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A Facile and Practical *p*-Toluenesulfonic Acid Catalyzed Route to Dicoumarols Containing an Aroyl group

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¹H NMR and ¹³C NMR spectra of products **3b**, **3e**, **3f**, **3g**, **3h**

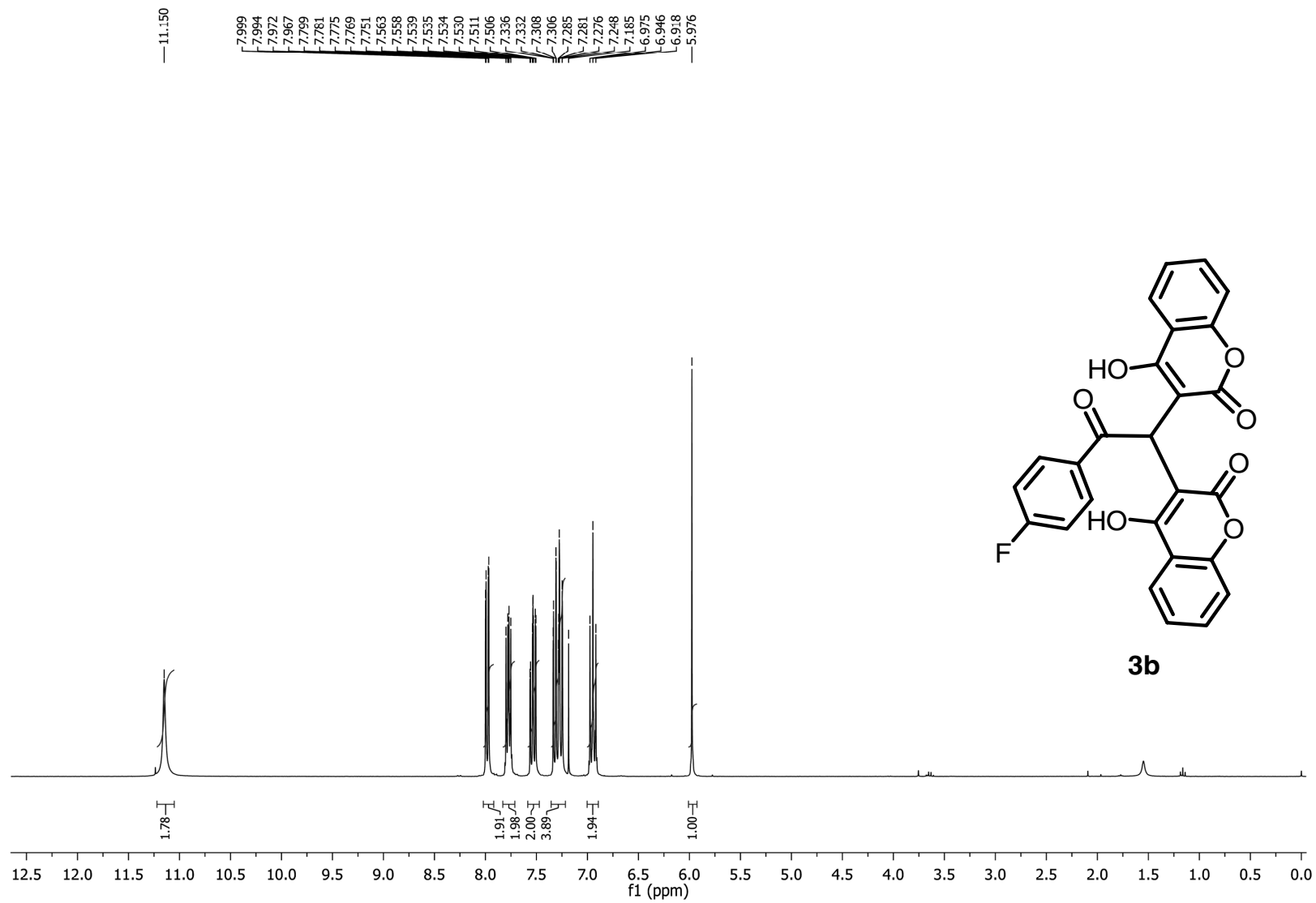


Figure 1 ^1H NMR spectrum of **3b**

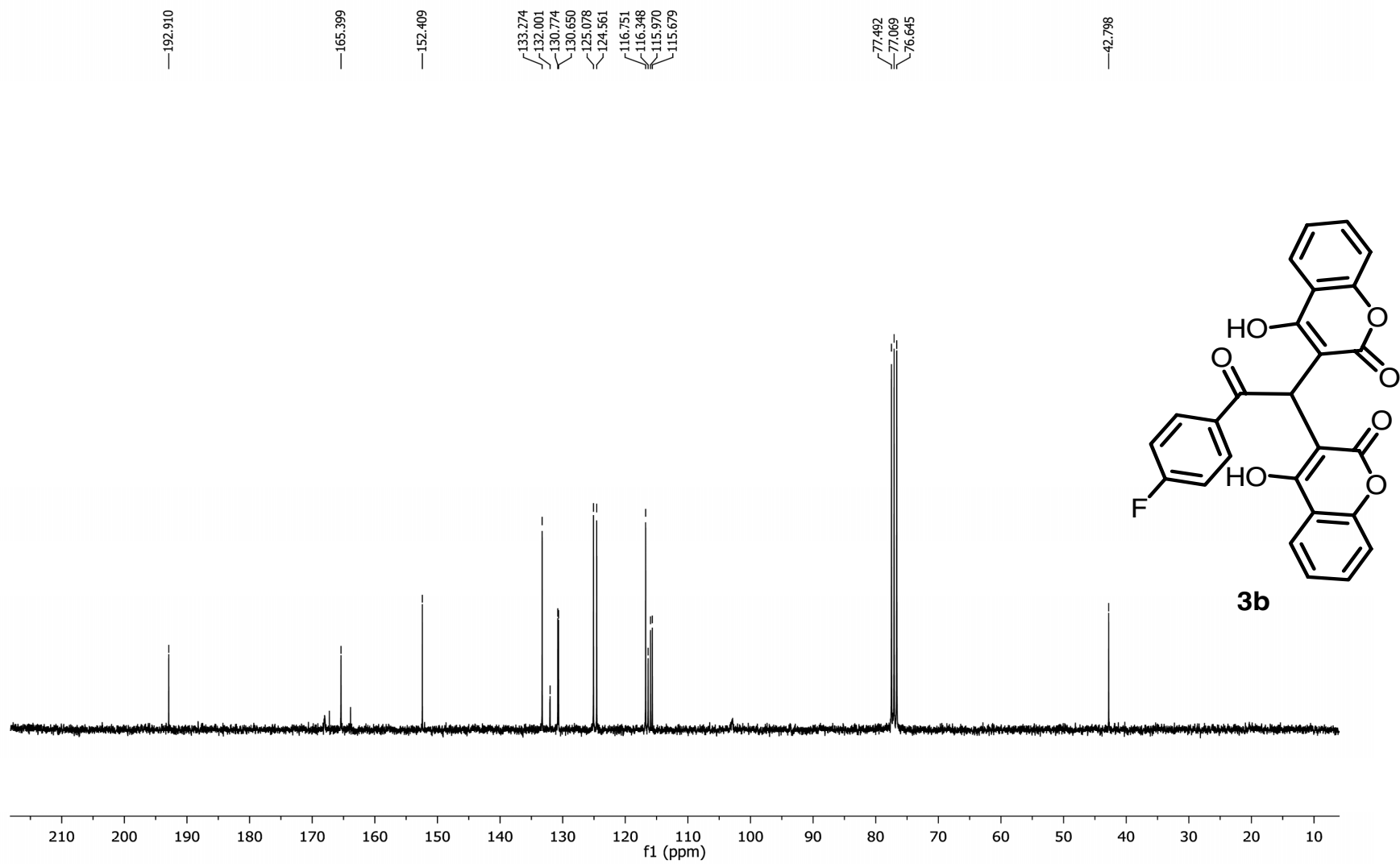


