Supporting information

Isolation and Bioactivity of Chlorinated Xanthones and Chromones from Solid Culture of the Fungus, *Alternaria sonchi*, a Potential Bioherbicide for Control of Sowthistles

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Figure S1 – ^{1}H NMR spectrum of compound **1**

Figure S2 – ^{13}C NMR spectrum of compound **1**

Figure S3 – HSQC spectrum of compound **1**

Figure S4 – HMBC spectrum of compound **1**

Figure S5 – ESIMS of compound **1** recorded in positive ion mode

Figure S6 – UV spectrum of compound **1**

Figure S7 – ^{1}H NMR spectrum of compound **2**

Figure S8 – ^{13}C NMR spectrum of compound **2**

Figure S9 – HSQC spectrum of compound **2**

Figure S10 – HMBC spectrum of compound **2**

Figure S11 – HR ESIMS of compound **2** recorded in positive ion mode

Figure S12 – UV spectrum of compound **2**

Figure S13 – ^{1}H NMR spectrum of compound **5**

Figure S14 – ^{13}C NMR spectrum of compound **5**

Figure S15 – ^{1}H NMR spectrum of compound **9**

Figure S16 – ^{13}C NMR spectrum of compound **9**

Table S1 – X-ray data of compound **1**

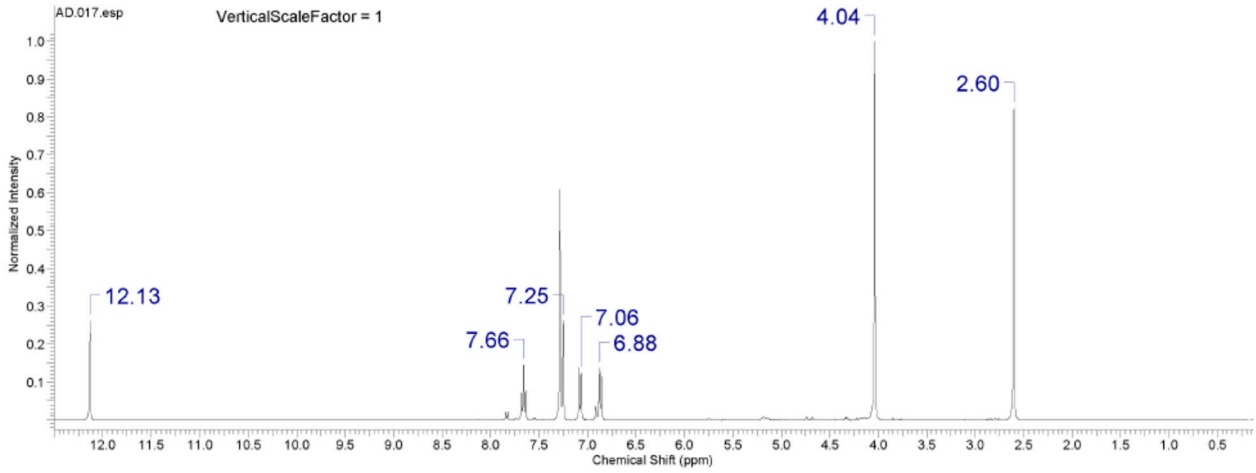

Figure S1 – ^{1}H NMR spectrum of compound **1**

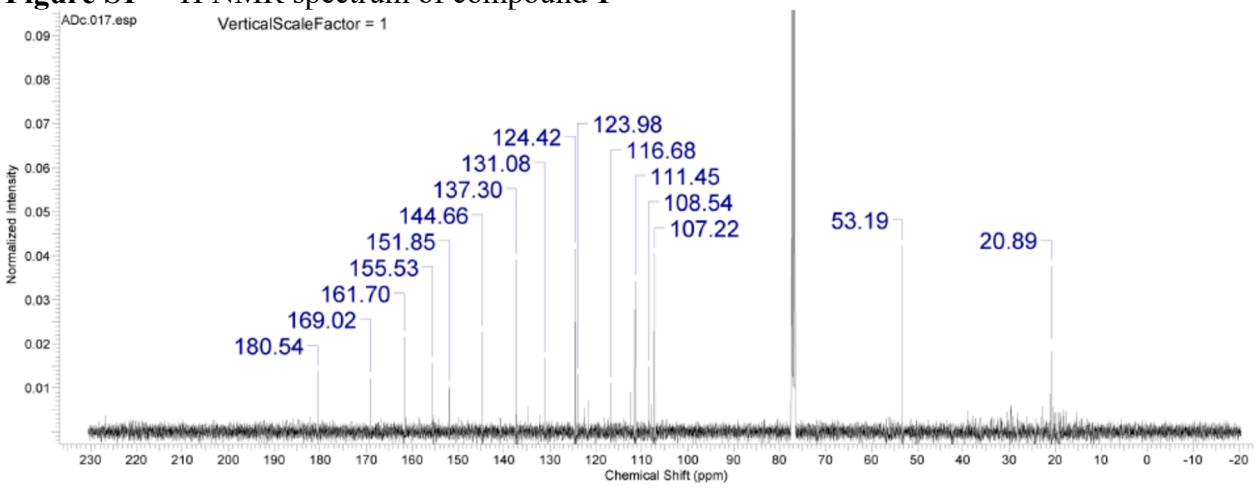

Figure S2 – ^{13}C NMR spectrum of compound **1**

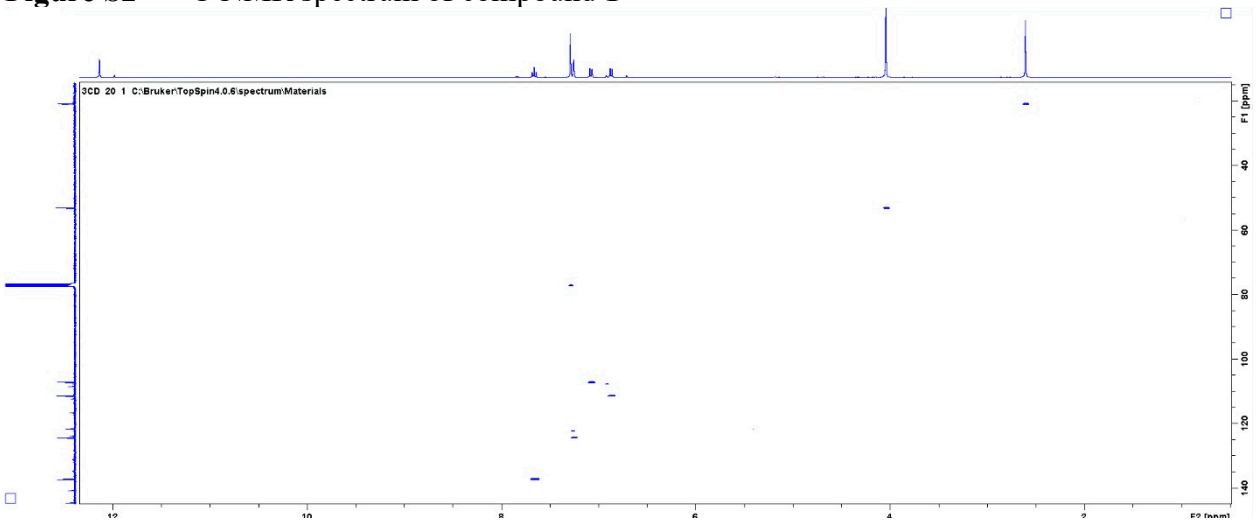

Figure S3 – HSQC spectrum of compound **1**

