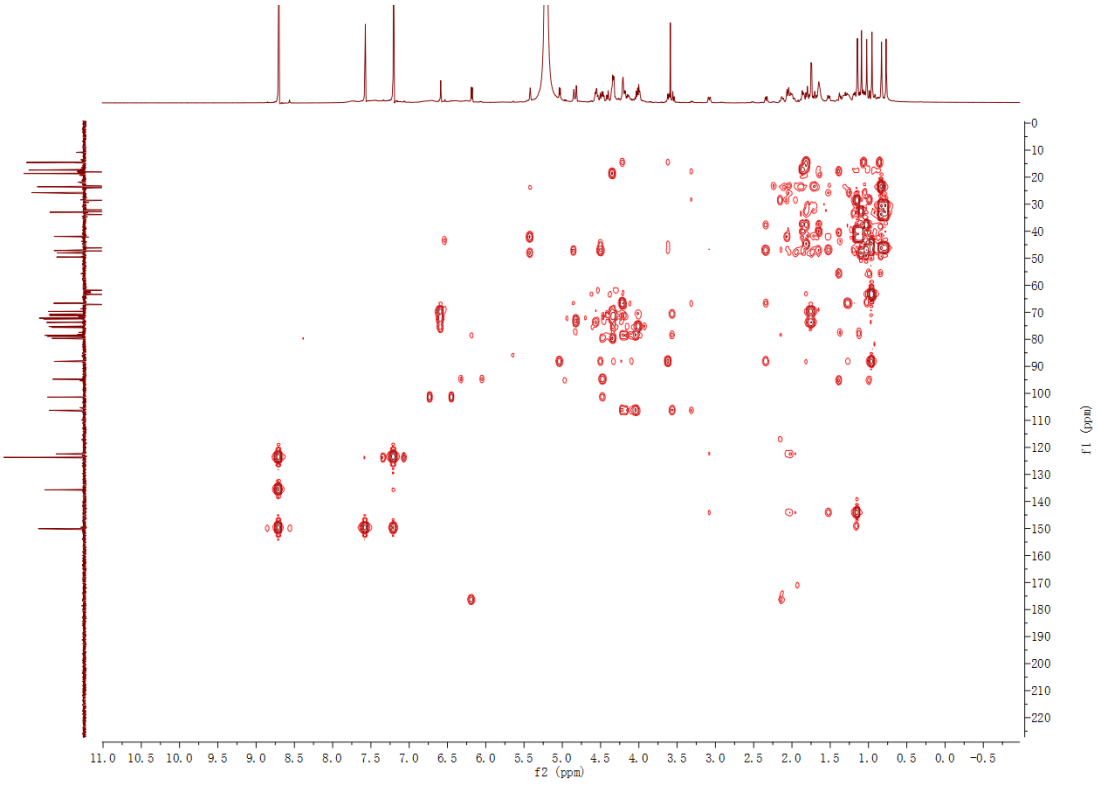


Figure S5. HMBC spectrum of compound **1**

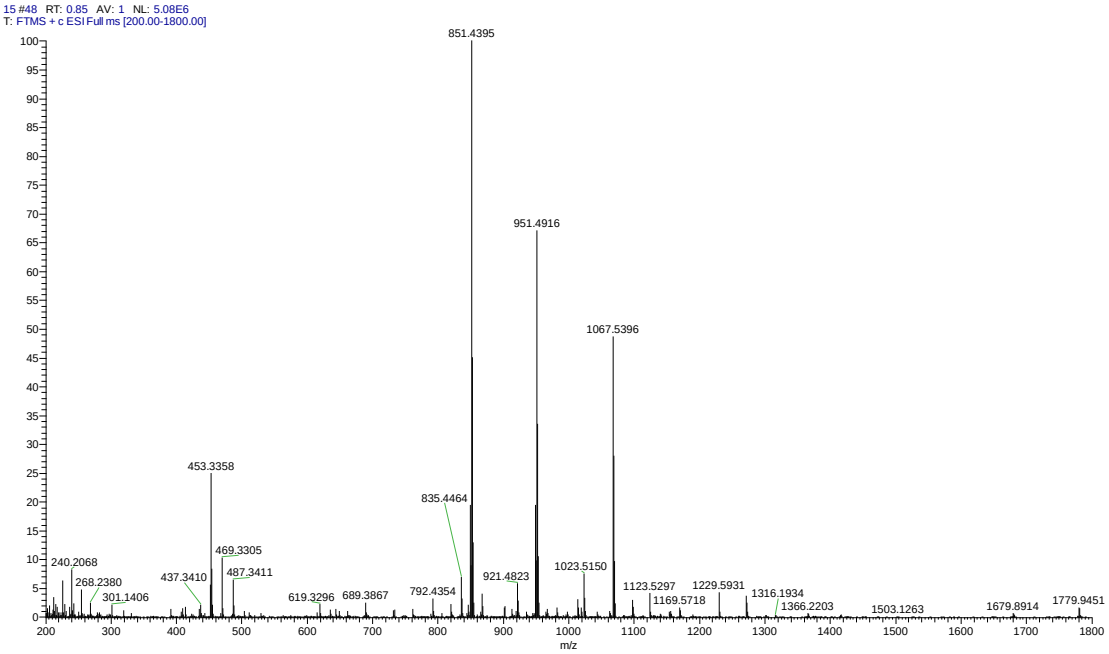


