Electronic Supplementary Material (ESI) for RSC Advances.

Aryldihydronaphtalene-type lignans from *Bursera fagaroides* var. *fagaroides* and their antimitotic mechanism of action

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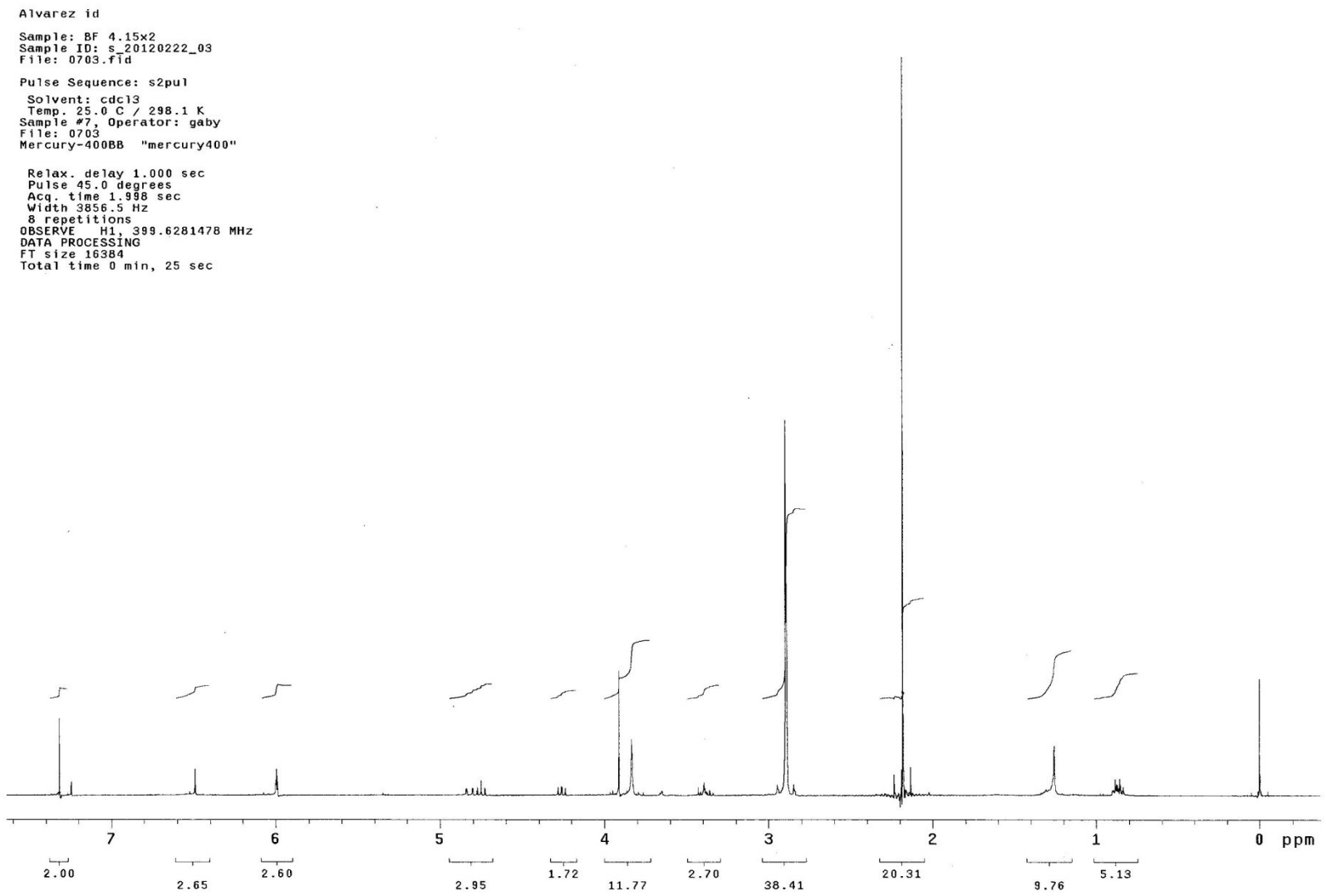


Figure S.1.1 ^{1}H NMR spectrum of compound **1** (400 MHz, $CDCl_3$)

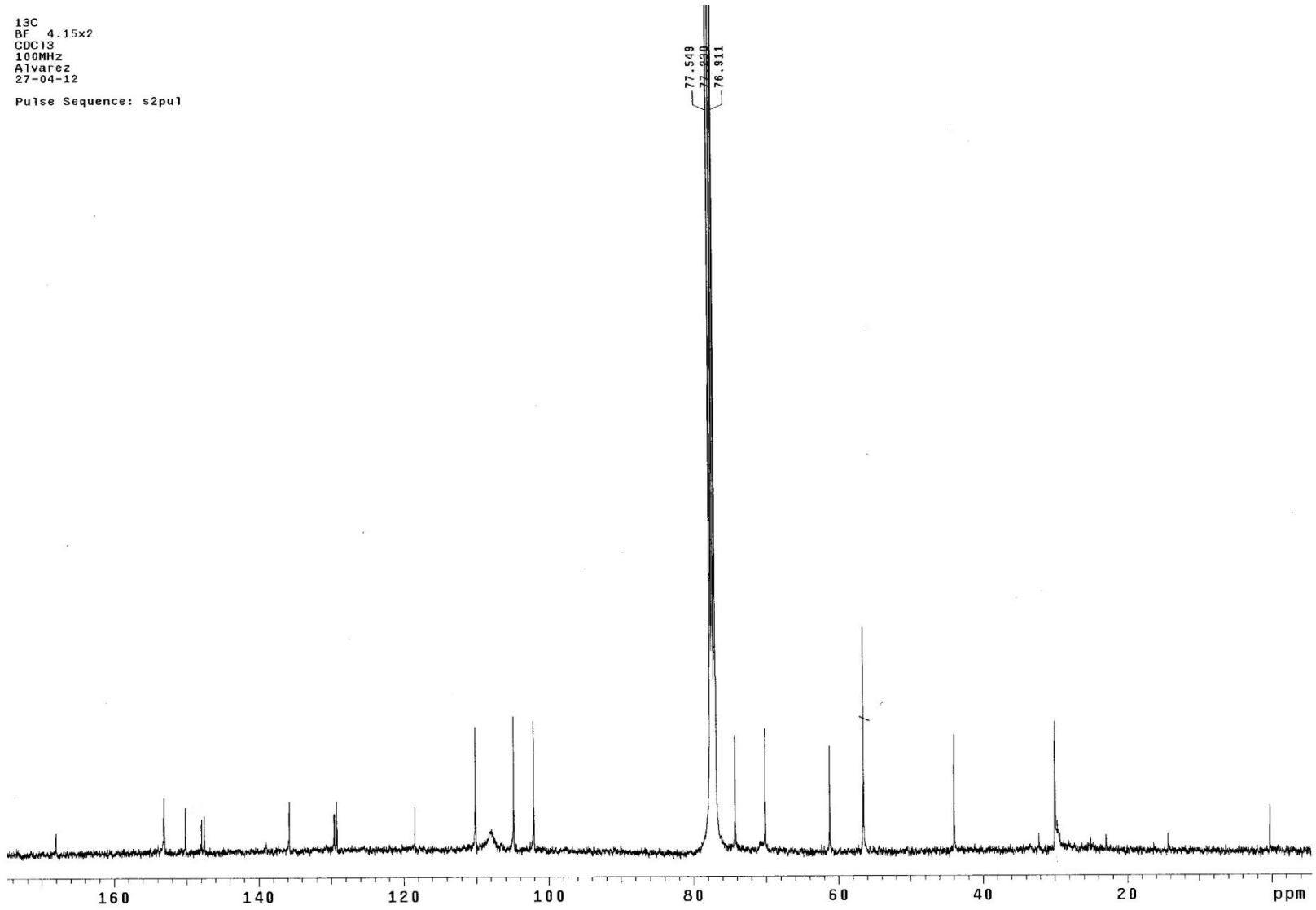
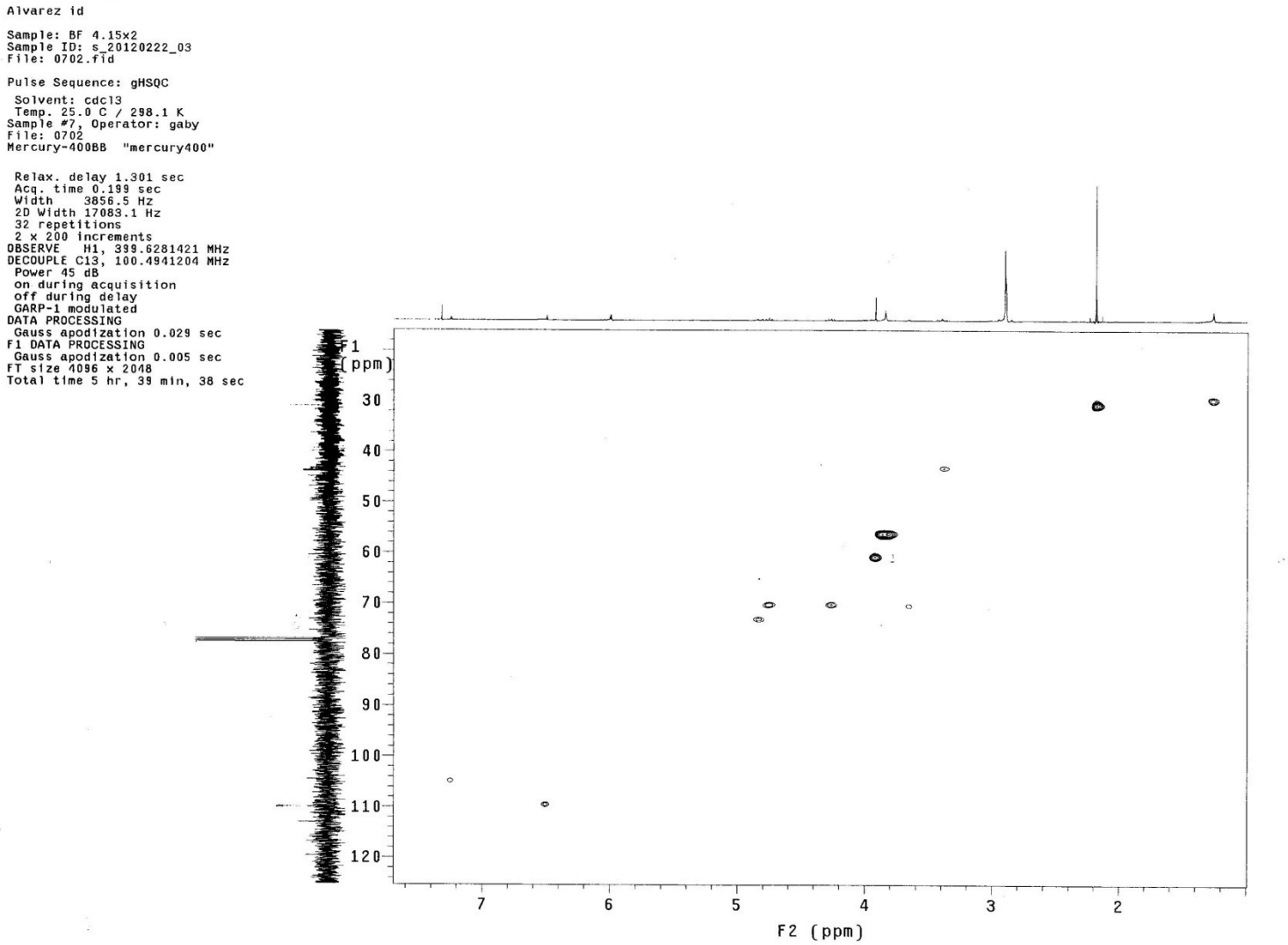