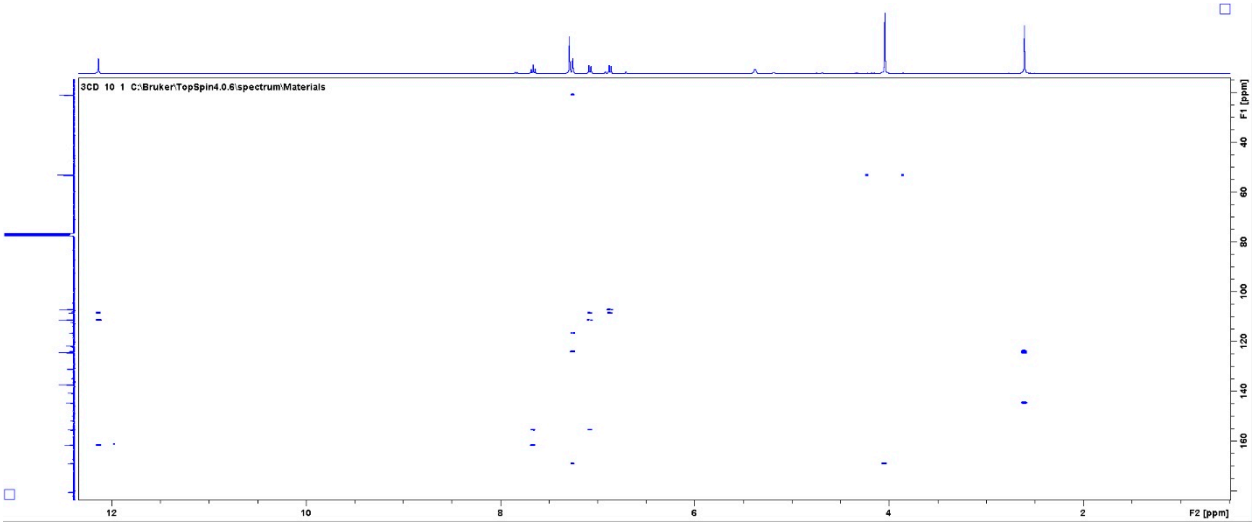

Figure S4 – HMBC spectrum of compound **1**

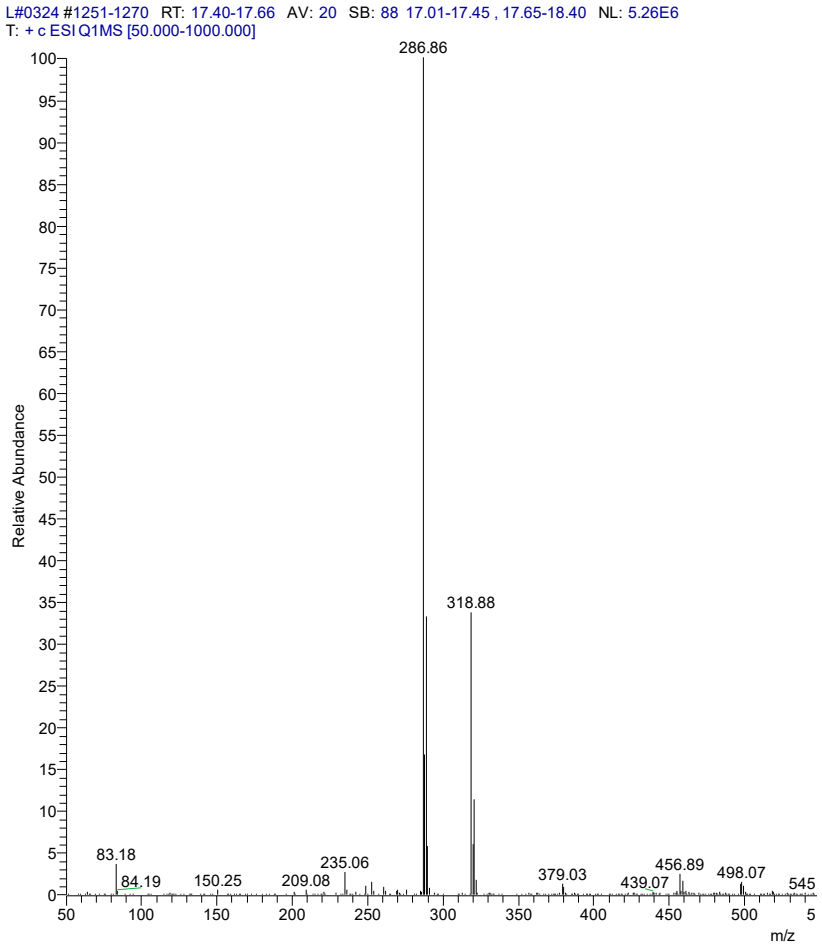

Figure S5 – ESIMS of compound **1** recorded in positive ion mode

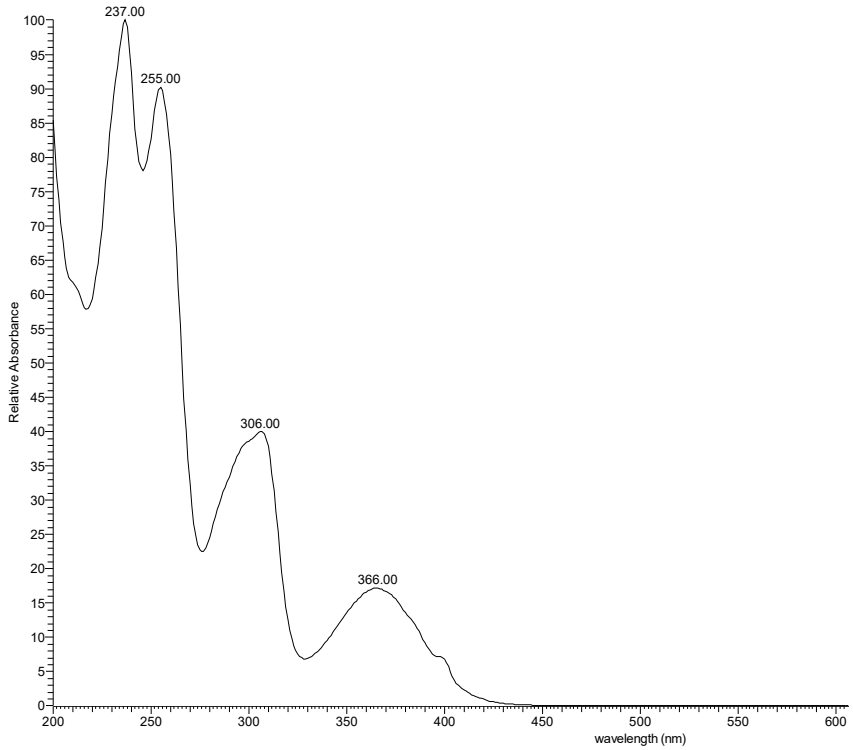

Figure S6 – UV spectrum of compound **1**

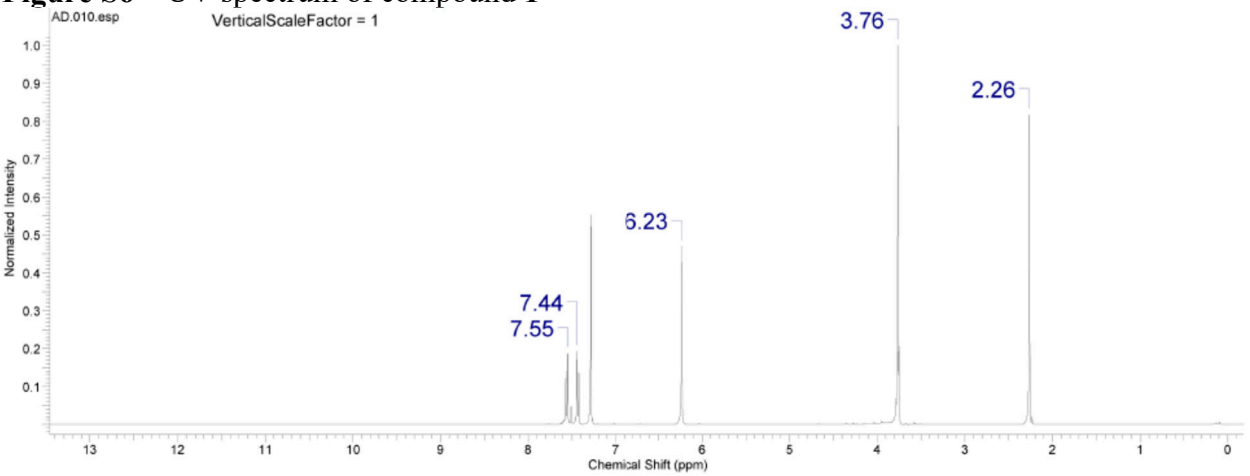

Figure S7 – ^{1}H NMR spectrum of compound **2**

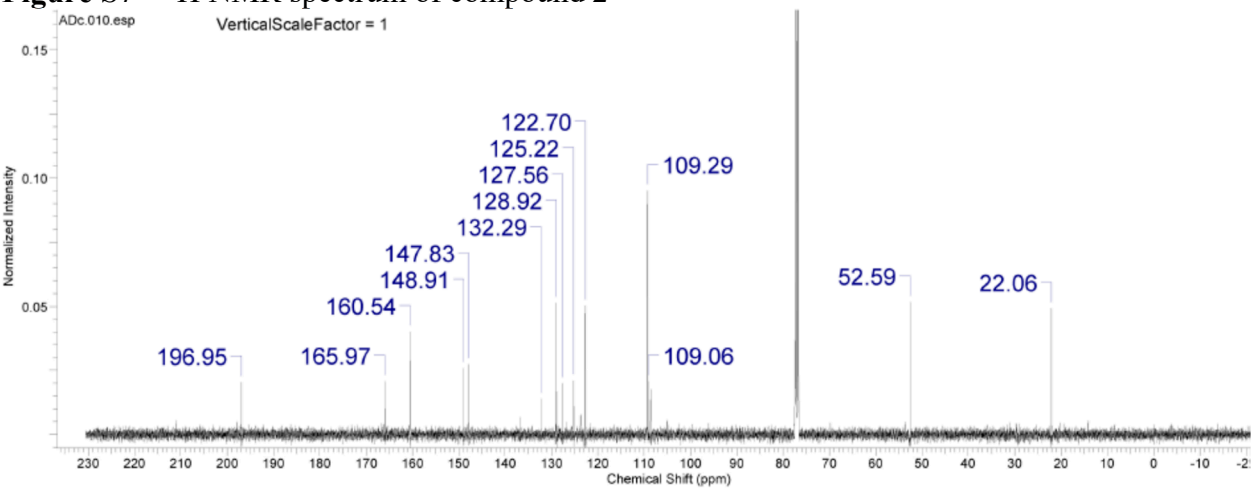

Figure S8 – ^{13}C NMR spectrum of compound **2**