Figure S7. ESIMS spectrum of compound **1**

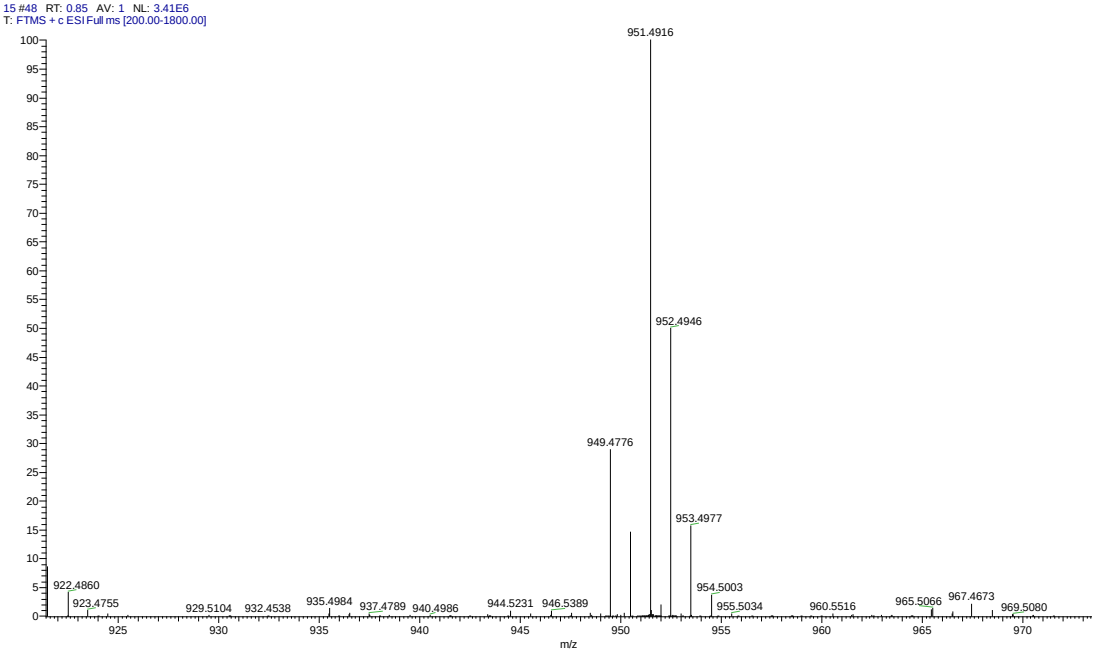


Figure S8. HRESIMS spectrum of compound **1**

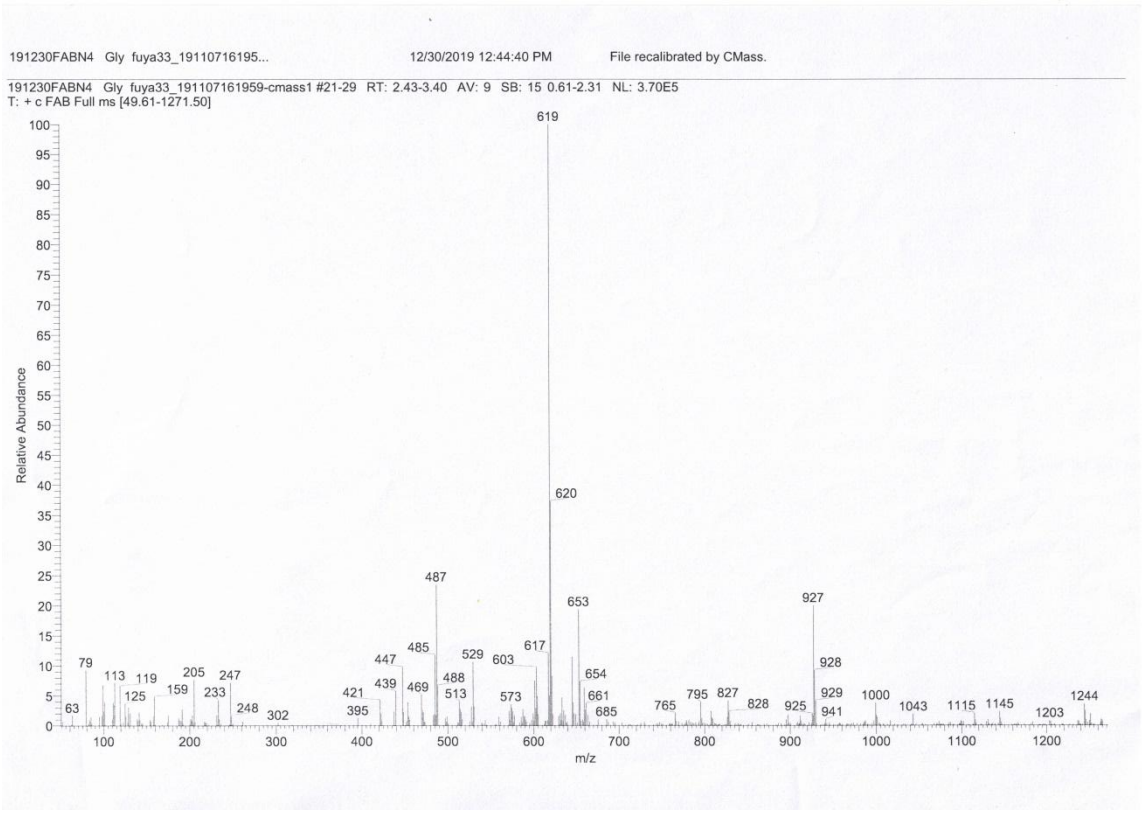


