

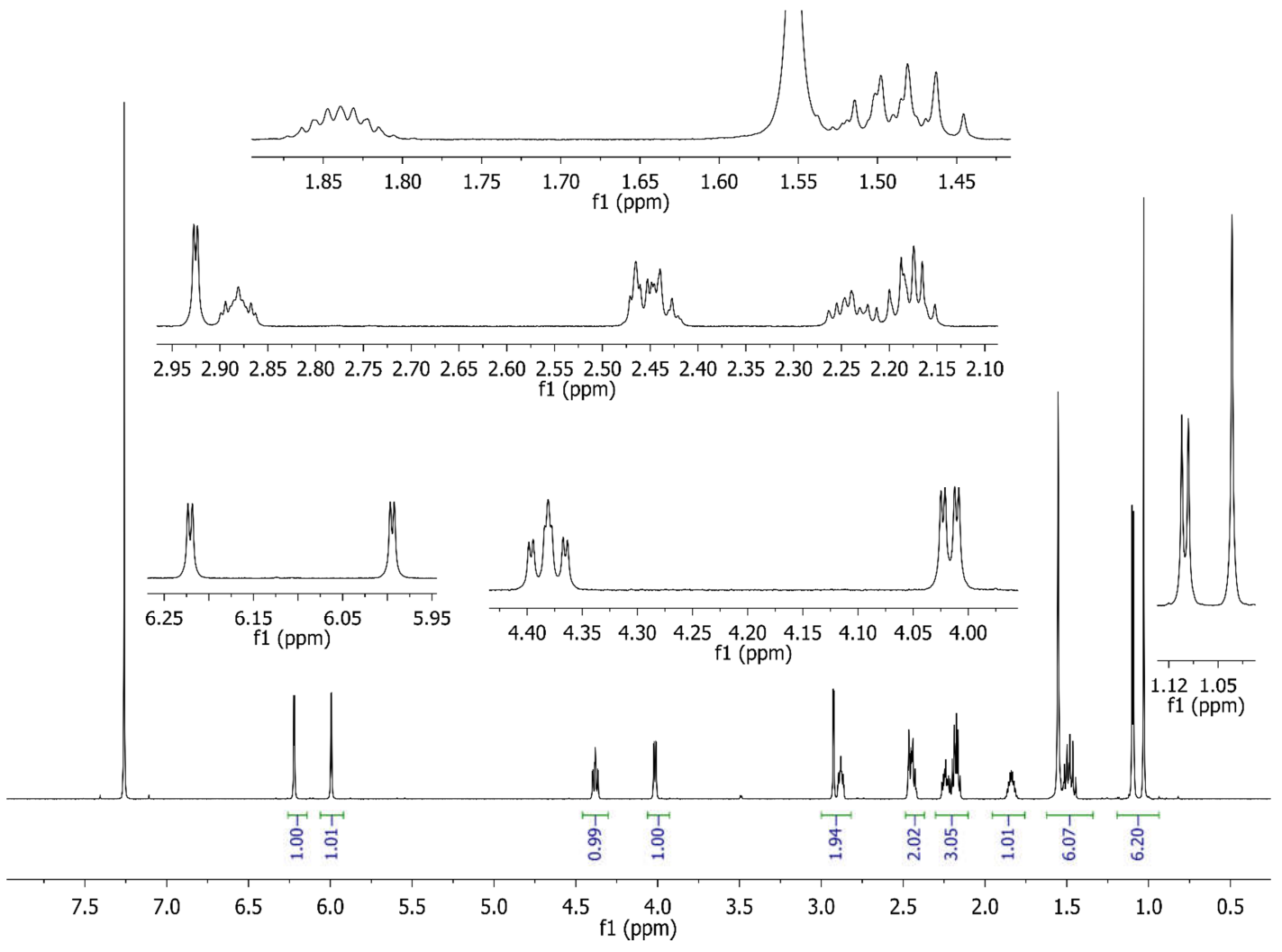
CA-27 in CDCl₃

A sesquiterpene with molecule of C₁₅H₂₀O₄ was recorded on the 700. Please deduce its structure according to following NMR data

