Electronic Supplementary Material (ESI) for RSC Advances.

Synthesis, photophysical and elctrochemical properties of a new class of fluorescent amidoanthracenophanes

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SUPPORTING INFORMATIONS

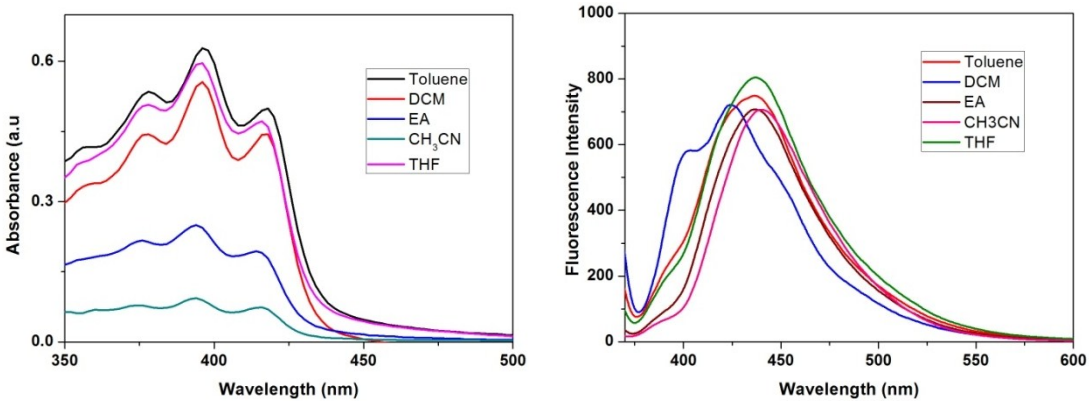


Figure S1. The salvatochromism of the fluorescent amidophane **2** of absorption and emission spectrum.

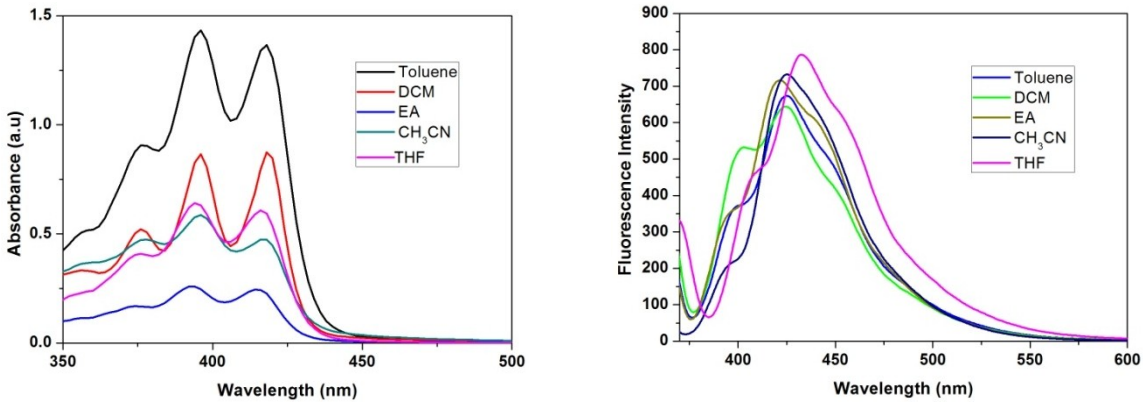
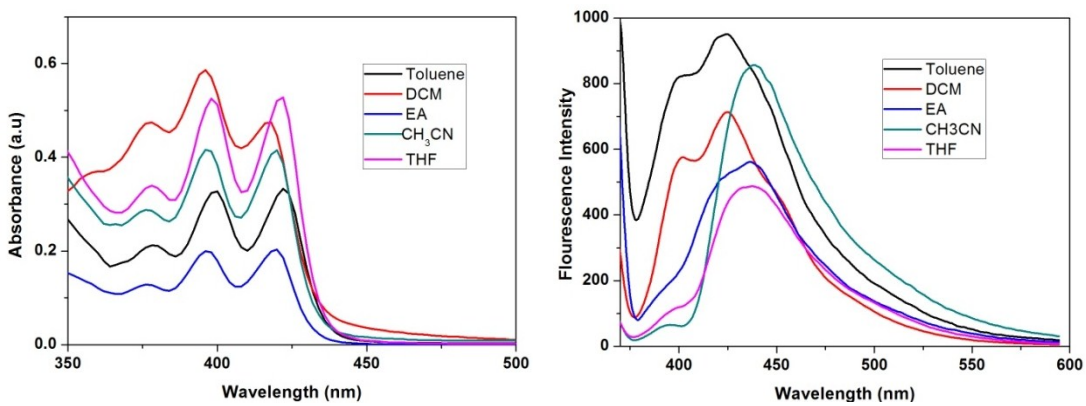


