Supporting Information

New metabolite with inhibitory activity against *α*-glucosidase and *α*-amylase from endophytic *Chaetomium globosum*

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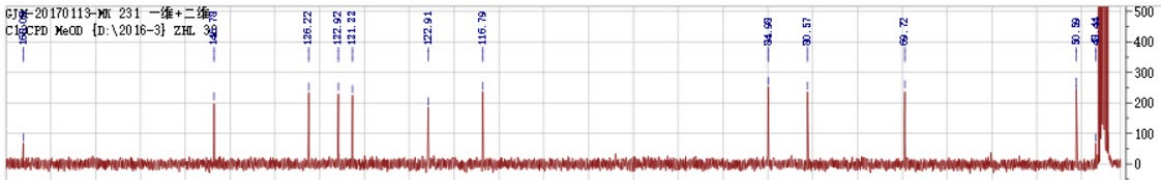


Figure S1A. ^{13}C NMR of compound 1

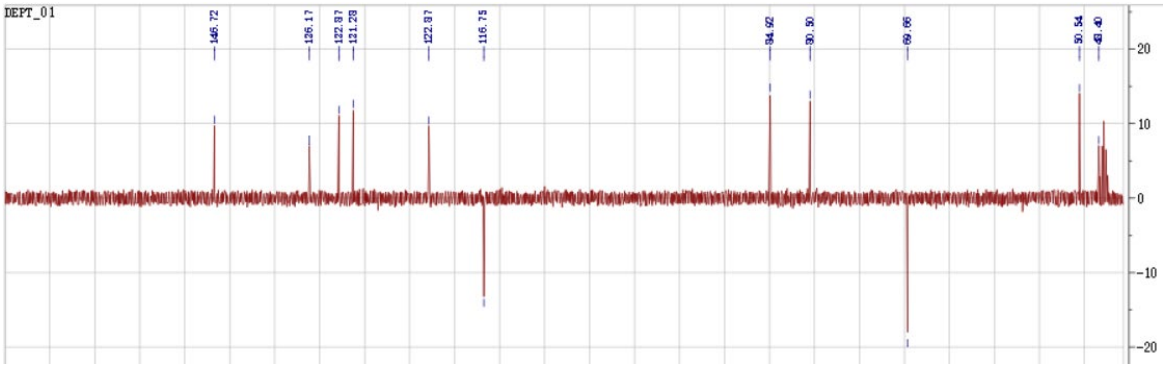


Figure S1B. ^{13}C DEPT NMR of compound **1**

