

Supplementary data

The Regio- and Stereoselective Synthesis of 1,4-Diarylbut-1-en-3-ynes Having Aryl Groups at the Mutual Syn Positions

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1.

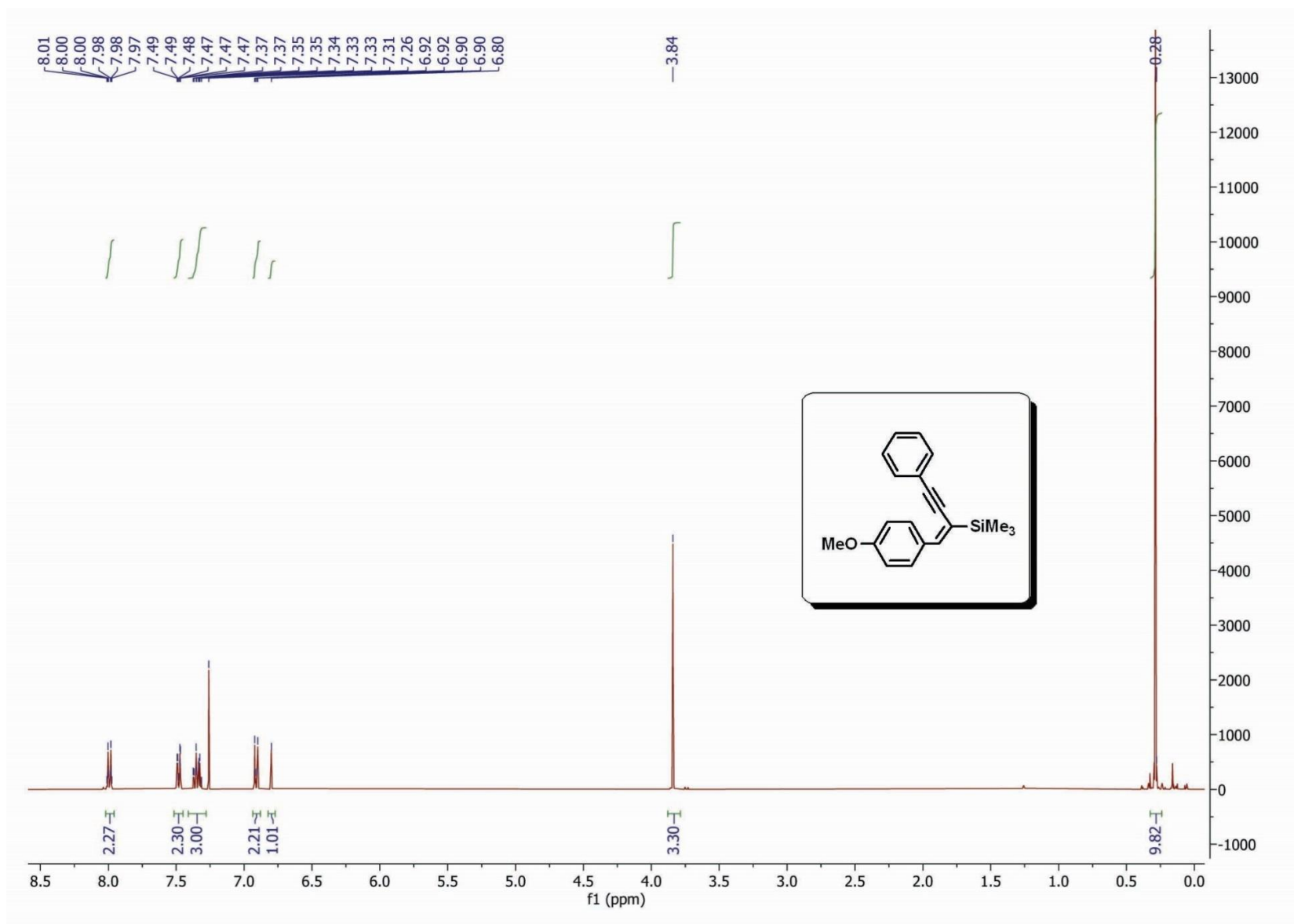
Table S1. Literature reports on the application of silylenynes in the synthesis of 1,4-(diaryl)but-1-en-3-yne substituted in positions 1 and 4 by different aryl groups

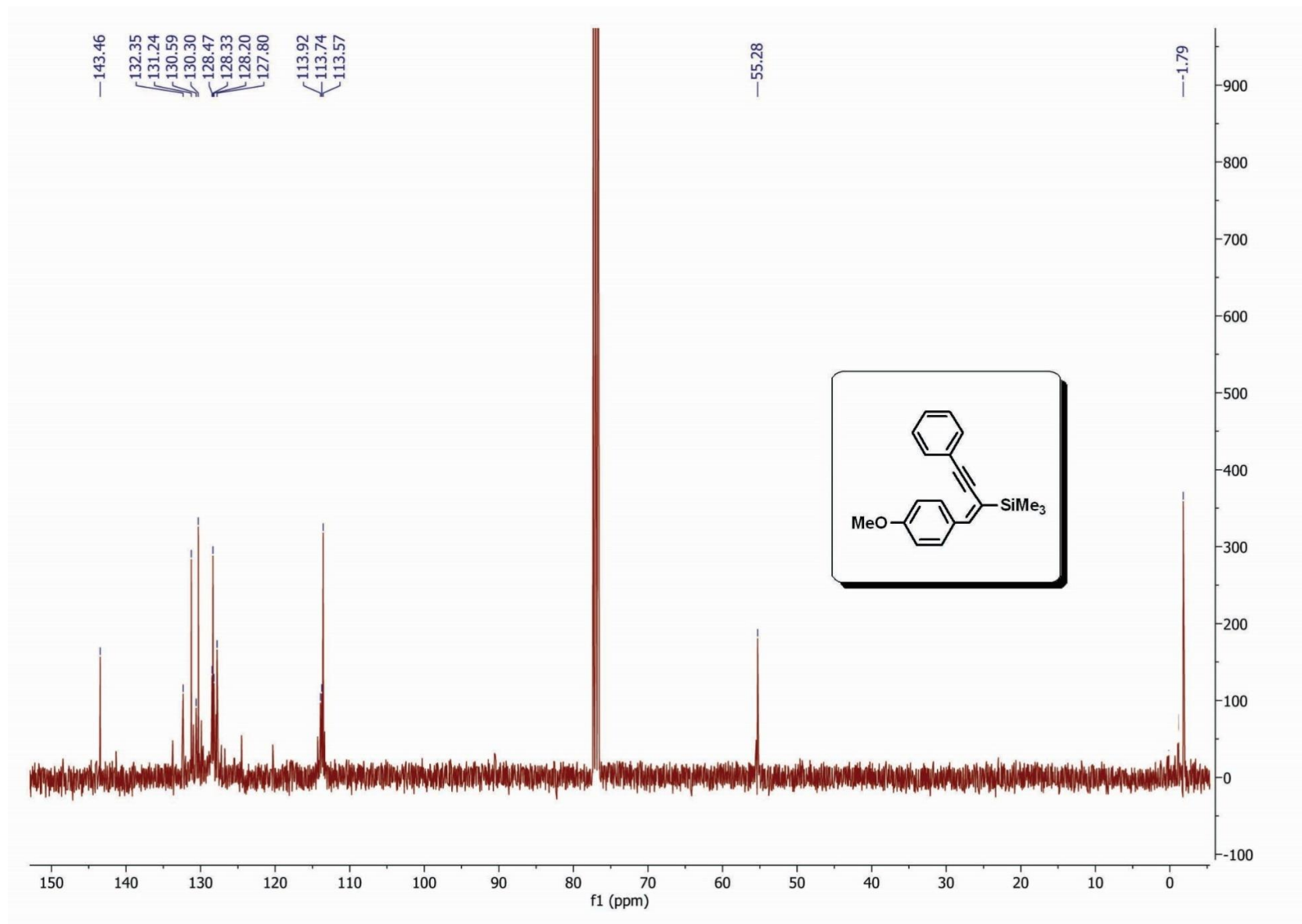
silyl derivative	product	conditions	yield [%]	ref.
		1) TBAF (1.2 equiv), Et ₂ O, 0°C, 1 h 2) [PdCl ₂ (PPh ₃) ₂] (5 mol%), Cul (10 mol%), piperidine, 25°C, 1.5 h	75 (2 steps)	S1
		1) K ₂ CO ₃ , MeI; 2) TBAF (1.5 equiv), THF, rt, 10 min 3) [Pd(PPh ₃) ₄] (5 mol%), Cul (10 mol%), NEt ₃ /THF, rt, 18 h	86 88	S2
		1) TBAF (1.2 equiv), THF, 0°C, 10 min 2) [PdCl ₂ (PPh ₃) ₂] (5 mol%), Cul (10 mol%), NEt ₃ , rt, 1 h	98 69	S3
		1) K ₂ CO ₃ , MeOH, rt, 6h; 2) [PdCl ₂ (PPh ₃) ₂] (4 mol%), Cul (8 mol%), THF, NEt ₃ , rt, 18 h	52 (2 steps)	S4
		[Pd(PPh ₃) ₄] (5 mol%), CuCl (50 mol%), DMF, 80°C, 12 h	77	S5
		[Pd(PPh ₃) ₄] (5 mol%), CuCl (50 mol%), DMF, 80°C, 12 h	80	S5
		Pd(OAc) ₂ (10 mol%), Cul (20 mol%), TBAF (2 equiv), THF, 50°C, 17 h	67 (1 step)	S6