Figure S.1.2. ^{13}C NMR spectrum of compound **1** (100 MHz, $CDCl_3$)



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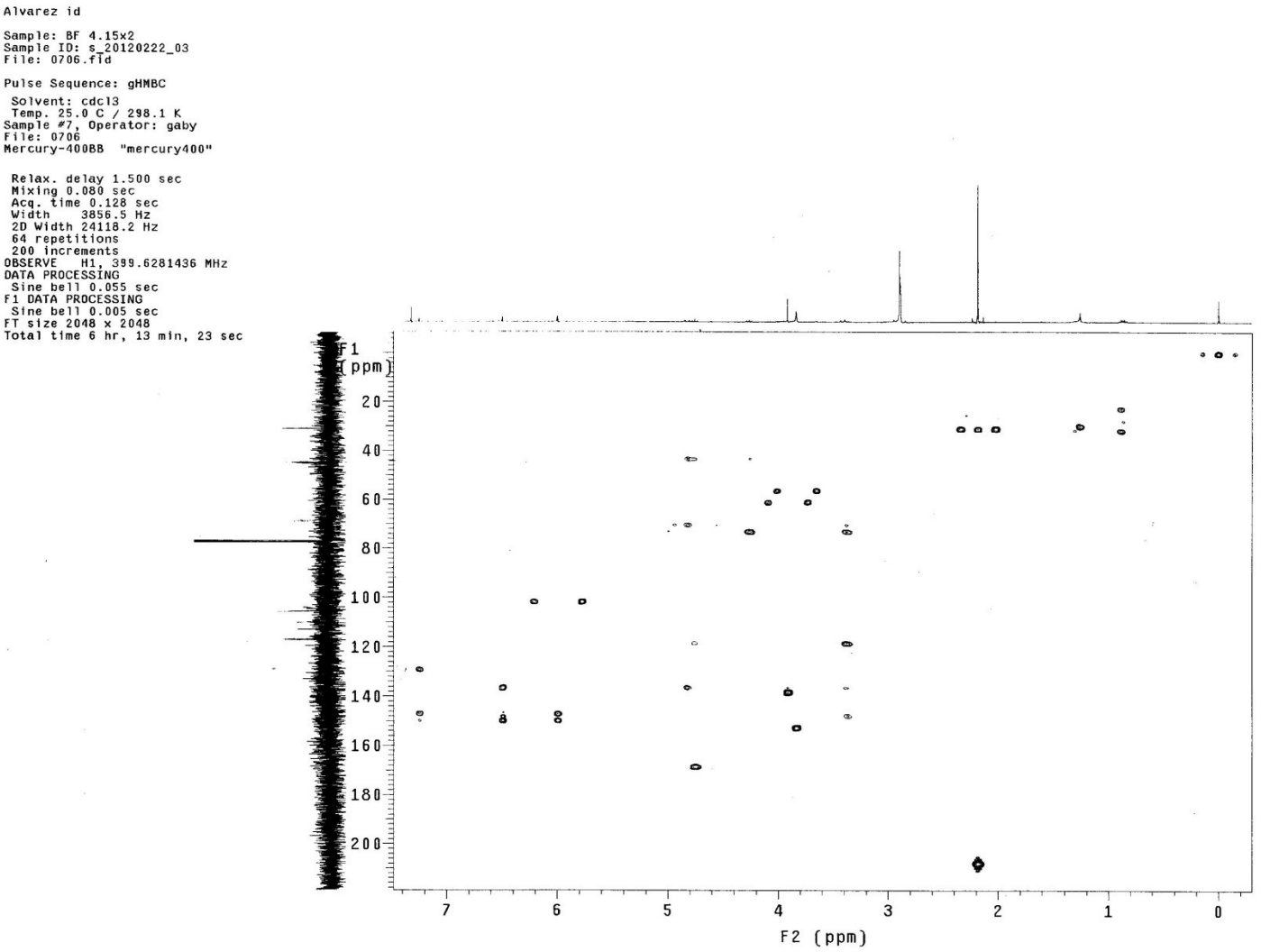

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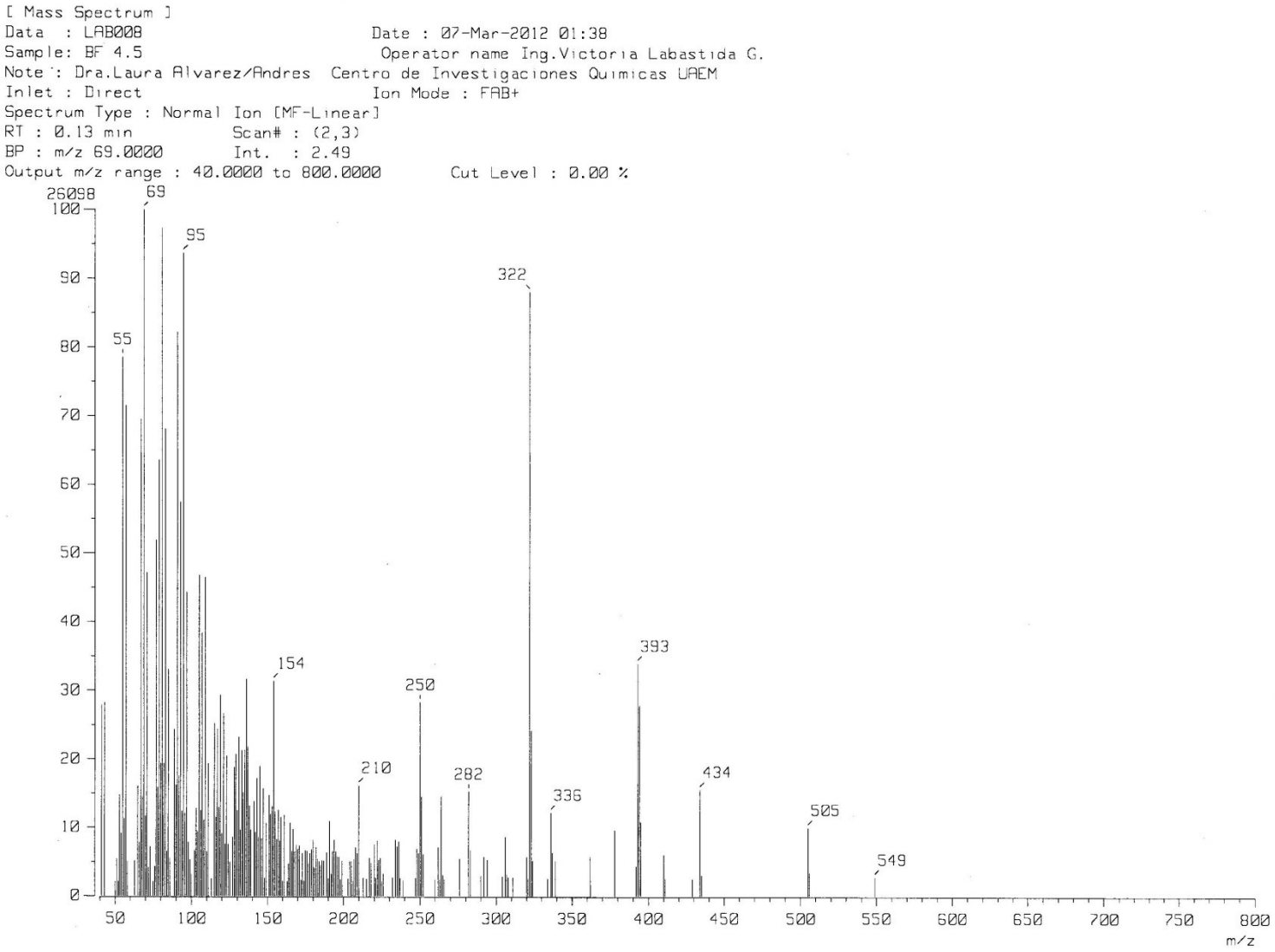