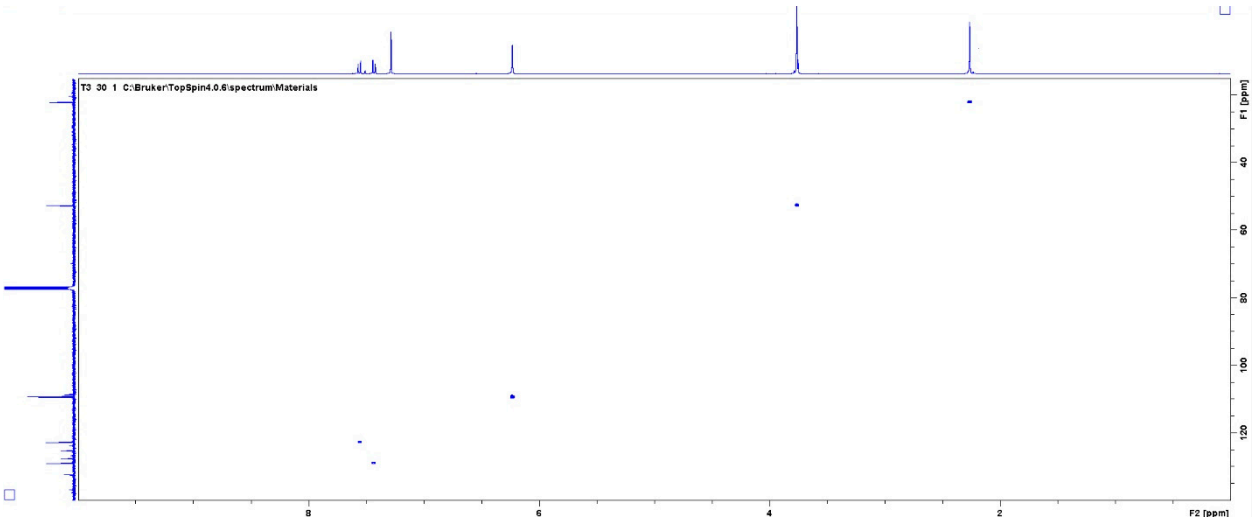

Figure S9 – HSQC spectrum of compound **2**

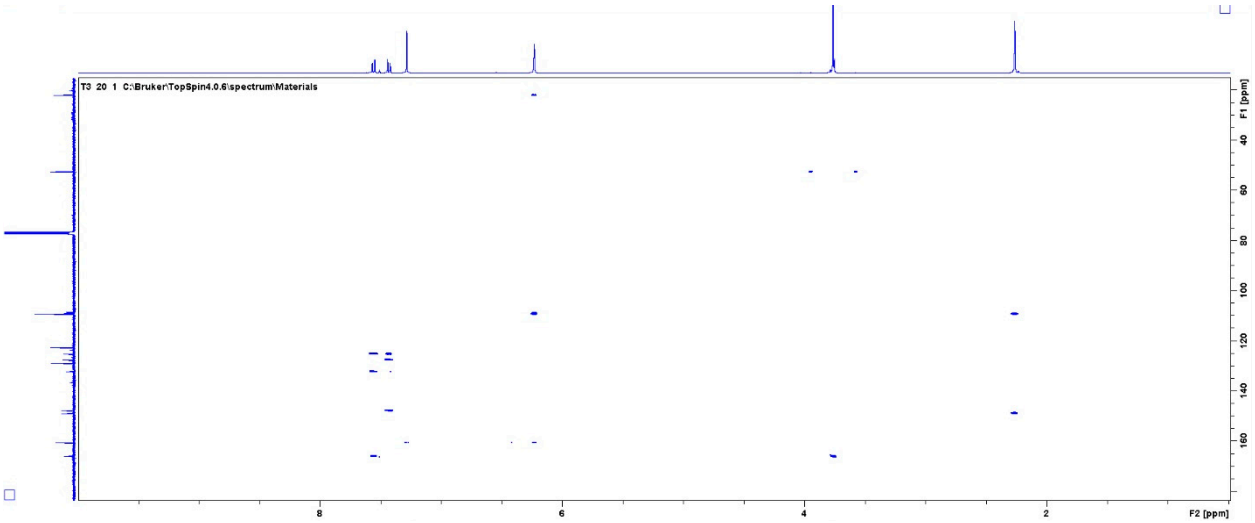

Figure S10 – HMBC spectrum of compound **2**

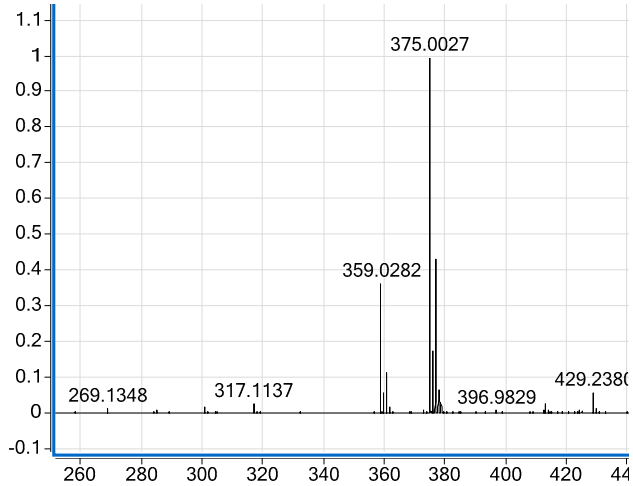

Figure S11 – HR ESIMS of compound **2** recorded in positive ion mode

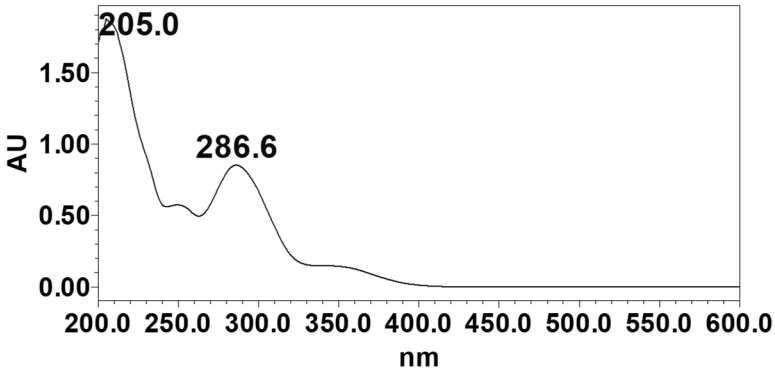

Figure S12 – UV spectrum of compound **2**

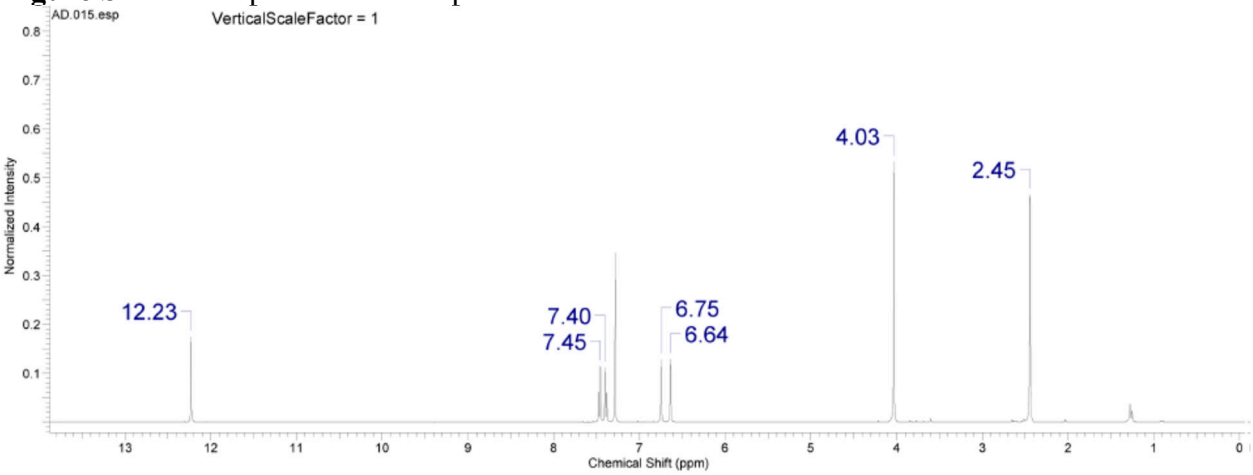

Figure S13 – ^{1}H NMR spectrum of compound **5**