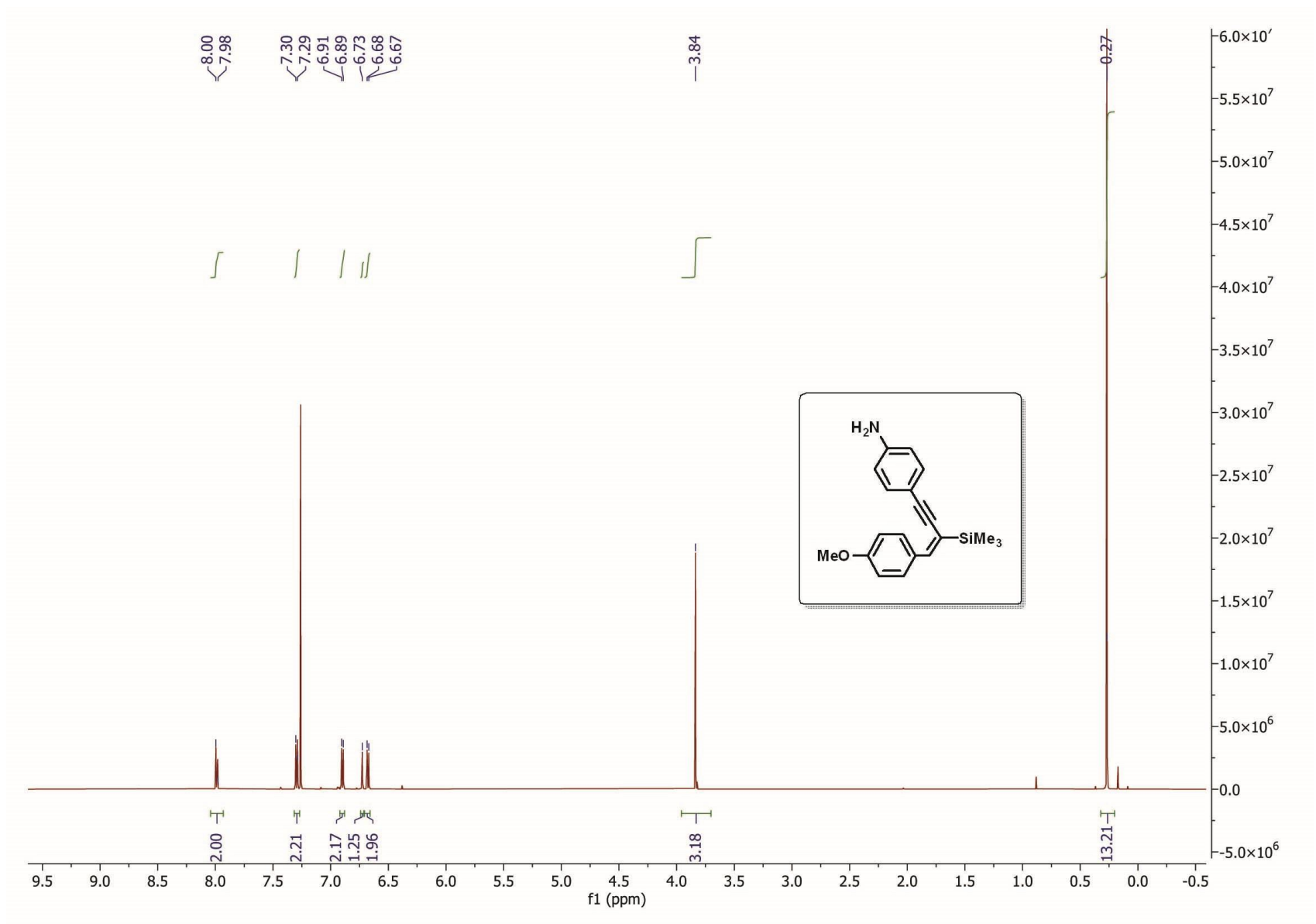
References to Table 1

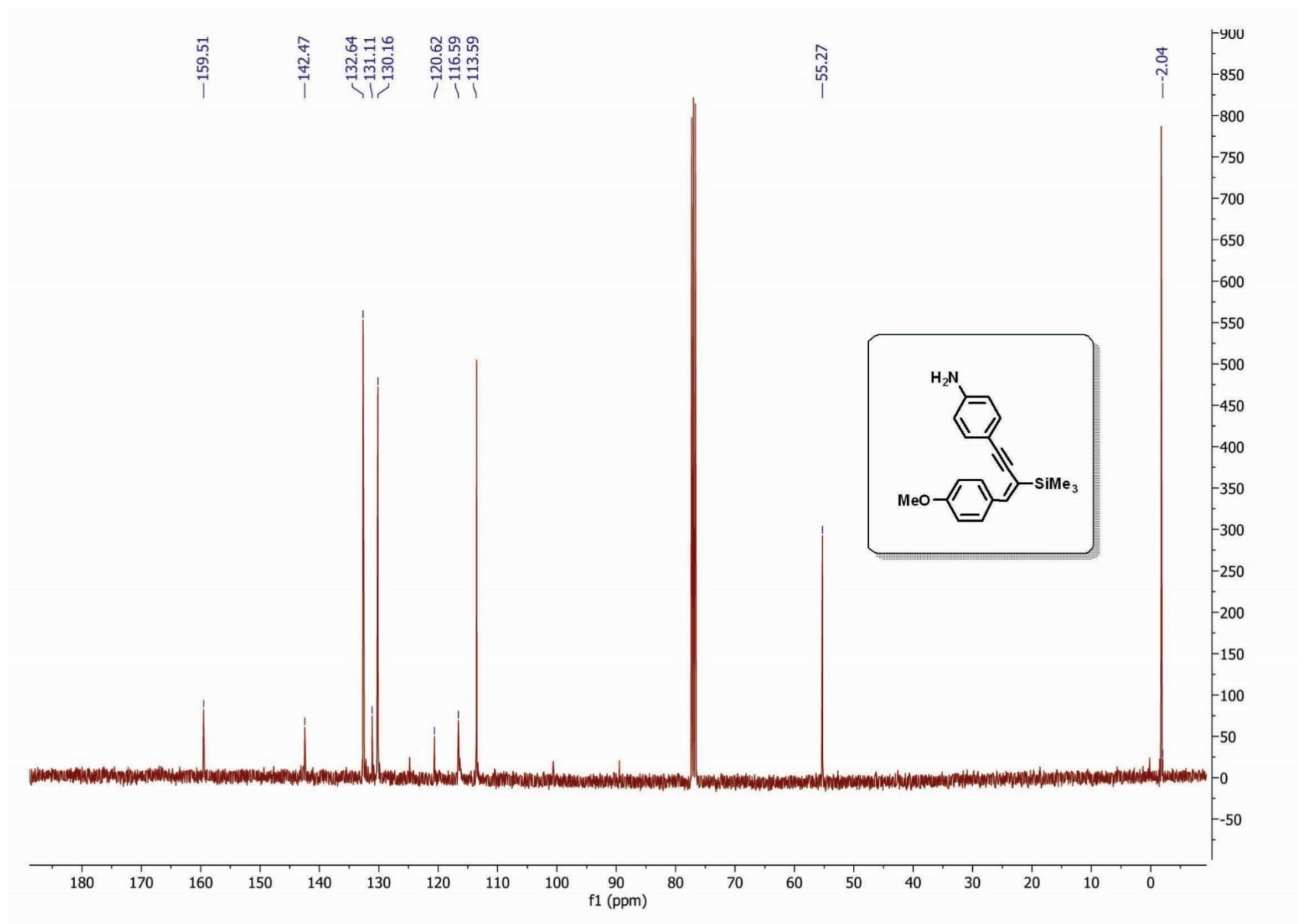
- S1. T. Wada, M. Iwasaki, A. Kondoh, H. Yorimitsu, and K. Oshima, *Chem. Eur. J.* 16 (2010) 10671–10674.
- S2. P. Finkbeiner, U. Kloeckner, and B. J. Nachtsheim, *Angew. Chem. Int. Ed.* 54 (2015) 4949–4952.
- S3. L. D. Caspers, P. Finkbeiner, and B. J. Nachtsheim, *Chem. Eur. J.* 23 (2017) 2748–2752.
- S4. H. L. Sang, Y. Hu, and S. Ge, *Org. Lett.* 21 (2019) 5234–5237.
- S5. H. L. Sang, C. Wu, Guan Ge Darren Phua, and S. Ge, *ACS Catal.* 9 (2019) 10109–10114.
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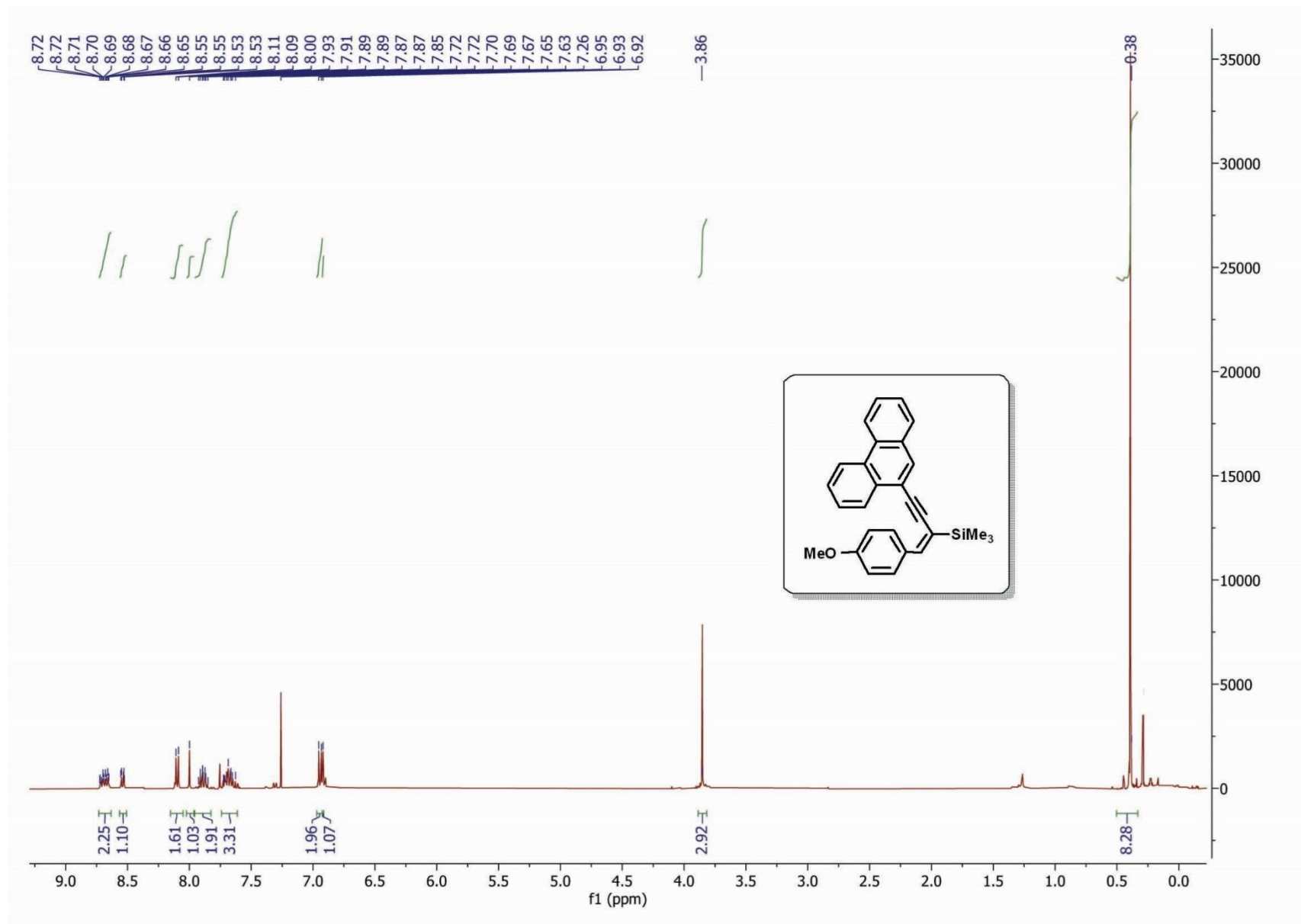
2. ^1H and ^{13}C NMR spectra of the products