Figure S2. The salvatochromism of the fluorescent amidophane **3** of absorption and emission spectrum.



Entry No	$\lambda_{obs\ (nm)}$				
	Toluene	DCM	EA	CH_3CN	THF
1	377, 396 and 419	376, 396 and 418	374, 395 and 417	375, 394 and 416	375, 396 and 418
2	377, 397 and 417	377, 396 and 417	375, 394 and 415	374, 394 and 415	377, 395 and 416
3	377, 396 and 418	376, 396 and 419	373, 393 and 415	376, 396 and 417	374, 394 and 416
4	379, 399 and 422	377, 396 and 417	376, 396 and 420	377, 397 and 420	378, 398 and 421

Figure S3. The salvatochromism of the fluorescent amidophane **4** of absorption and emission spectrum.

Table S1.Optical parameters for the fluorescent amidophanes **1**, **2, 3** and **4** in DCM in $1X10^{-5}$ in different solvents

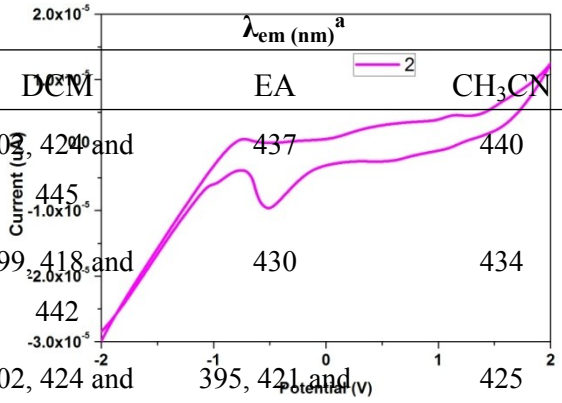
Table S2.Optical parameters for the fluorescent amidophanes **1**, **2, 3** and **4** in DCM in $1X10^{-5}$ in different solvents

a = excited at 370 nm

Electrochemical properties of fluorescent amidophanes 2, 3 and 4

The fluorescent amidoanthracenophanes **3** and **4** shows two oxidation potential at -0.70 and 0.62, -0.42 and 0.71 as well as two reduction peaks at -0.55 and 0.55, 0.28 and 0.54. Similarly, the fluorescent amidoanthracenophanes **2** exhibited three oxidation peaks at -0.75, 0.42 and 1.15 and three reduction peaks at –0.51, 0.57 and 1.12. From this study, all the synthesized fluorescent amidophanes are having electrochemical properties, which can be attributed due to the presence of fluorophoric anthracene unit. The electrochemical properties are altered due to the presence of various aromatic units such as benzene, pyridine and

Entry	λ_{em} (nm)[a]				
No	Toluene	DCM	EA	CH_3CN	THF
1	437	402, 424 and 445	437	440	438
2	430	399, 418 and 442	430	434	430
3	399, 425 and 448	402, 424 and 452	395, 421 and 441	425	407, 432 and 457
4	399 and 423	401, 424 and 449	433	439	436



thiophene are present at the intraannular position of the cyclophane.