Ref .CDCl₃ : 7.26 for H-NMR, 77.0 for C13. **C10 is fold over in HMBC**

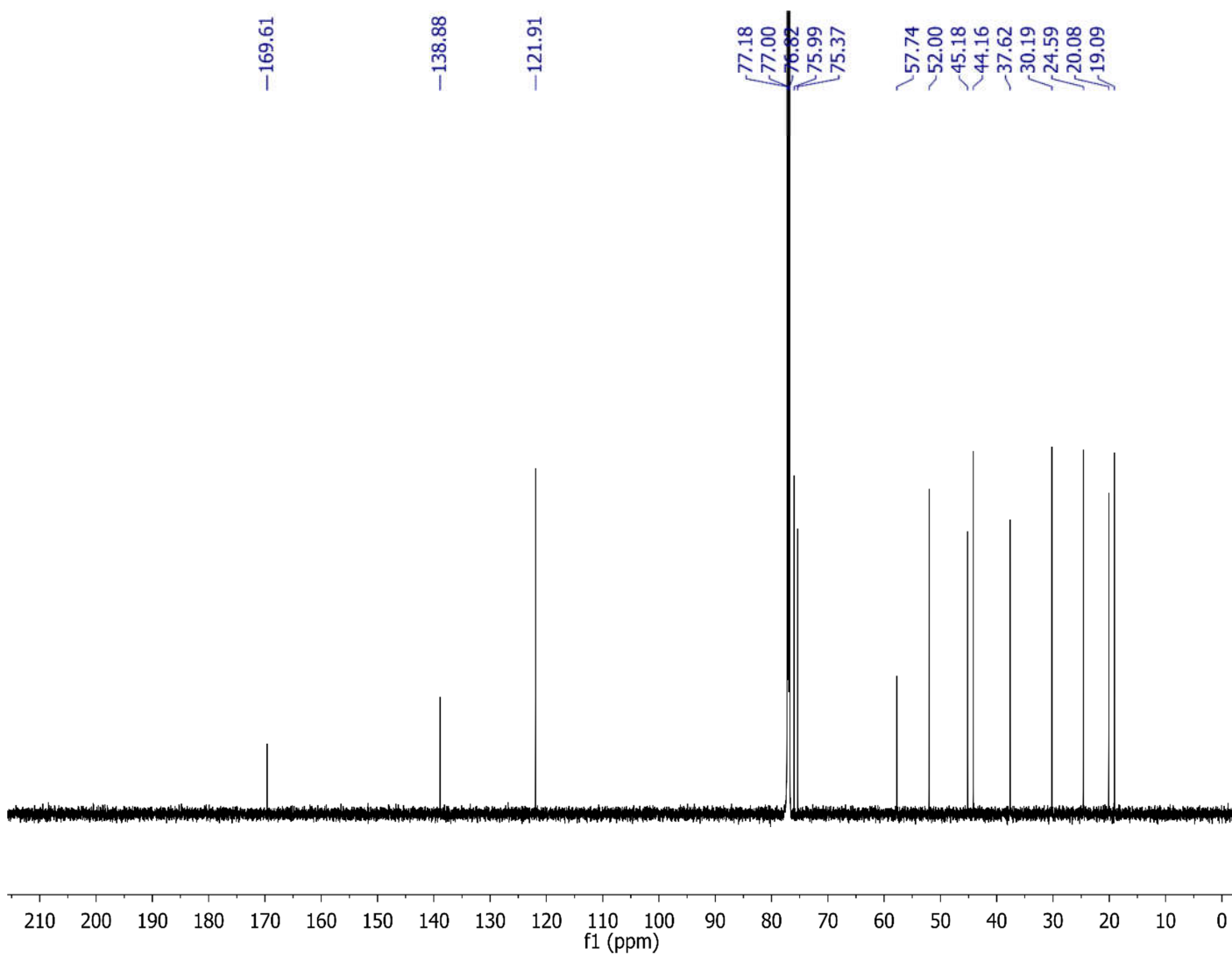
Position	δ H ppm - mult	J (Hz)	δ 13C	HMBC	NOESY
1 C=O	--		169.61		
2 =C	--		138.88		
3 CH	2.88 (m)		52.00	2, 4, 5, 13	
4 CH-O	4.38 (ddd)	12.2, 10.1, 2.7	75.99	12	
5a CH ₂	2.45 (o)		44.16		
5b	1.47 (o)				
6 CH	1.84 (m)		30.19	5, 14	
7 CH	2.24 (o)		45.18	6, 8, 11, 12, 15	
8a CH ₂	2.17 (o)		24.59		
8b	1.50 (o)				
9a CH ₂	2.44 (o)		37.62		
9b	2.17 (o)				
10 C=O	--		219.7		
11 C	--		57.74		
12 CH-OH	4.02 (dd)	8.7, 2.6	75.37	2, 3, 7, 15	
OH-12	2.93 (d)	2.9	--	3, 12	
13a =CH ₂	6.22 (d)	3.5	121.91	1, 2, 3	
13b	5.99 (d)	3.1		1, 2, 3	
14 Me	1.10 (d)	6.5	20.08	5, 6, 7	
15 Me	1.03 (s)		19.09	7, 11, 10, 12	