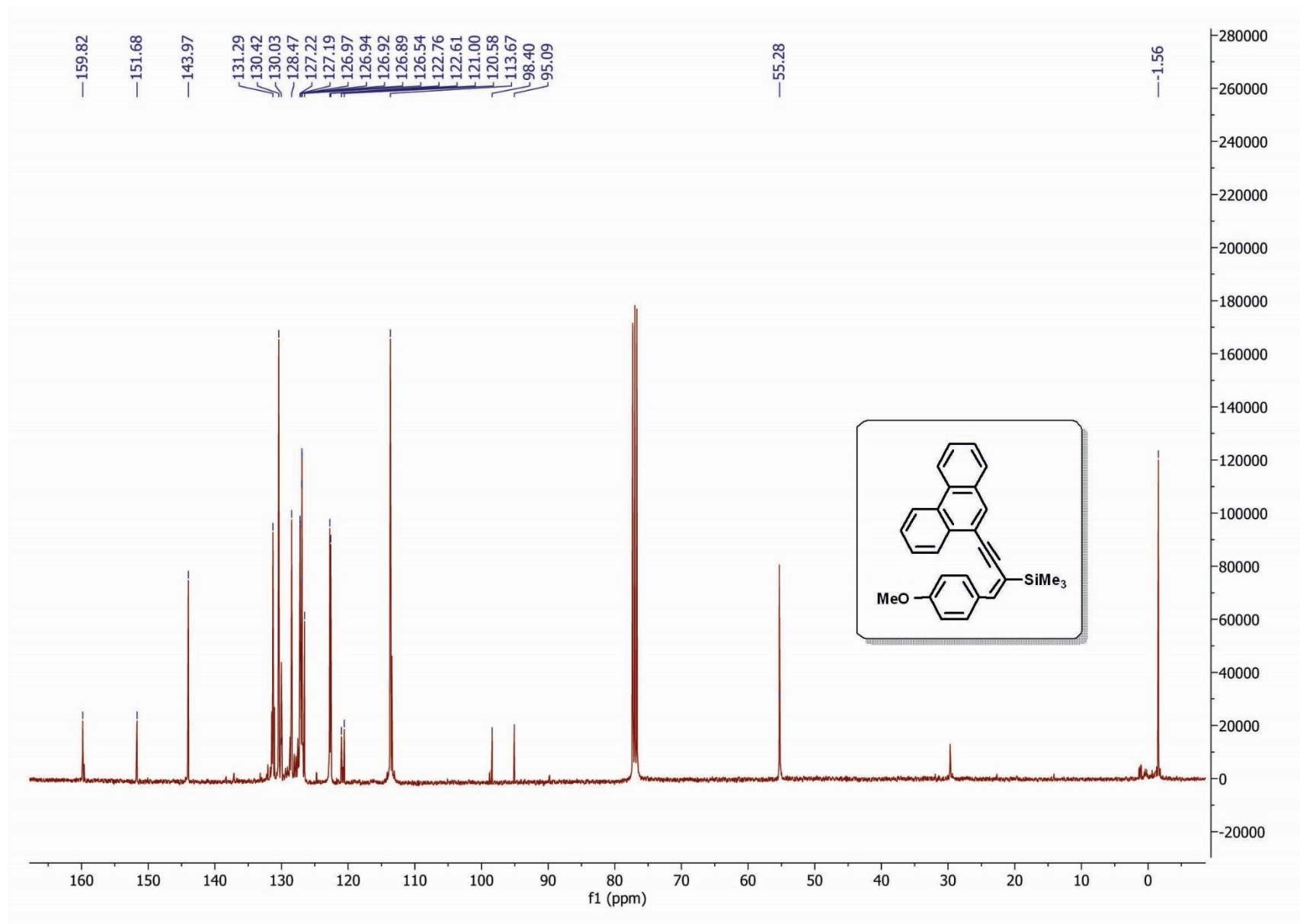


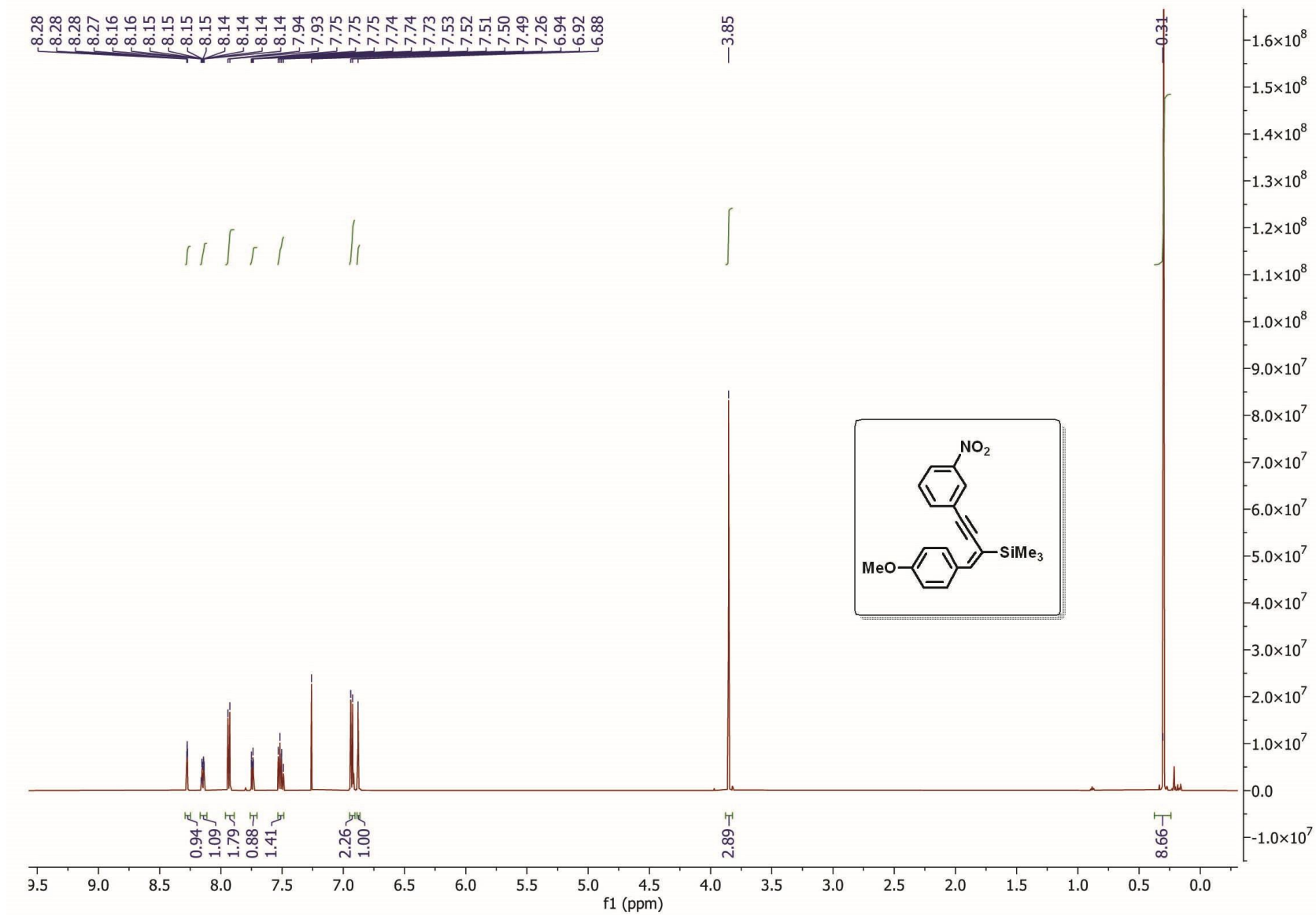


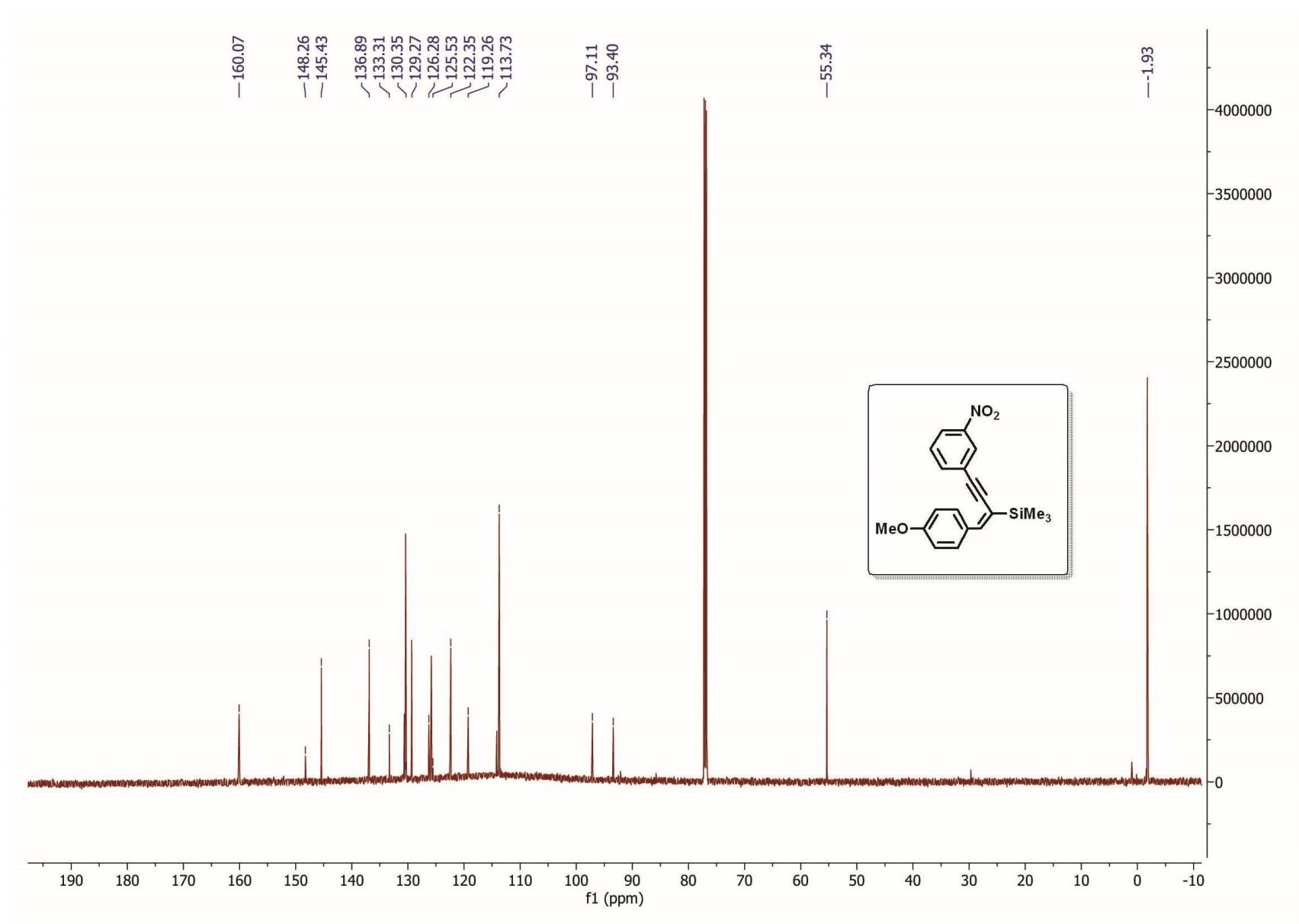


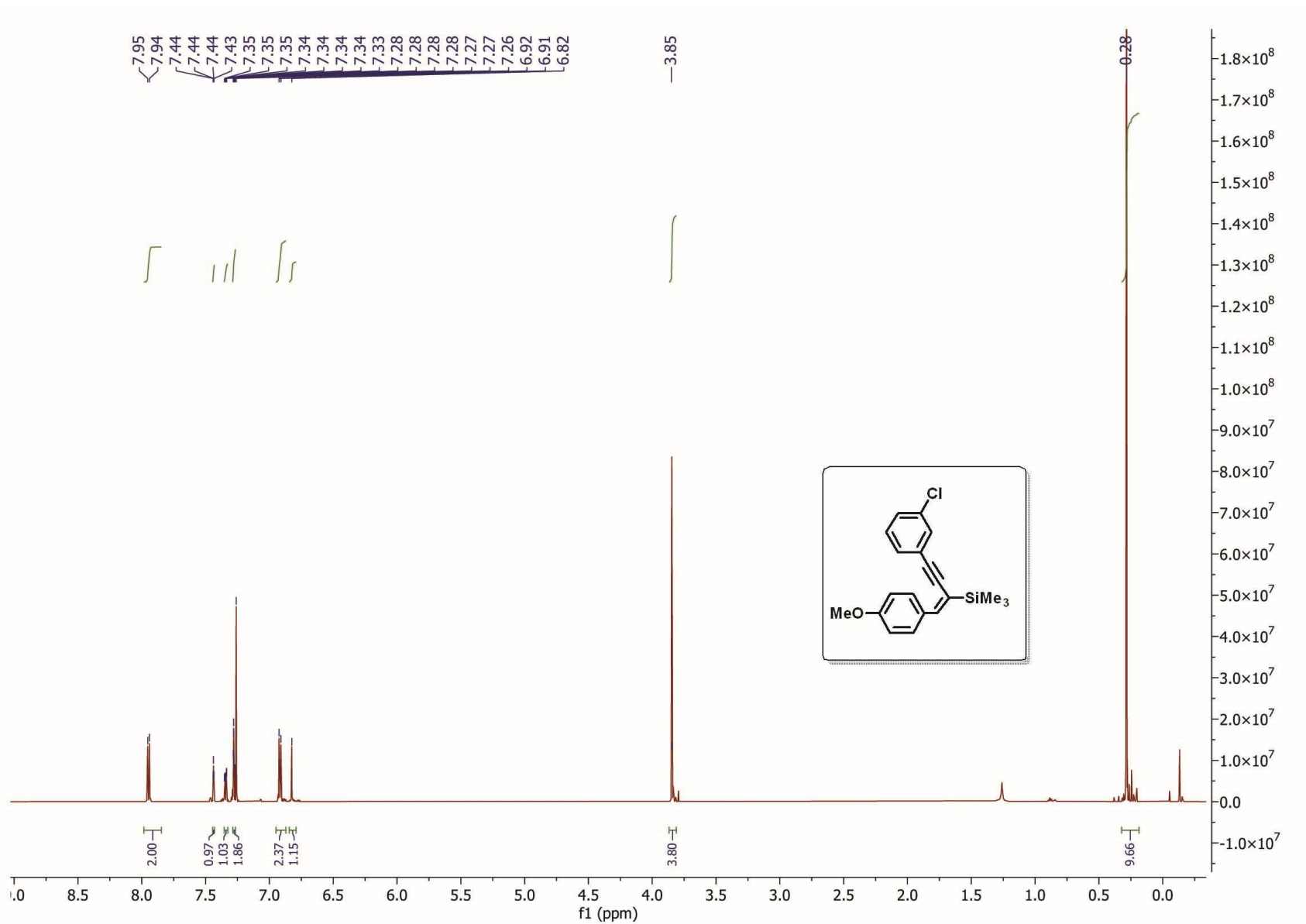


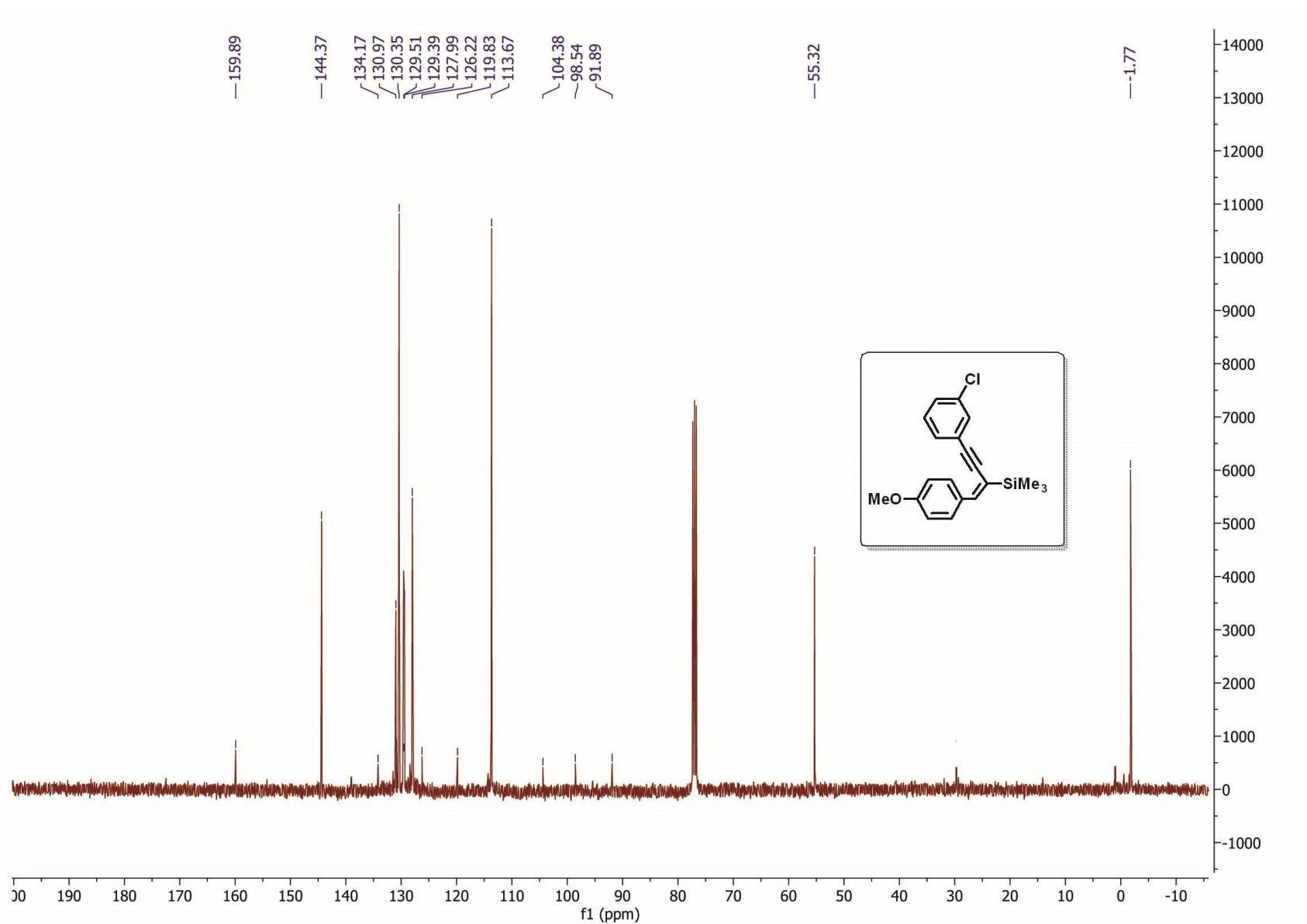


