frontiers

Supplementary Material

Isolation, identification, and antibacterial evaluation of endophytic fungi from Gannan navel orange

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Contents

Spectral data of the compound 1: colorless oil; $[\alpha]_D^{25}$ +3 (*c* 0.1, MeOH); ECD (MeOH) λ_{max} ($\Delta\varepsilon$): 200 (+3.72), 230 (−0.45); UV (MeOH) λ_{max} (log ε): 204 (2.72) nm; IR ν_{max} : 3361, 2927, 1714, 1463, 1396, 1244, 1053, 1024, 962, 532, 507 cm^{-1}, ^1H (500 MHz) and ^{13}C (125 MHz) NMR data, see **Table 3**. HRESIMS: *m/z* 319.1887 $[M + Na]^+$ (calcd for $C_{17}H_{28}NaO_4$, 319.1880).

Table S1. ITS identification results of 54 endophytes of *Citrus sinensis* Osbeck cv. Newhall.

Genera	Species groups	Strain No.	Host	Sequence identity, %	Closest number
Annulohypoxylon	*A. atroroseum*	QCY-5-1	Leaf	99.78%	MN699475.1
	Annulohypoxylon sp.	QCY-8-1	Leaf	98.16%	LC496556.1
Colletotrichum	*Colletotrichum.* sp.	HQCP-2	Peel	99.29%	KM520011.1
	C. truncatum	QCP-2-2	Peel	99.63%	MN216313.1
	C. gloeosporioides	gc-1-129-133	Peel	99.81%	MK758005.1
Diaporthe	*D. biconispora*	gc-1-128-79	Peel	99.25%	MN901252.1
Fusarium	*F. graminearum*	QCZ-4-2	Twig	99.40%	MG732987.1
	F. solani	gc-1-127-14	Peel	100.00%	JX897000.1
	F. solani	gc-1-127-19	Peel	99.82%	MH477738.1
	F. solani	gc-1-129-127	Peel	99.81%	JX897000.1
	F. solani	gc-1-129-130	Peel	99.62%	KU377470.1
	F. solani	gc-1-129-138	Peel	99.25%	KU377470.1
	F. solani	gc-1-129-140	Peel	99.44%	KF679356.1
	F. solani	gc-1-130-154	Peel	99.62%	MW600440.1
	F. solani	gc-1-130-155	Peel	99.81%	JX897000.1
	F. solani	gc-1-130-175	Peel	99.62%	KY051566.1
	F. solani	gc-1-130-180	Peel	99.81%	JX897000.1
	F. proliferatum	gc-1-128-74-1	Peel	99.81%	MK243486.1
	F. proliferatum	gc-1-128-81	Peel	99.06%	MH712154.1
	F. proliferatum	gc-1-128-83	Peel	99.61%	MH707087.1
	F. proliferatum	gc-1-128-84	Peel	99.25%	MG543763.1
	F. proliferatum	gc-1-128-85	Peel	99.62%	MH712154.1
	F. proliferatum	gc-1-129-135	Peel	99.29%	MG562501.1
	F. proliferatum	gc-1-129-141	Peel	99.25%	MN955525.1
	F. proliferatum	gc-1-129-142-1	Peel	99.62%	MT476359.1
	F. proliferatum	gc-1-129-143	Peel	99.25%	MH712157.1
	F. proliferatum	gc-1-130-170	Peel	99.61%	MF687282.1
	F. proliferatum	gc-1-130-177	Peel	99.61%	MF687307.1
	F. proliferatum	gc-1-130-178	Peel	99.42%	MG543768.1
	F. proliferatum	gc-1-131-202	Peel	99.81%	MN511330.1
	Fusarium. sp.	HQCP-4	Peel	95.05%	ON527751.1
Geotrichum	*Geotrichum* sp.	gc-1-127-3	Peel	95.53%	OK094899.1
	Geotrichum sp.	gc-1-127-22	Peel	96.76%	JQ425851.1
	Geotrichum sp.	gc-1-127-23	Peel	96.39%	JQ425847.1
	Geotrichum sp.	gc-1-127-26	Peel	96.15%	MH612892.1
	Geotrichum sp.	gc-1-127-30	Peel	97.84%	OK094899.1
	Geotrichum sp.	gc-1-127-32	Peel	95.92%	OW983732.1