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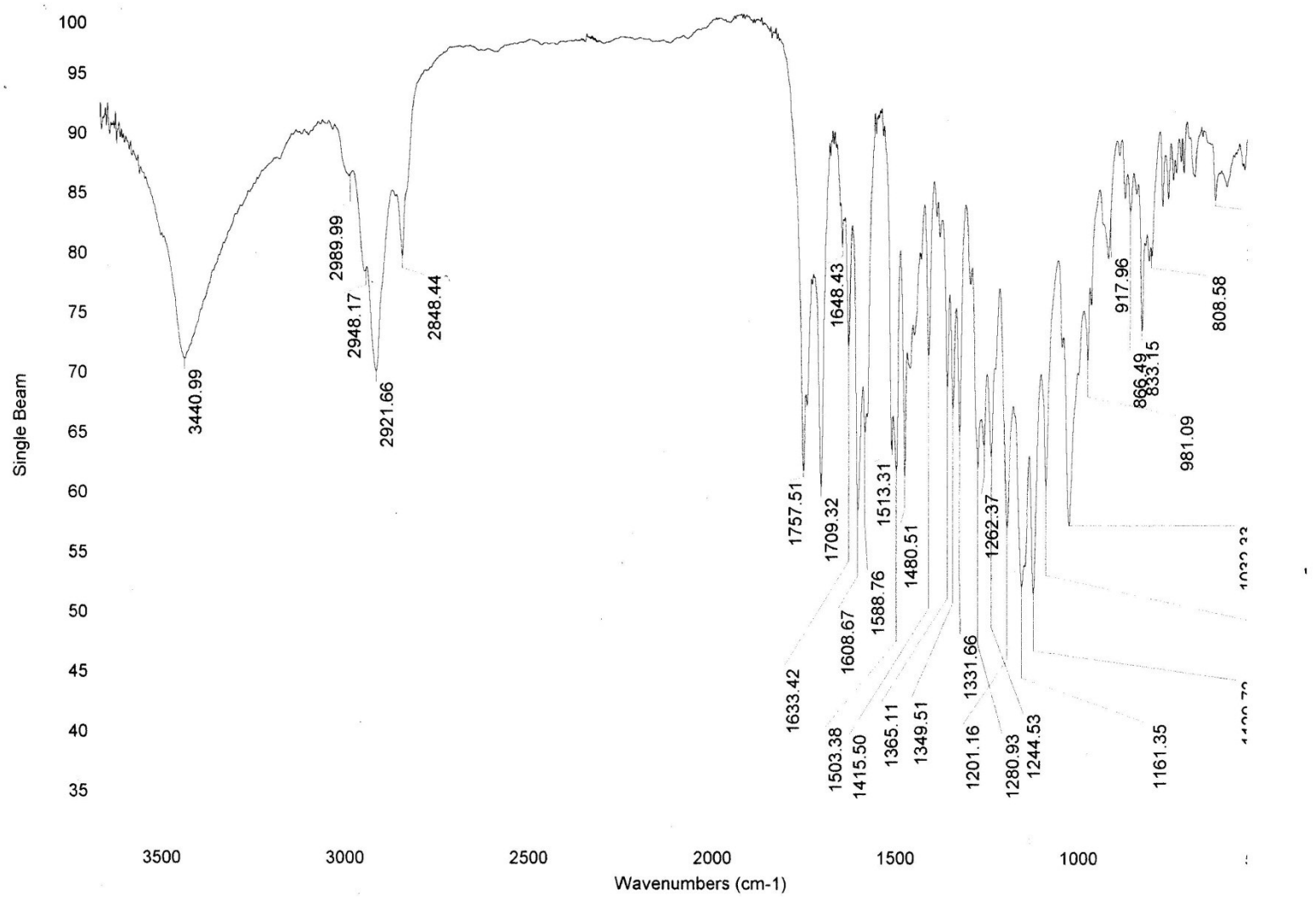

