Supplementary data

New Unsaturated Lactones and a Meroterpenoid from *Ganoderma lucidum*

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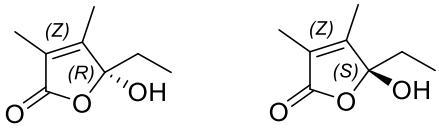
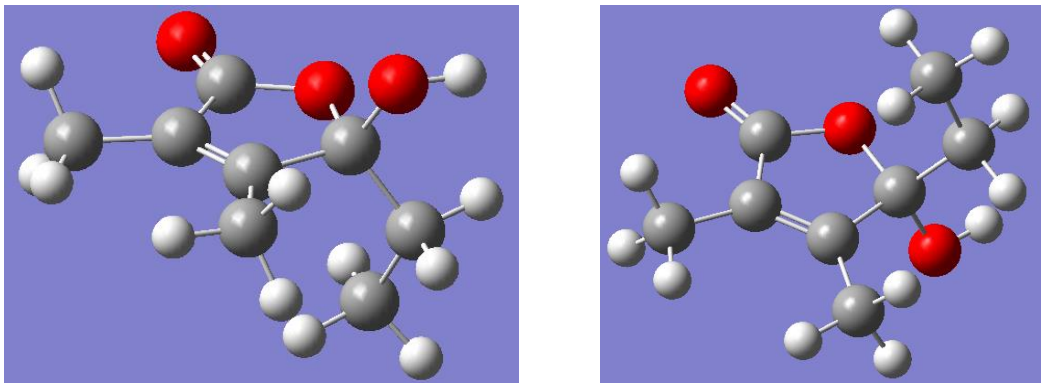
Contents

1. Optical value calculations of leucocontextum C



Model compounds



4R ***4S***

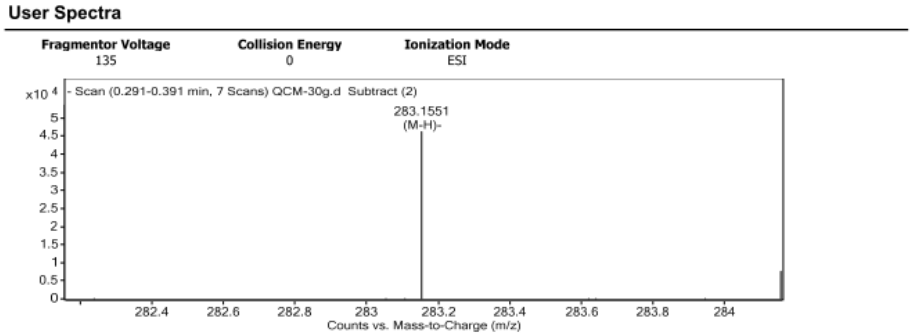
Figure S1. Optimized geometries of predominant conformers for model compounds at the B3LYP/6-311G (d, p) level in MeOH.

Table S1. Important thermodynamic parameters (a.u.) at B3LYP/6-311G (d, p) level in MeOH.

conformer	E+ZPE	G	[Alpha] (5893.0 A)
4R	–537.735128	–537.772566	–54.0
4S	–537.735128	–537.772566	+54.0

E+ZPE, G: total energy with zero point energy (ZPE) and Gibbs free energy at 298.15 K.

2. Supplementary Figures



Peak List

m/z	z	Abund	Formula	Ion
239.165	1	2656.38		
265.1445	1	1337.63		
283.1551	1	46297.96	C15 H24 O5	(M-H)-
284.1582	1	7591.33	C15 H24 O5	(M-H)-
285.1612	1	1032.39	C15 H24 O5	(M-H)-
305.137	1	2175.84		
346.1506	1	1314.75		
397.148	1	5367.62		

Formula Calculator Element Limits

Element	Min	Max
C	3	60
H	0	120
O	0	30

Formula Calculator Results

Formula	CalculatedMass	CalculatedMz	Mz	Diff. (mDa)	Diff. (ppm)	DBE
C15 H24 O5	284.1624	283.1551	283.1551	0.1	0.2	4.0000