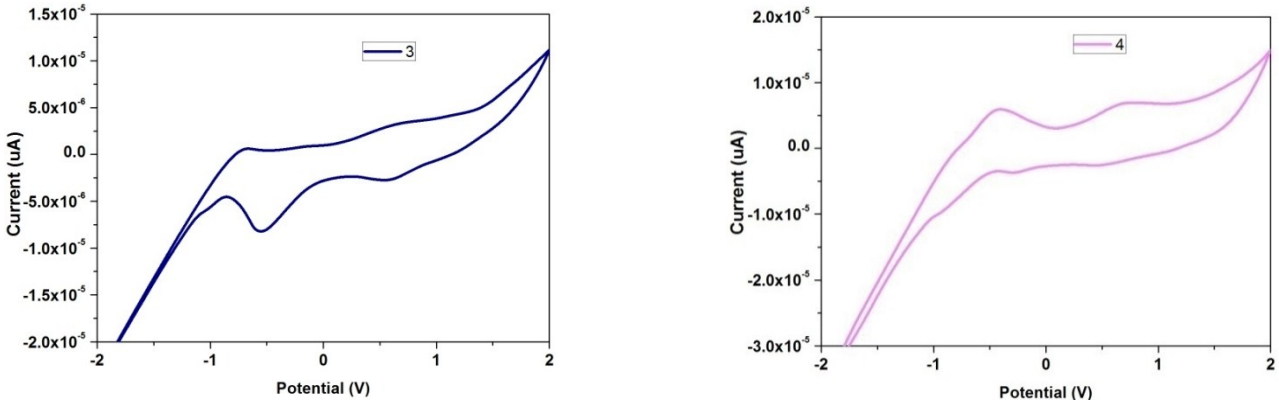


Figure S4. Cyclic voltammograms of fluorescent amidophanes **2, 3** and **4** in DCM at room temperature (scan rate at 100 mV s^{-1}) and 0.1 M TBAP as a supporting electrolyte in dry DCM.