Genera	Species groups	Strain No.	Host	Sequence identity, %	Closest number
	Geotrichum sp.	gc-1-127-36	Peel	96.63%	MH612889.1
	Geotrichum sp.	gc-1-127-38	Peel	96.58%	EU131181.1
	Geotrichum sp.	gc-1-127-45	Peel	95.17%	JQ425851.1
	Geotrichum sp.	gc-1-130-161	Peel	95.90%	OK094899.1
	Geotrichum sp.	gc-1-131-203	Peel	95.07%	MH612892.1
Neofusicoccum	*N. parvum*	QCZ-8	Twig	99.63%	MF800915.1
Nigrospora	*N. chinensis*	QCR-2-1	Pulp	99.60%	MK834674.1
	N. chinensis	QCY-2-2	Pulp	99.80%	MK834674.1
	N. sphaerica	QCP-3-1	Peel	99.22%	KX778649.1
Penicillium	*P. oxalicum*	gc-1-129-136	Peel	99.50%	MW077100.1
	P. citrinum	QCZ-5-1	Twig	99.62%	MT729959.1
	Penicillium. sp.	QCZ-5-2	Twig	98.91%	MH884073.1
	P. paneum	QCZ-4-1	Twig	99.28%	KX664403.1
	P. paneum	QCR-4-2	Pulp	99.27%	KX664403.1
Polyporus	*P. arcularius*	gc-1-127-42	Peel	99.69%	JQ283965.1
	P. arcularius	gc-1-128-74-2	Peel	99.19%	LC415540.1
Xylariaceae	*Xylariaceae*. sp.	QQCP-2	Peel	98.59%	KM513576.1

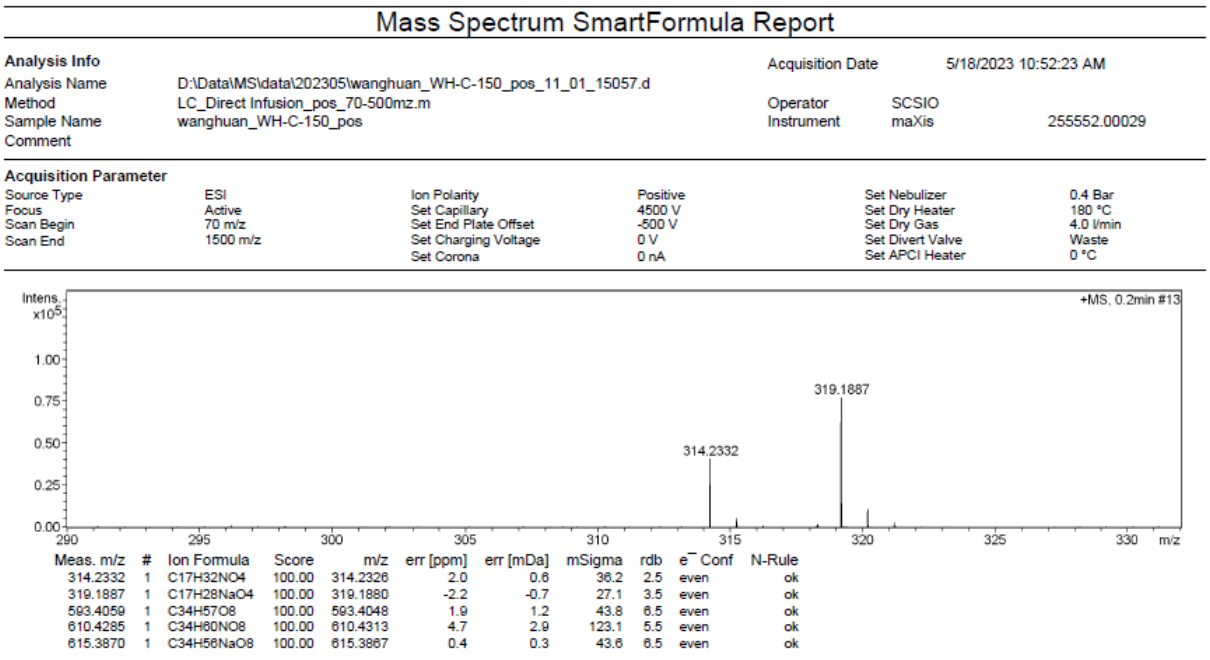

Figure S1. HRESIMS spectrum of compound **1**.