Figure S.1.6. IR spectrum of compound **1.**

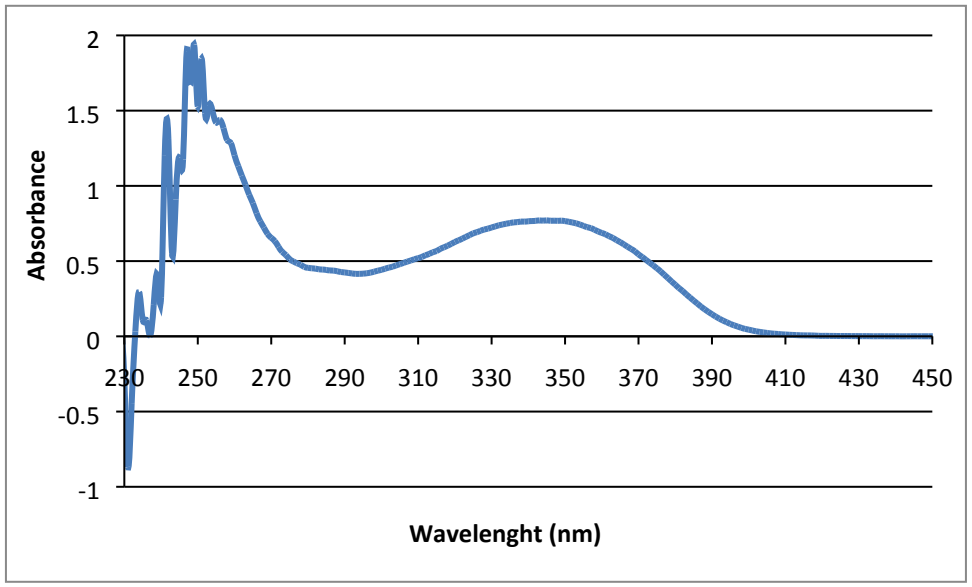

Figure S.1.7. UV spectrum of compound **1**

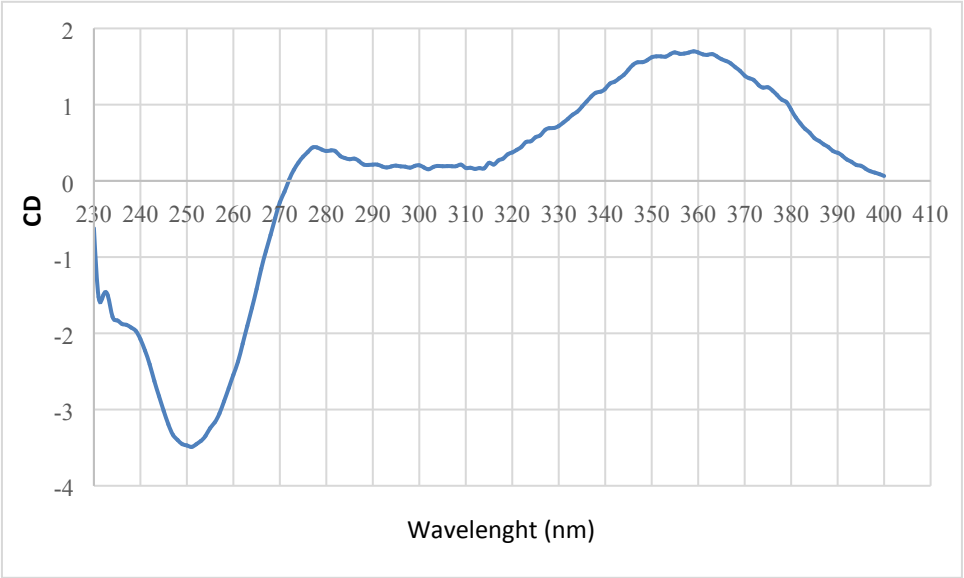

Figure S.1.8. CD spectrum of compound **1**

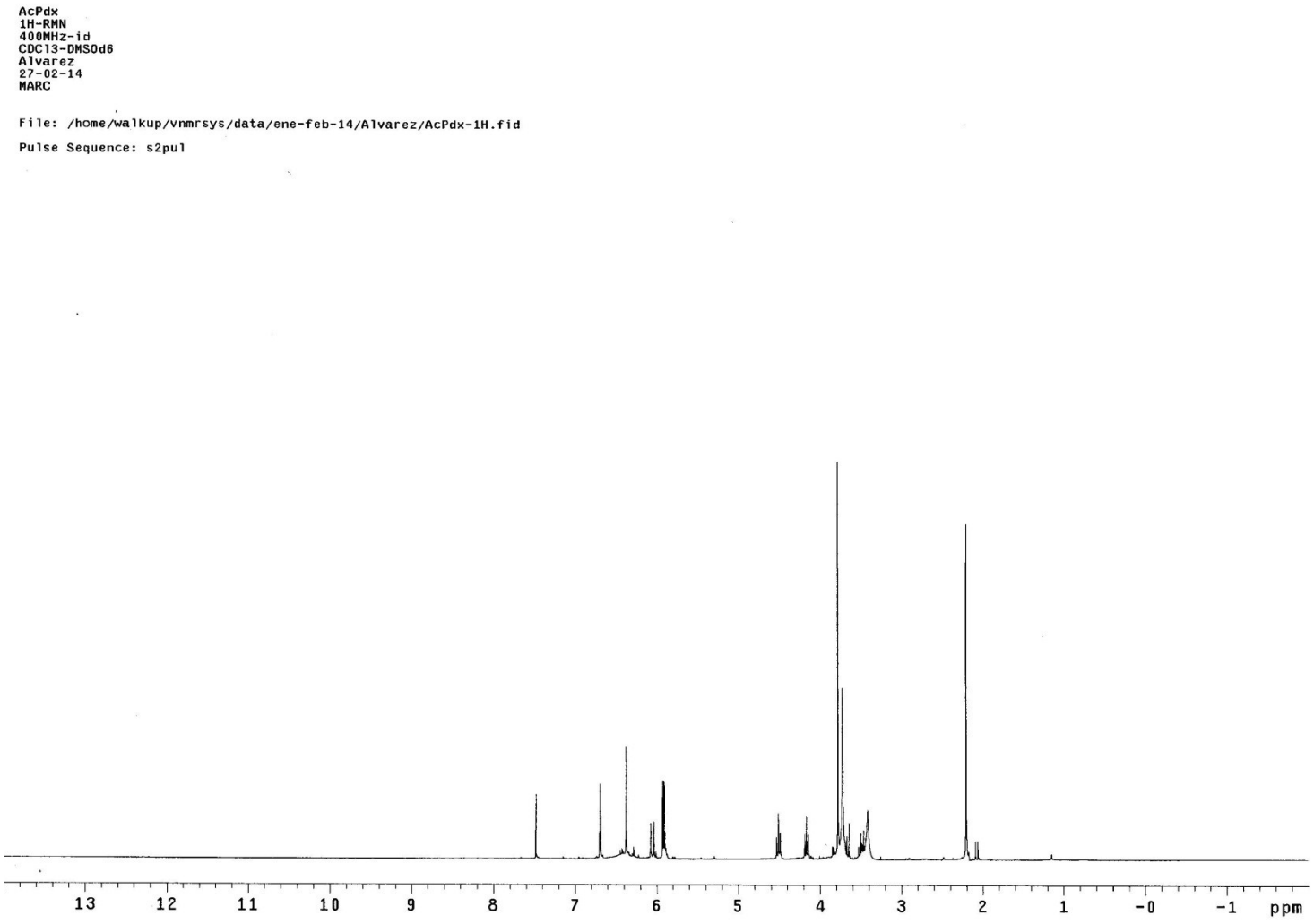

Figure S.2.1. ^{1}H NMR spectrum of compound **2** (400 MHz, $CDCl_3$)

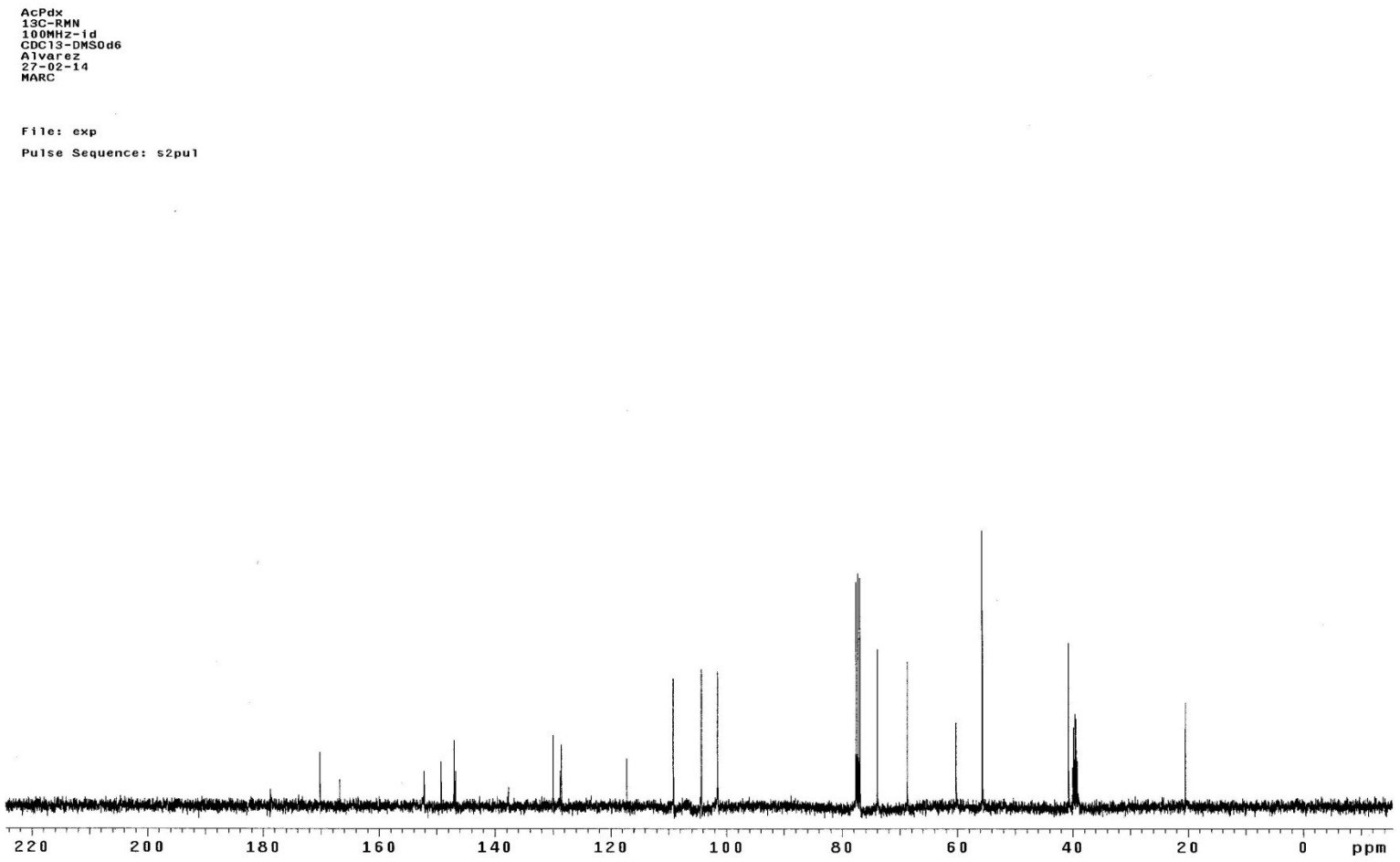

Figure S.2.2. ^{13}C NMR spectrum of compound **2** (100 MHz, $CDCl_3$).