Figure S9. FABMS spectrum of compound **1**

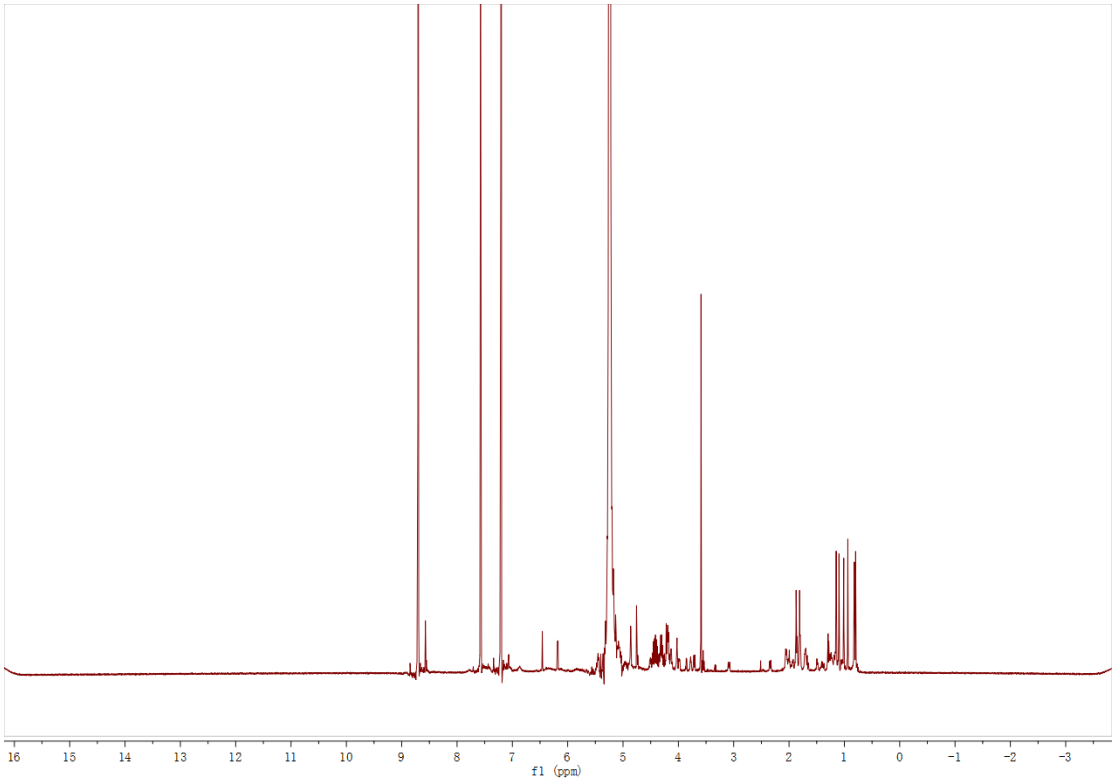


Figure S10. ^{1}H NMR spectrum of compound **2**(600 MHz, pyridine-d_5)

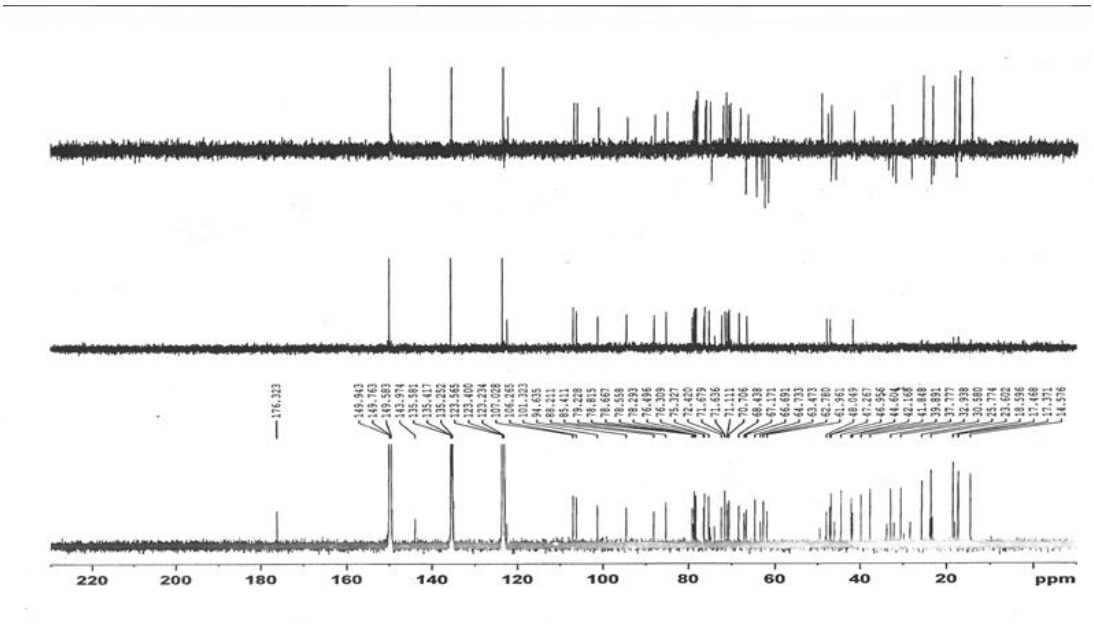


Figure S11. ^{13}C NMR spectrum of compound **2**(150 MHz, pyridine-d_5)