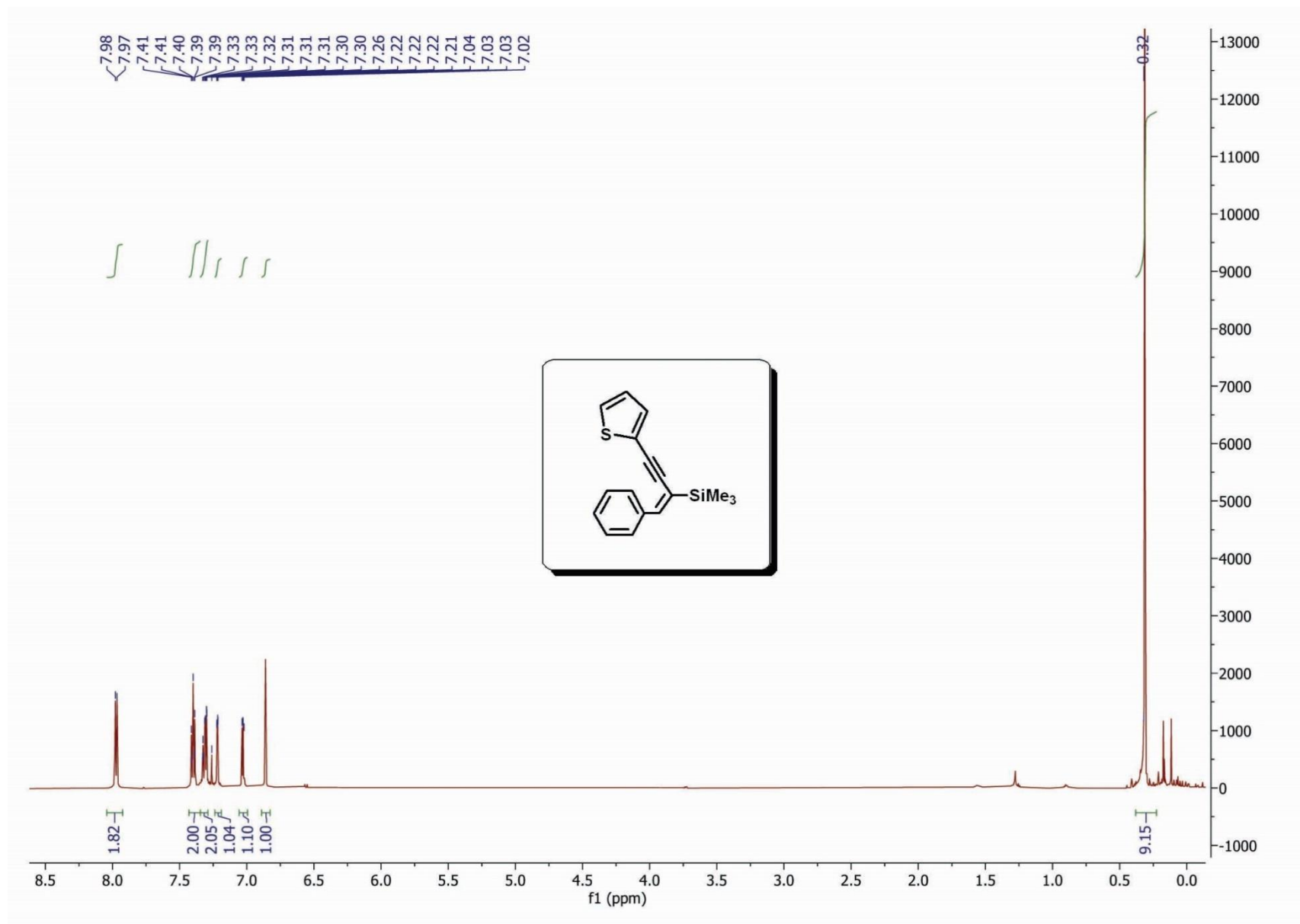


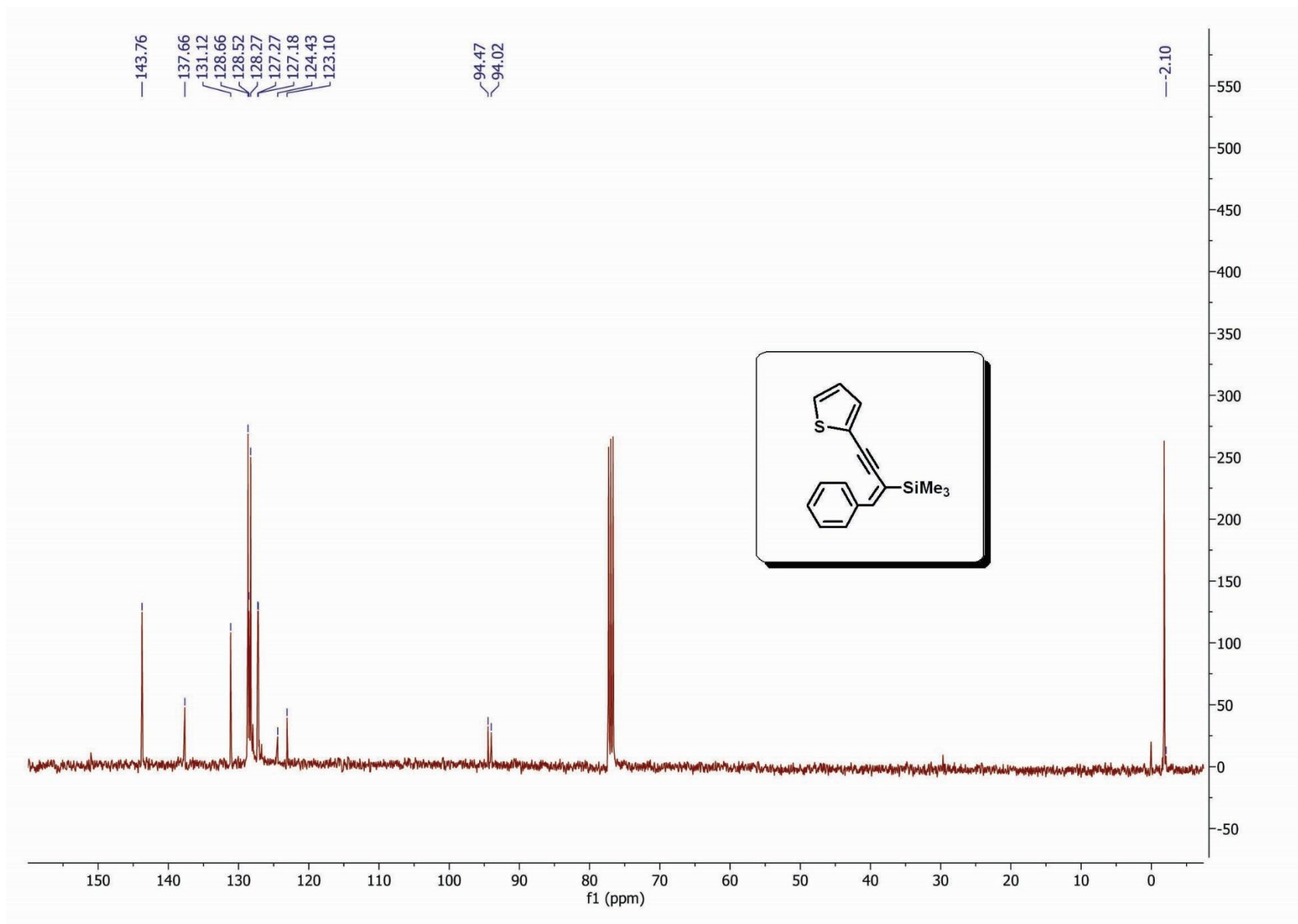


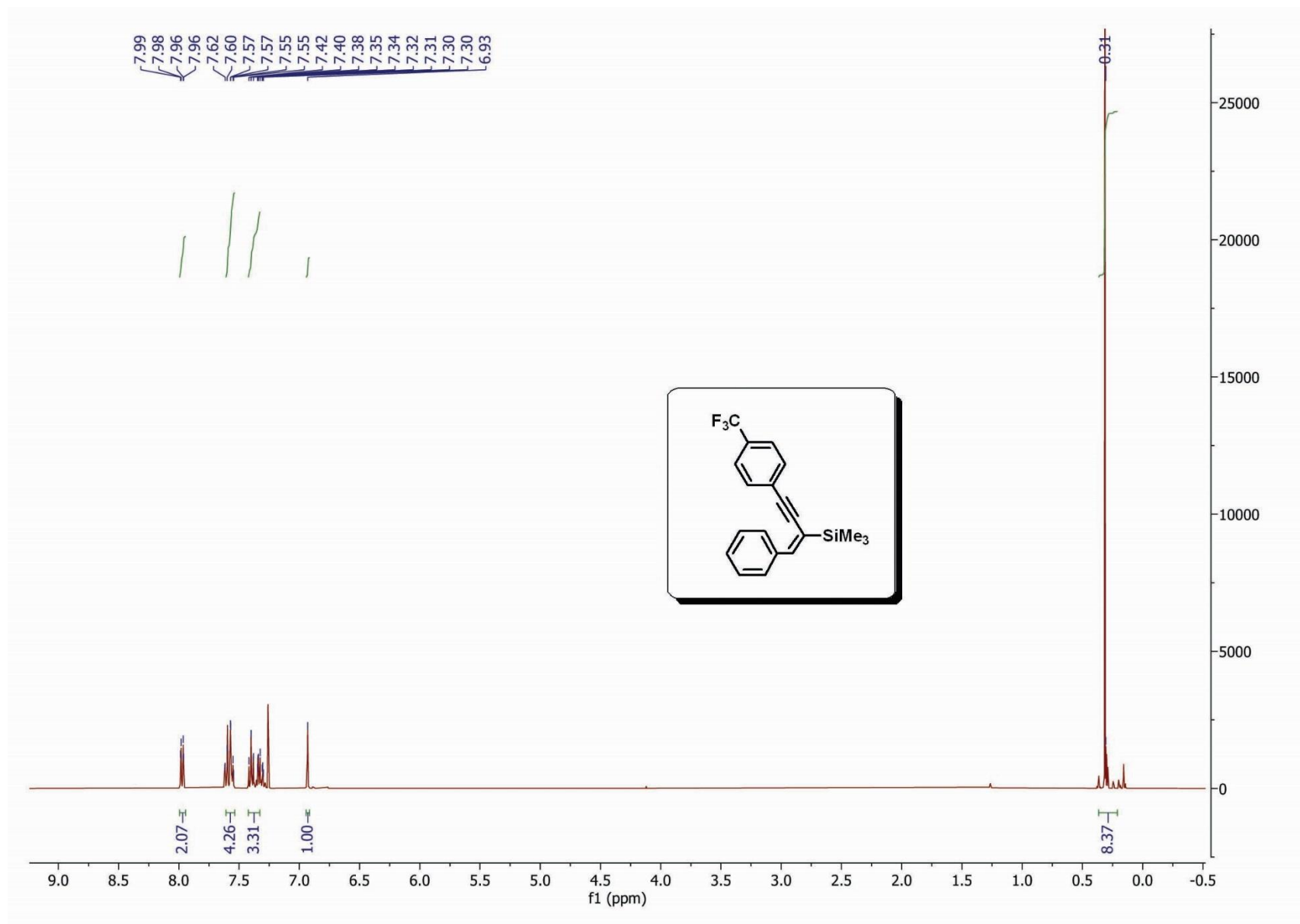


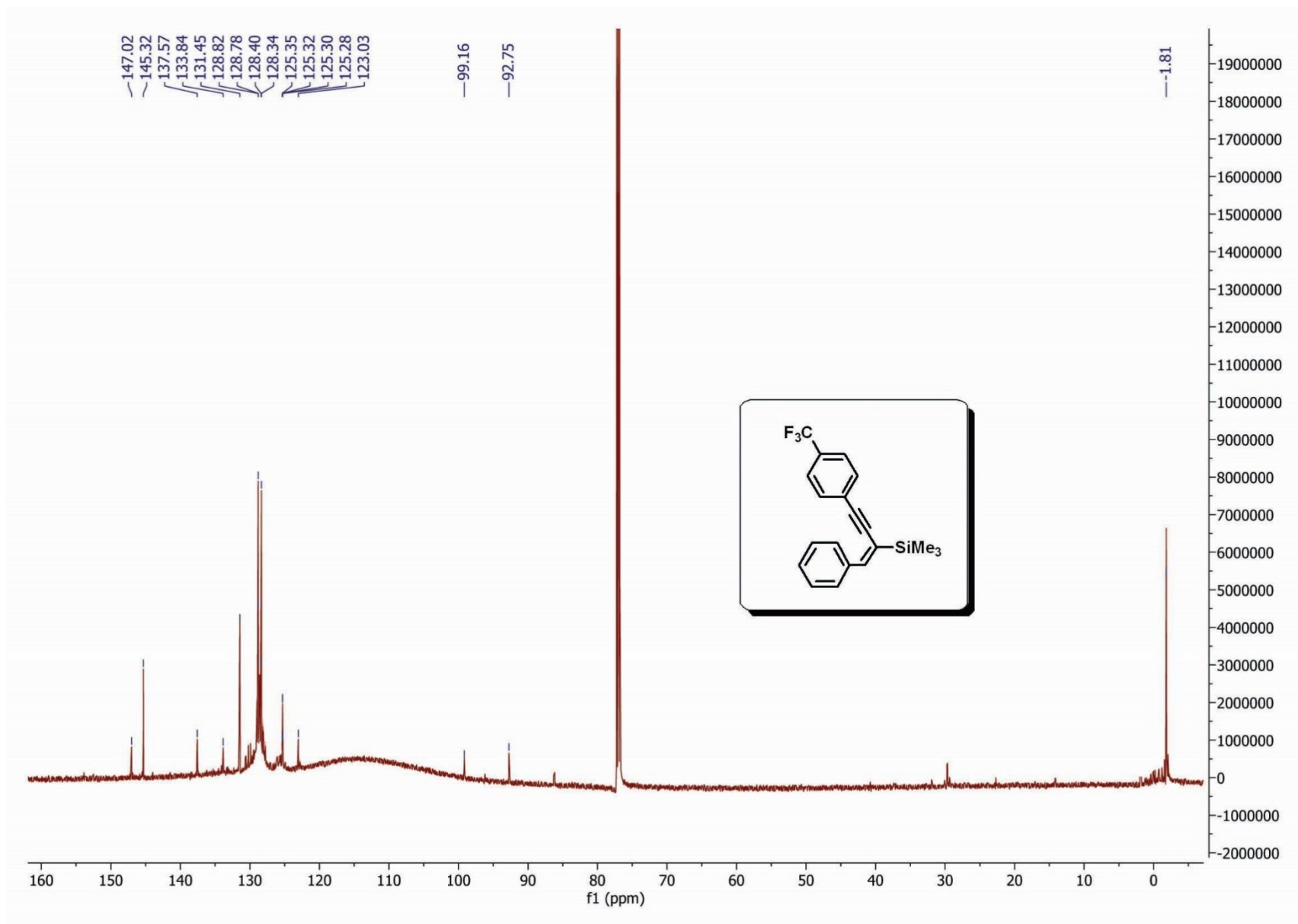


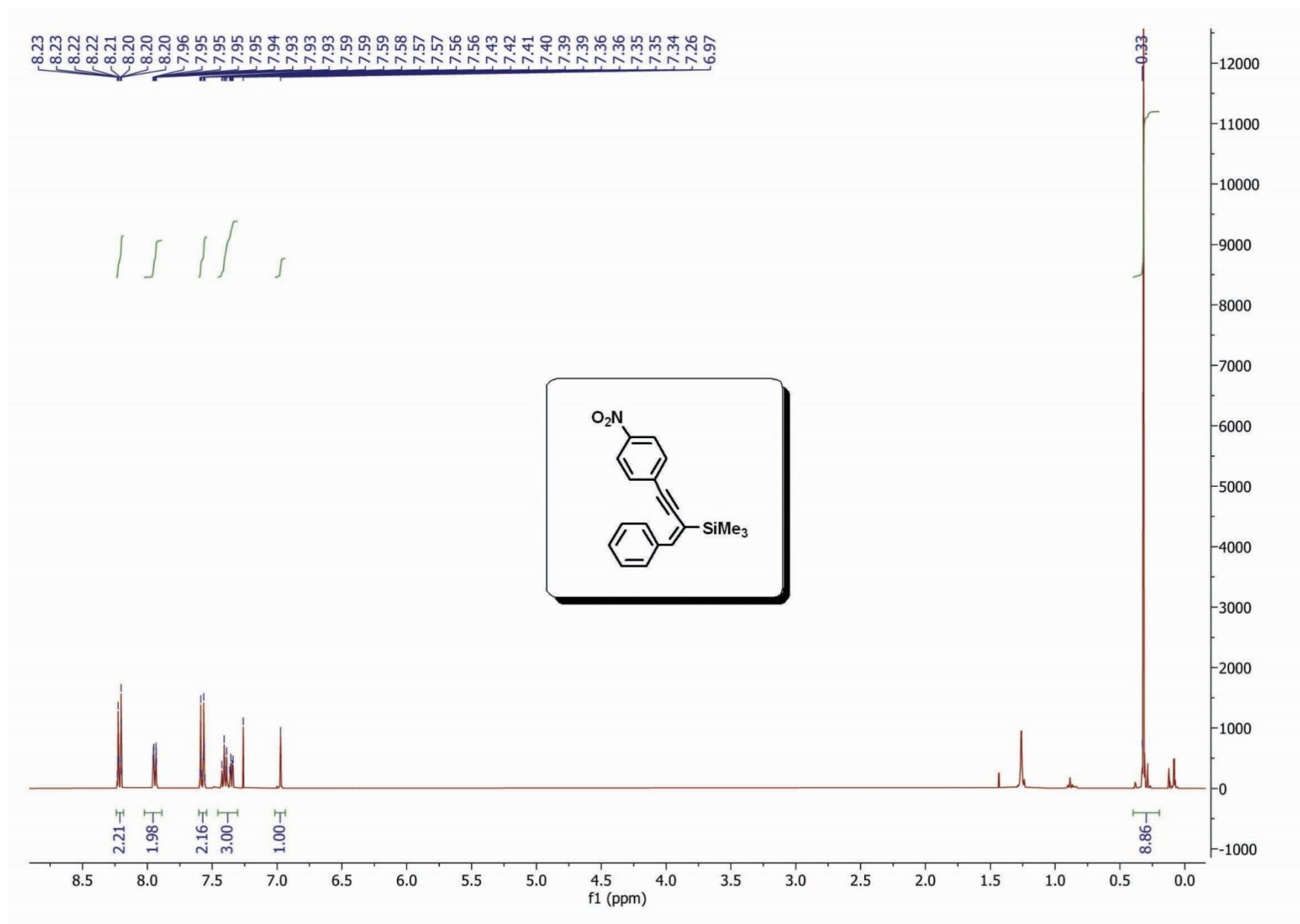