H-NMR

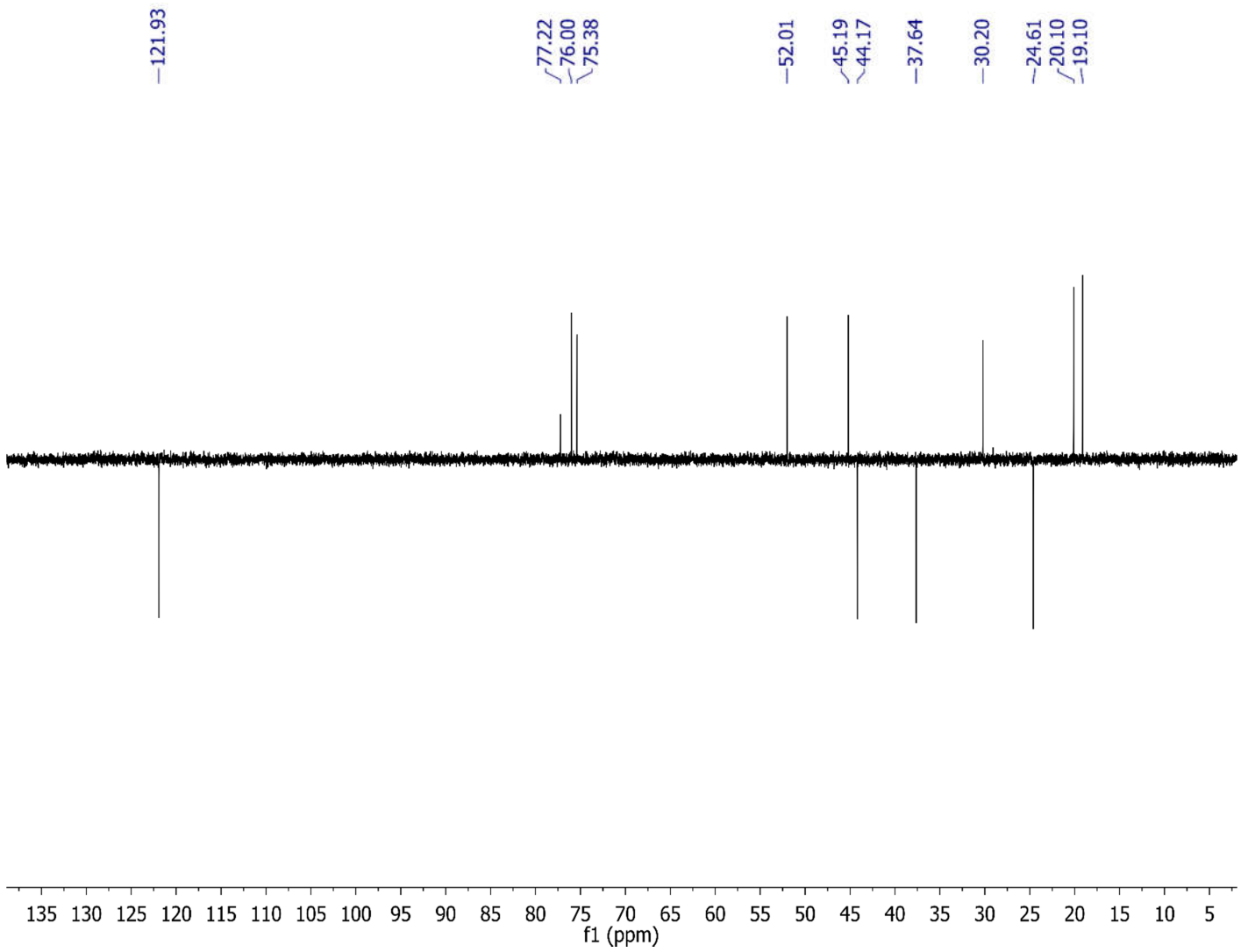


C13-NMR (ns=30720)