Figure 2 ^{13}C NMR spectrum of **3b**

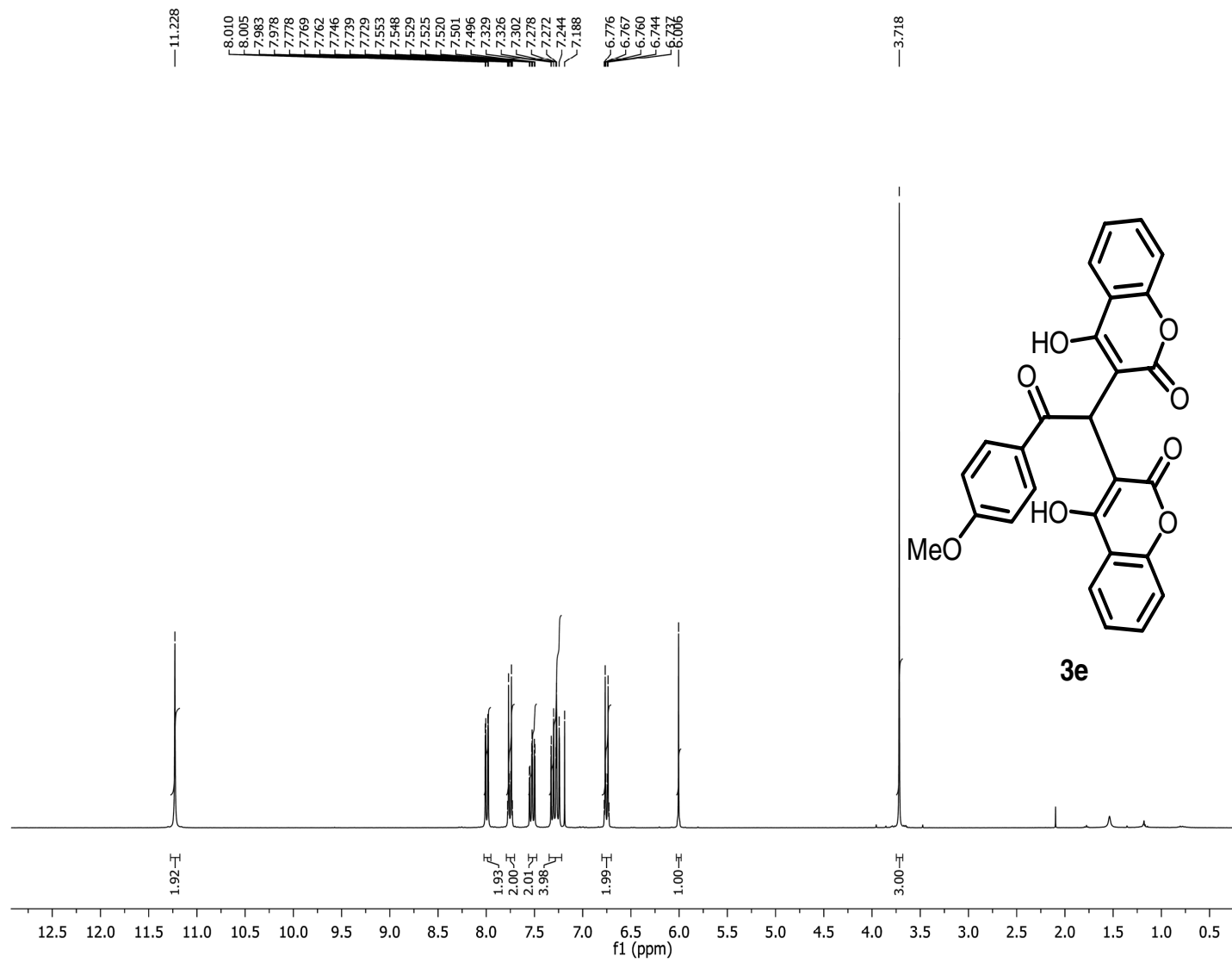


Figure 3 ^1H NMR spectrum of **3e**