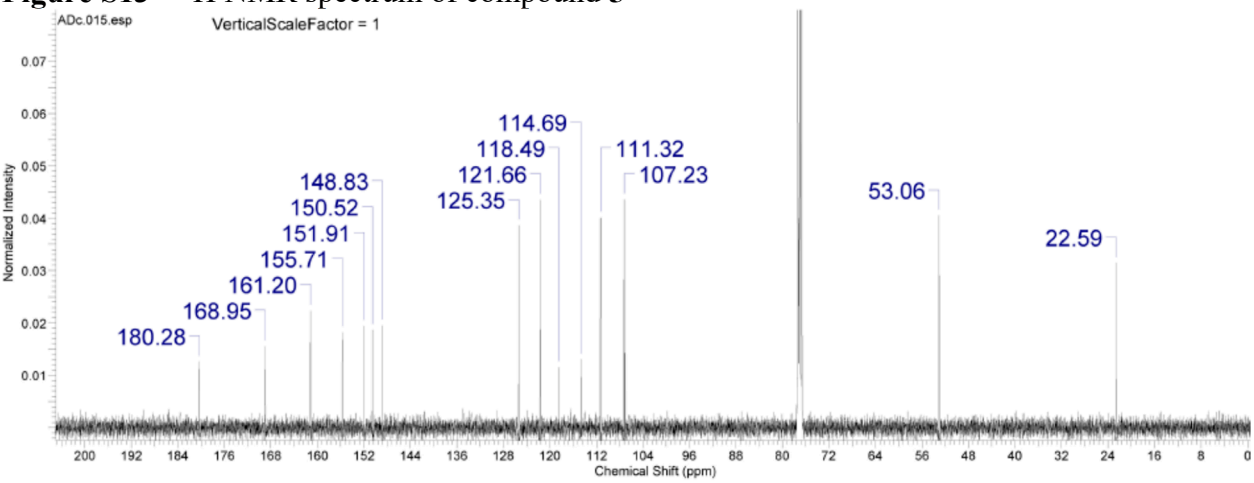

Figure S14 – ^{13}C NMR spectrum of compound **5**

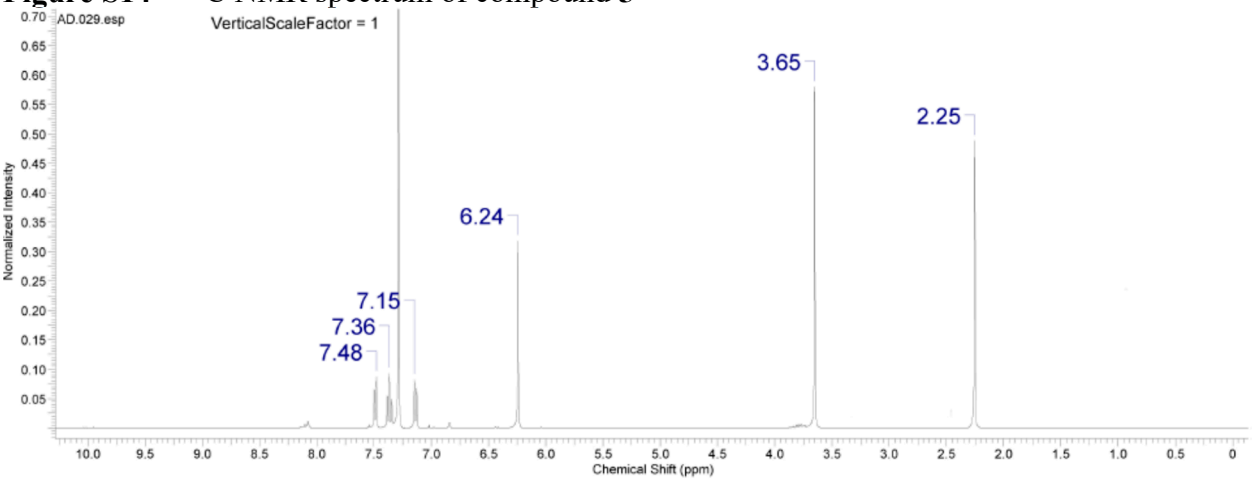

Figure S15 – ^{1}H NMR spectrum of compound **9**

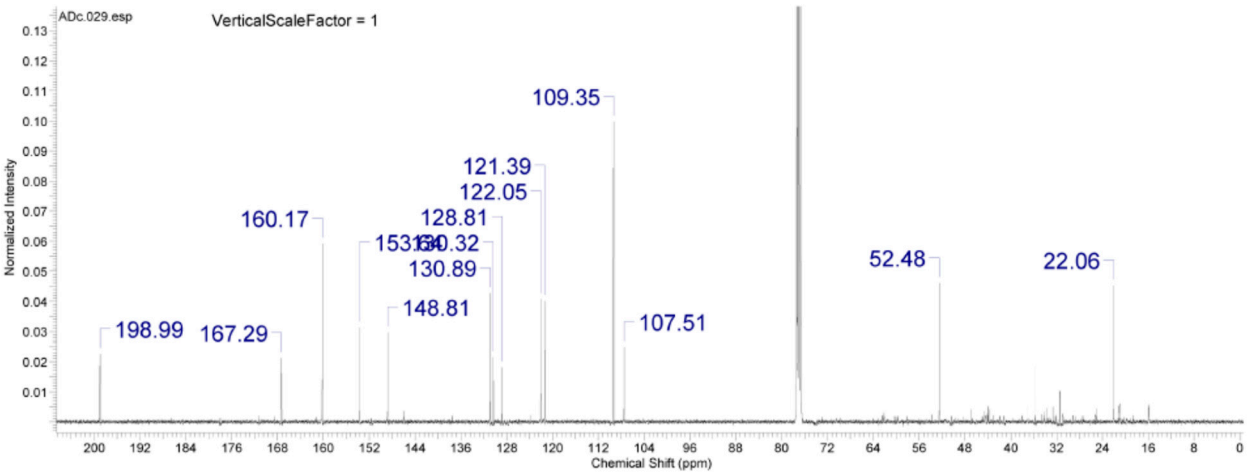

Figure S16 – ^{13}C NMR spectrum of compound **9**

Table S1. Crystal data and structure refinement for **1**

Empirical formula	$C_{16}H_{11}ClO_5$
Formula weight	318.70
Temperature, K	100(2)
Crystal system	monoclinic
Space group	$P2_1/c$