Figure S2. HRESIMS of **1**

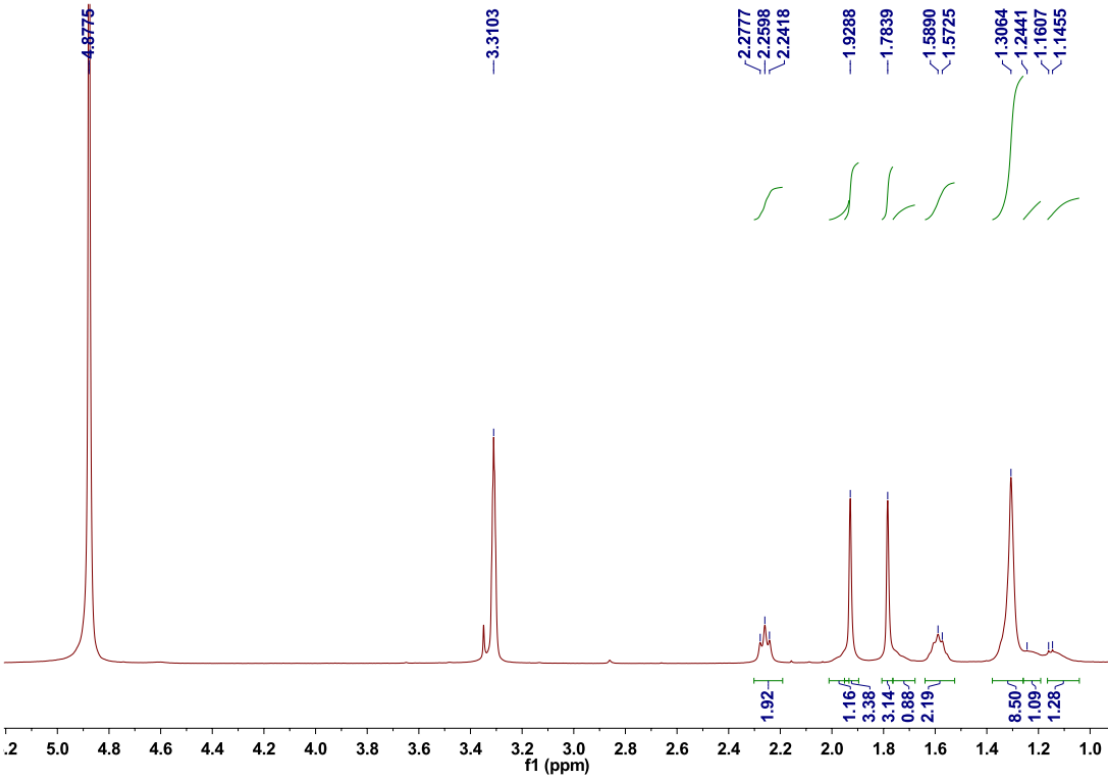


Figure S3. ^{1}H NMR spectrum of **1** in methanol-d_4

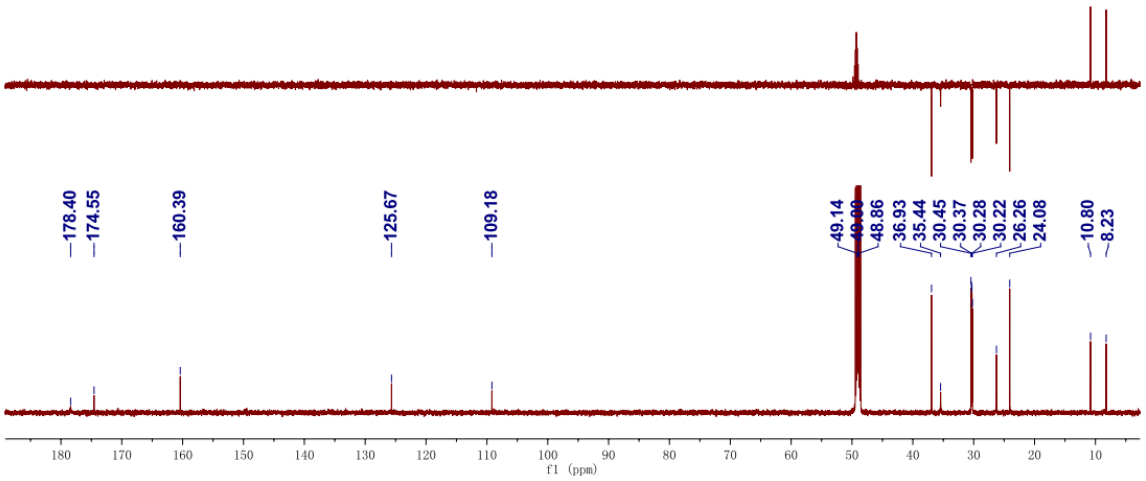


Figure S4. ^{13}C NMR and DEPT spectra of **1** in methanol-d_4

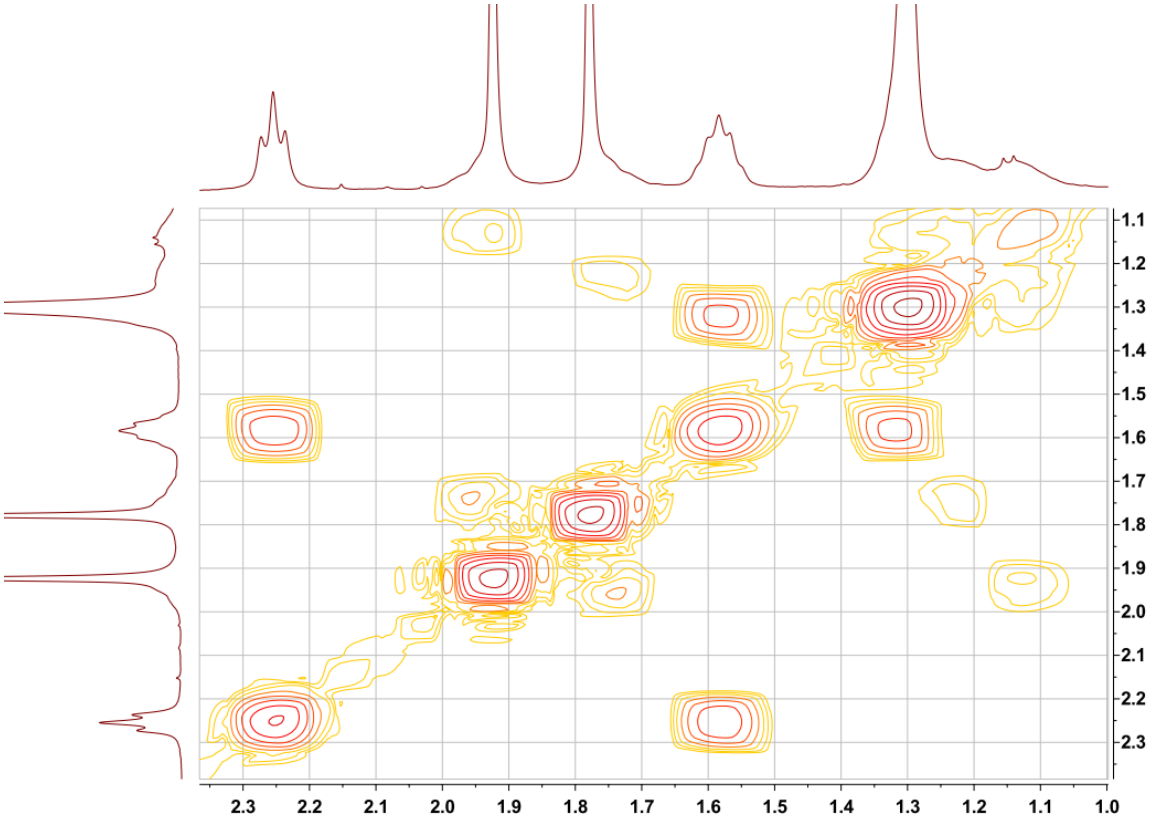


Figure S5. ^{1}H-^{1}H COSY spectrum of **1** in methanol-d_4

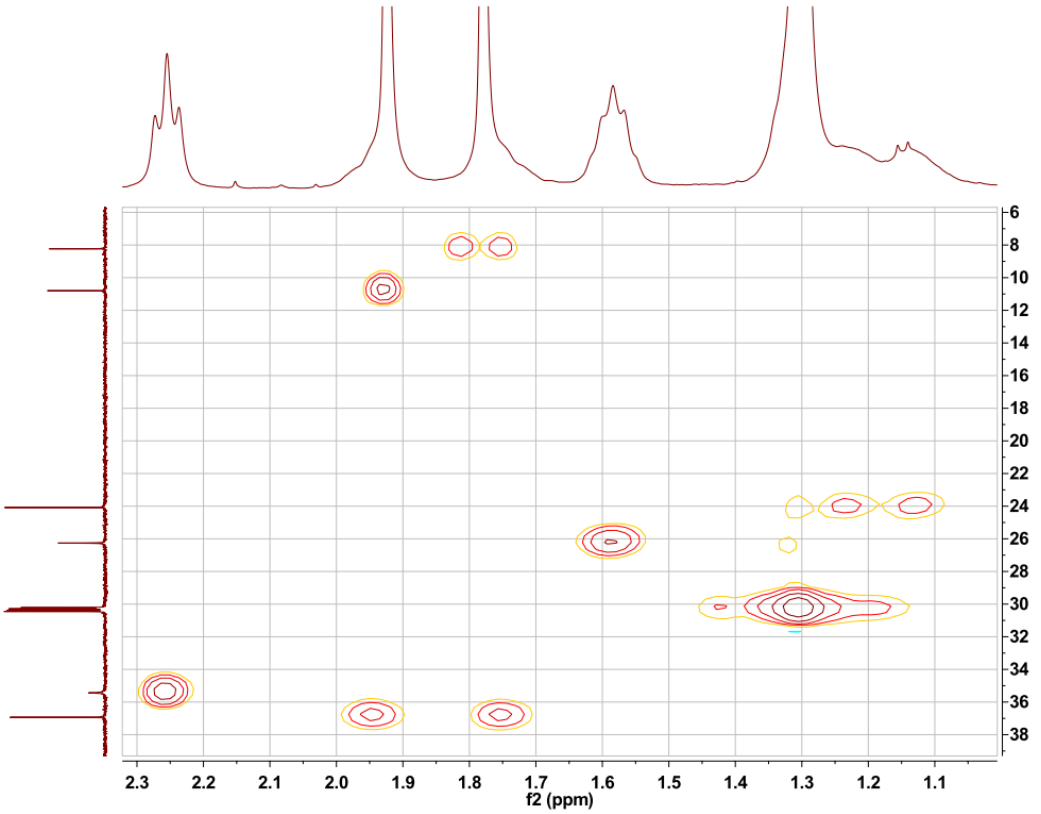


Figure S6. HSQC spectrum of **1** in methanol-d_4

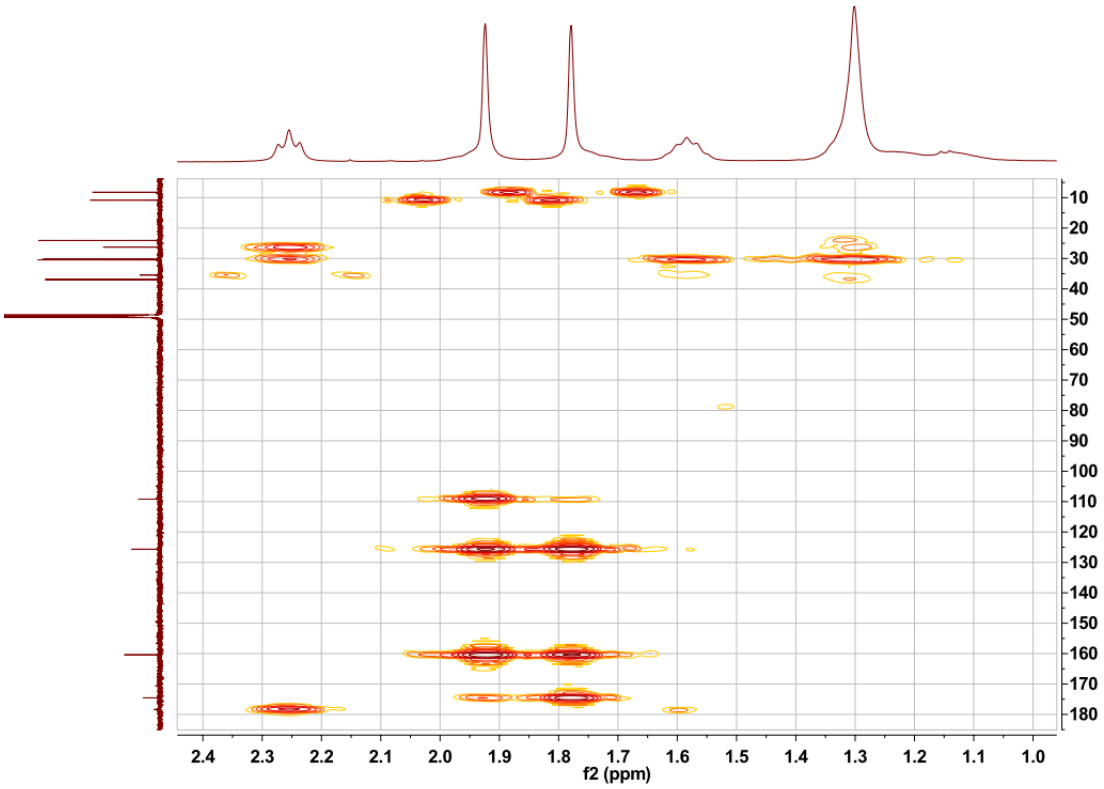
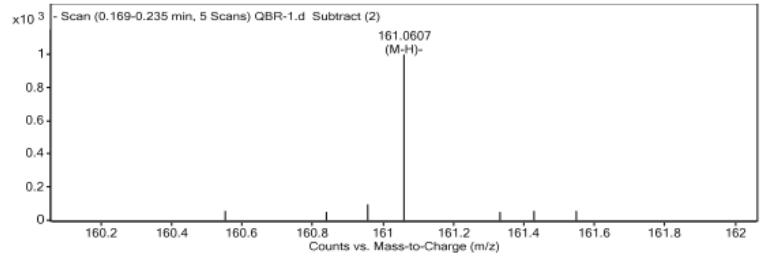


Figure S7. HMBC spectrum of **1** in methanol-d_4

User Spectra

Fragmentor Voltage	Collision Energy	Ionization Mode
135	0	ESI



Peak List

m/z	z	Abund
311.1688	1	5496.29
325.1849	1	6427.26
339.2004	1	3338.31
361.1666	1	3458.53
373.1661	1	3526.17
375.2758	1	3316.35
403.3074	1	7421.3
485.2909	1	5978.46

Formula Calculator Element Limits

Element	Min	Max
C	3	60
H	0	120
O	0	30

Formula Calculator Results

Formula	CalculatedMass	CalculatedMz	Mz	Diff. (mDa)	Diff. (ppm)	DBE
C10 H10 O2	162.0681	161.0608	161.0607	1.1	6.5	6.0000