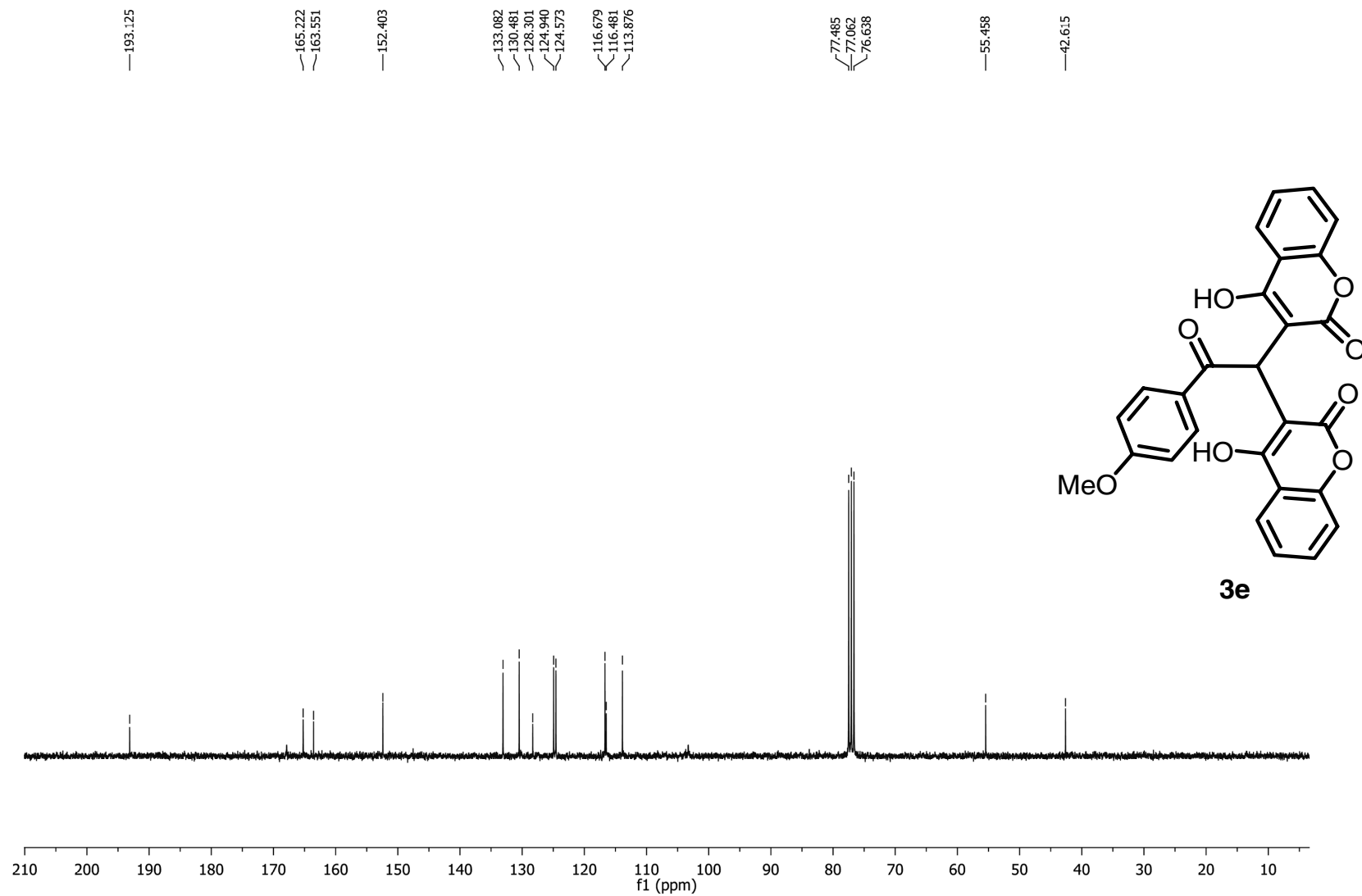


Figure 4 ^{13}C NMR spectrum of **3e**

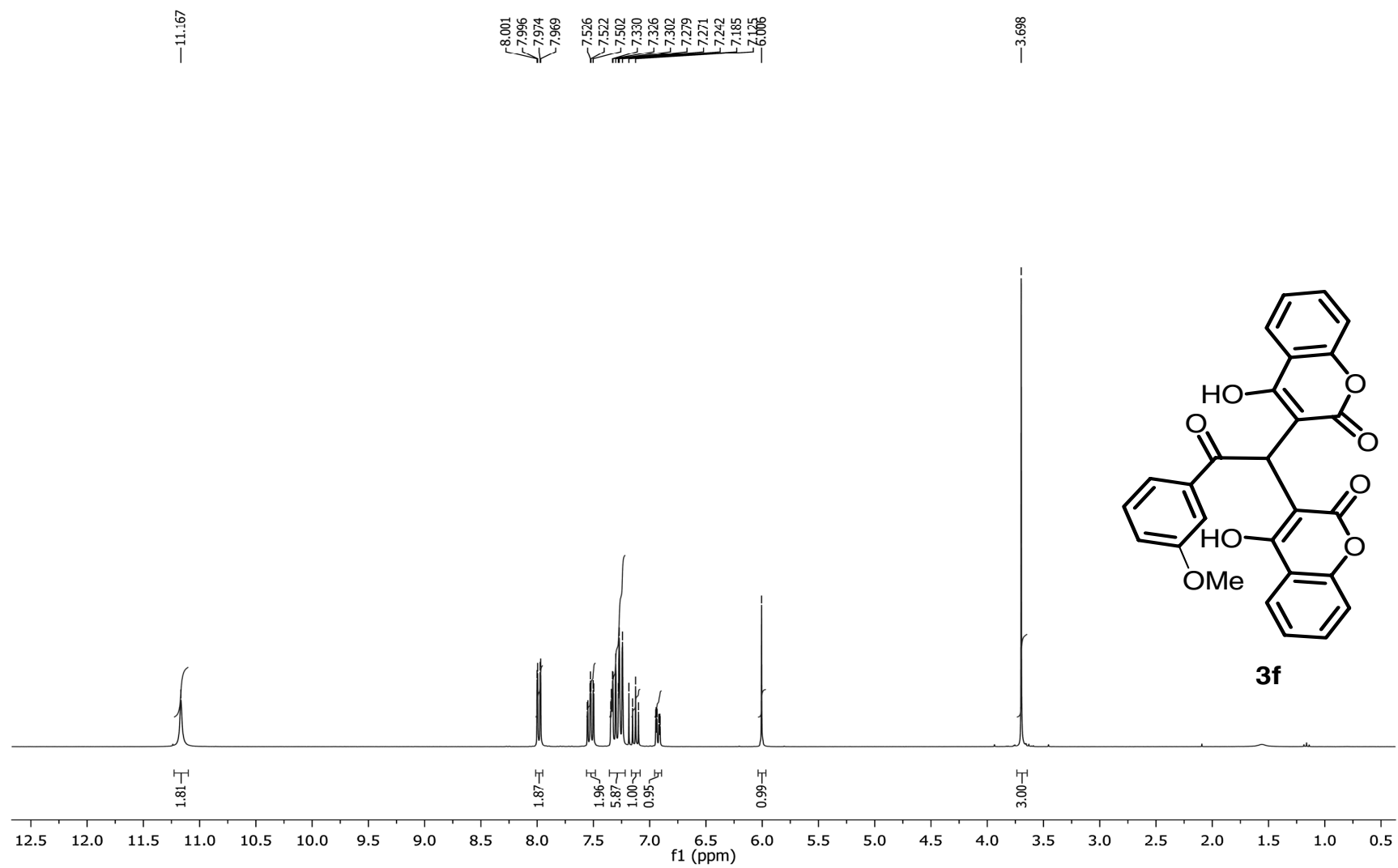


Figure 5 ^1H NMR spectrum of **3f**