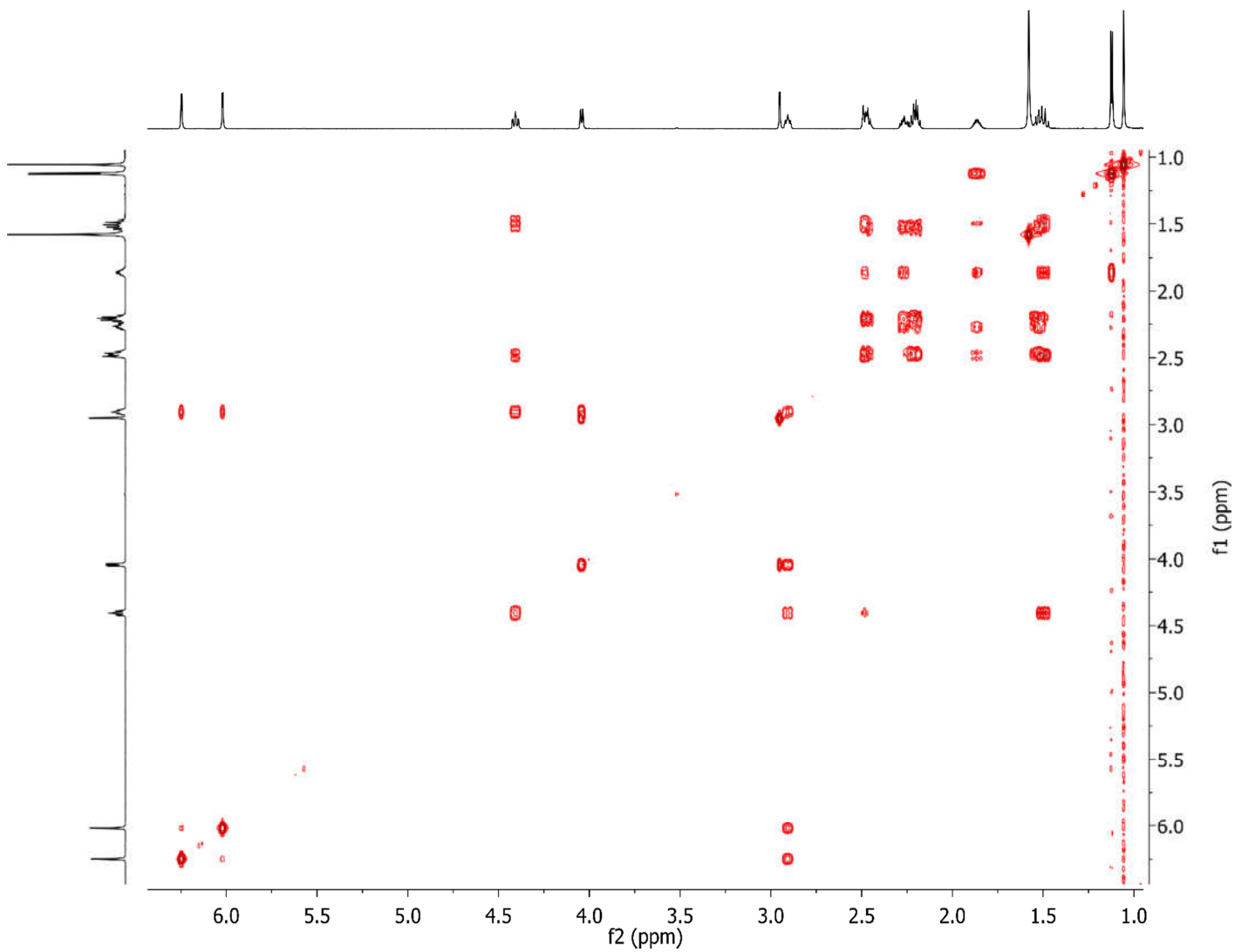
Not large enough window: **missing ketone**.