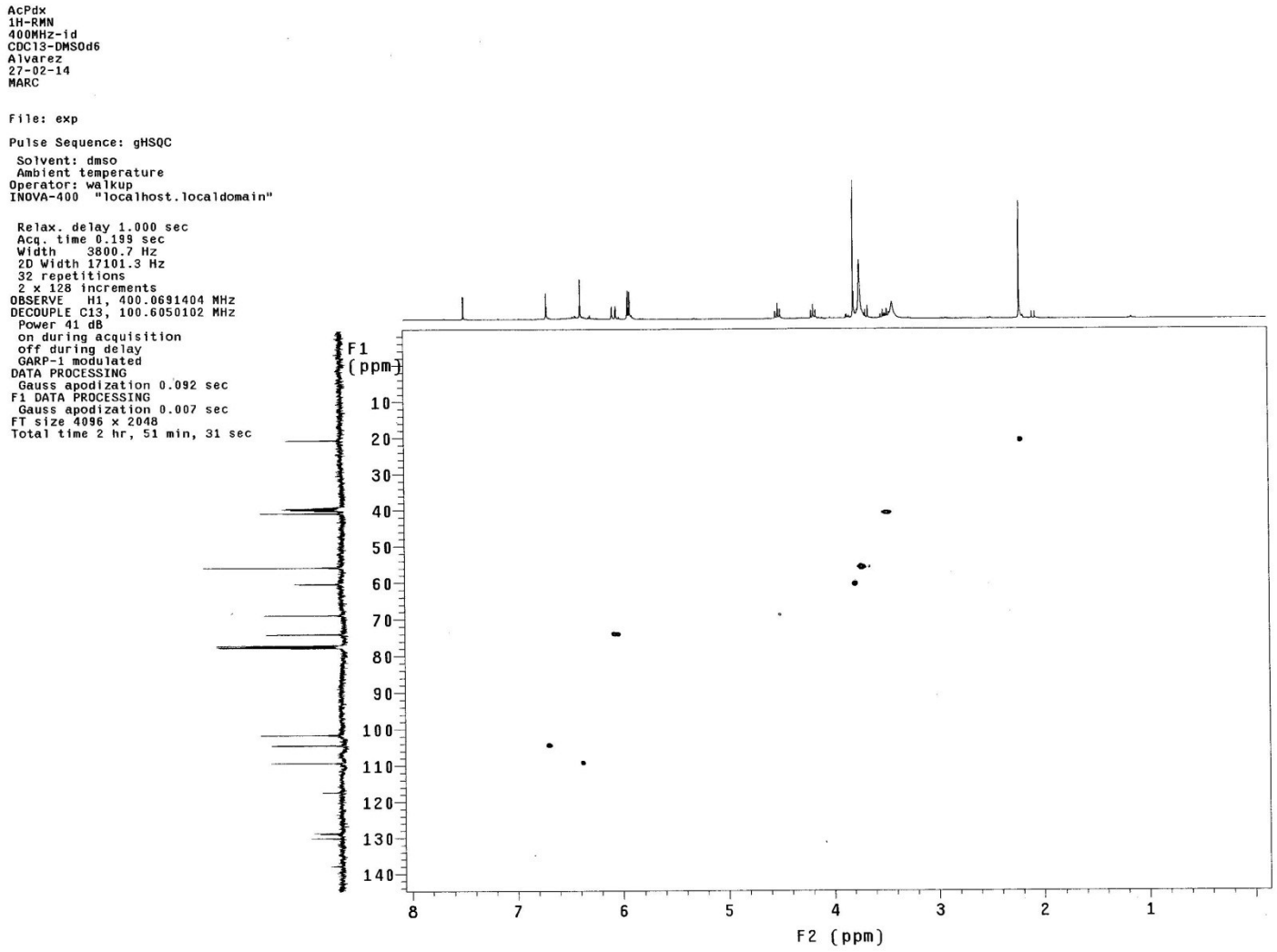

Figure S.2.3. HSQC spectrum of compound **2** ($CDCl_3$).

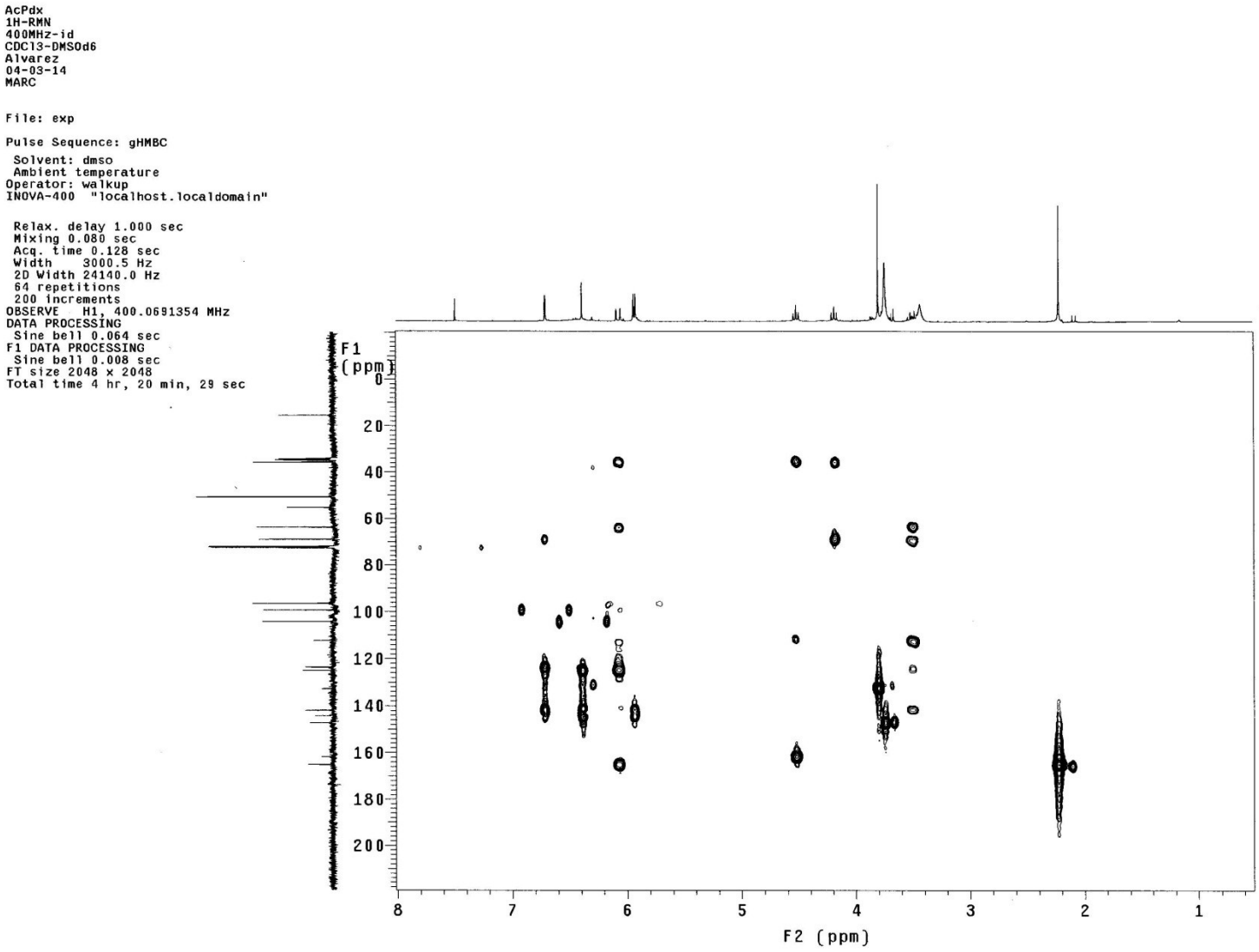

Figure S.2.4. HMBC spectrum of compound **2**($CDCl_3$)