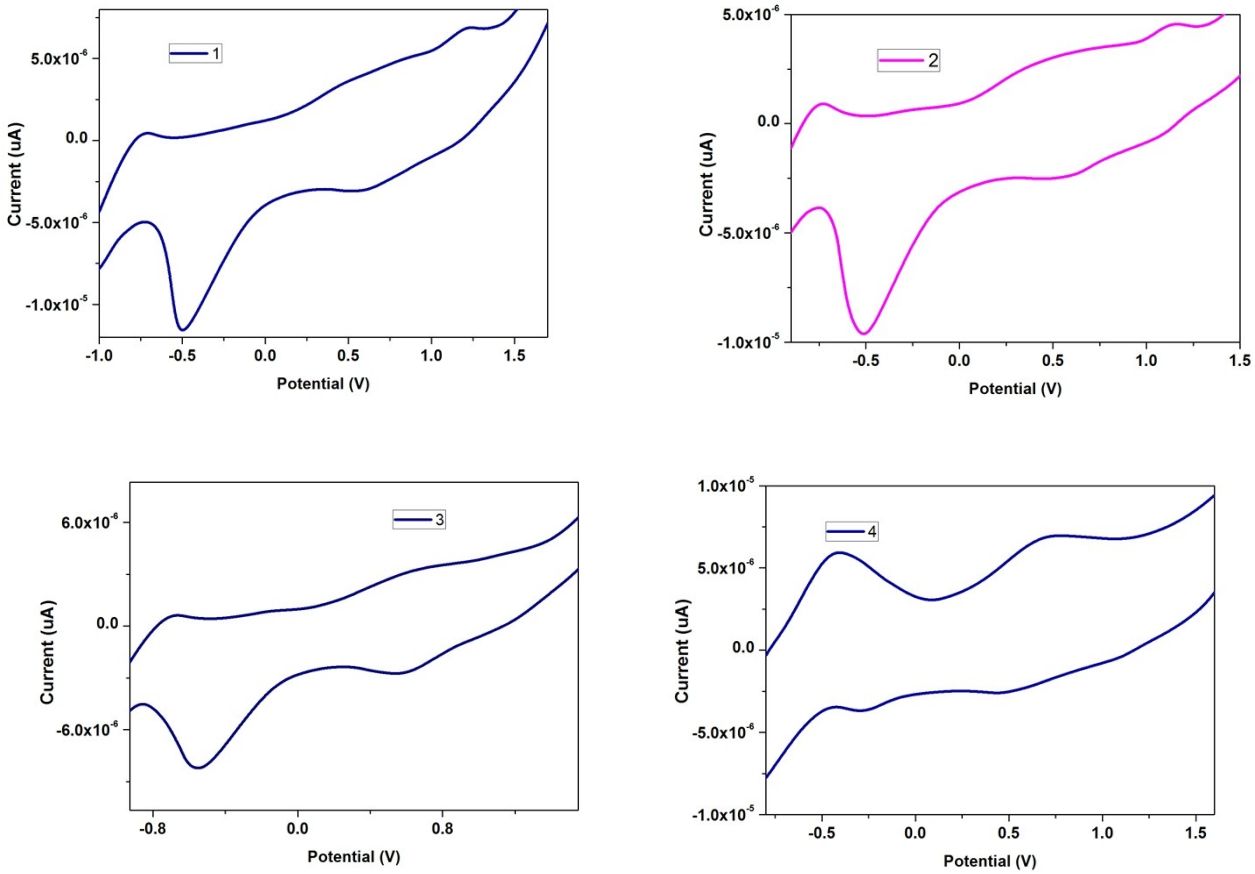
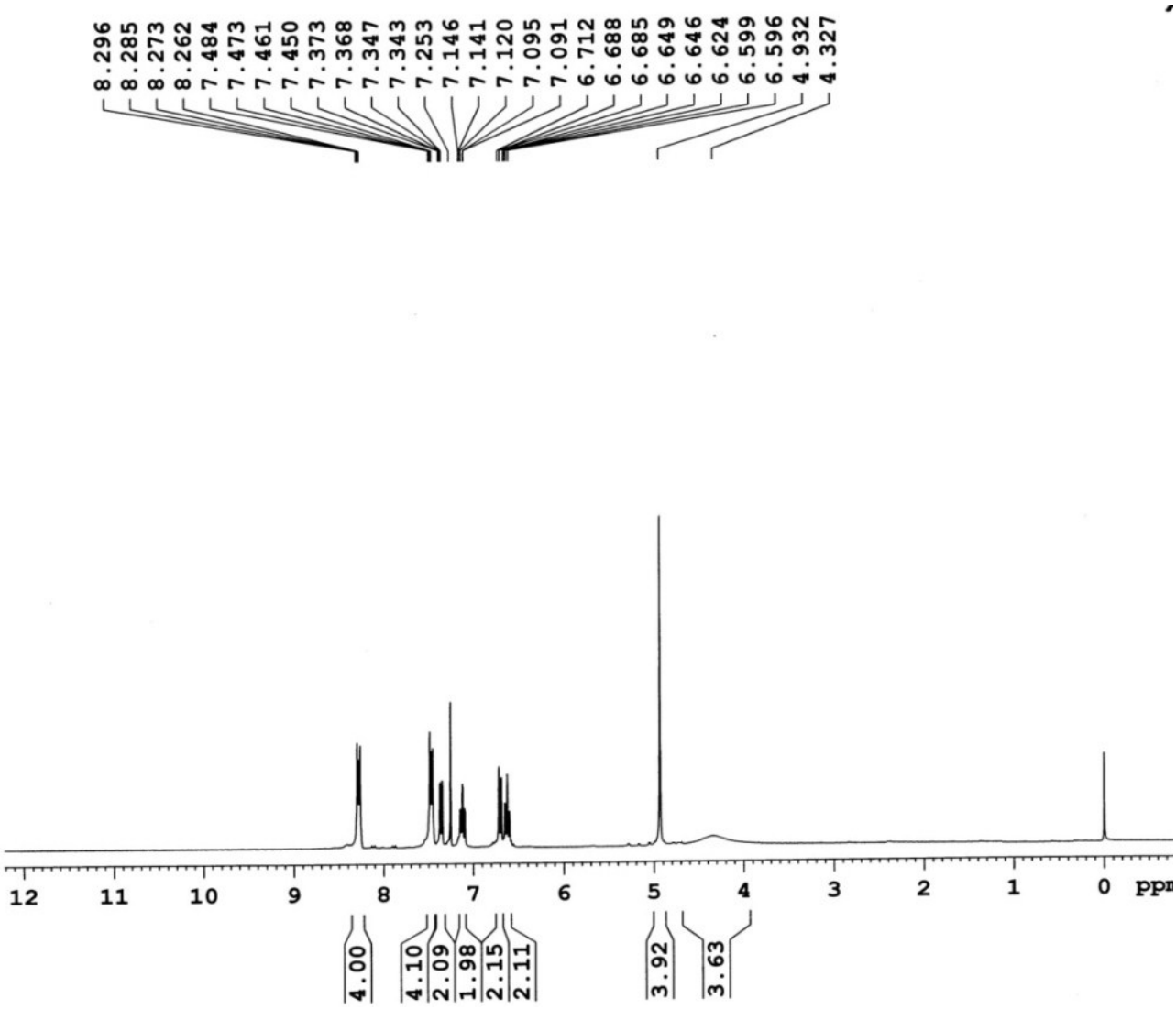