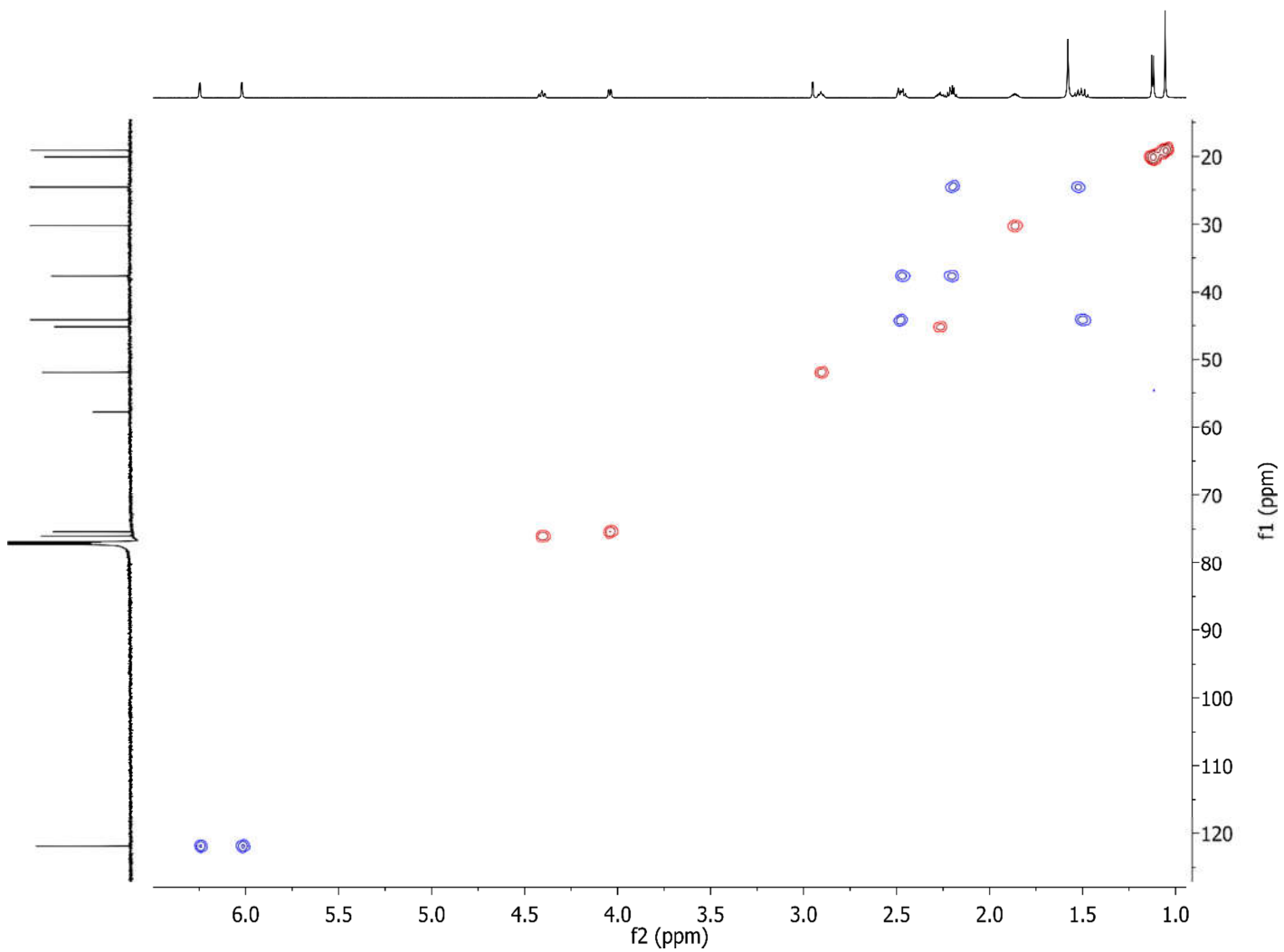
DEPT-135



COSY



HSQC-DEPT



HMBC
Folded Carbonyl