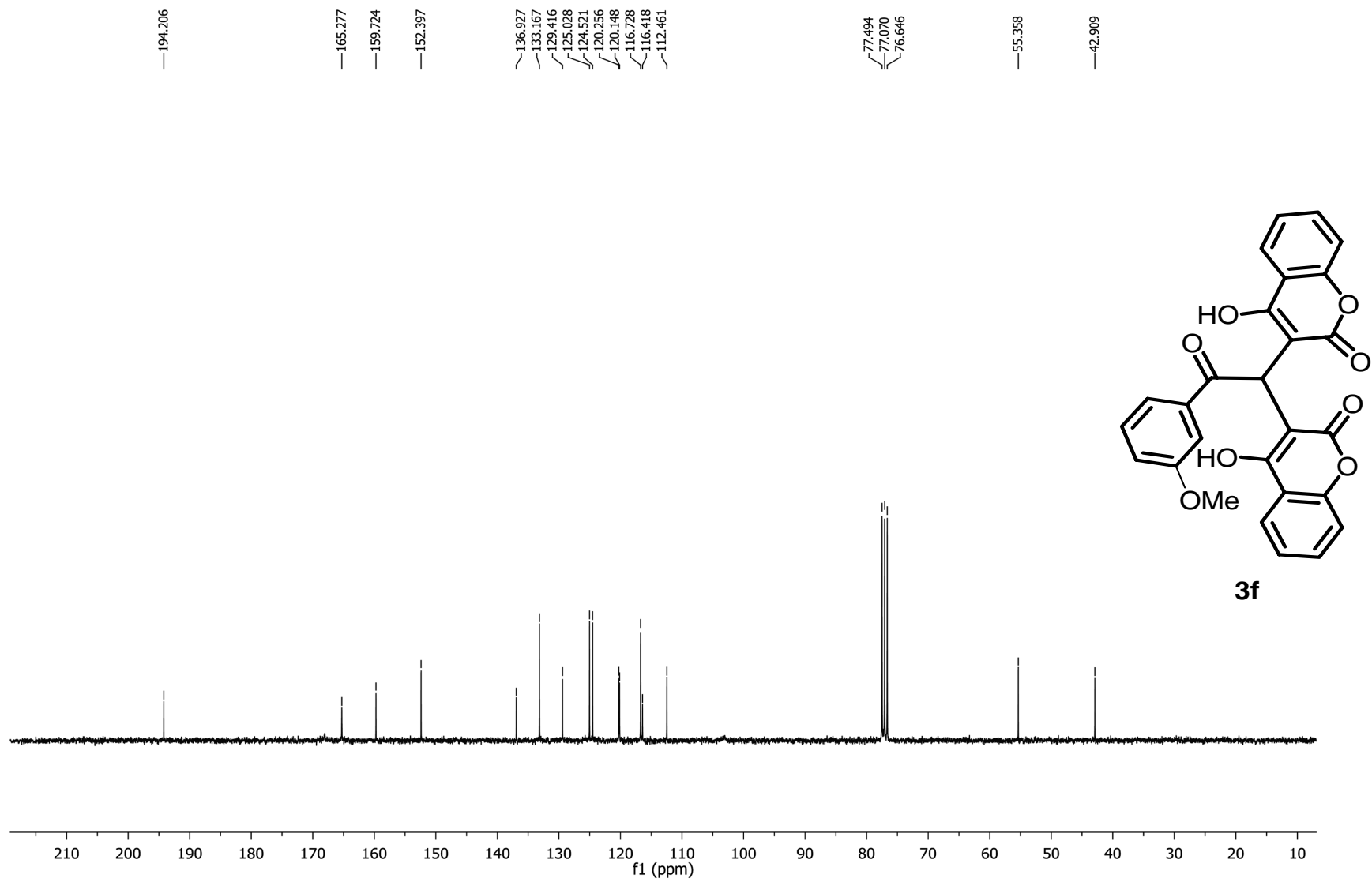


Figure 6 ^{13}C NMR spectrum of **3f**

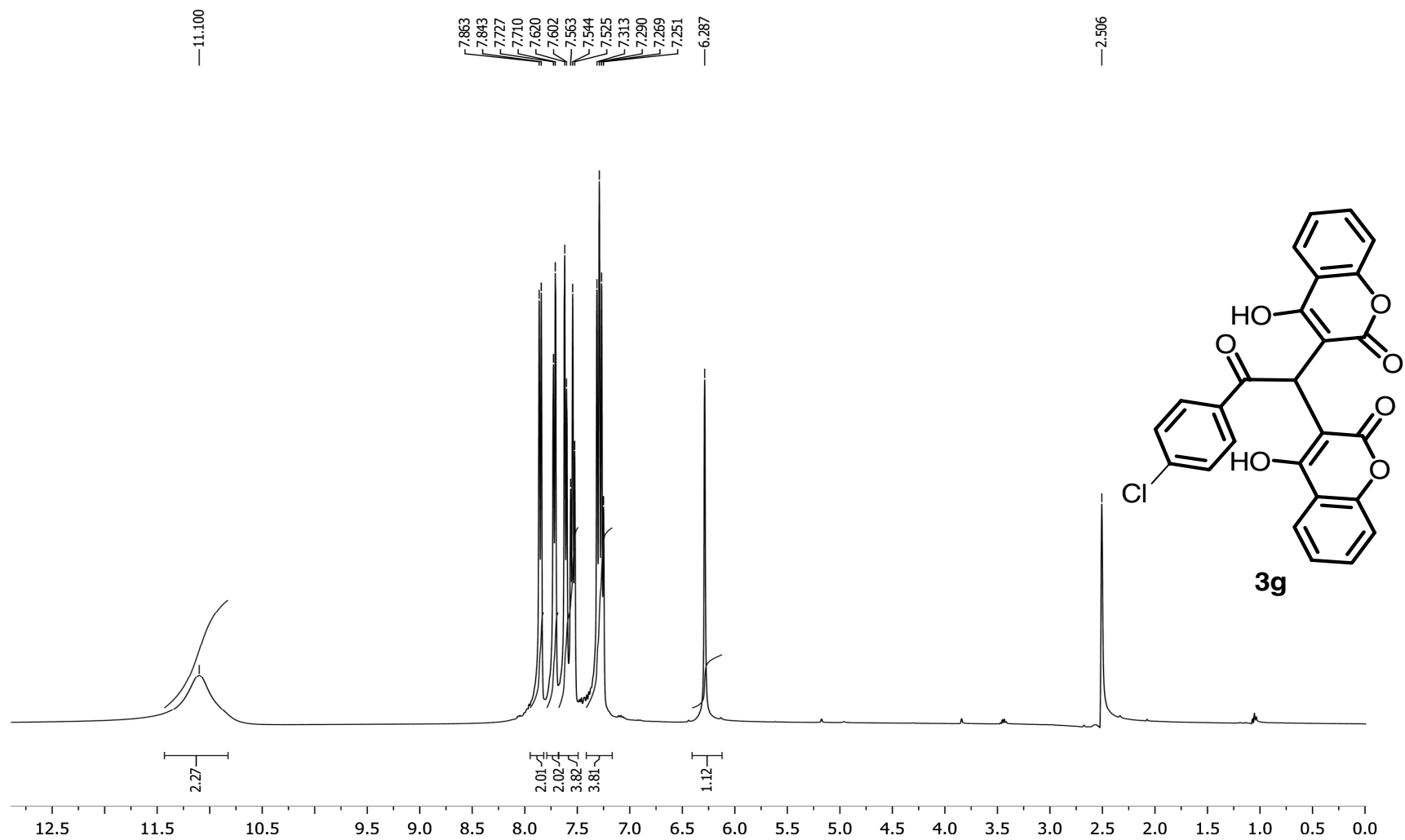