Figure S8. HRESIMS of **2**

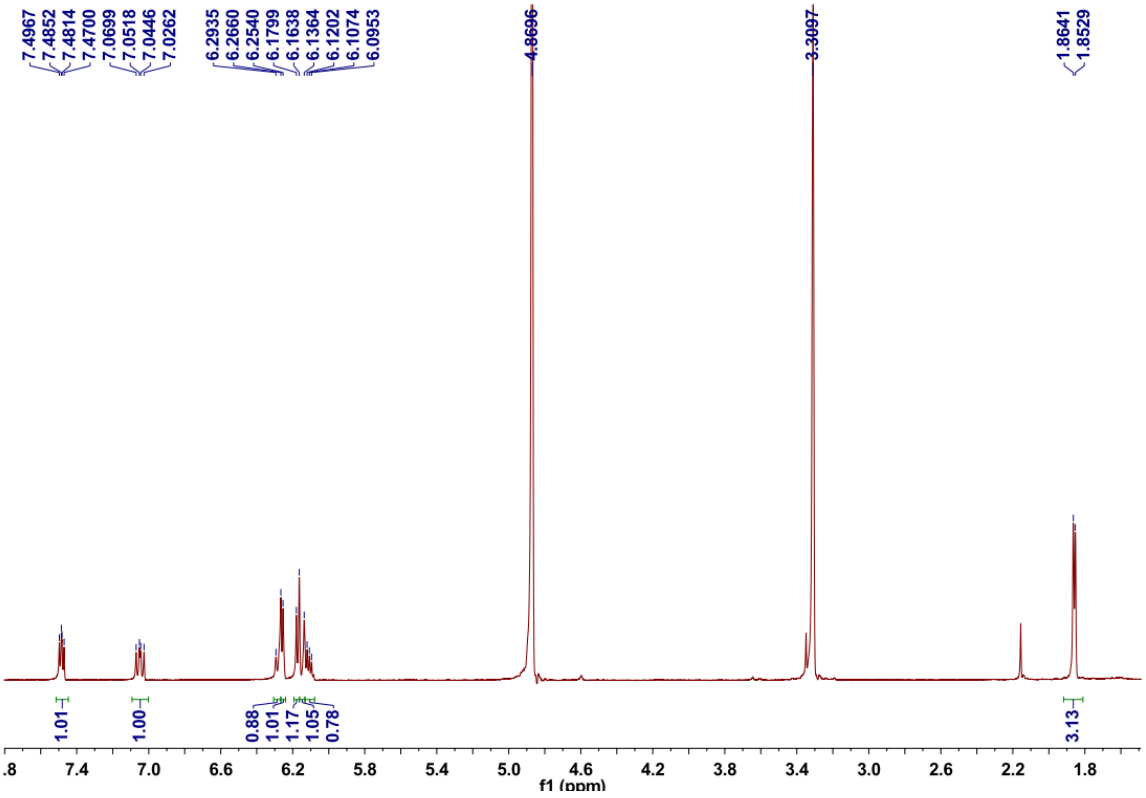


Figure S9. ^{1}H NMR spectrum of **2** in methanol-d_4

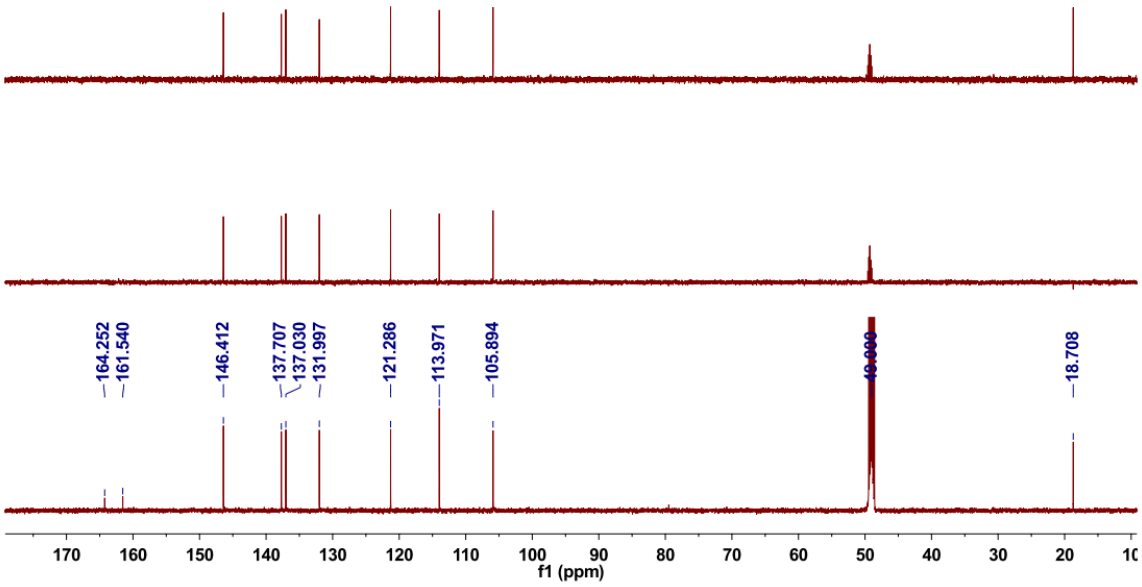


Figure S10. ^{13}C NMR spectrum of **2** in methanol-d_4

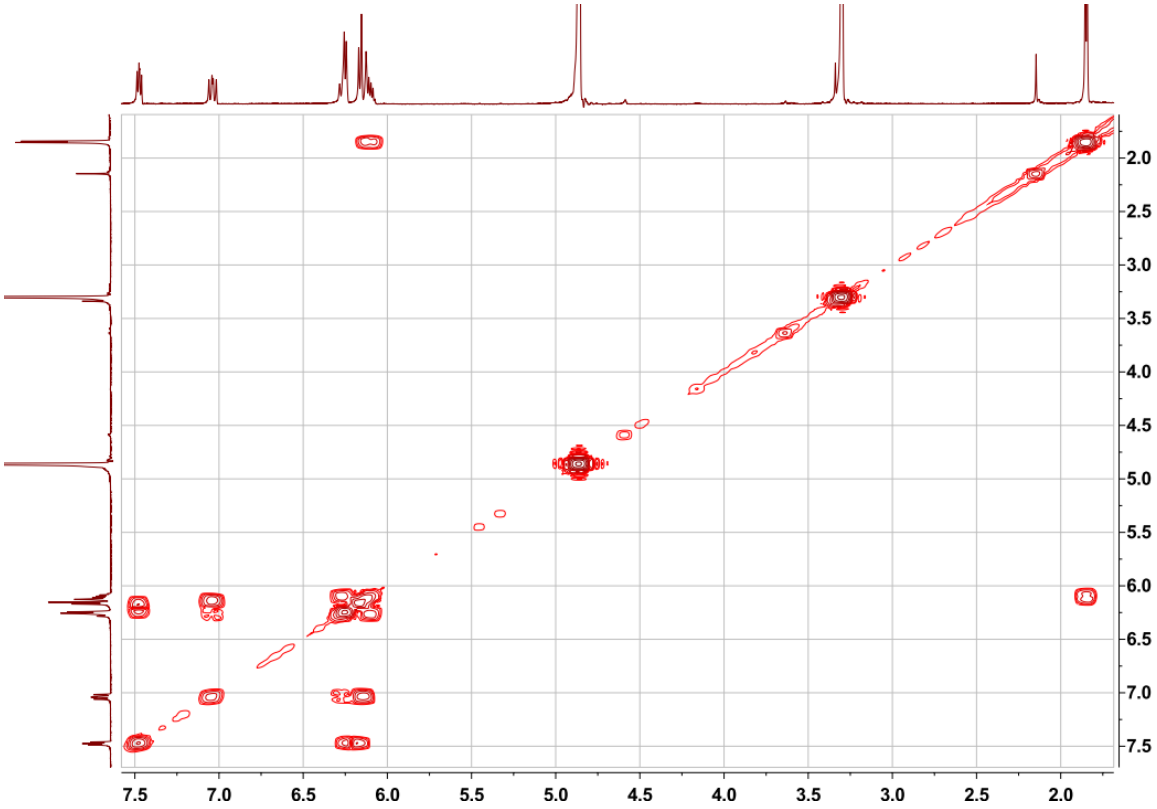


Figure S11. ^{1}H-^{1}H COSY spectrum of **2** in methanol-d_4