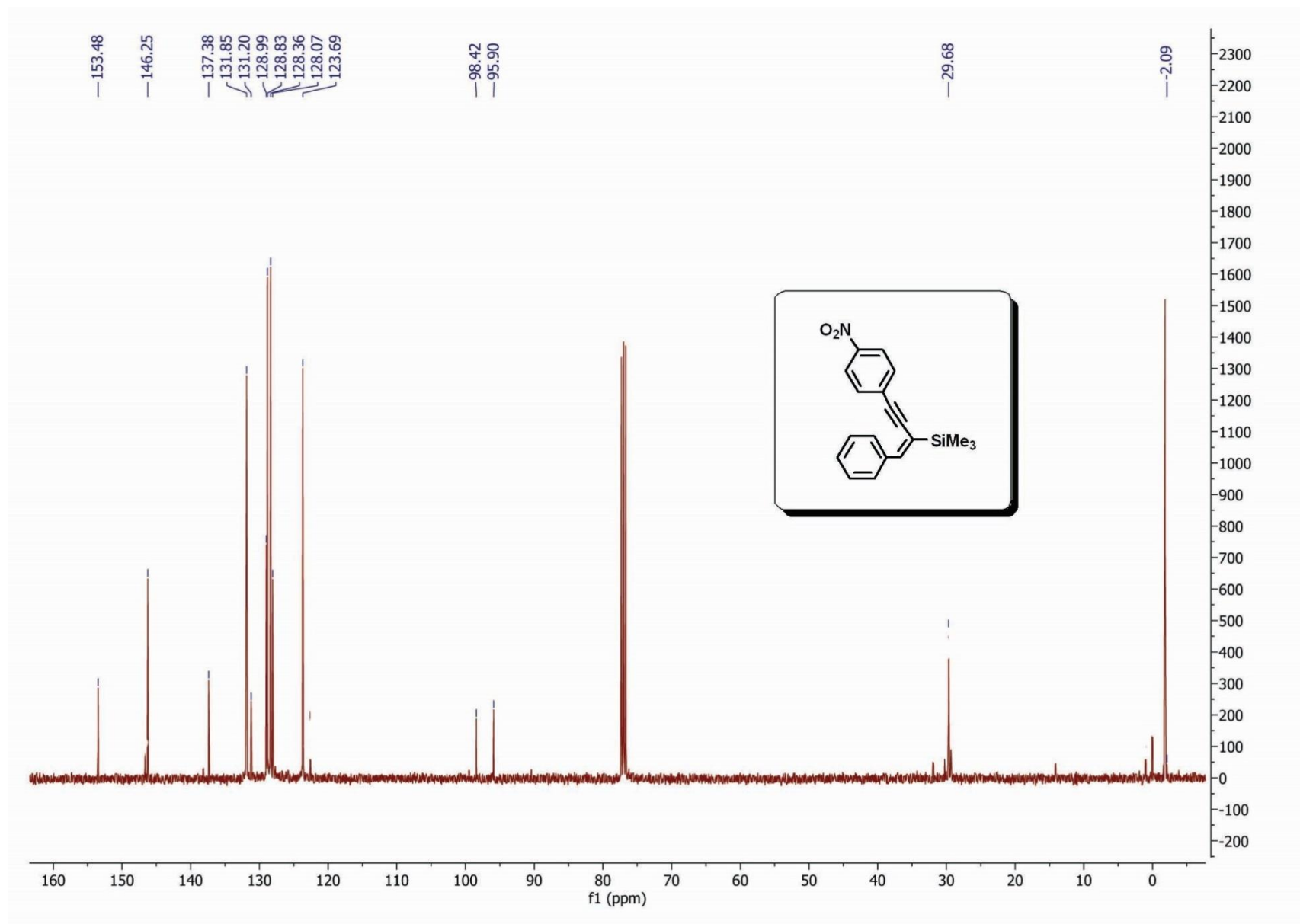


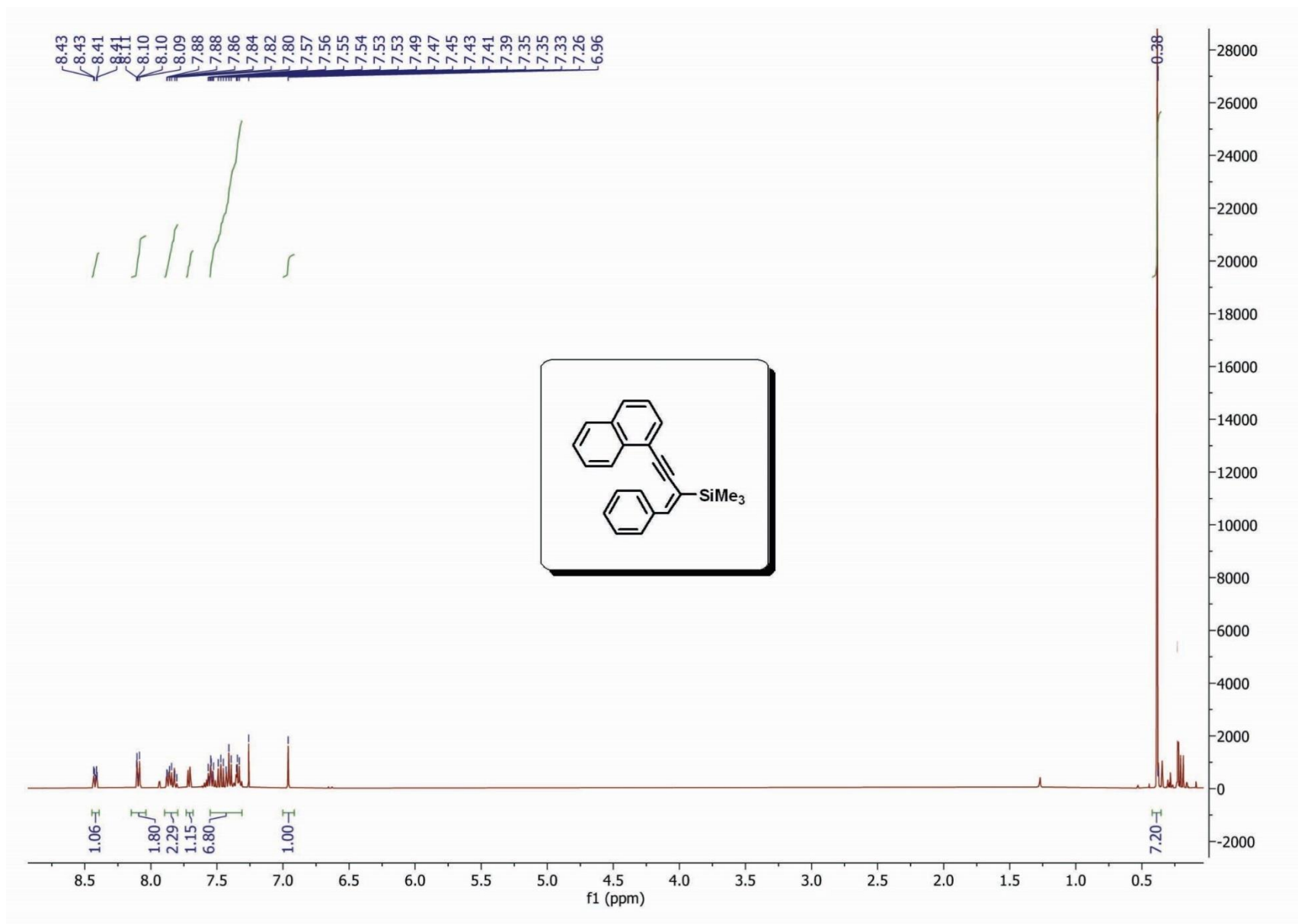


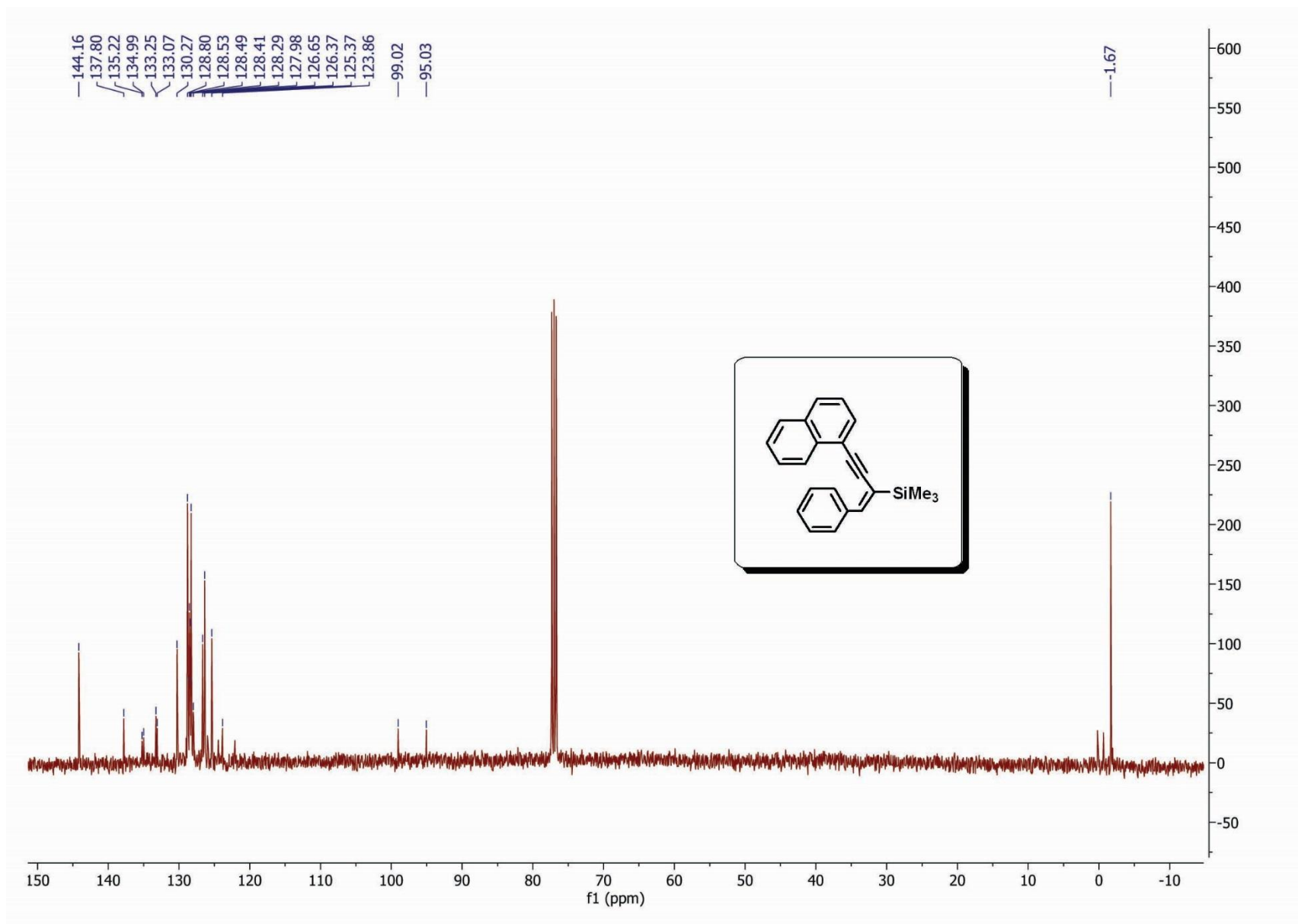


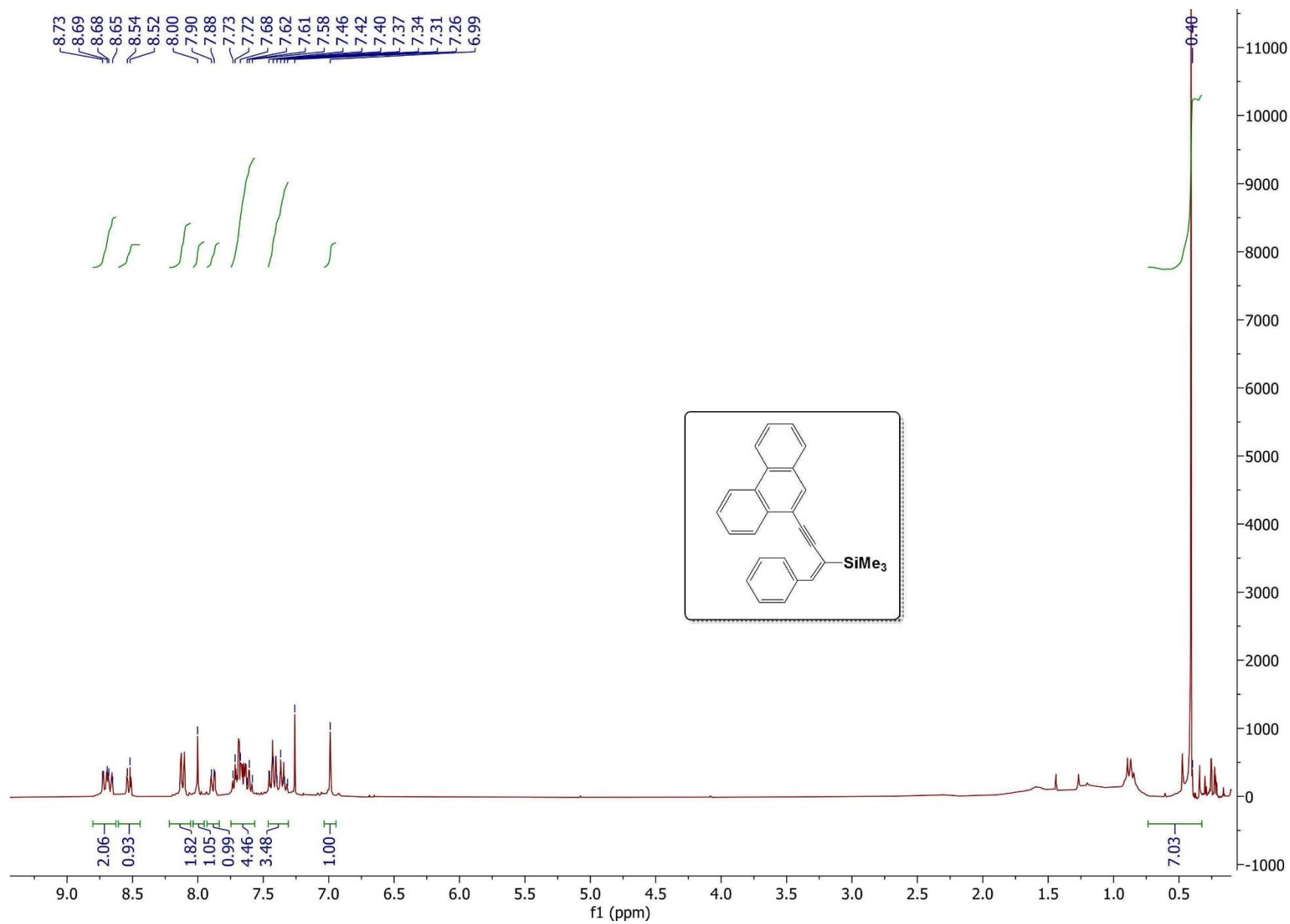


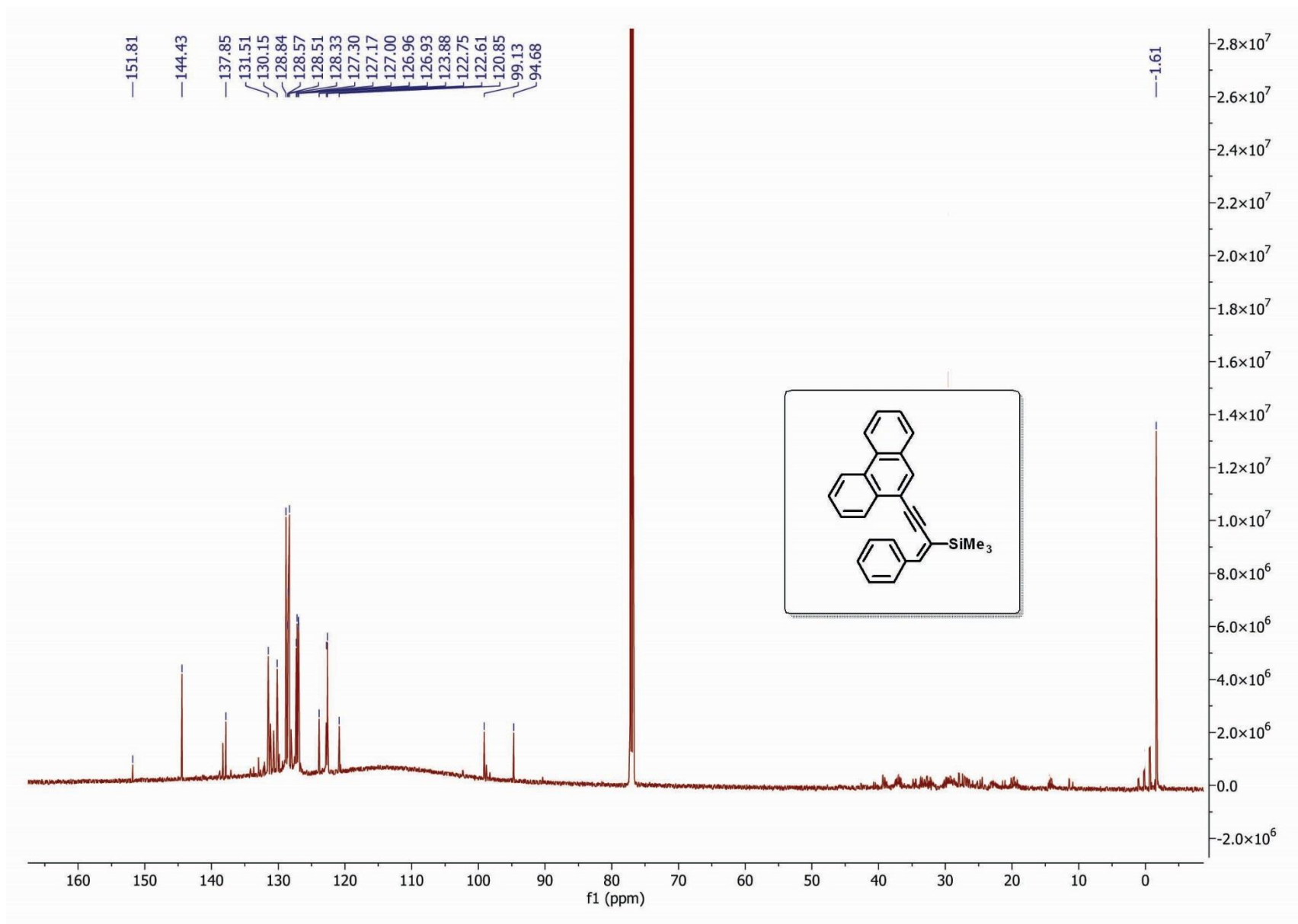