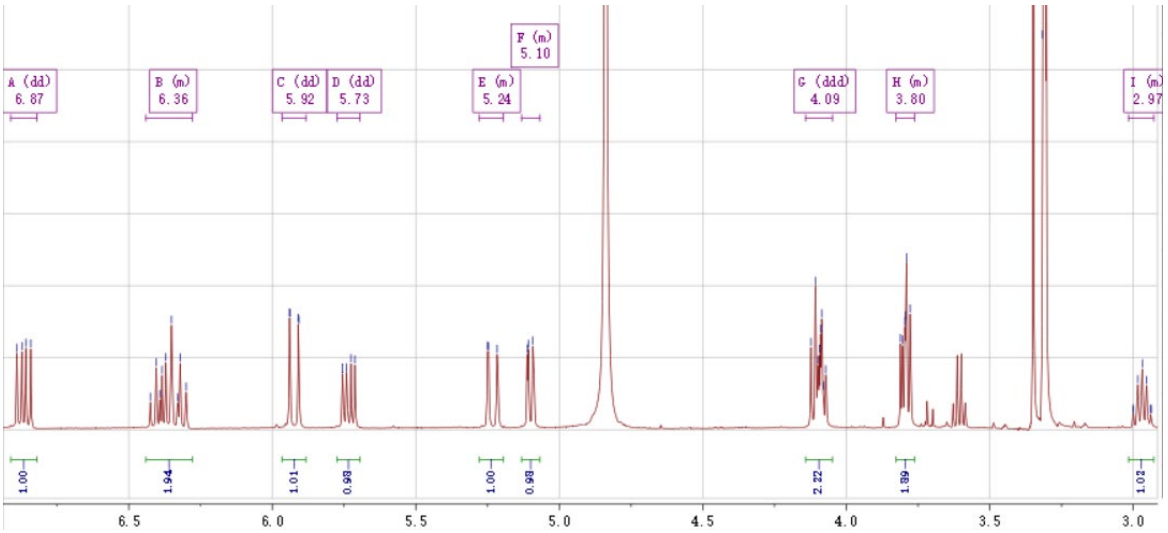


Figure S1C. Porton NMR of compound **1**

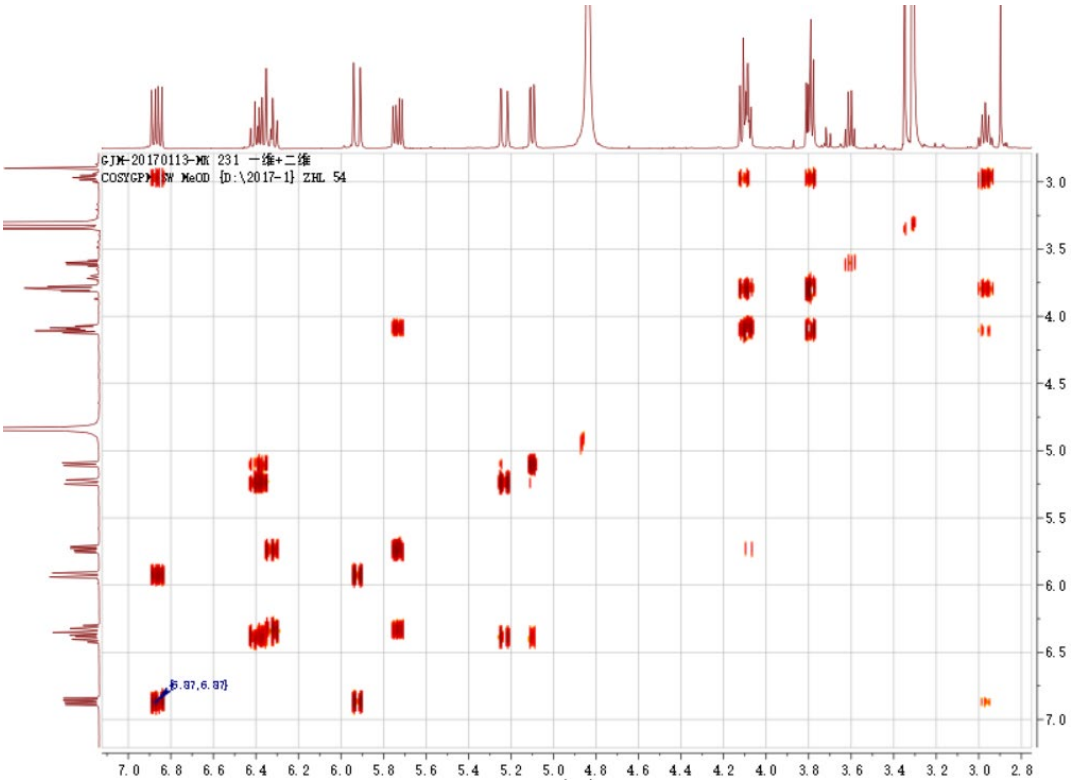


Figure S1D. ^{1}H-^{1}H COSY of compound **1**

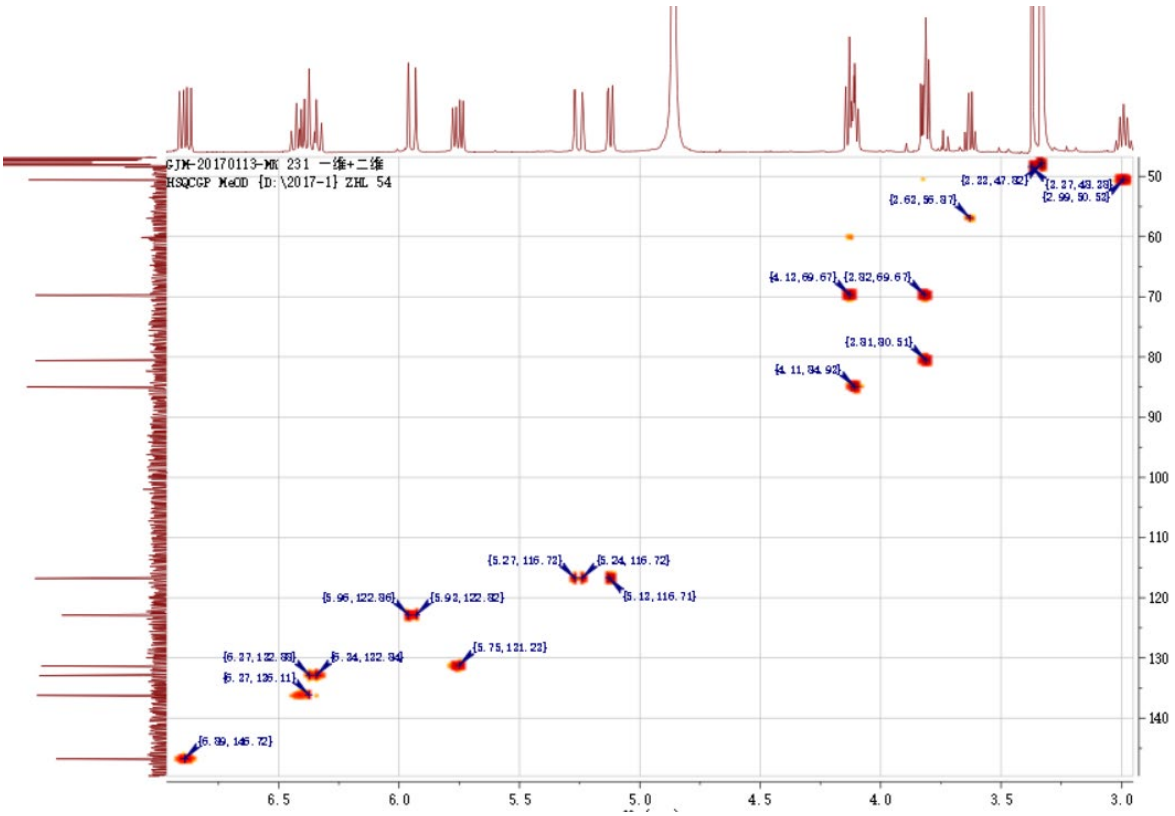


Figure S1E. ^{1}H-^{13}C HSQC of compound **1**

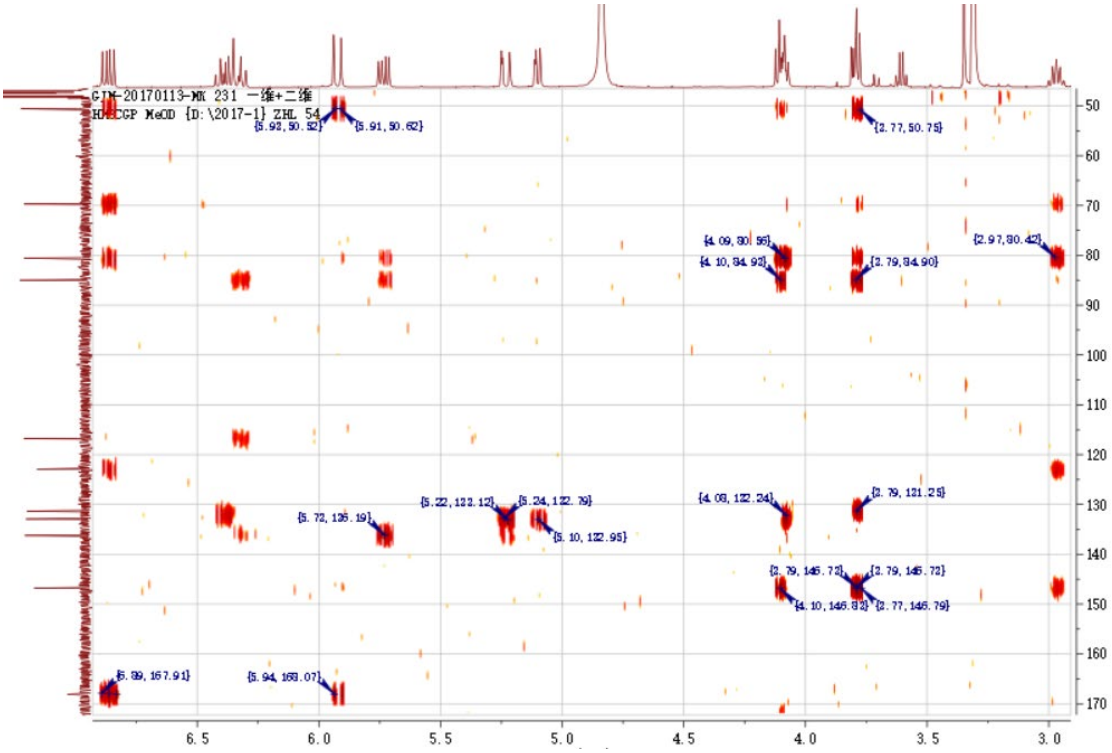


Figure S1F. ^{1}H-^{13}C HMBC of compound **1**