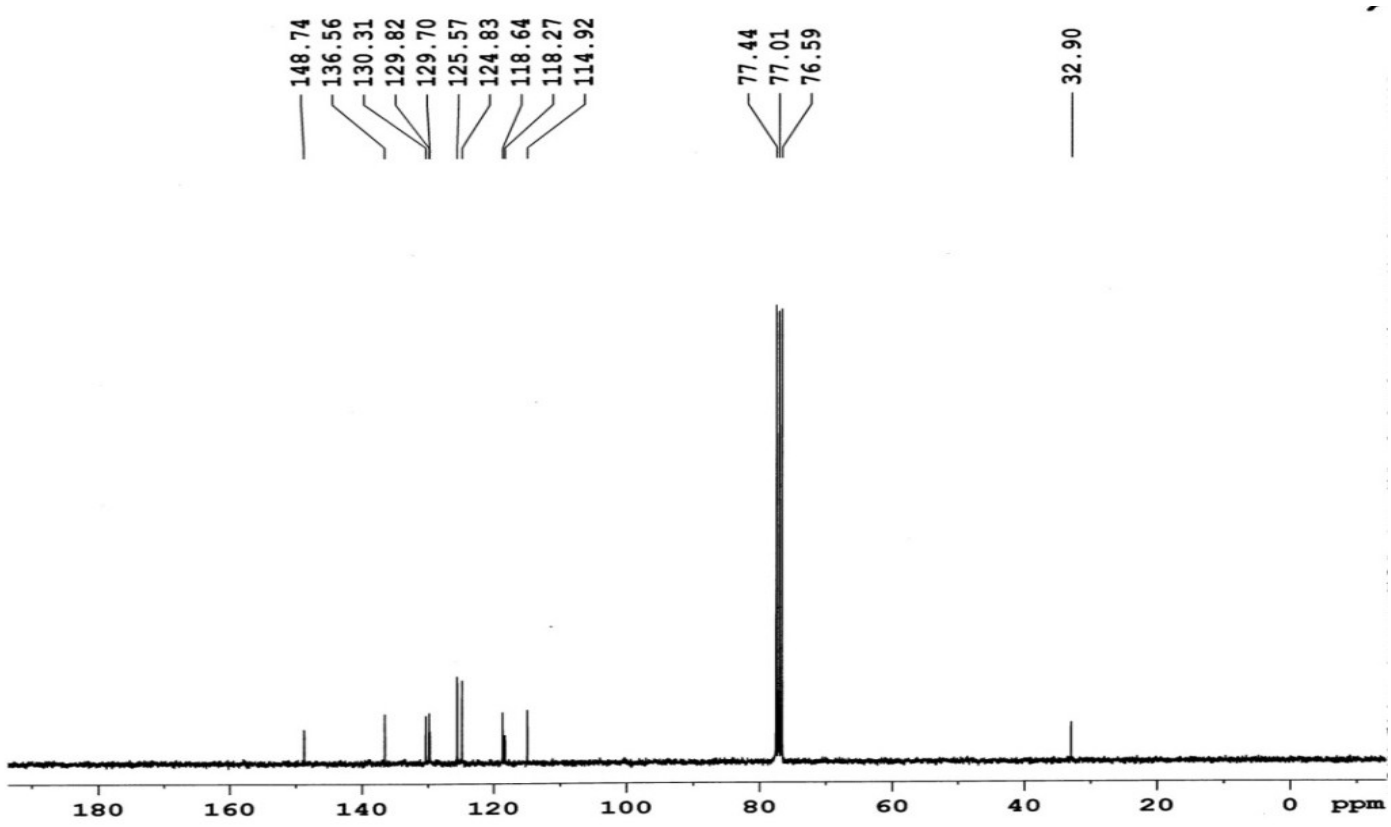