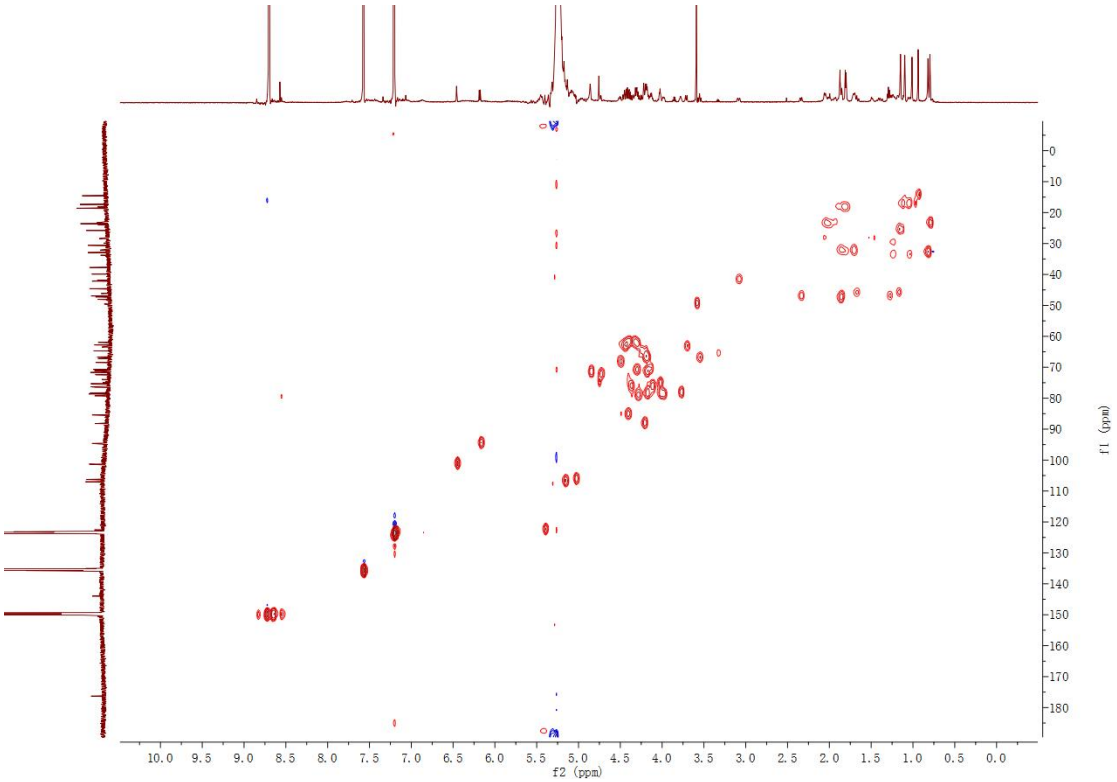


Figure S6. HSQC spectrum of compound **2**

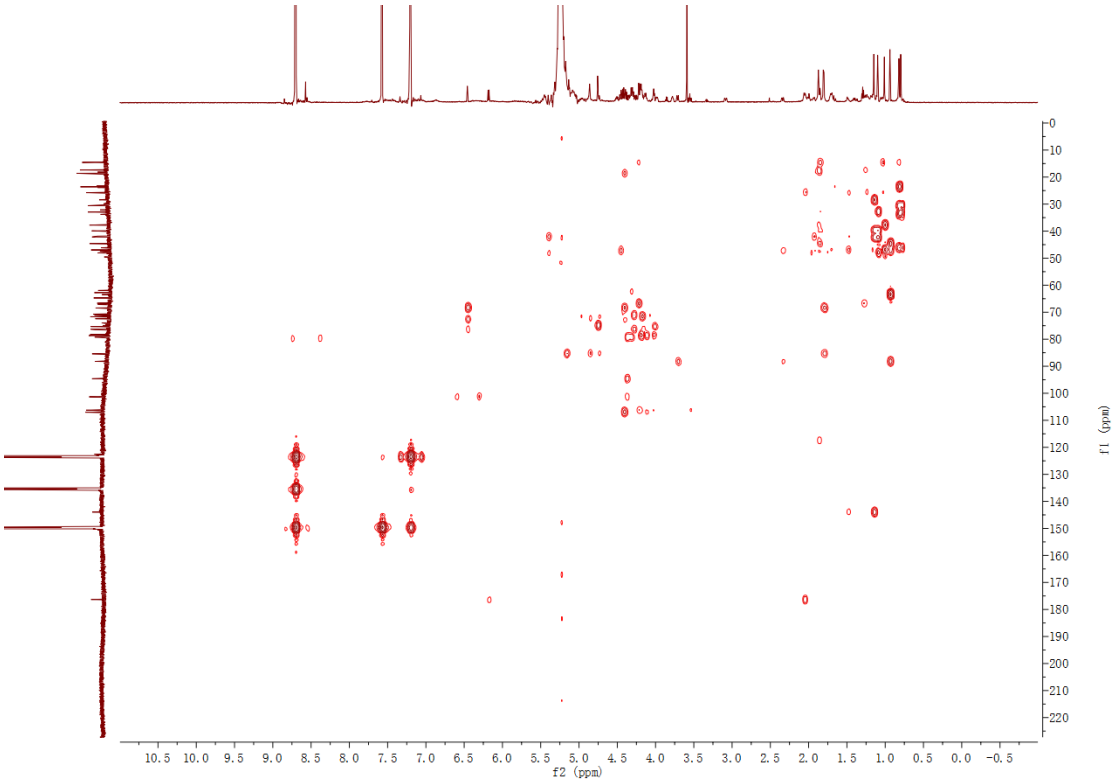