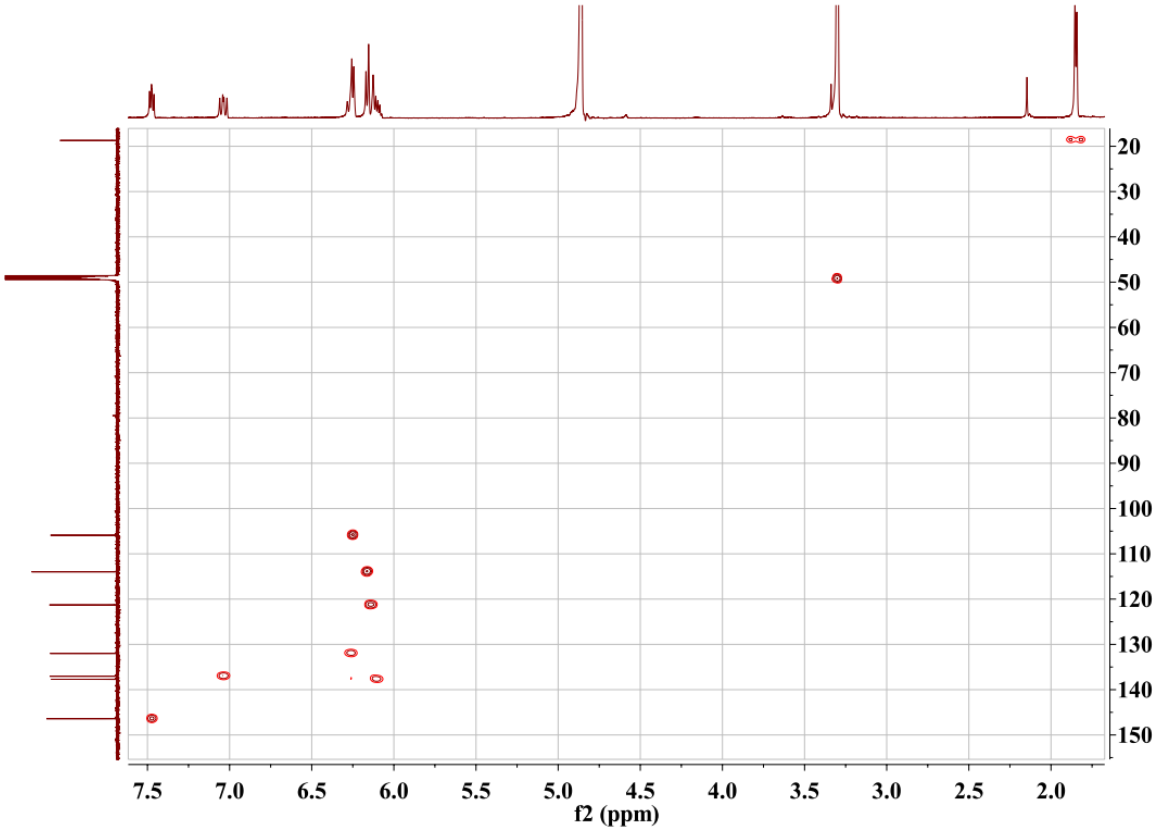


Figure S12. HSQC spectrum of **2** in methanol-d_4

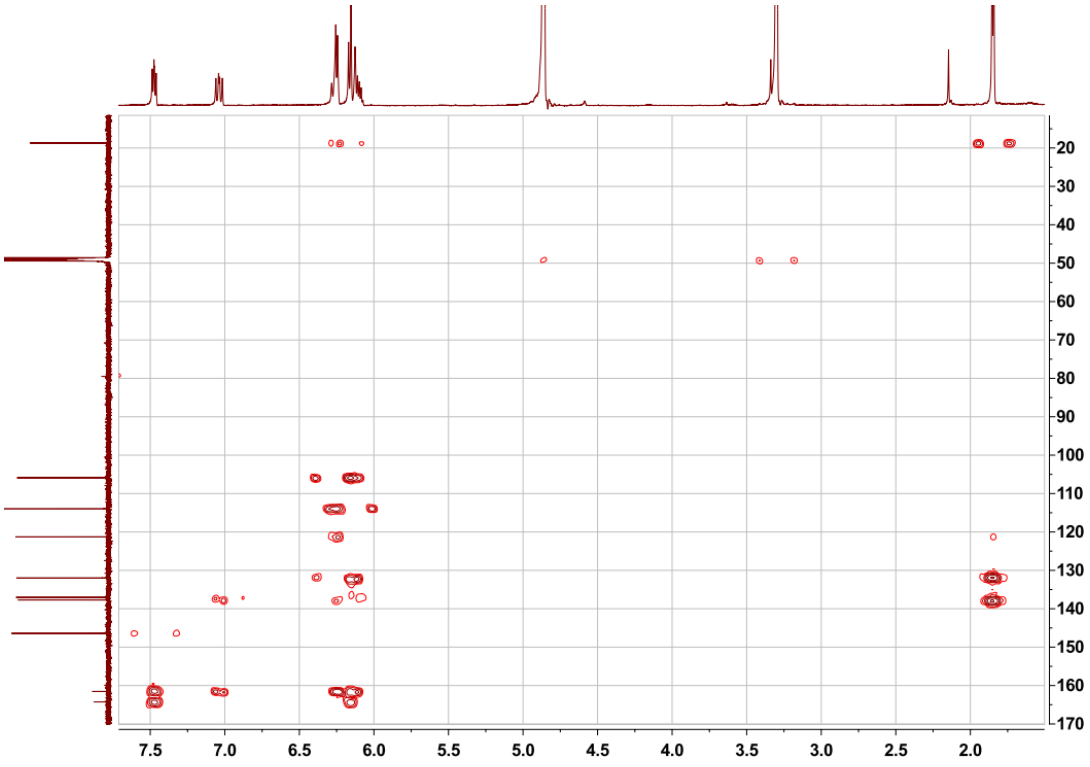


Figure S13. HMBC spectrum of **2** in methanol-d_4

Generic Display Report

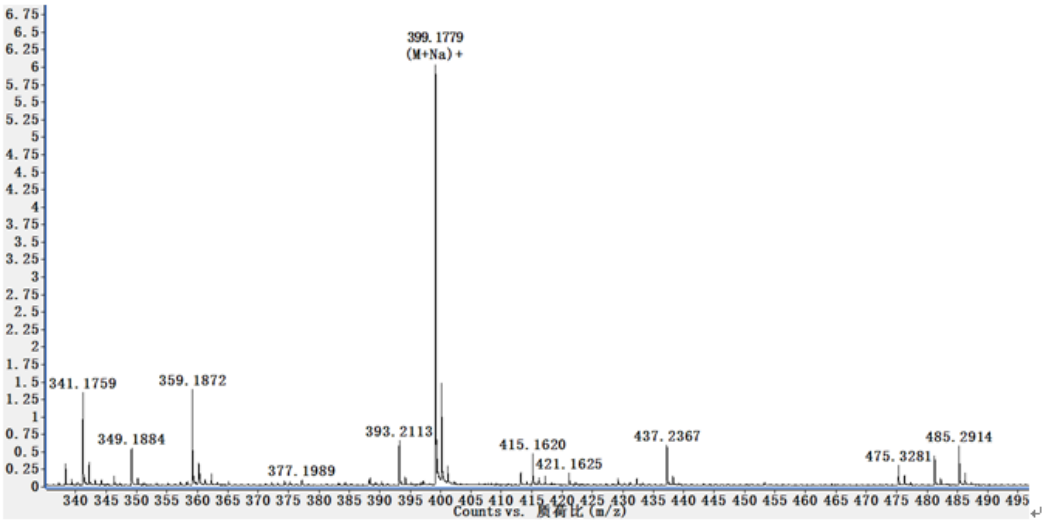
Analysis Info Acquisition data:27/01/2019