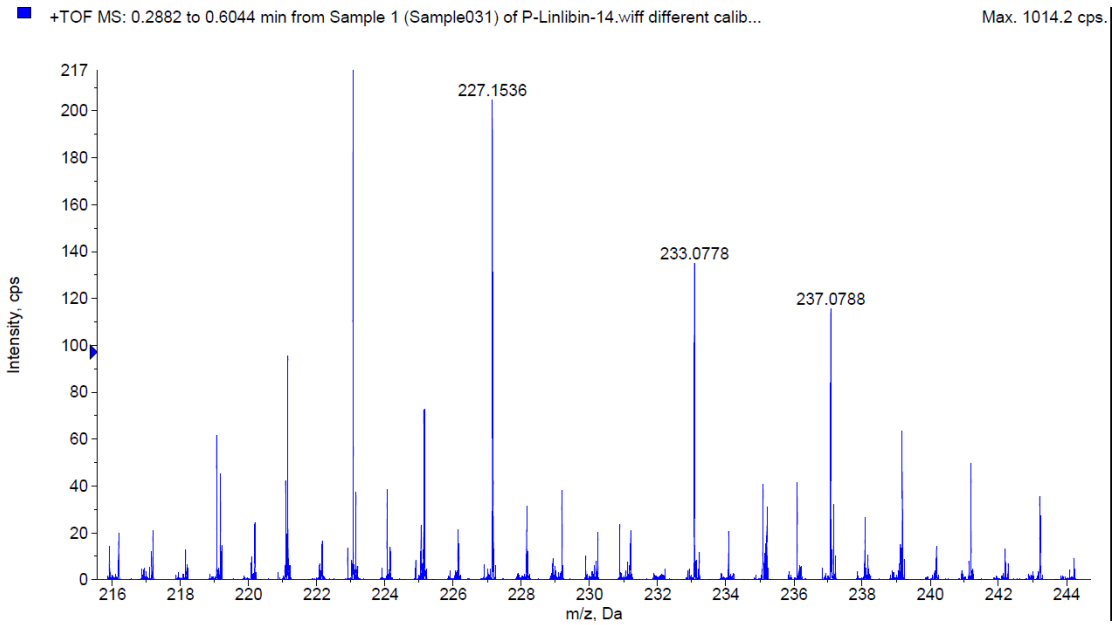


Figure S1G. HREMSMS of compound **1**

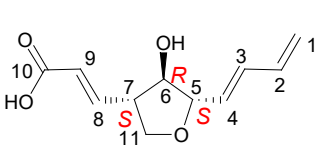
Table S1. 1H NMR (500 MHz), 13C NMR(125 MHz), COSY, HMBC and HSQC Spectroscopic Data for Compound **1** in MeOH-*d*4.

Compound1	δ_C	δ_H	(J in Hz)	COSY	HMBC
1	116.79	5.24	(1H, dd, 16.5, 2)	2	3
		5.10	(1H, dd, 10, 2)	2	3
2	136.22	6.39	(1H, m)	1, 3	3
3	132.92	6.33	(1H, m)	2, 4	5, 1, 2
4	131.33	5.73	(1H, dd, 14.7, 6.9)	3, 5	2, 5, 6
5	84.98	4.08	(1H, m)	4, 6	3, 6, 7
6	80.57	3.81	(1H, d, 7.7)	5, 7	4, 5, 7, 8, 11
7	50.59	2.97	(1H, m)	6, 8, 11	6, 8, 9, 11
8	146.78	6.87	(1H, dd, 15.6, 8.8)	7, 9	6, 7, 9, 10, 11
9	122.91	5.92	(1H, dd, 15.6, 0.8)	8	7, 10
10	168.08				
11	69.72	4.11	(1H, dd, 3.3, 7.2)	7	5, 6, 7, 8
		3.82	(1H, m)	7	5, 6, 7, 8