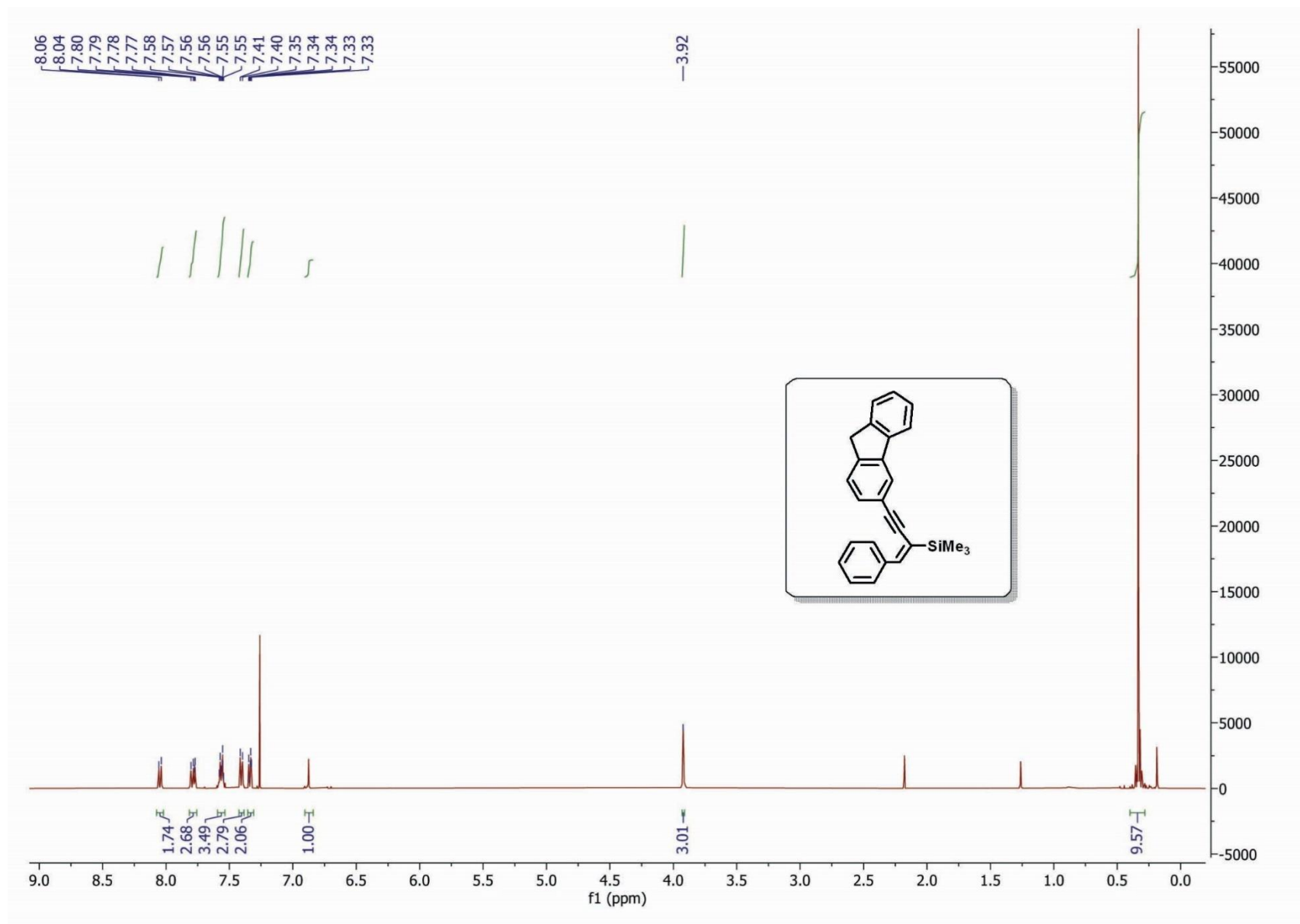


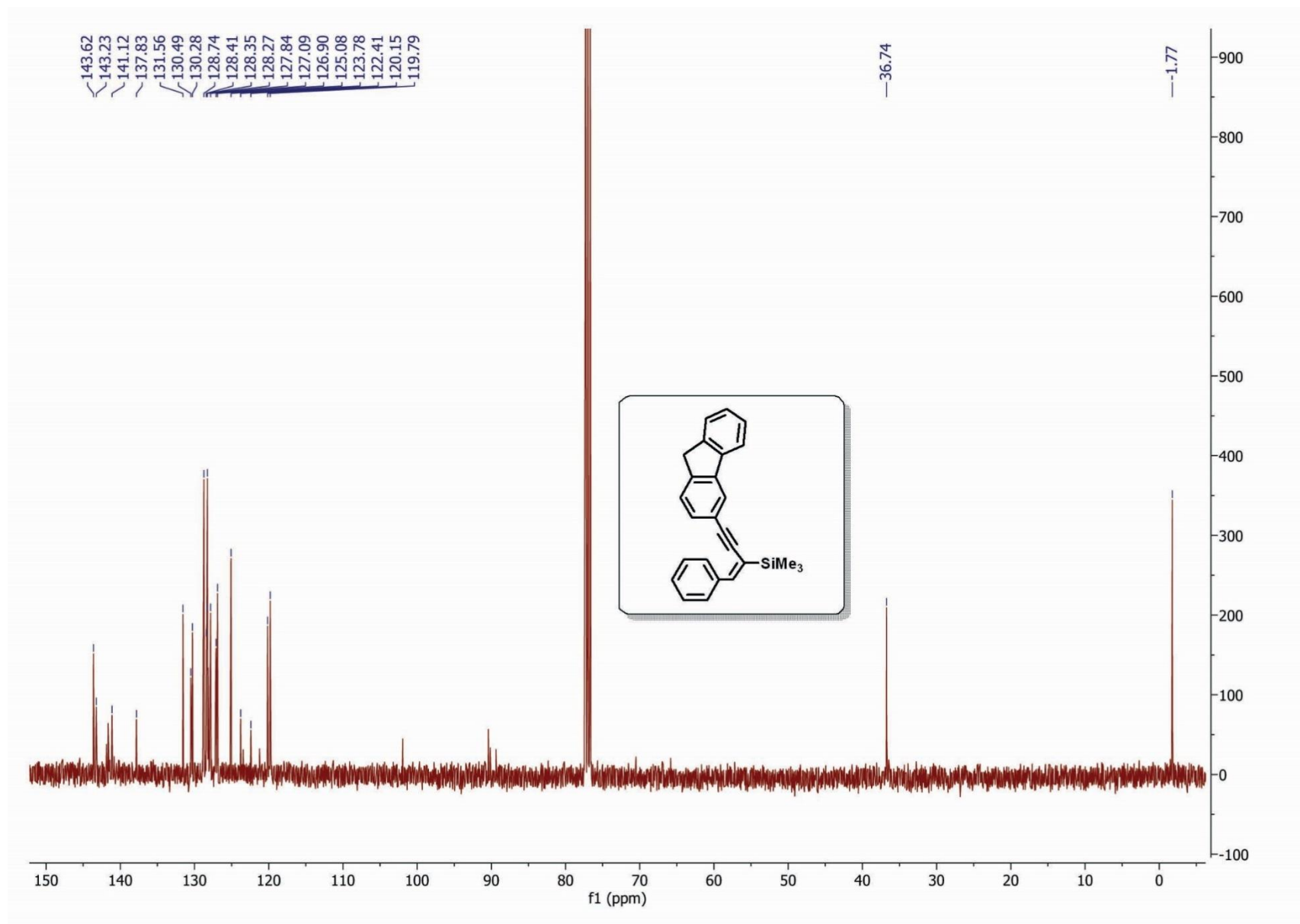


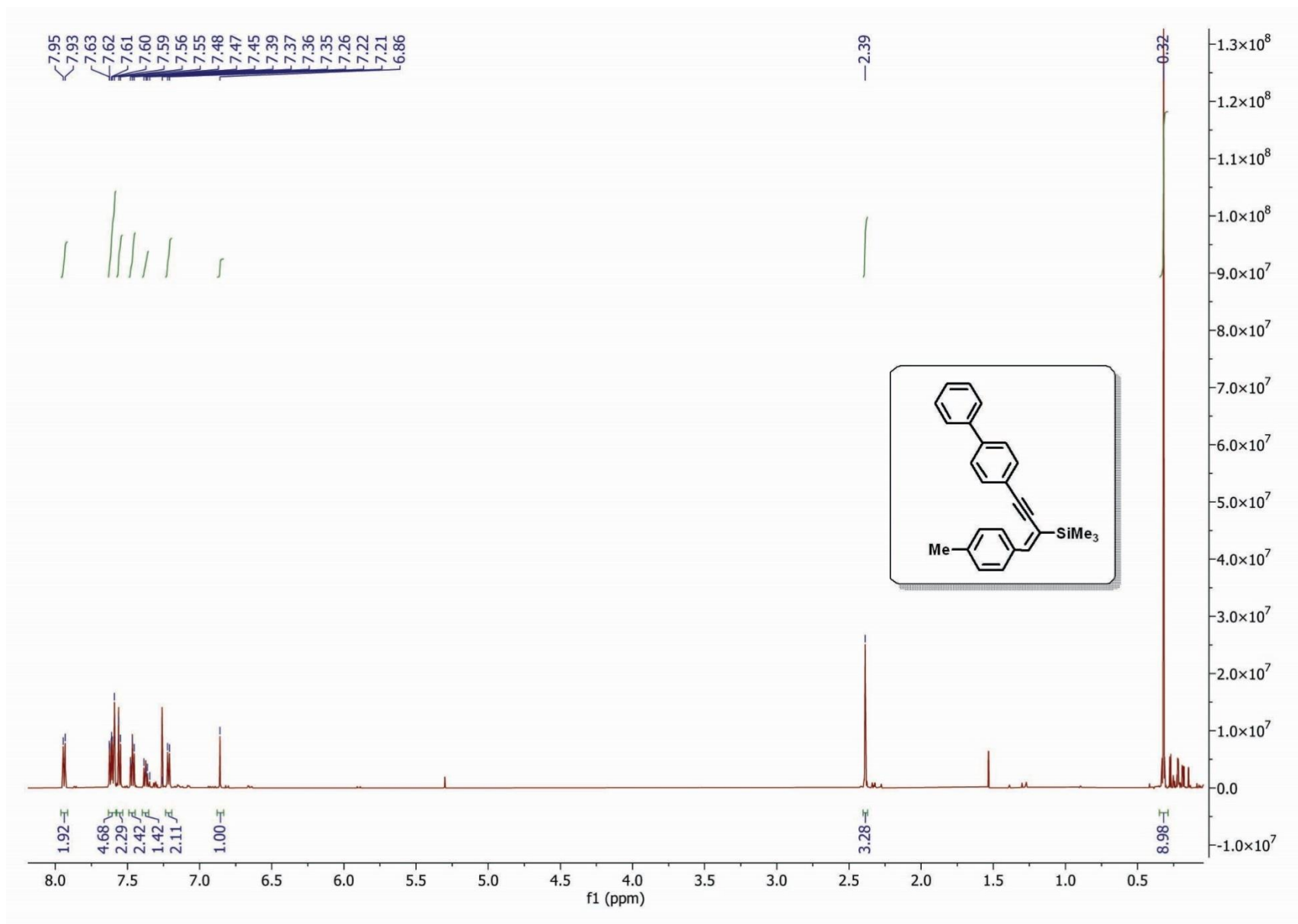


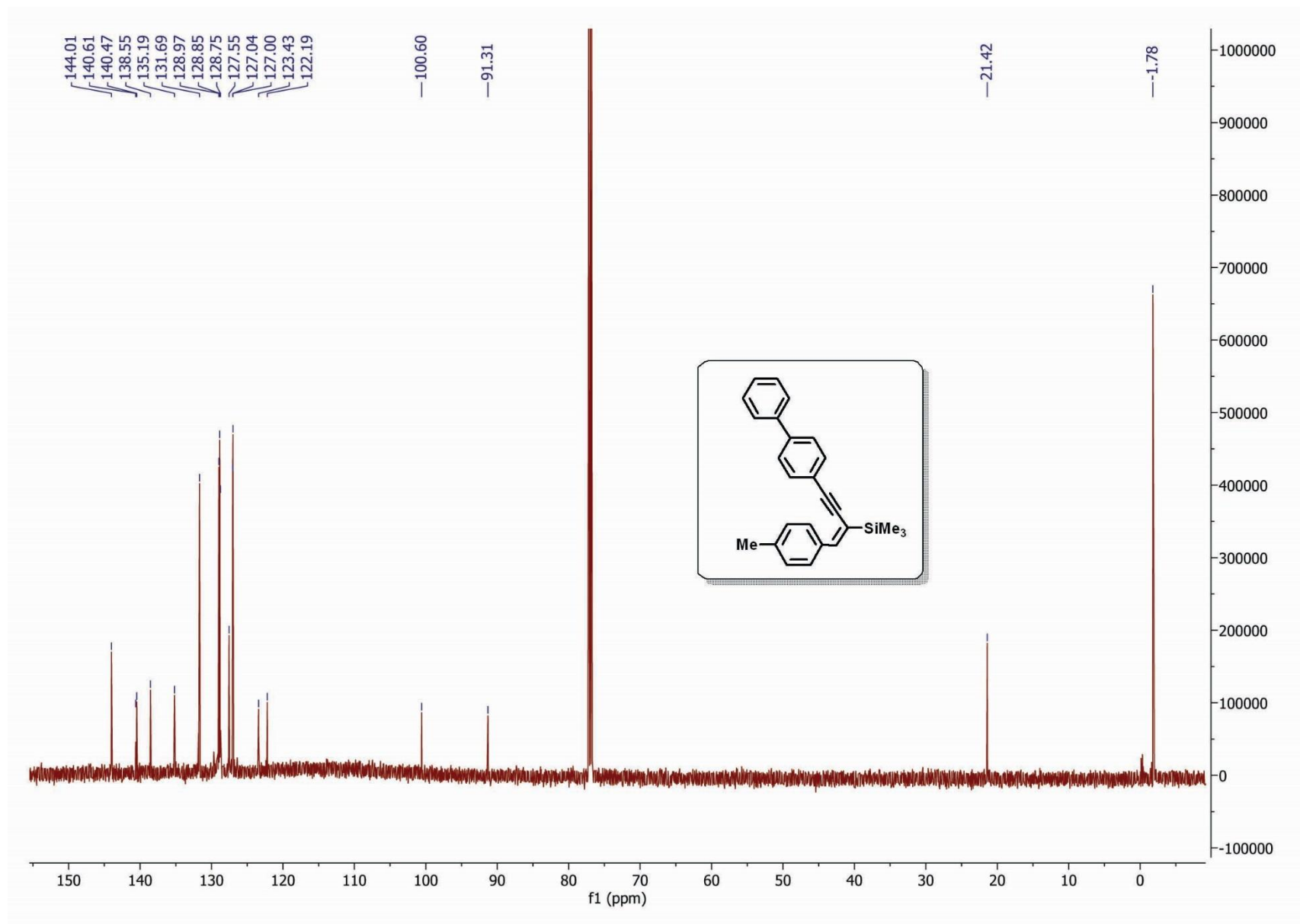


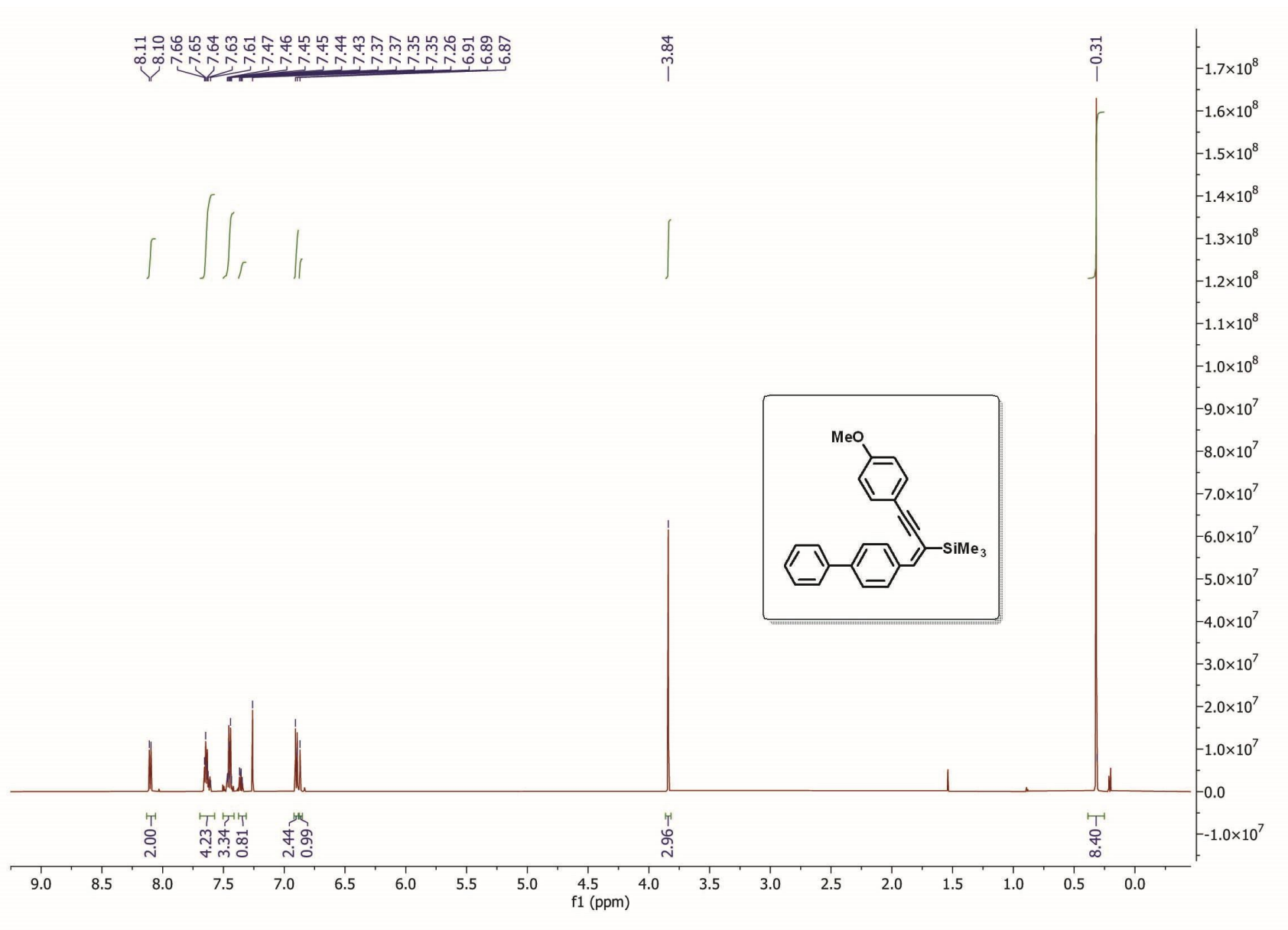