Figure S13. HMBC spectrum of compound **2**

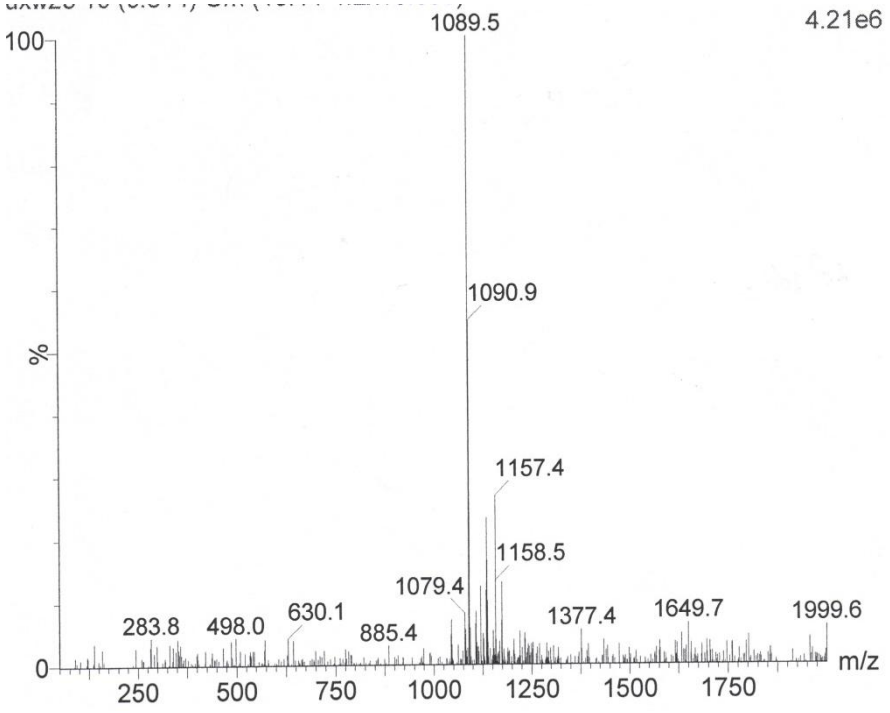
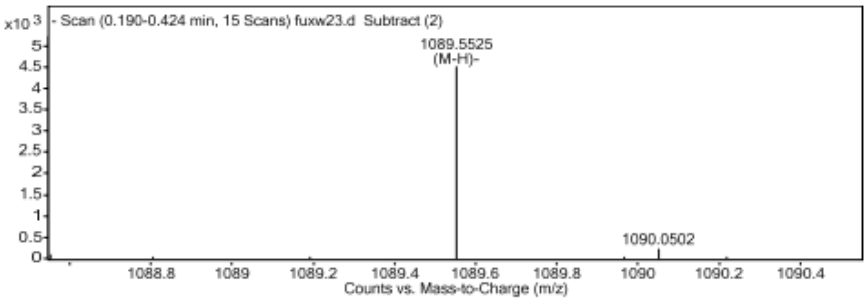