Figure 7 ^1H NMR spectrum of **3g**

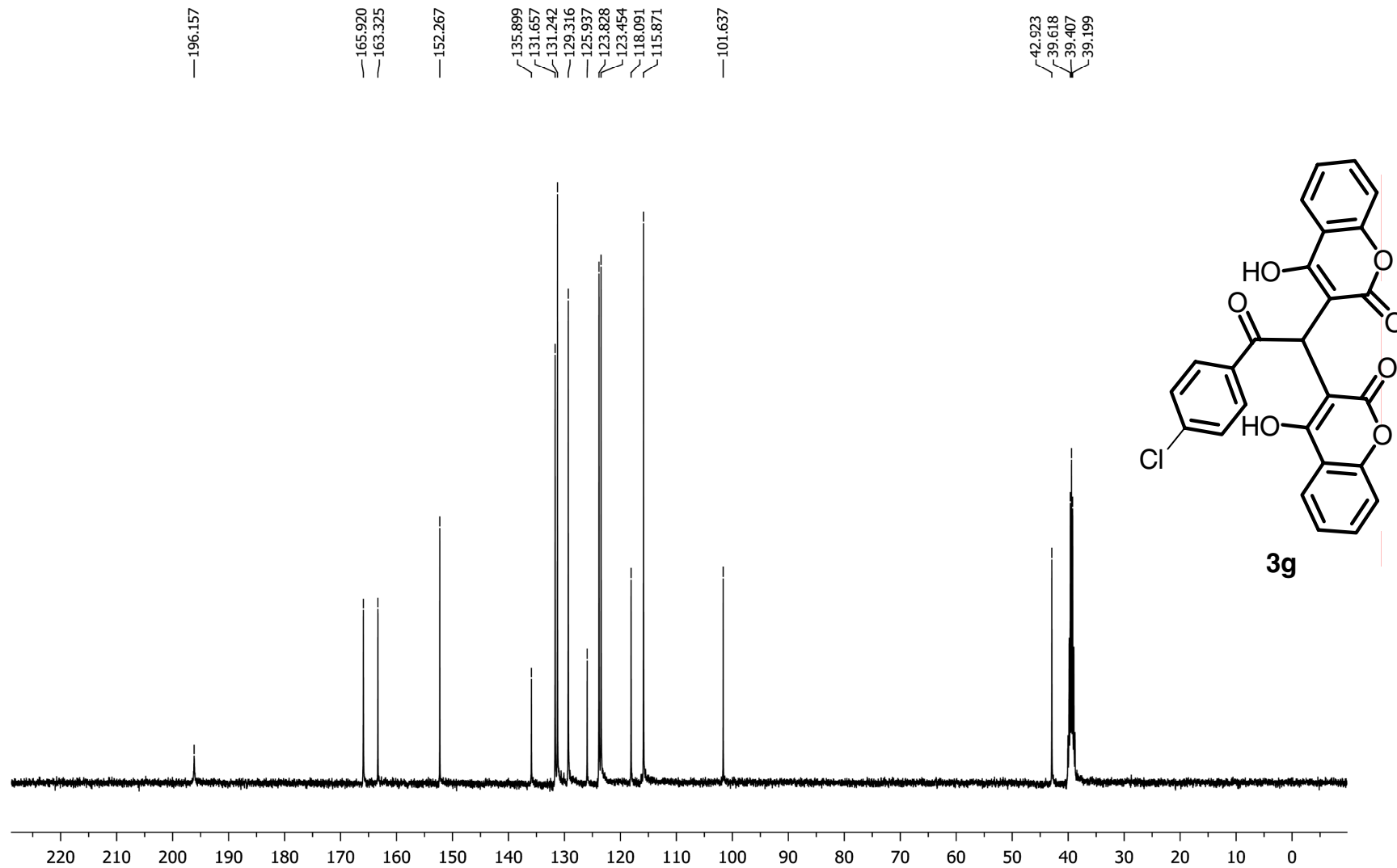


Figure 8 ^{13}C NMR spectrum of **3g**

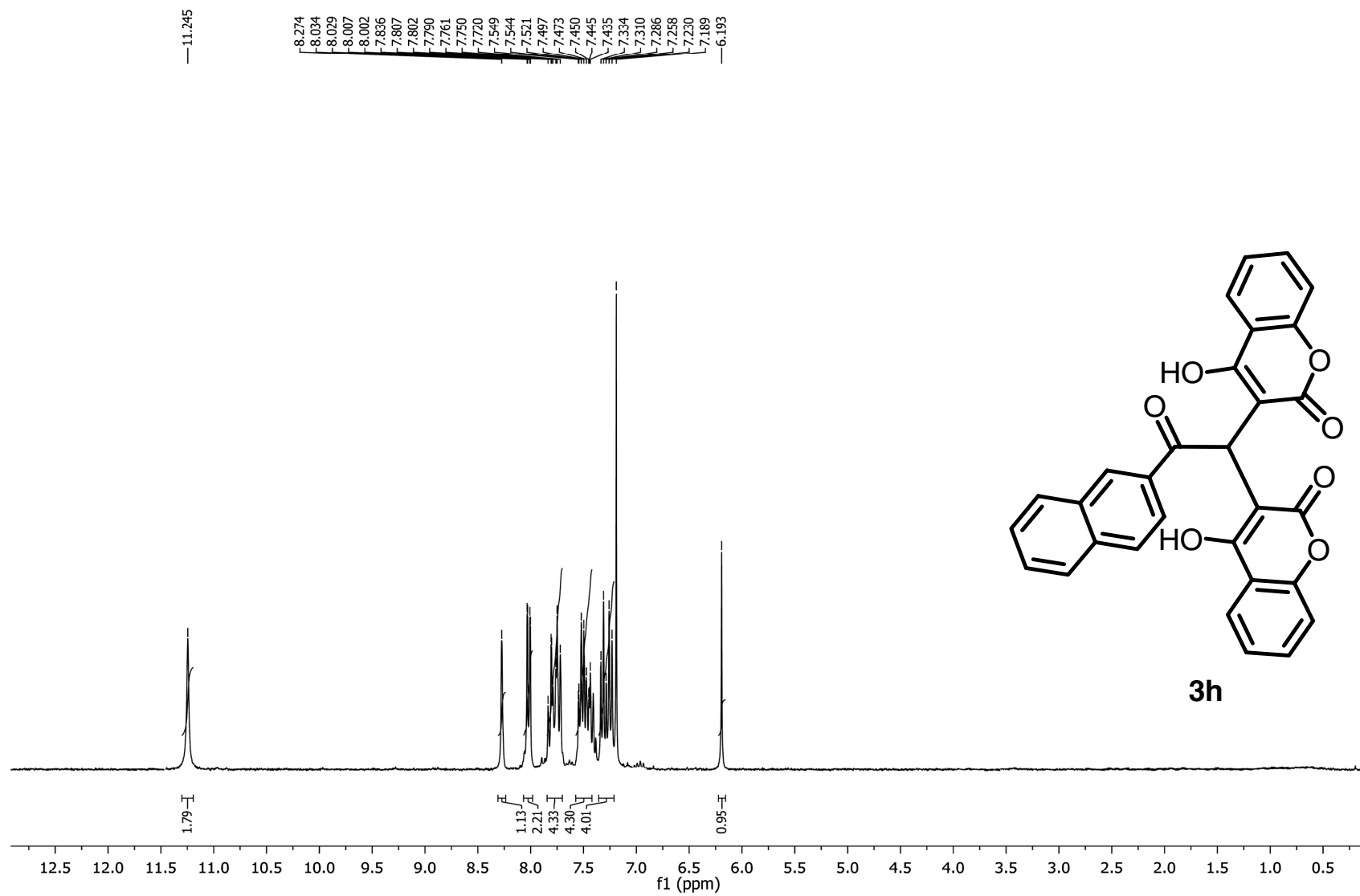