Analysis name:dylz-38

Method esi_pos_50-1000_with calibration_for 1min.m operator: WHS

Sample Name: Instrument: Agilent 6210 ESI/TOF MS

Comment



Formula	Cal. Mass (Na+)	Mass(Na+)	Err(ppm)
C21H28O6	399.1778	399.1779	**-0.24**

Figure S14. HRESIMS of **3**

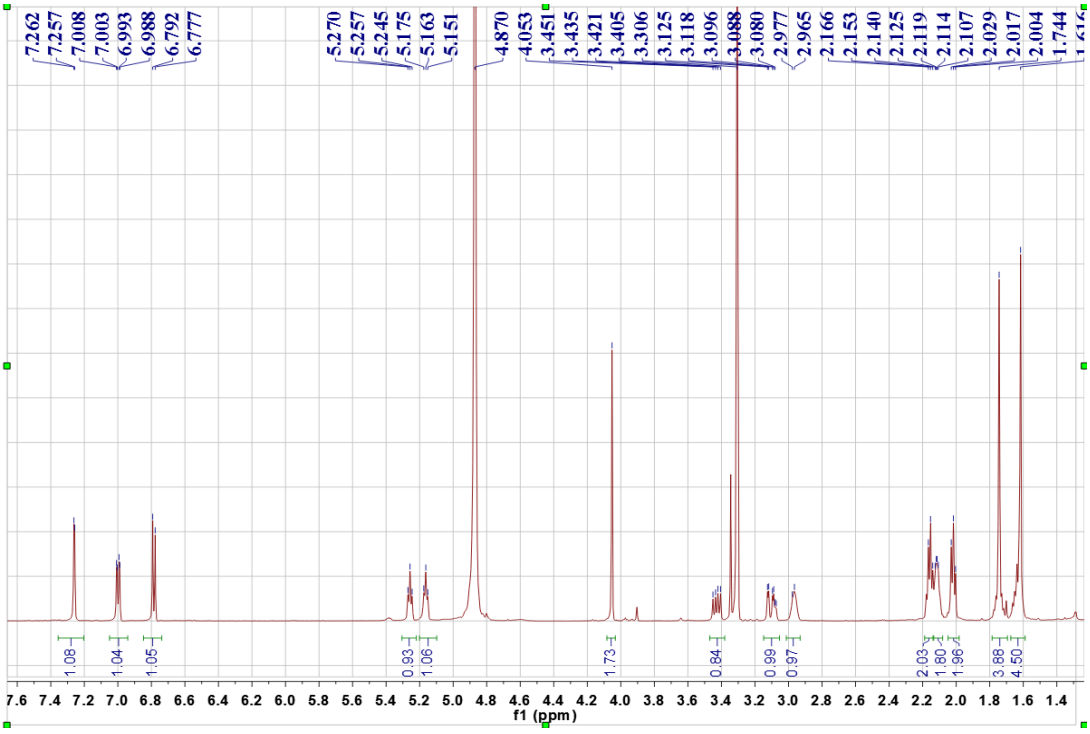