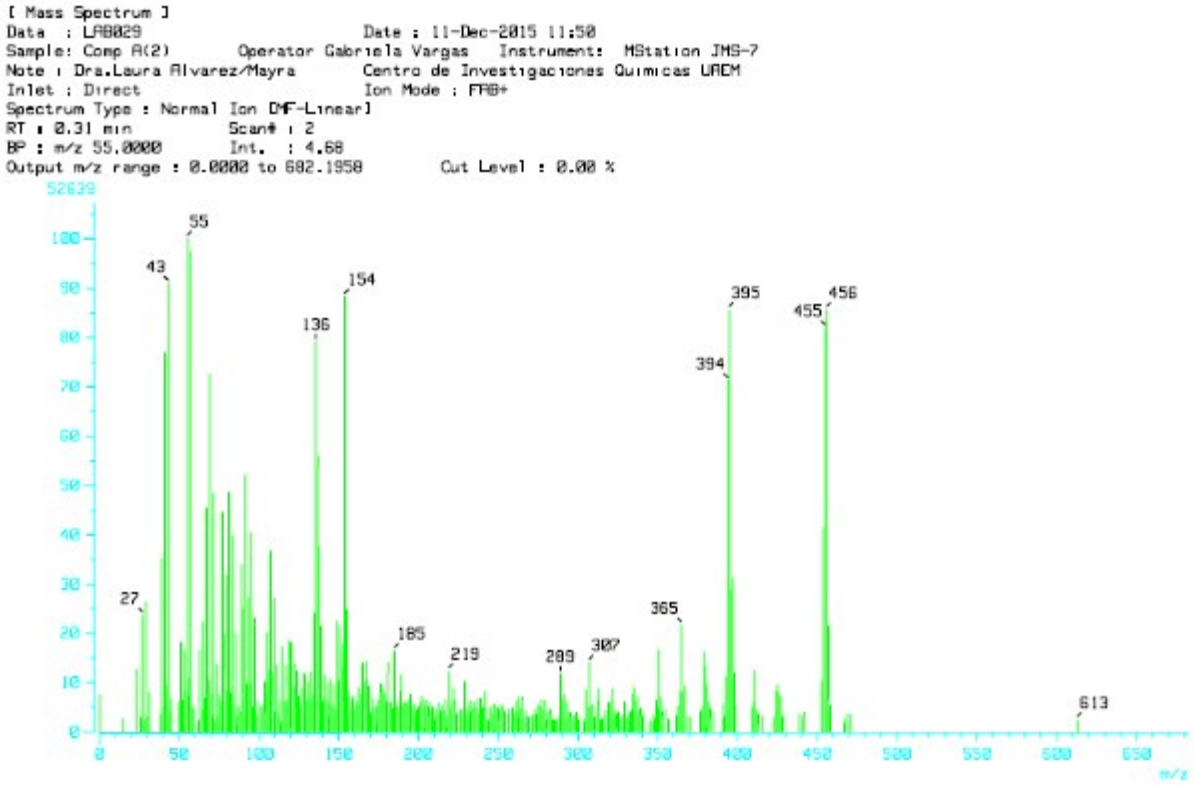

Figure S.2.5. Mass spectrum of compound **2.**

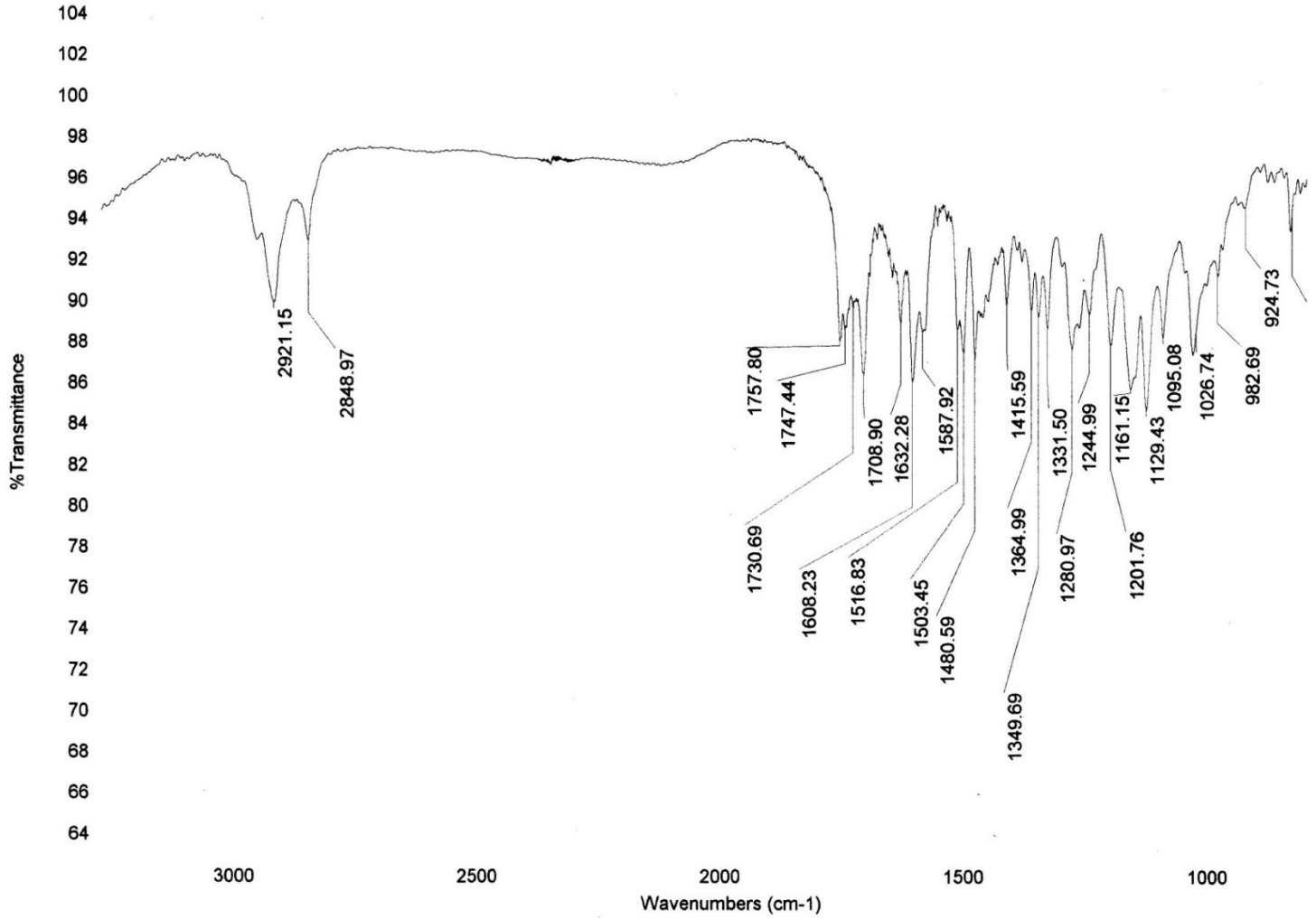

Figure S.2.6. IR spectrum of compound **2.**

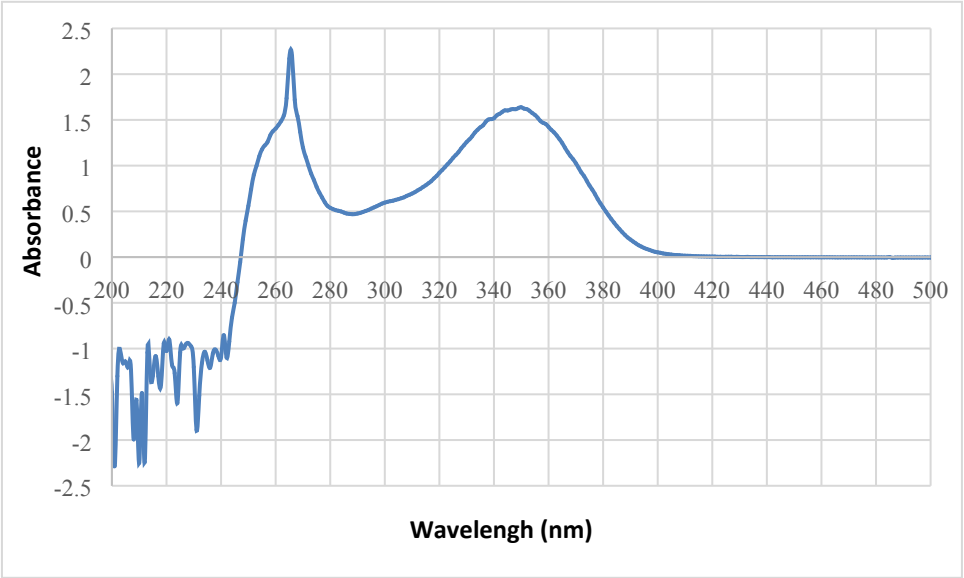

Figure S.2.7. UV spectrum of compound **2.**

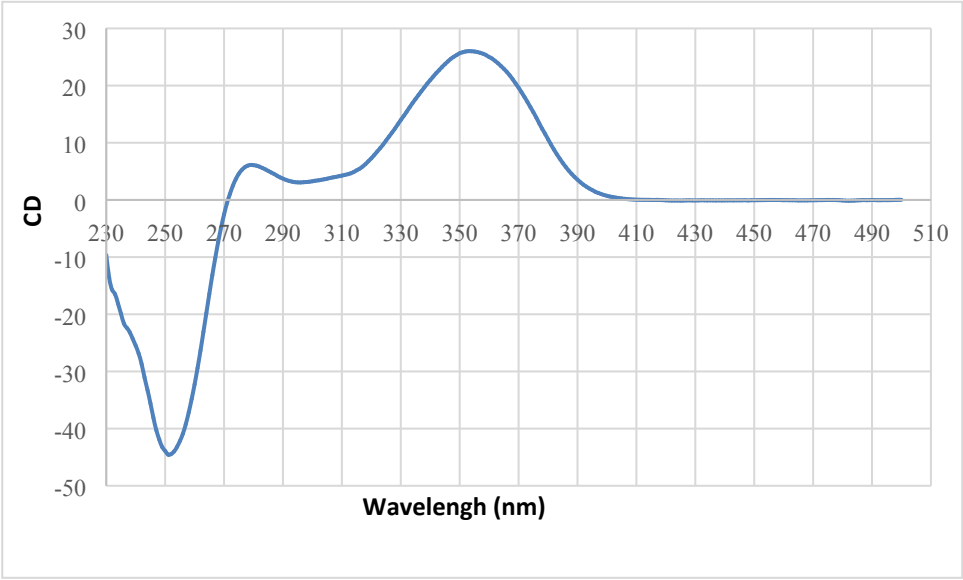

Figure S.2.8. CD spectrum of compound **2.**

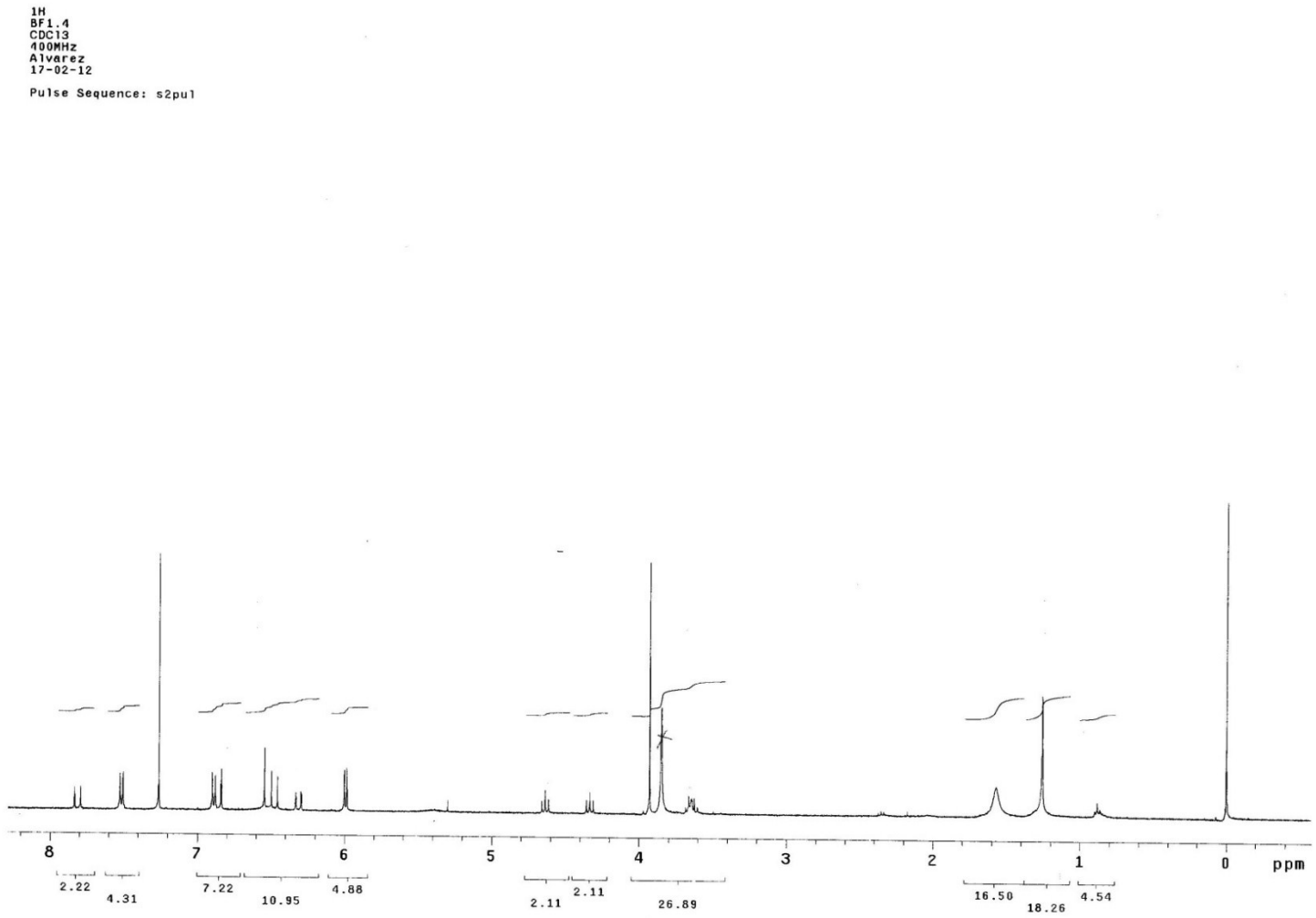

Figure S.3.1. ^{1}H NMR spectrum of compound **3** (400 MHz, $CDCl_3$)