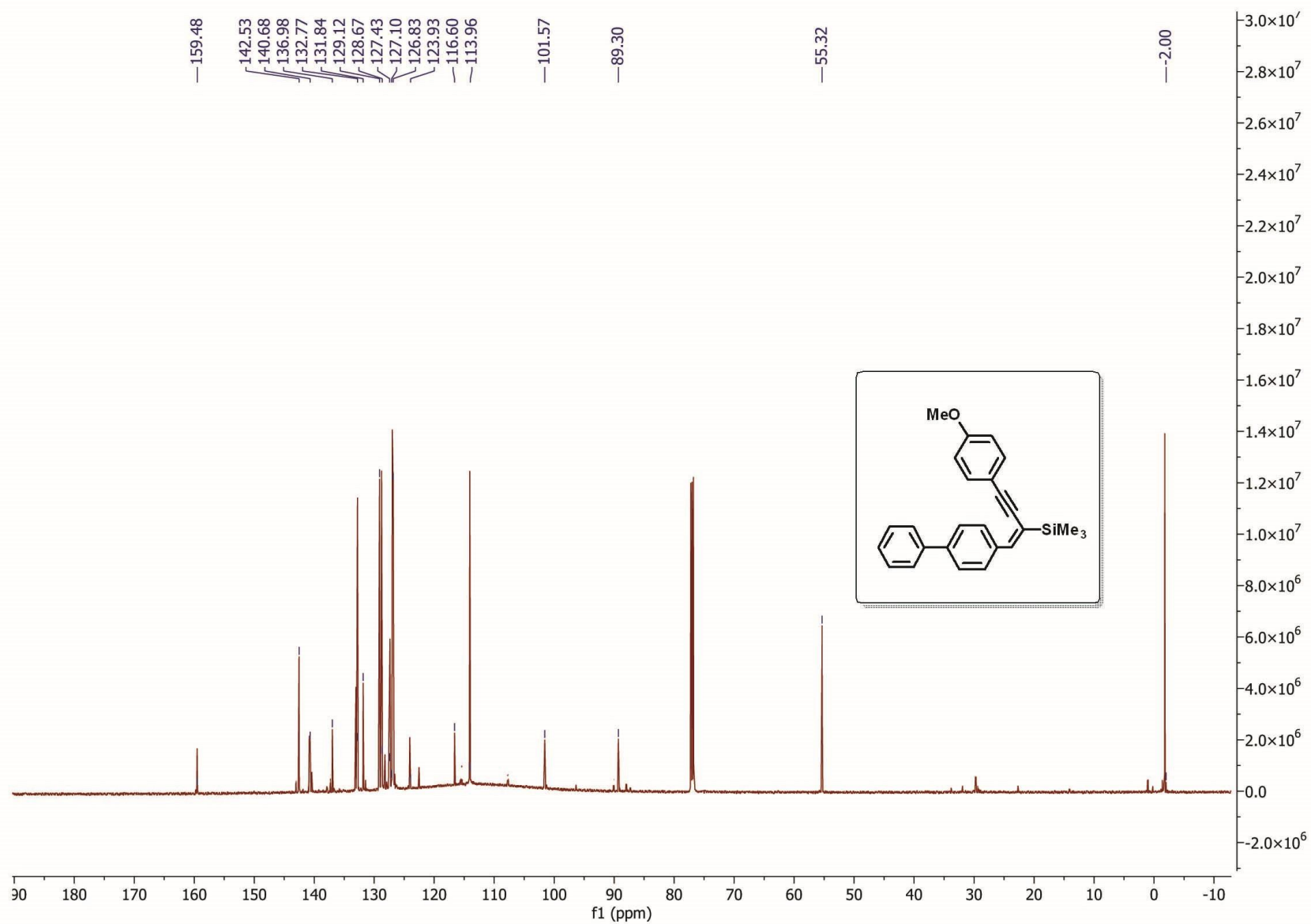


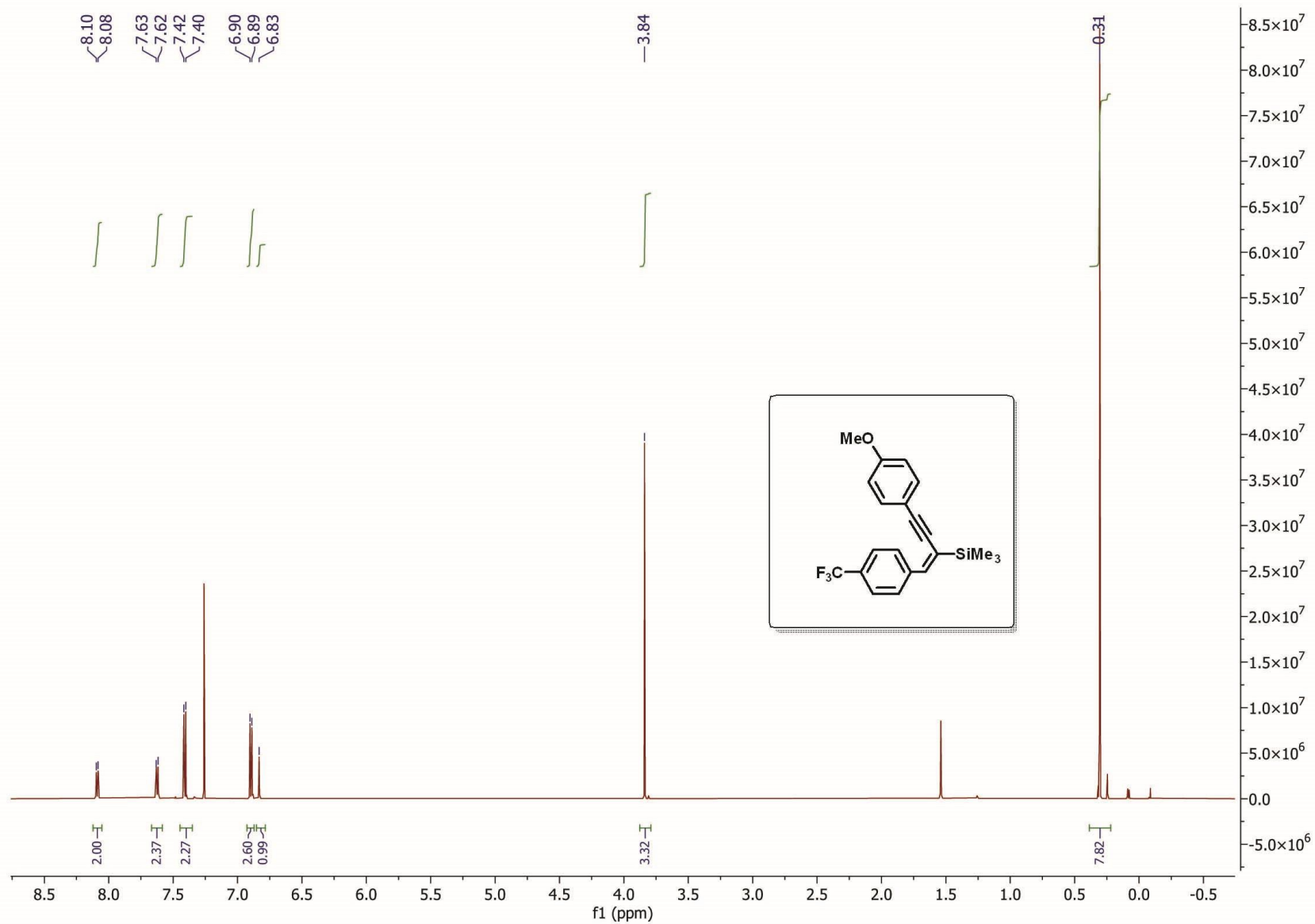


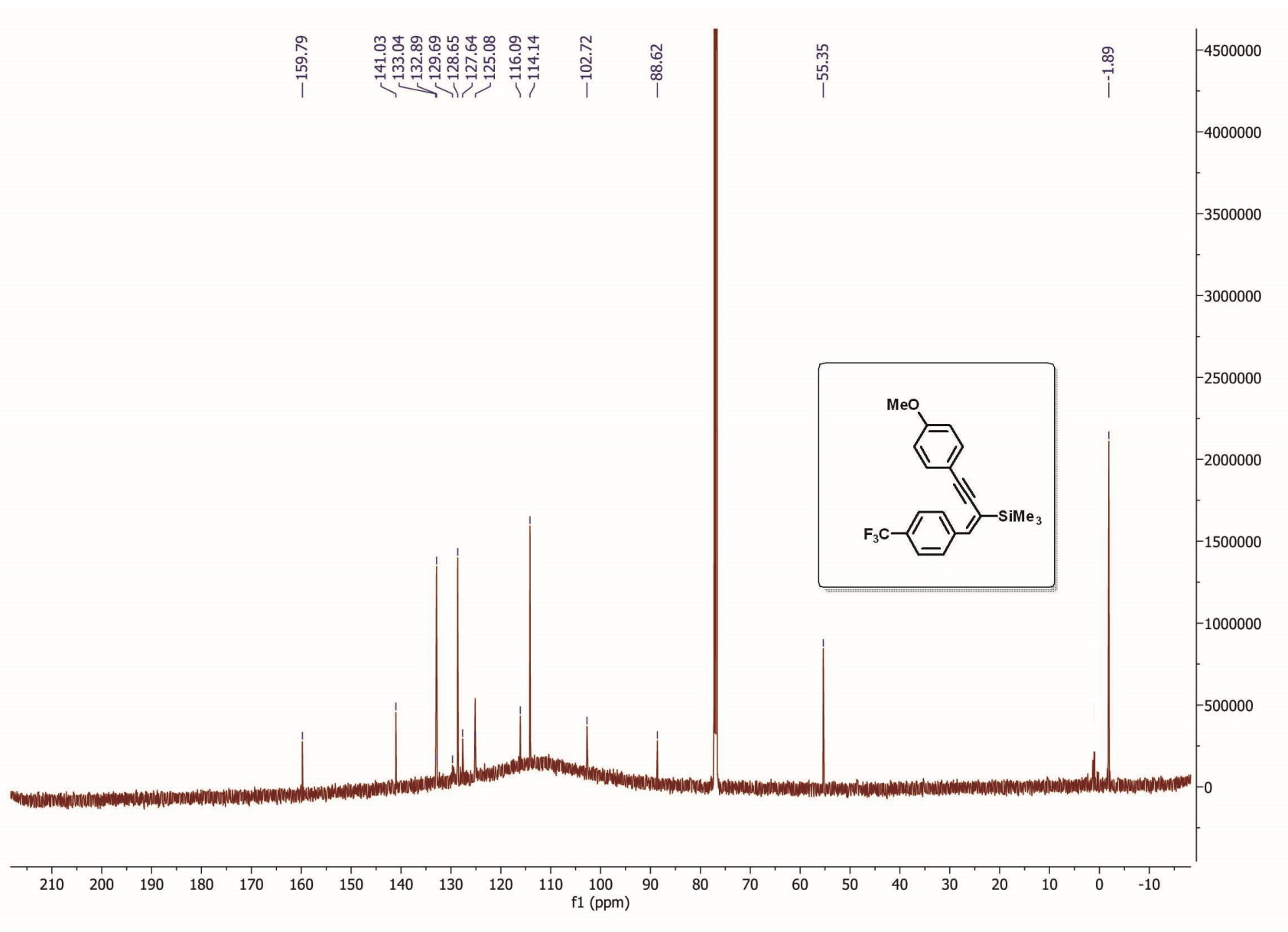


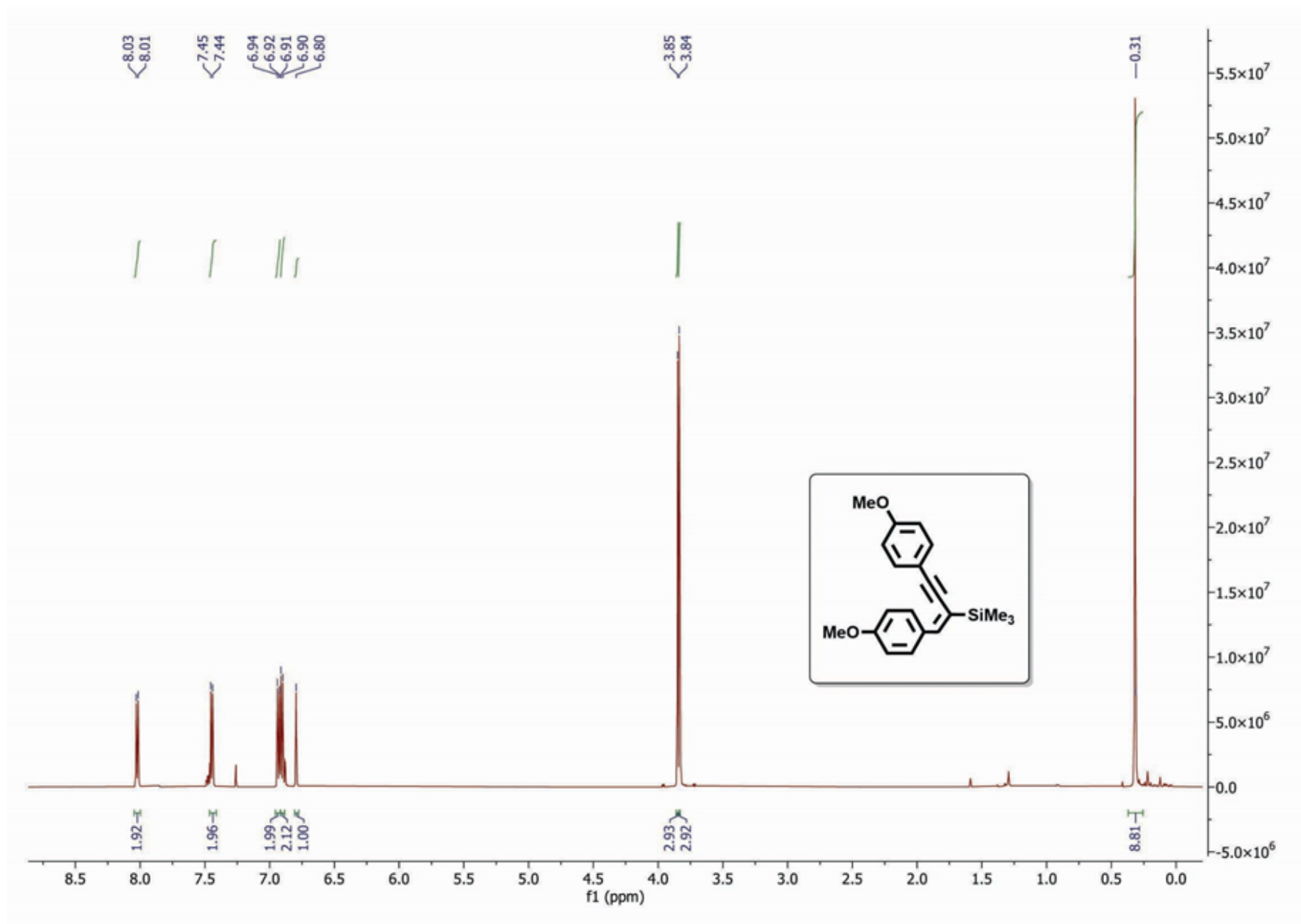


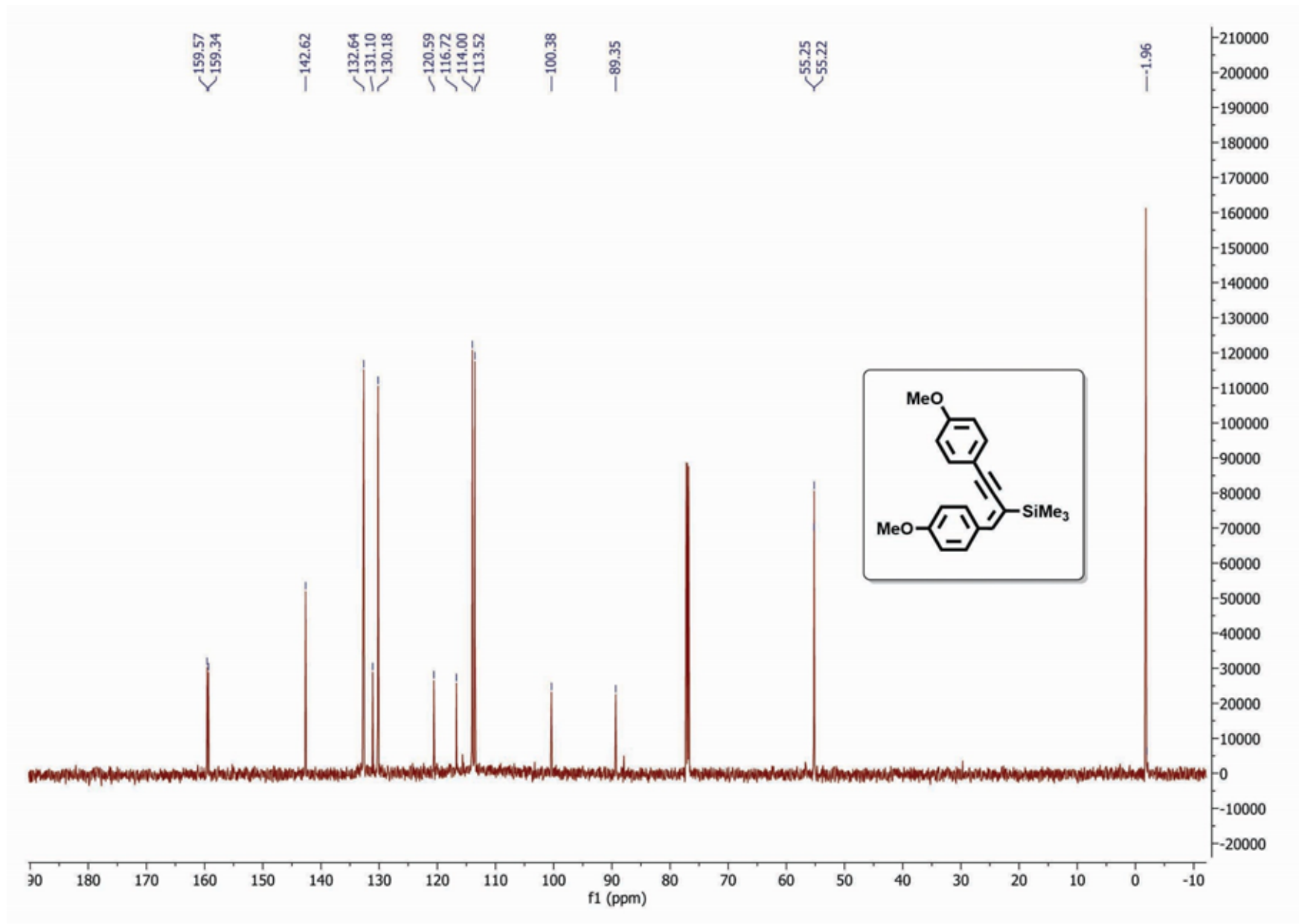