Figure S15. ^{1}H NMR spectrum of **3** in methanol-d_4

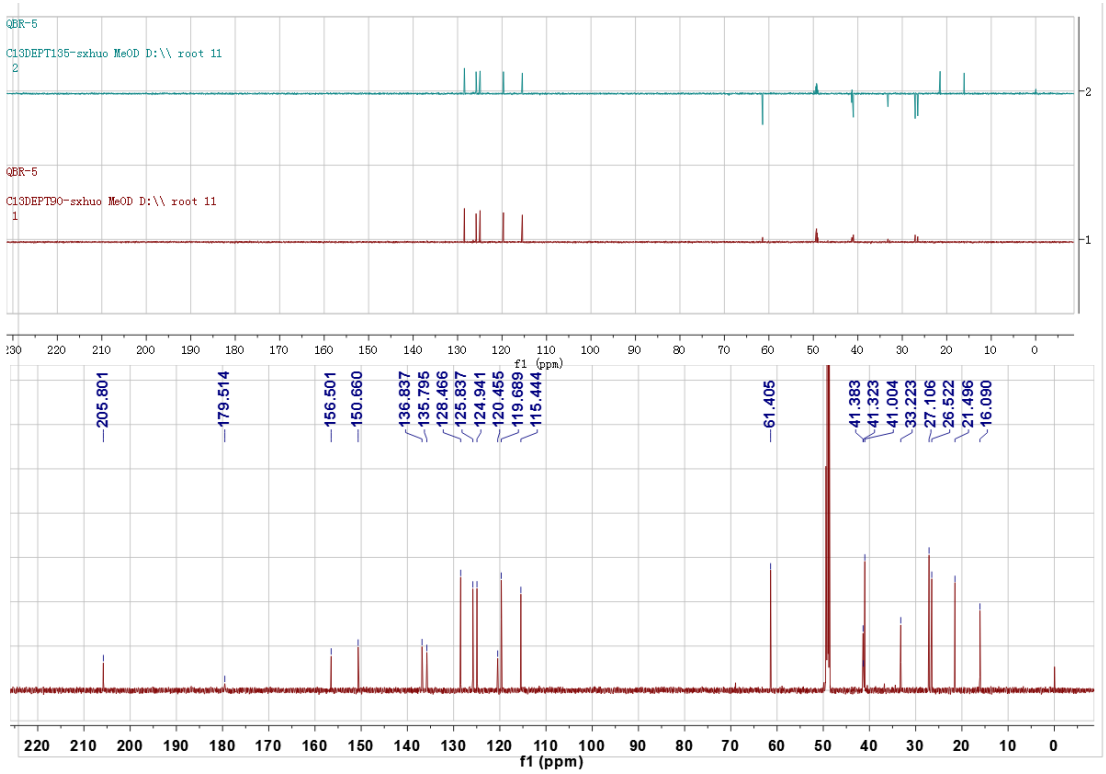


Figure S16. ^{13}C NMR spectrum of **3** in methanol-d_4

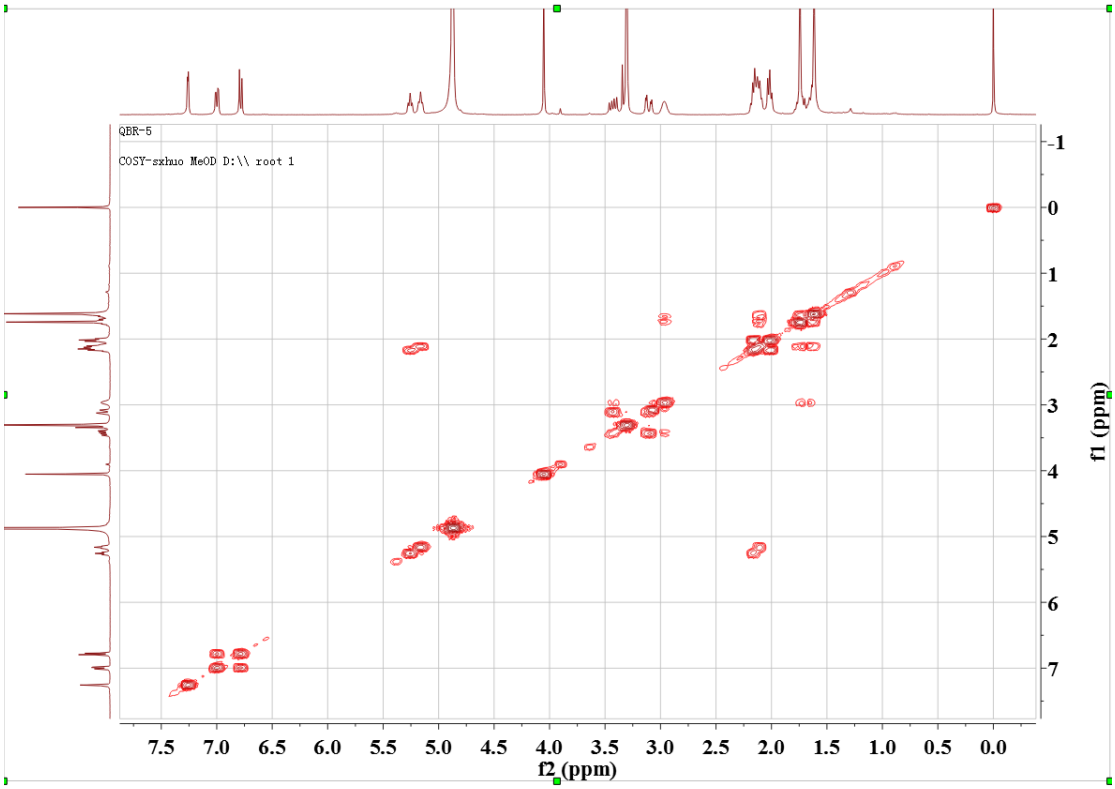


Figure S17. ^{1}H-^{1}H COSY spectrum of **3** in methanol-d_4

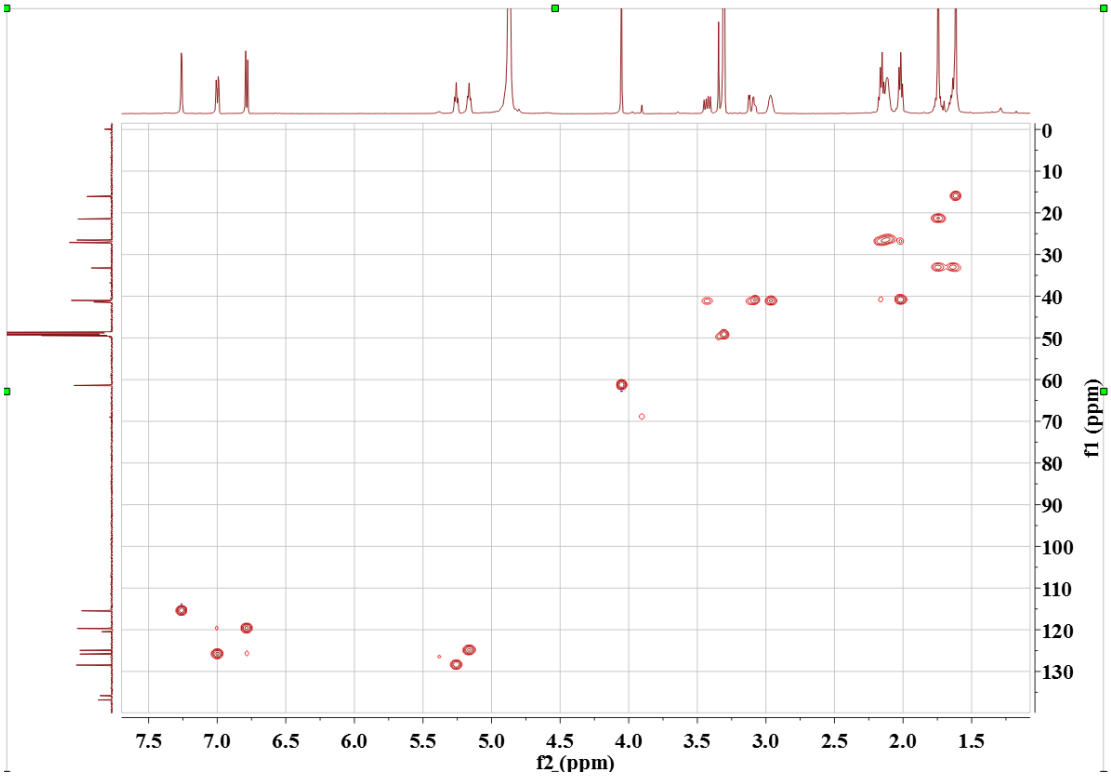