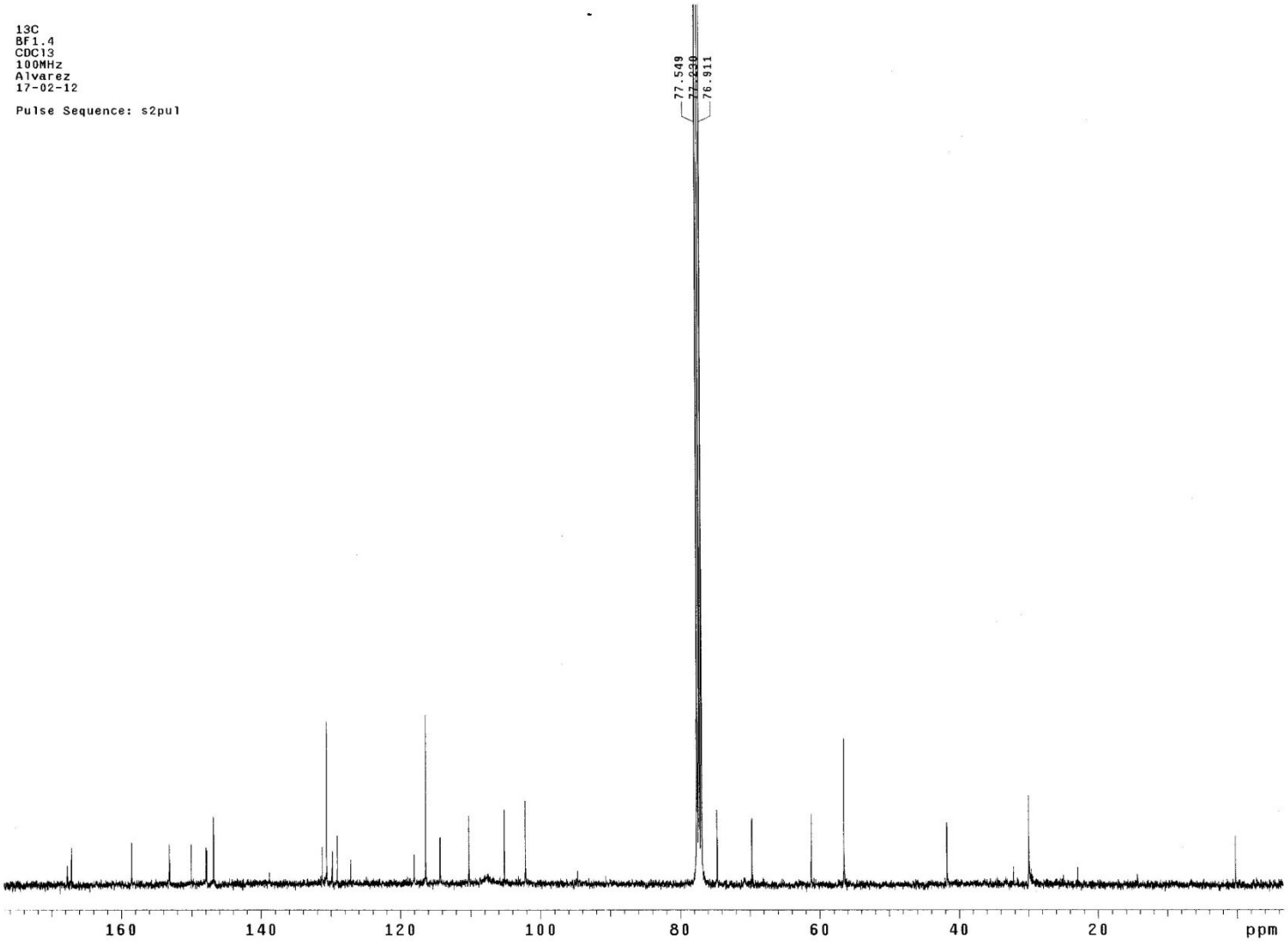

Figure S.3.2. ^{13}C NMR spectrum of compound **3** (100 MHz, $CDCl_3$)

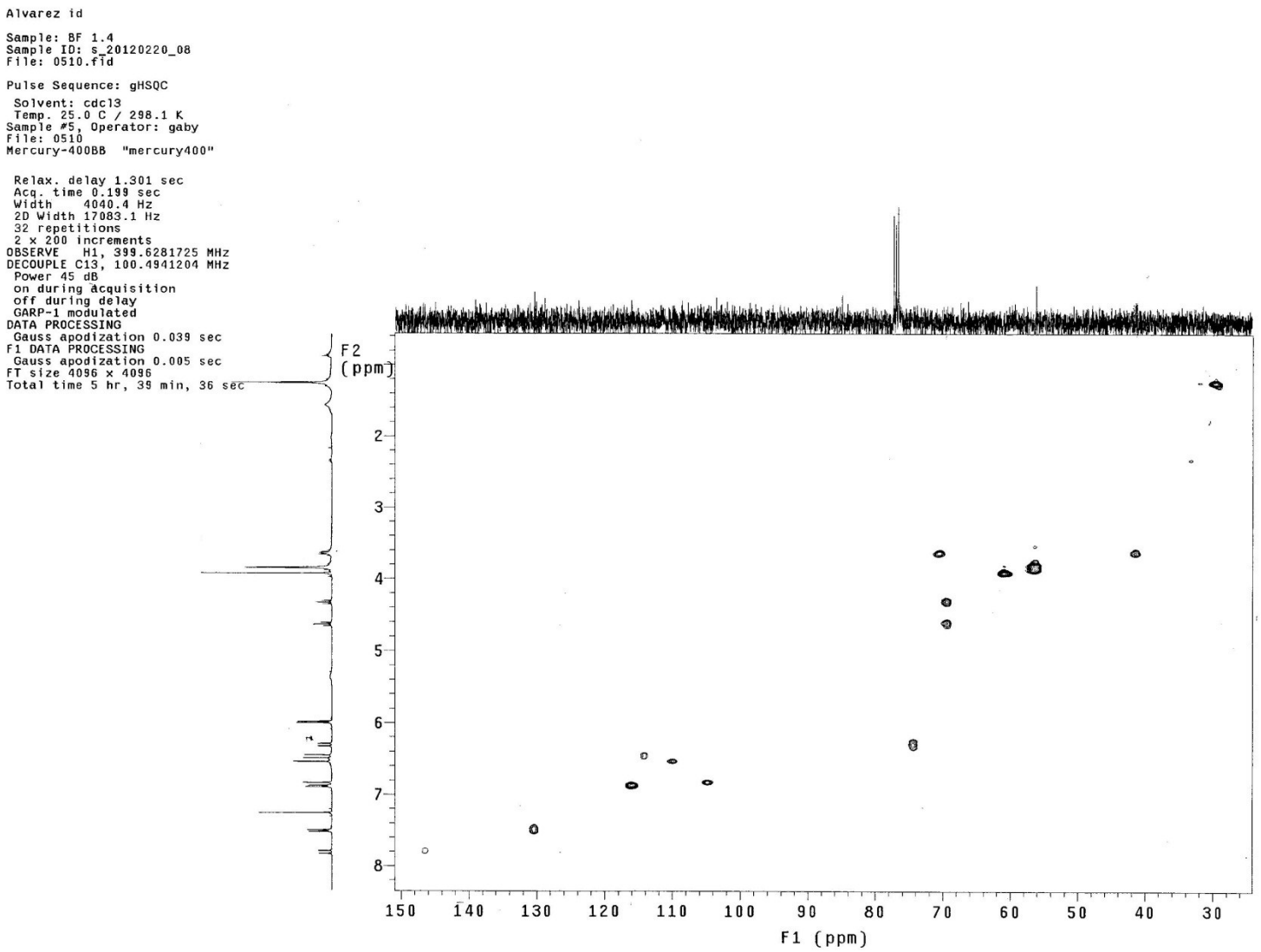

Figure S.3.3. HSQC spectrum of compound **3** ($CDCl_3$).