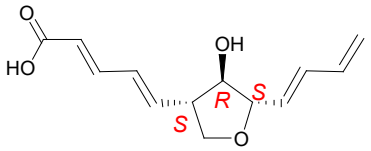
Table S2. *α*-Glucosidase and *α*-Amylase Inhibition Activity of fracitons **A-E**.

fraction	IC_{50} (μM)	
	α-glucosidase	α-amylase
A	>50	>50
B	>50	>50
C	18.67 ± 2.63	>50
D	>50	>50
E	>50	>50
genistein	22.07 ± 1.03	>50
acarbose	54.74 ± 0.16	13.72 ± 0.27

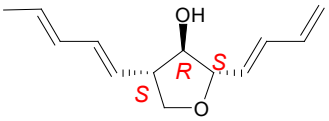
Table S3 Comparison of ^{1}H NMR data of Aly's aureonitolic acid[1] from *Otanthus maritimus* and Jervis's synthesized (–)-aureonitol[2] with compound **1** and **3**.



1



aureonitolic acid



(-)-aureonitol **3**

no.	^{1}H NMR (MeOH-*d*4) for **1**	^{1}H NMR (MeOH-*d*4) for aureonitolic acid[1]	^{1}H NMR ($CDCl_3$) for (–)-aureonitol **3**[2]	^{1}H NMR (DMSO-*d*6) for (–)-aureonitol **3**
1	5.24(dd, 16.5, 2)	5.21 (d, 16.1, 1.7)	5.24 (d, 16.0)	5.23-5.13 (m)
	5.10(dd, 10, 2)	5.08 (d, 9.4, 1.7)	5.12 (d, 9.2)	5.05 (dd, 9.9, 1.4)
2	6.39(m)	6.29 (ddd, 16.1, 10.5, 9.4)	6.28-6.41 (stack)	6.32 (dt, 16.7, 10.2)
3	6.33(m)	6.28 (dd, 14.8, 10.5)	6.28-6.41 (stack)	6.19 (dd, 15.1, 10.6)
4	5.73(dd, 14.7, 6.9)	5.70 (dd,14.8, 6.9)	5.63-5.76 (stack)	5.64 – 5.51 (m)
5	4.08(m)	4.05 (dd,6.9, 6.8)	4.13 (t, 7.2)	3.94-3.87 (stack)
6	3.81(dd, 7.7, 6.8)	3.80 (dd,7.8, 6.8)	3.76 (t, 7.2)	3.55-3.50 (stack)
7	2.97(m)	2.82 (q, 7.8)	2.85 (pentet, 8.1)	2.75-2.62 (m)
8	6.87(dd, 15.6, 8.8)	5.89 (dd,15.3, 8.5)	5.43 (dd, 15.1, 8.8)	5.48-5.37 (m)
9	5.92(dd, 15.6, 0.8)	6.30 (dd,15.3, 10.7)	6.15 (dd, 15.1, 10.4)	6.09-5.92 (stack)
11	4.11(dd, 3.3, 7.2)	4.05 (dd,8.4, 8.4)	4.11 (t, 8.4)	3.94-3.87 (stack)
	3.82(m)	3.80 (dd,8.4, 8.4)	3.72 (t, 8.4)	3.55-3.50 (stack)
12		7.00 (dd,15.1, 10.7)	6.03 (dd, 15.1, 10.4)	6.09-5.92 (stack)
13		5.89 (d,15.1)	5.63-5.76 (stack)	5.71 (dd, 15.1, 6.6)
14			1.75 (d, 6.6)	1.66 (d, 7.2)

Reference

1. Aly AH, Debbab A, Edrada-Ebel R, et al. A New Tetrahydrofuran Derivative from the Endophytic Fungus *Chaetomium* sp. Isolated from *Otanthus maritimus*. *Z Naturforsch C*. 2009, 64:350-354. doi: 10.1515/znc-2009-5-608

2. Jervis PJ, Cox LR. Total synthesis and proof of relative stereochemistry of (-)-aureonitol. *J Org Chem*. 2008, 73:7616-7624. doi: 10.1021/jo801338t