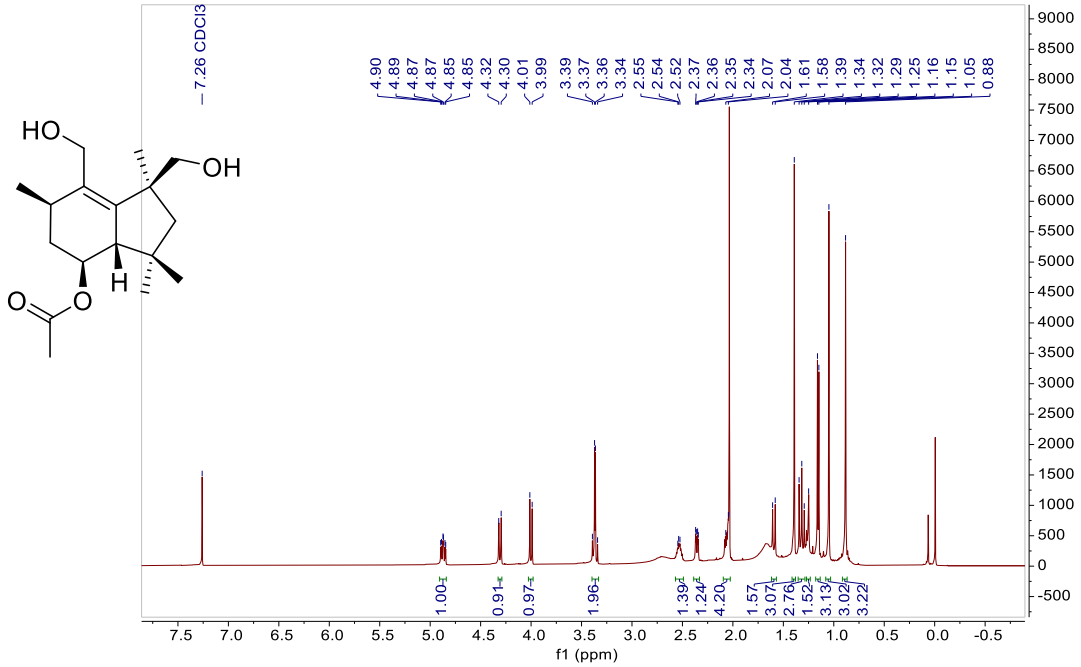

Figure S2. ^{1}H NMR spectrum (500 MHz, $CDCl_3$) of compound **1**.