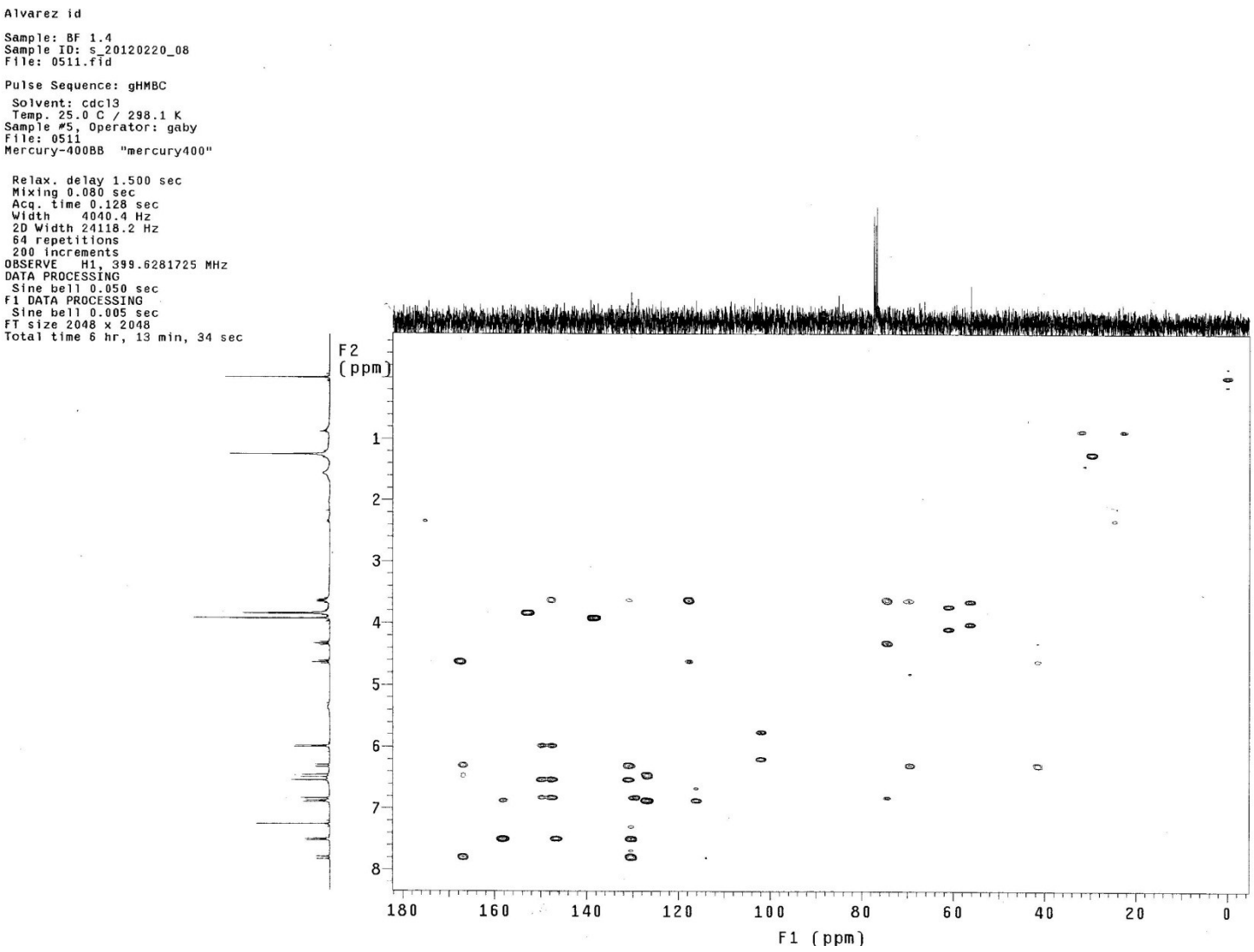

Figure S.3.4. HMBC spectrum of compound **3**($CDCl_3$)

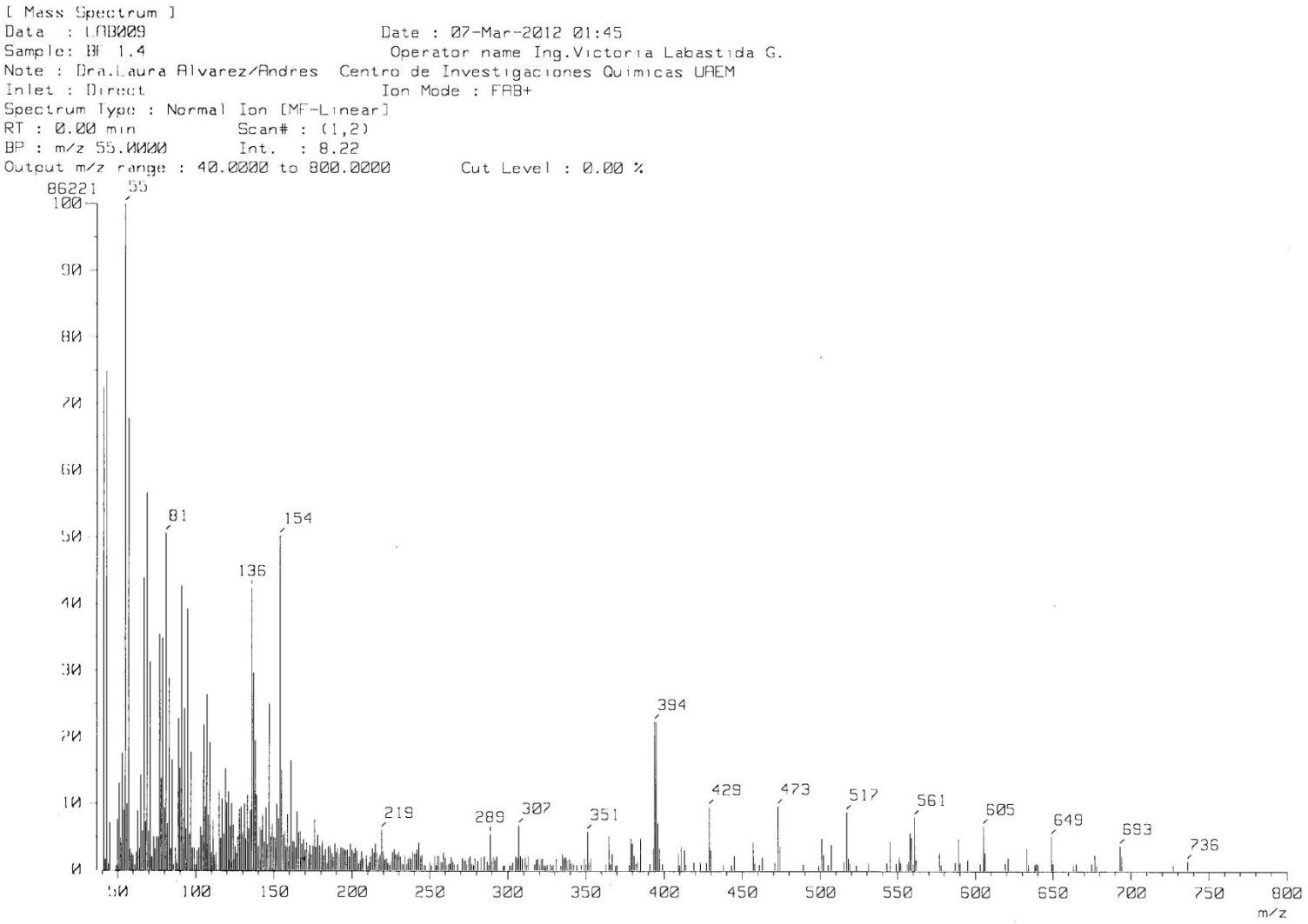

Figure S.3.5. Mass spectrum of compound **3**

Table S.1. Quantification of the effect of *B. fagaroides* lignans **1**-**3** on the cell cycle in zebrafish embryos.

Treatment	Cell cycle activity	H3S10ph fold change	p <0.001	n	N	Student´s t-test
DMSO		1.00 ± 0.13		10	1	
Aphidicolin	-	0.23 ± 0.05	*	9	1	7.53E-12
Nocodazole	+	1.80 ± 0.20	*	9	1	9.81E-09
1	+	1.92 ± 0.23	*	10	1	2.41E-09
2	+	2.41 ± 0.19	*	10	1	1.73E-13
3	+	2.57 ± 0.26	*	10	1	1.88E-12

Cell cycle activity; -, denotes decrease, +, increase.

Table S.2. Quantification of the effect of *B. fagaroides* lignans **1**-**3** on the morphology of zebrafish embryos.

Treatment	Effect on morphology	Circularity	$p<0.001$	n	N	Student´s t-test
DMSO		0.42 ± 0.02		10	1	
Aphidicolin	=	0.38 ± 0.05		9	1	4.90E-02
Nocodazole	+	0.76 ± 0.06	*	9	1	4.80E-12
1	+	0.78 ± 0.07	*	10	1	3.10E-12
2	+	0.73 ± 0.06	*	10	1	2.56E-11
3	+	0.77 ± 0.04	*	10	1	1.68E-15

Circularity, measured circularity. Morphological effect; +, increase in circularity, = without change. n, total number of embryos analyzed. Student's t-test was used to determine the p-value. **1** (7',8'-dehydropodophyllotoxin). **2**, (7',8'-dehydro acetyl podophyllotoxin). **3** (7',8'-dehydro-*trans*-p-coumaroyl podophyllotoxin).