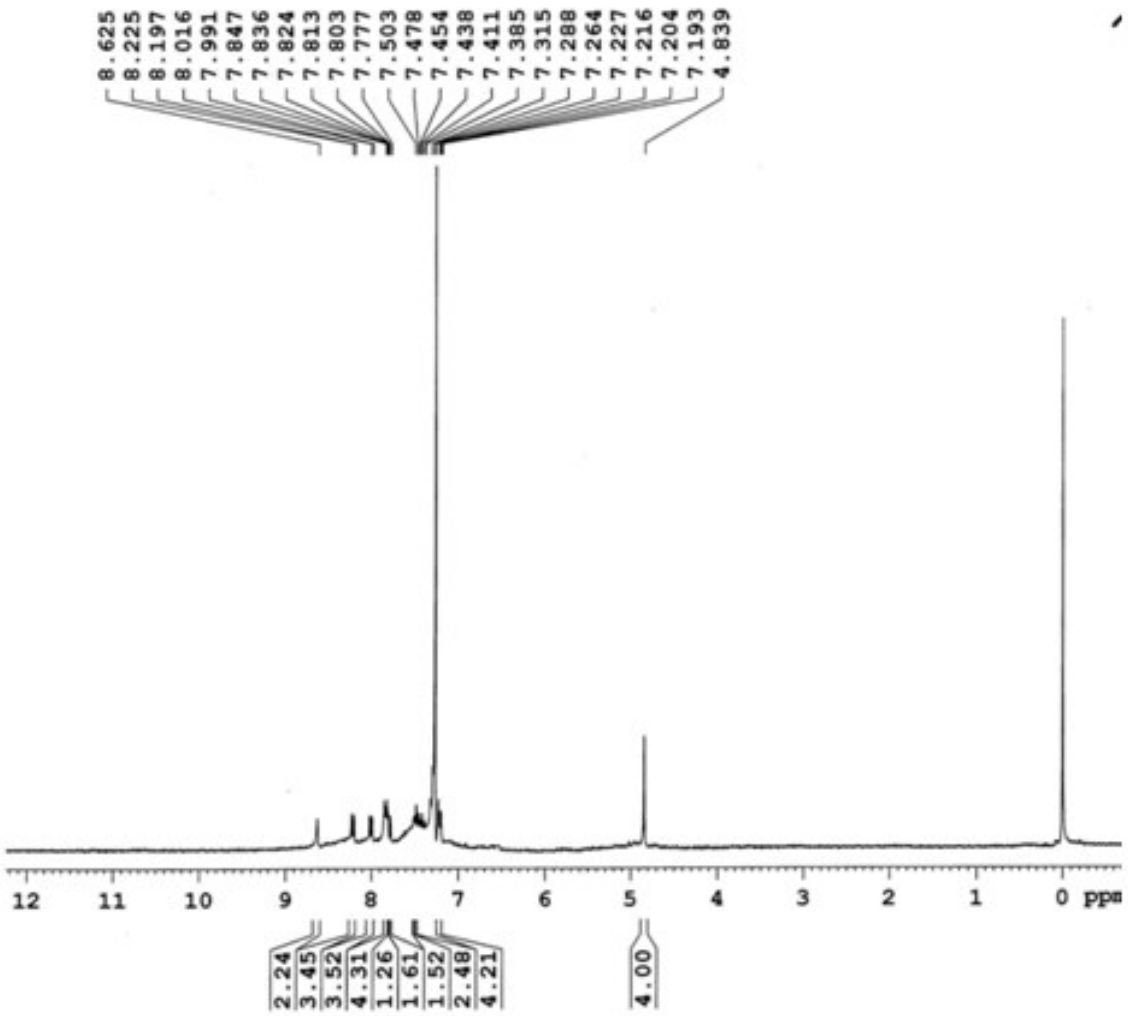
Figure S4a. Cyclic voltammograms of fluorescent amidophanes **1**, **2, 3** and **4** in DCM at room temperature (scan rate at 100 mV s^{-1}) and 0.1 M TBAP as a supporting electrolyte in dry DCM.