Figure S7. ESIMS spectrum of compound **2**

User Spectra

Fragmentor Voltage	Collision Energy	Ionization Mode
135	0	ESI



Peak List

m/z	z	Abund	Formula	Ion
521.2681	2	2329.41		
544.2721	2	3154.1		
1043.545	2	4680.37		
1044.546	2	2907.35		
1089.5525	1	4504.96	C53 H86 O23	(M-H)-
1090.5519	1	2766.37	C53 H86 O23	(M-H)-
1157.5403	1	2872.44		
1158.5382	1	2086.38		

Formula Calculator Element Limits

Element	Min	Max
C	3	60
H	0	120
O	0	60

Formula Calculator Results

Formula	CalculatedMass	CalculatedMz	Mz	Diff. (mDa)	Diff. (ppm)	DBE
C53 H86 O23	1090.5560	1089.5487	1089.5525	-1.9	-1.8	11.0000

Figure S8. HRESIMS spectrum of compound **2**

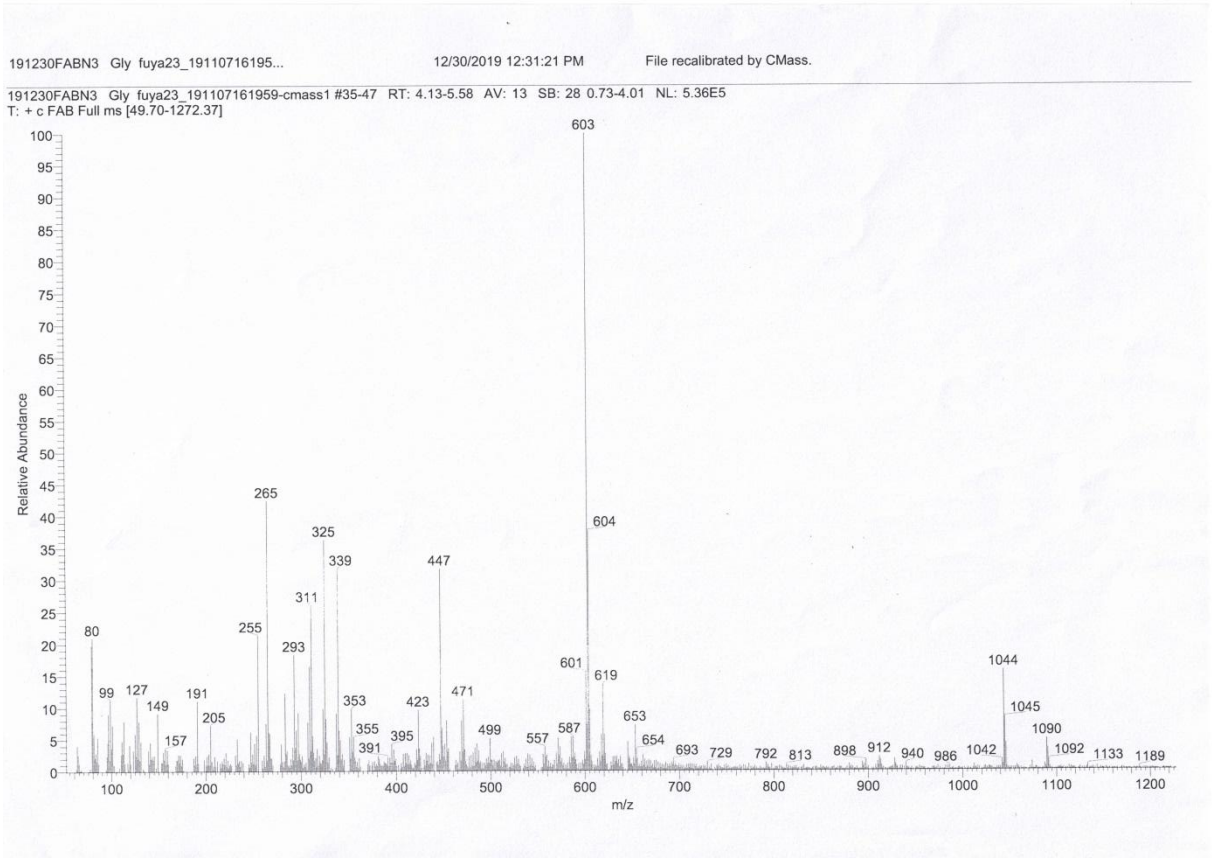


Figure S9. FABMS spectrum of compound **2**