Figure S18. HSQC spectrum of **3** in methanol-d_4

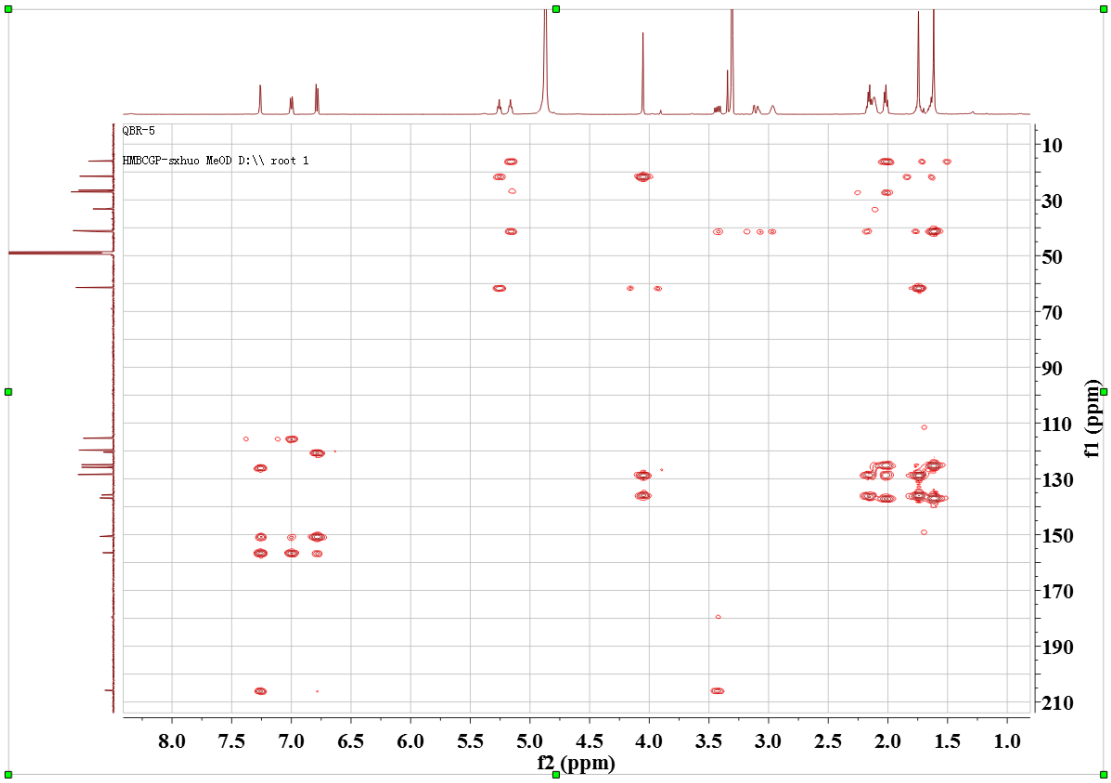


Figure S19. HMBC spectrum of **3** in methanol-d_4

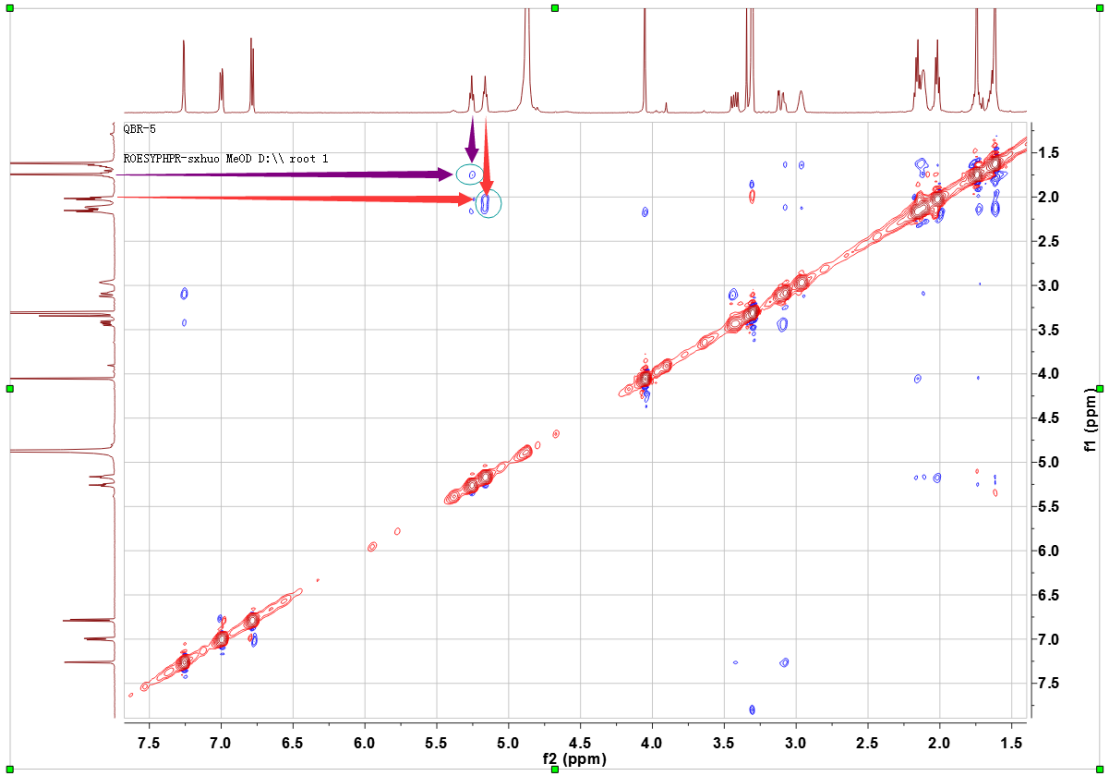


Figure S20. ROESY spectrum of **3** in methanol-d_4

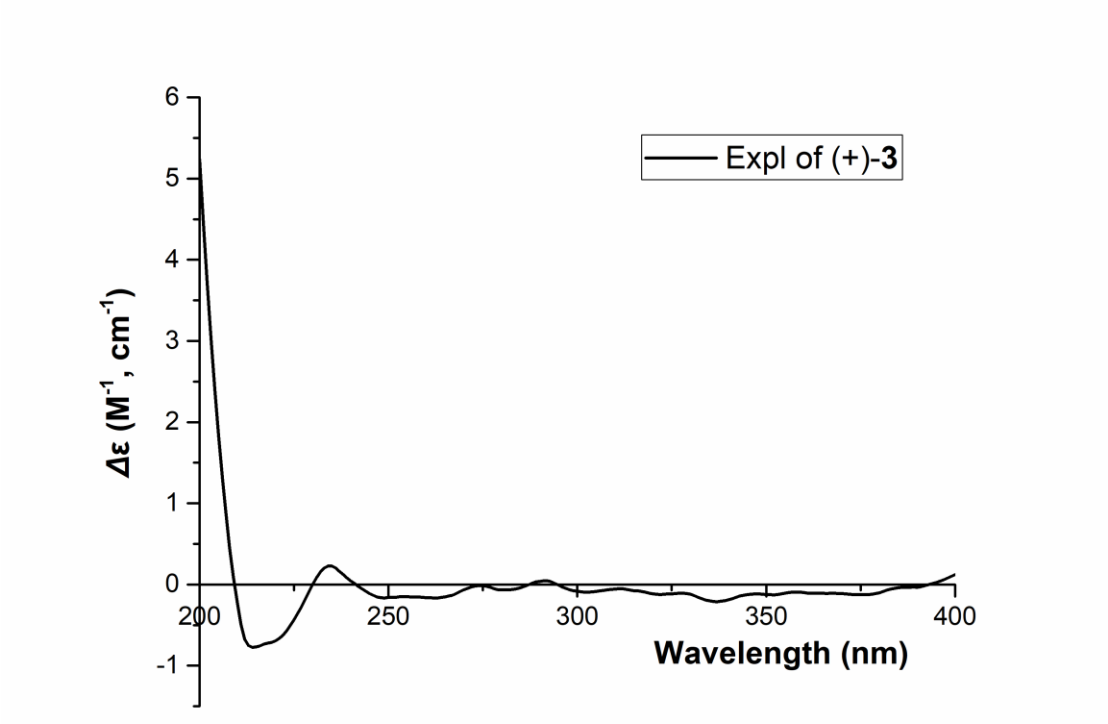


Figure S21. CD spectrum of **3** in methanol