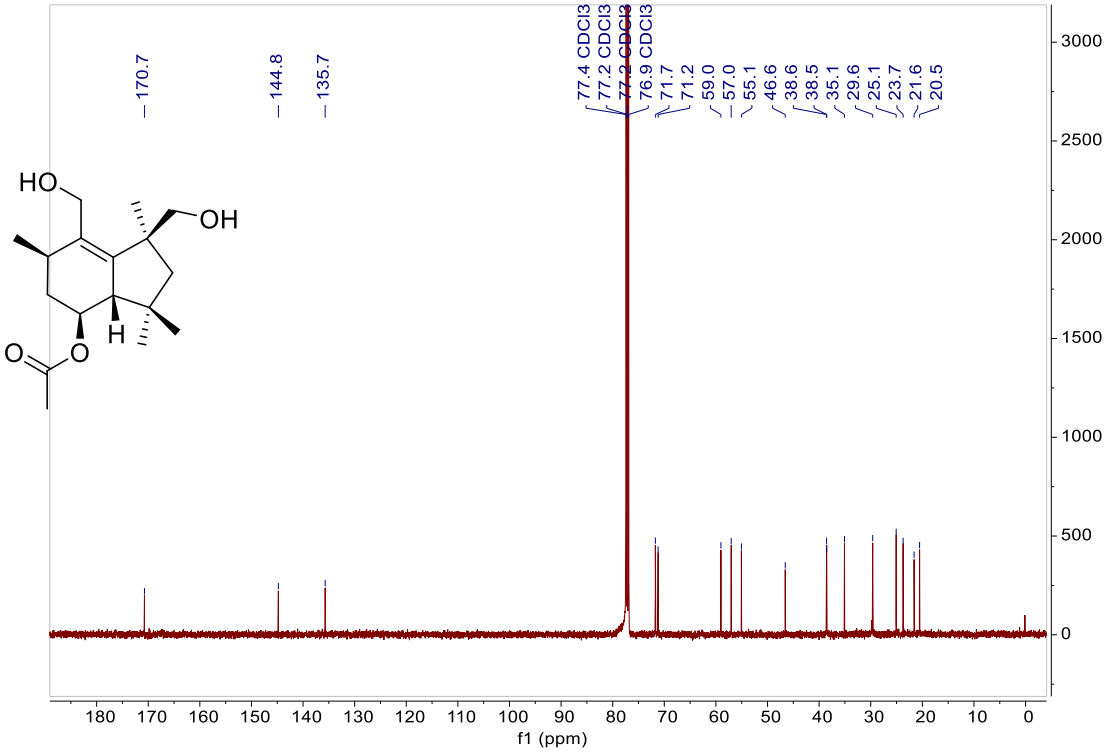

Figure S3. ^{13}C NMR spectrum (125 MHz, $CDCl_3$) of compound **1**.

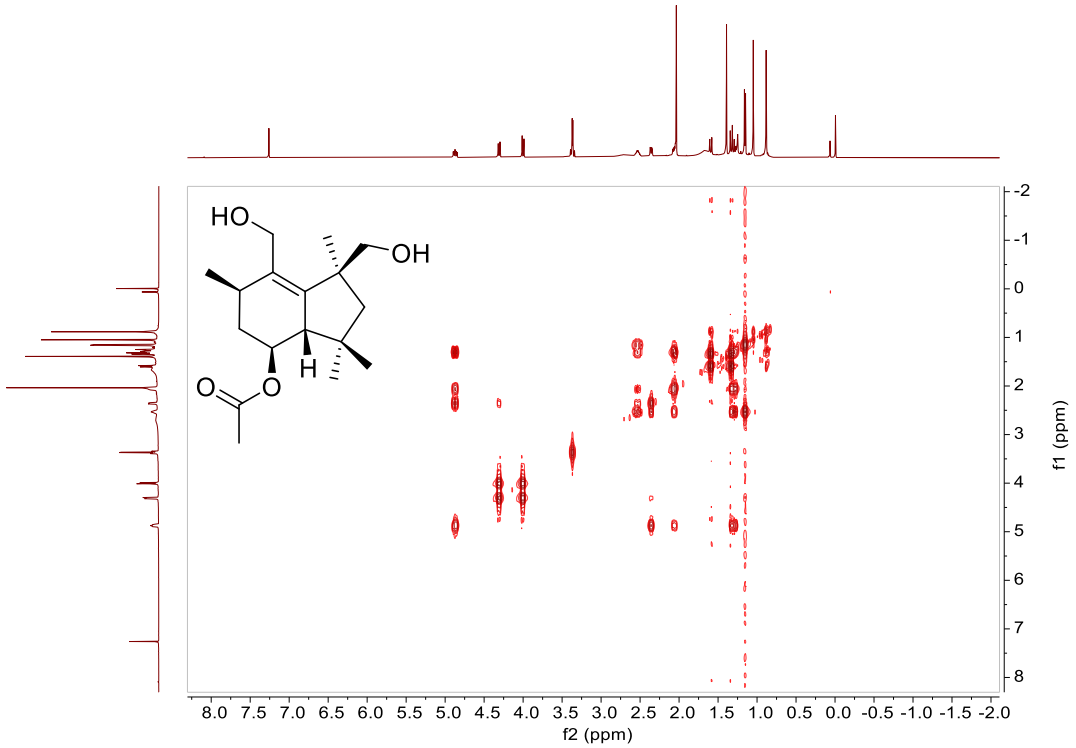

Figure S4. ^{1}H-^{1}H COSY spectrum of compound **1**.