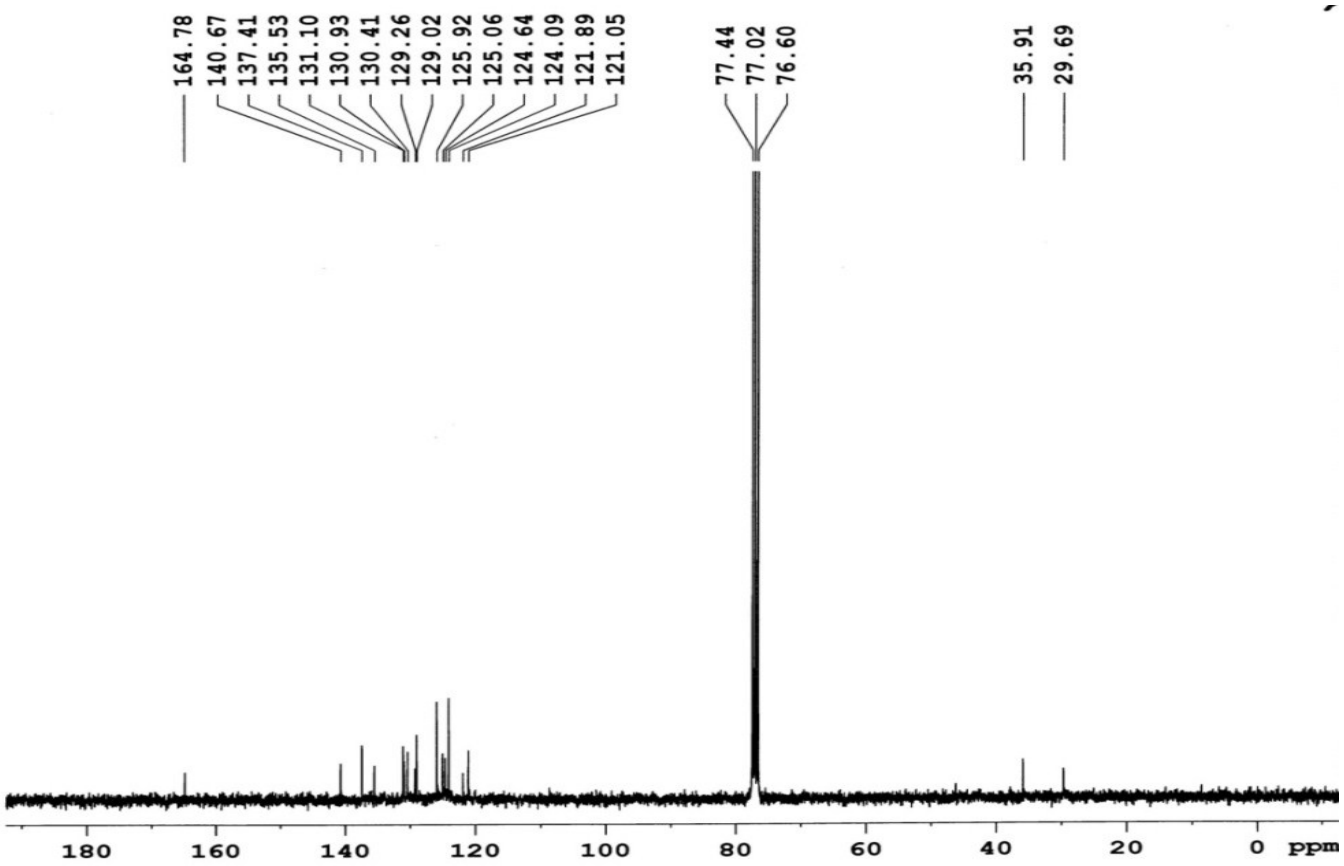
^{1}H ($CDCl_3$) NMR (300 MHz) spectrum of Compound 7