a,Å	7.1243(5)
b,Å	10.4999(7)
c,Å	18.0434(13)
β,°	92.221(6)
Volume, Å^3	1348.71(16)
Z	4
ρ_{calc}mg/mm^3	1.570
μ/mm^{-1}	2.730
F(000)	656.0
Crystal size, mm^3	0.21 × 0.18 × 0.13
Radiation	CuKα (λ = 1.54184)
2Θ range, °	9.748 to 139.516
Index ranges	-8 ≤ h ≤ 5, -11 ≤ k ≤ 12, -21 ≤ l ≤ 21
Reflections collected	6007
Independent reflections	2475 [R_{int} = 0.0823, R_{sigma} = 0.0520]
Data/restraints/parameters	2475/0/205
Goodness-of-fit on F^2	1.049
Final R indexes [I>=2σ (I)]	R_1 = 0.0600, wR_2 = 0.1685
Final R indexes [all data]	R_1 = 0.0674, wR_2 = 0.1835
Largest diff. peak/hole / e Å^{-3}	0.48/-0.58
$R_1 = \sigma\|\|F_o\| - \|F_c\|\|/ \sigma\|F_o\|$; $wR_2 = \{ \sigma[w(F_o^2 - F_c^2)^2]/ \sigma[w(F_o^2)^2]\}^{1/2}$; $w = 1/[\sigma^2(F_o^2)+(aP)^2 + bP]$, where $P = (F_o^2 + 2F_c^2)/3$; $s = \{ \sigma[w(F_o^2 - F_c^2)]/(n - p)\}^{1/2}$ where n is the number of reflections and p is the number of refinement parameters.	