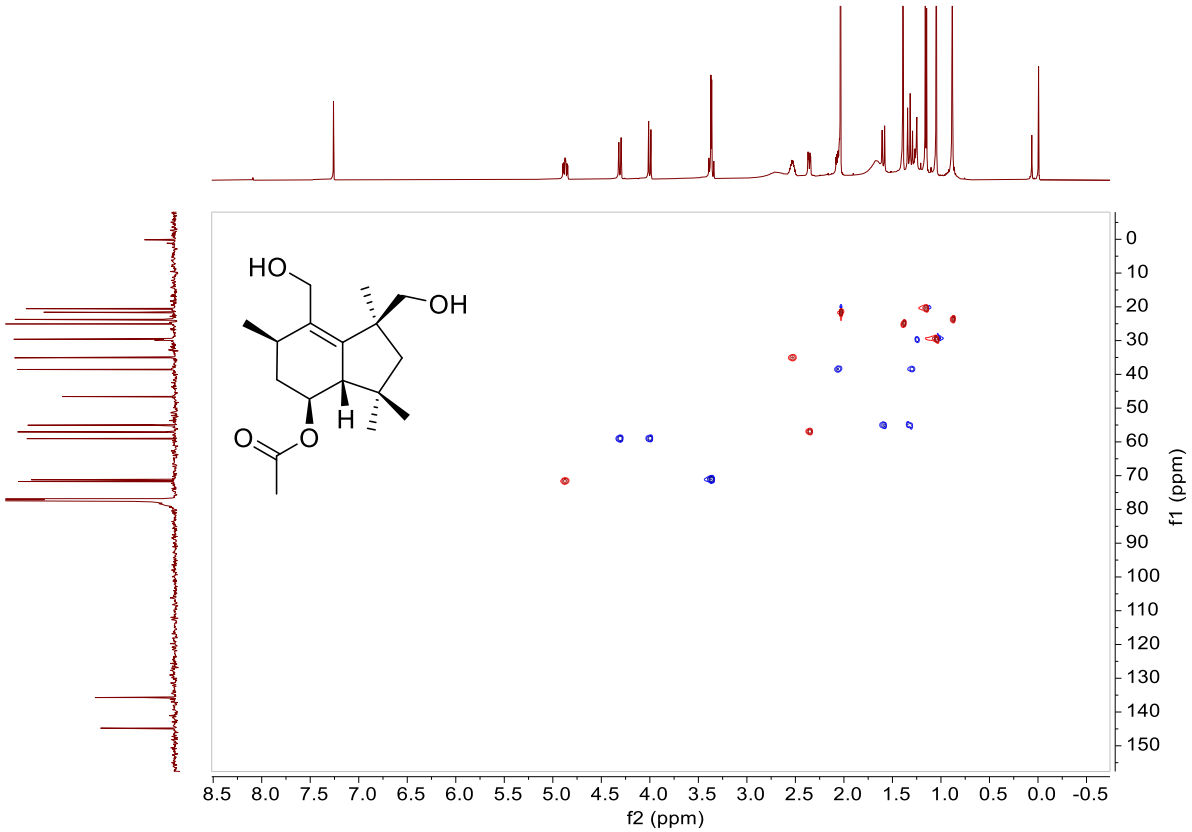

Figure S5. HSQC spectrum of compound **1**.