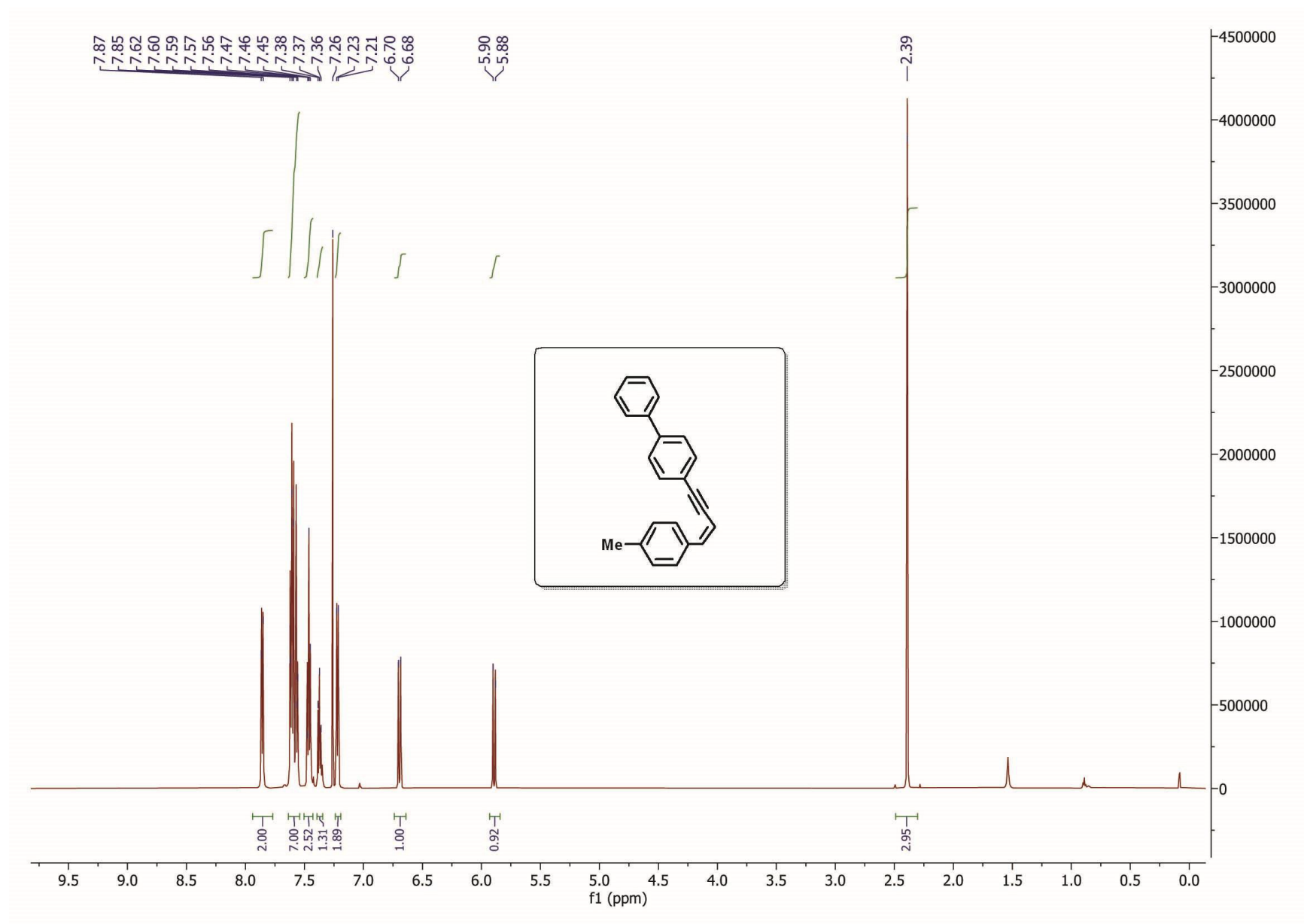


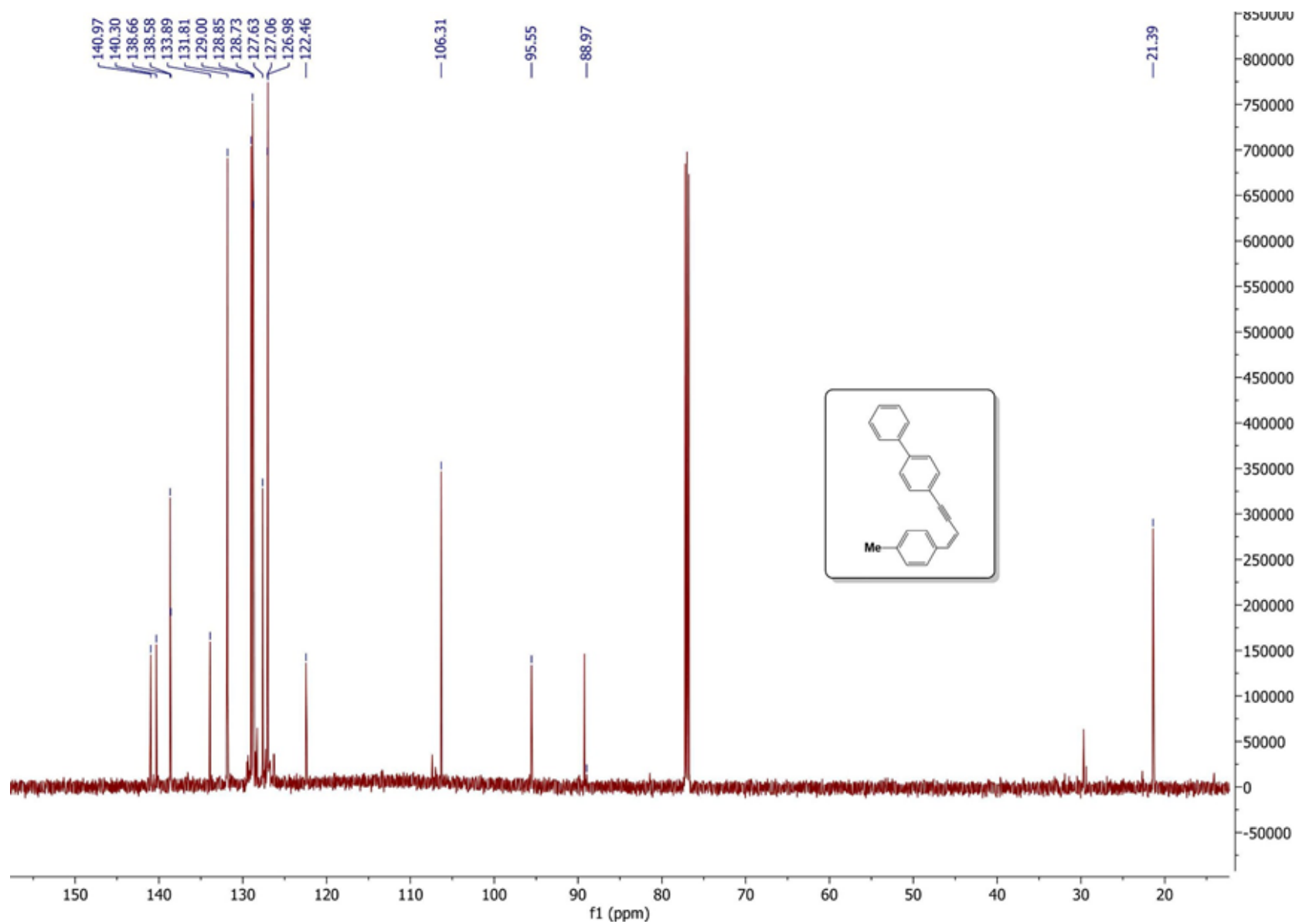


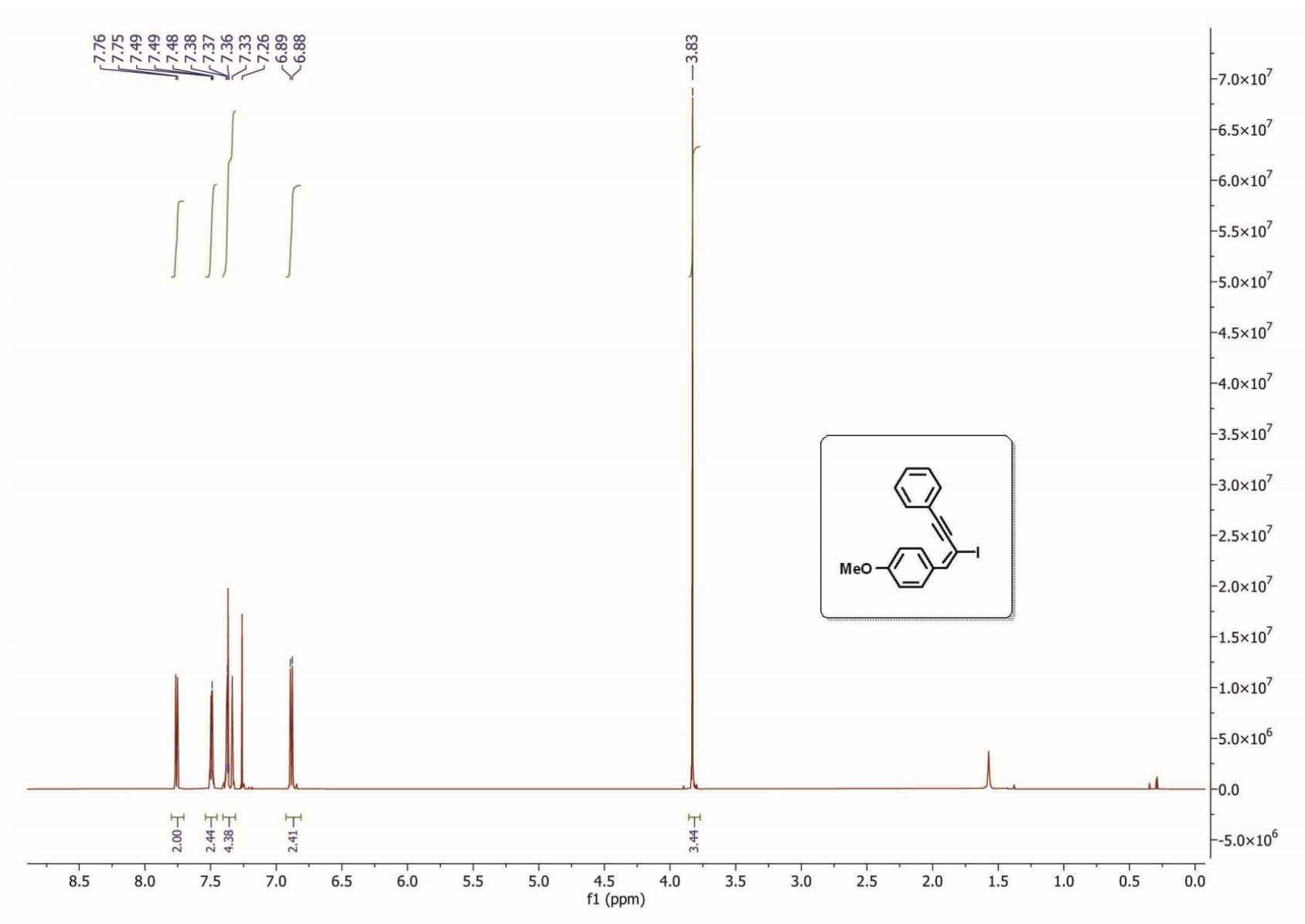




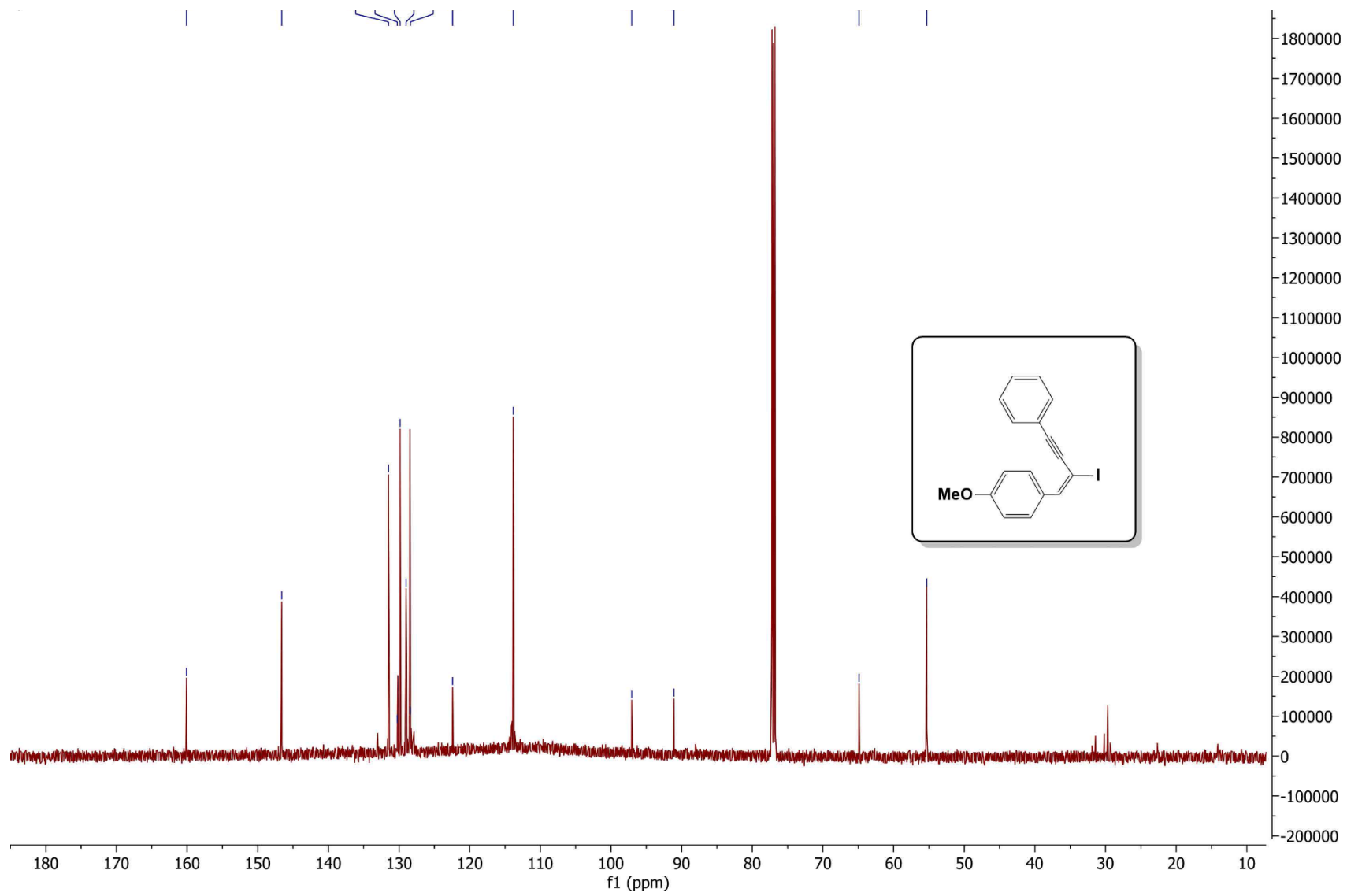








S36



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