Figure 9 ^1H NMR spectrum of **3h**

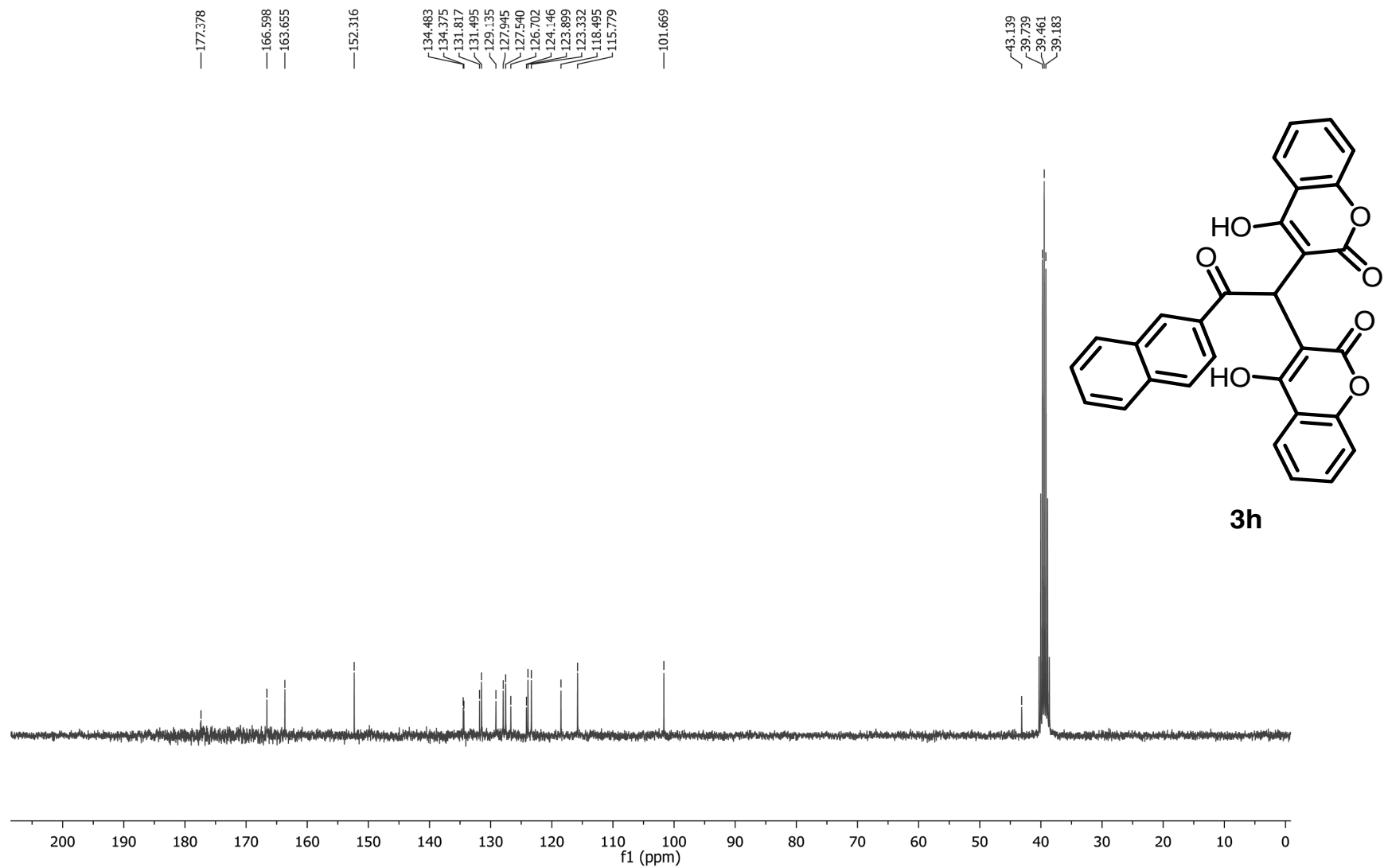


Figure 10 ^{13}C NMR spectrum of **3h**