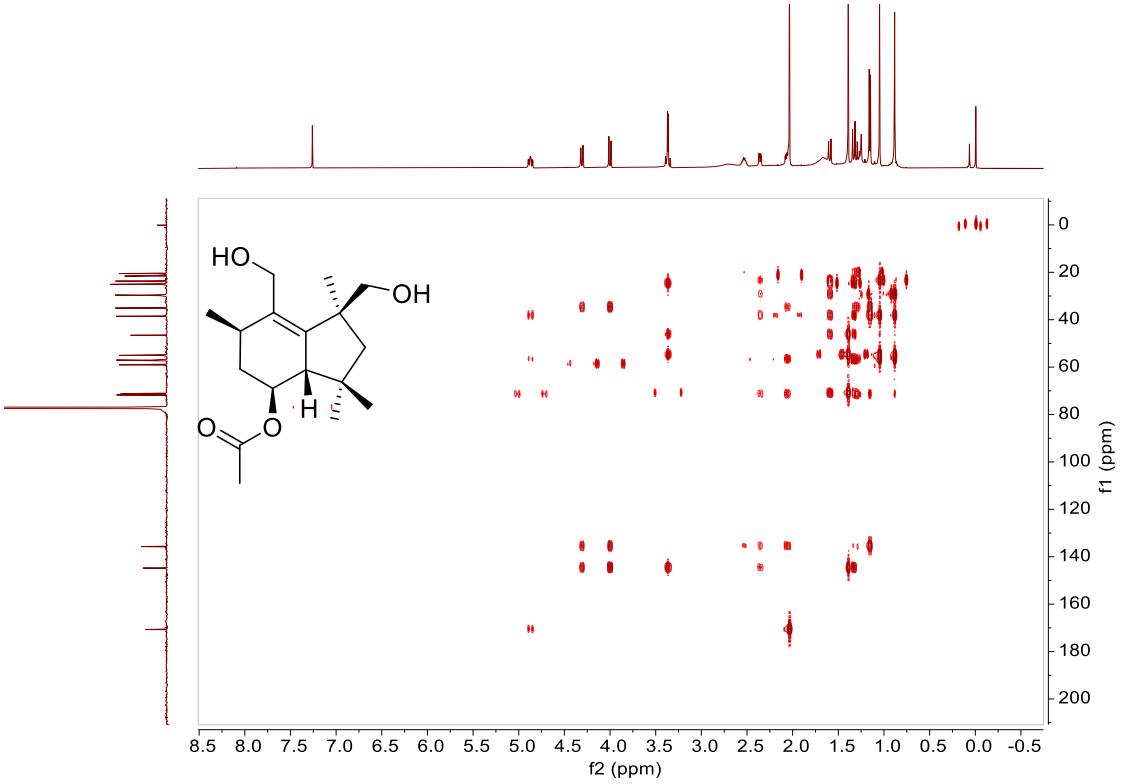

Figure S6. HMBC spectrum of compound **1**.

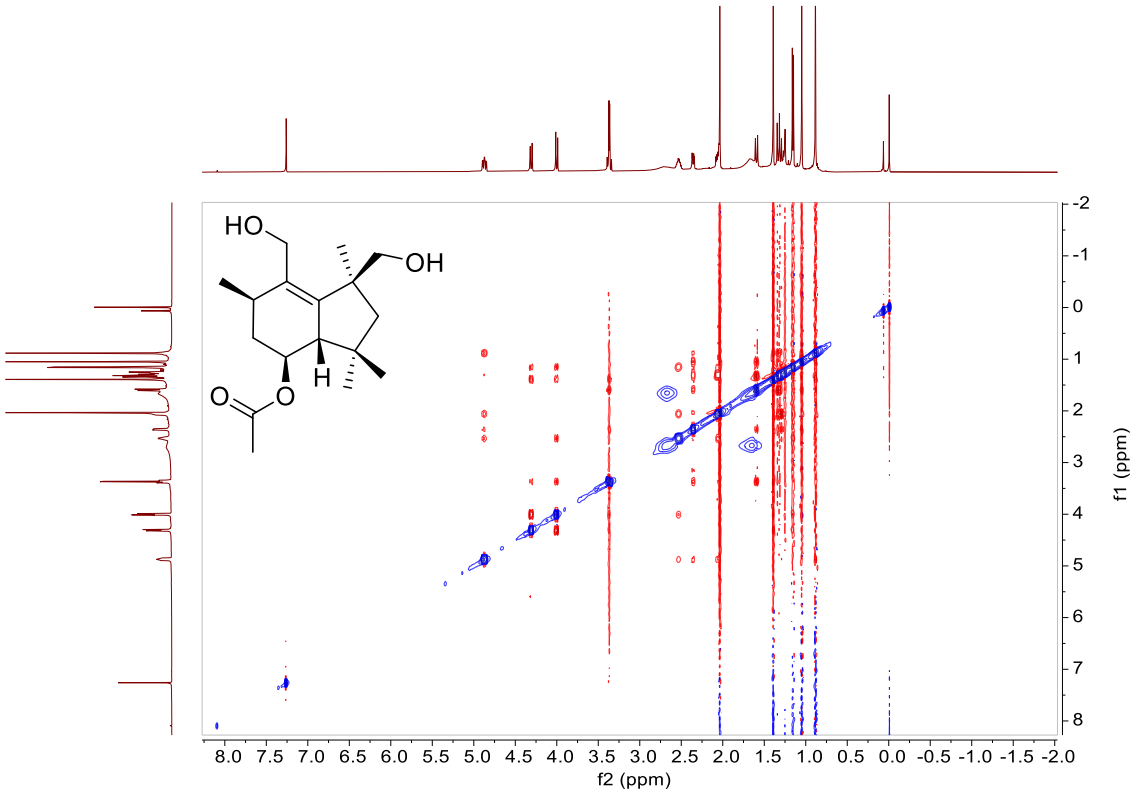

Figure S7. NOESY spectrum of compound **1**.

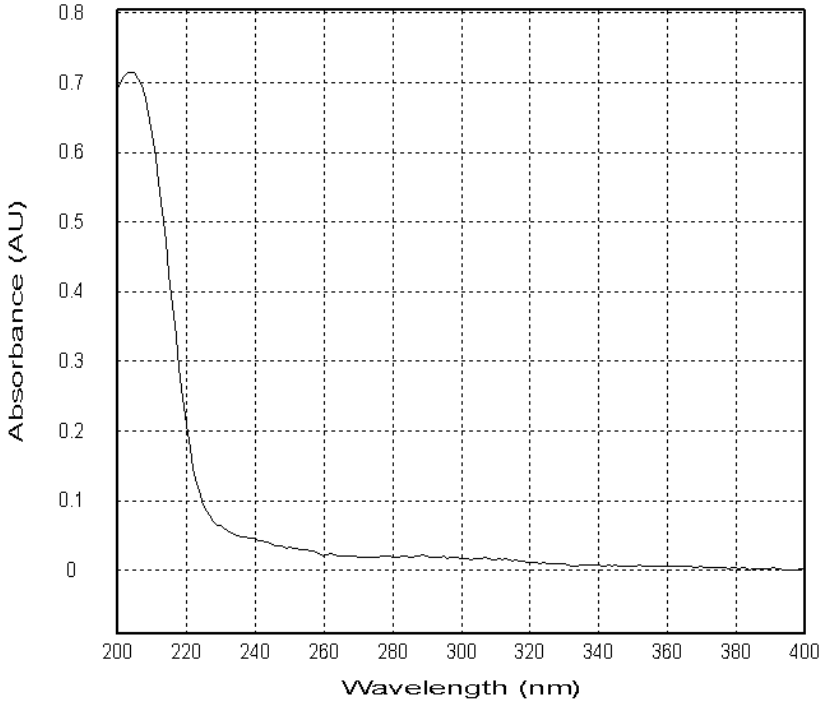

Figure S8. UV spectrum of compound **1**.

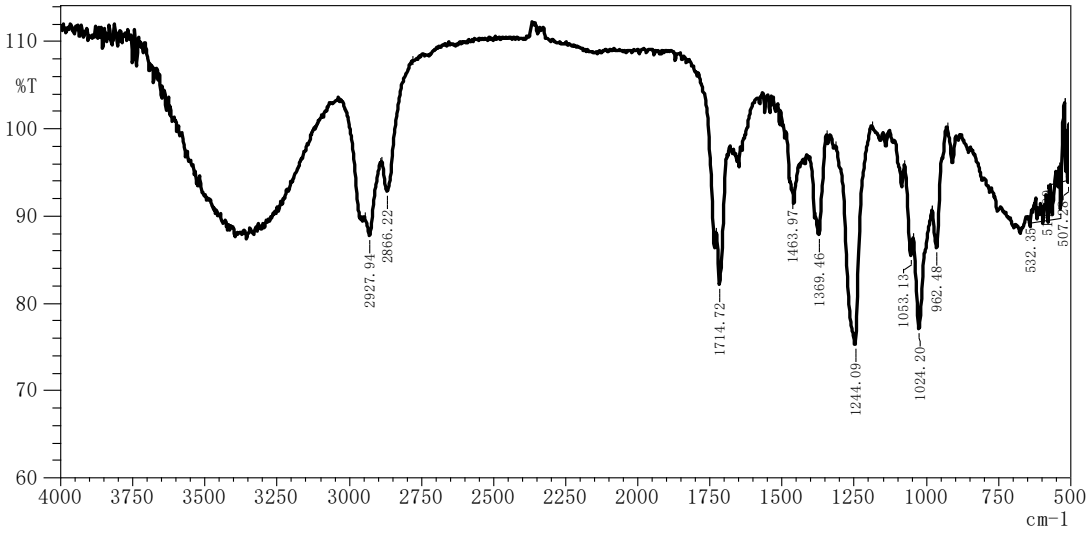

Figure S9. IR spectrum of compound **1**.