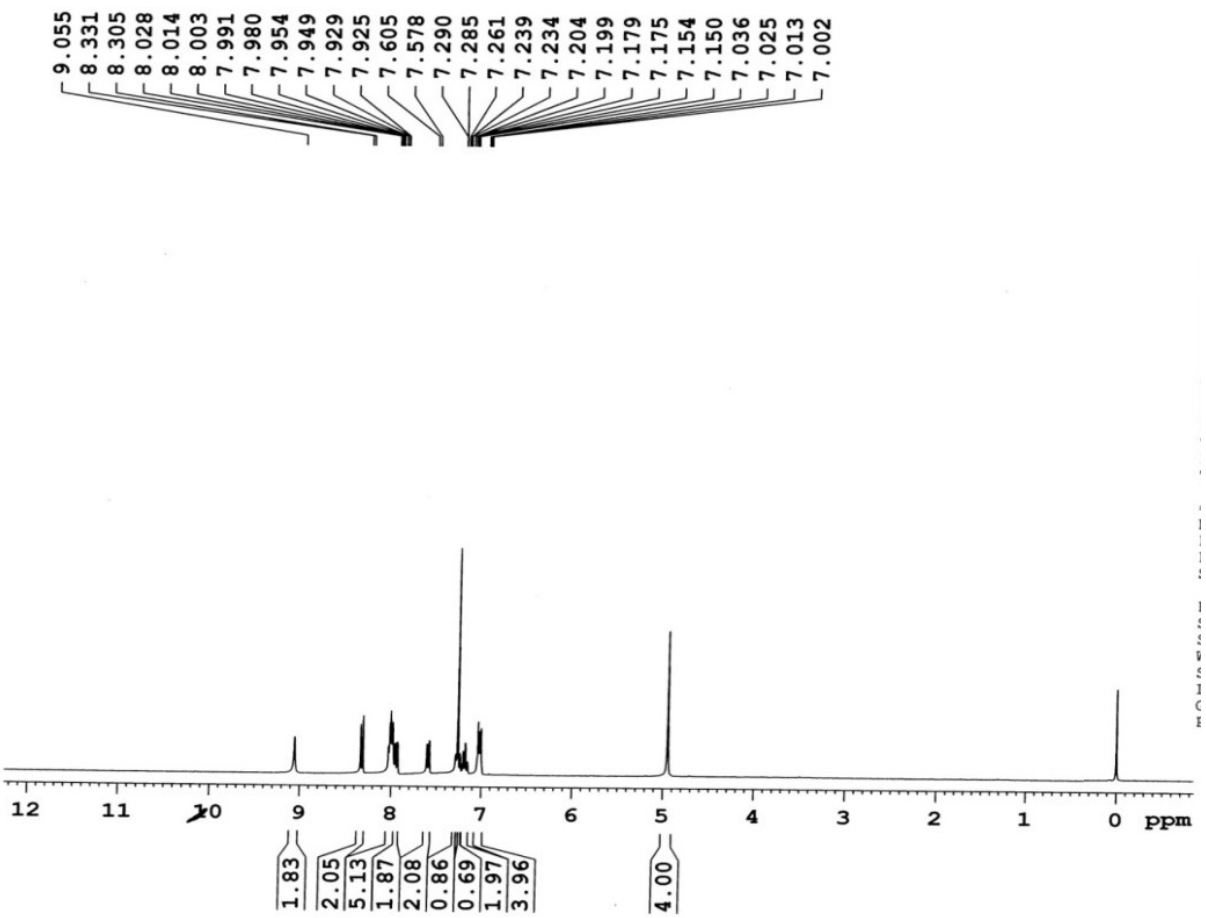
^{13}C ($CDCl_3$) NMR (75 MHz) spectrum of Compound 7



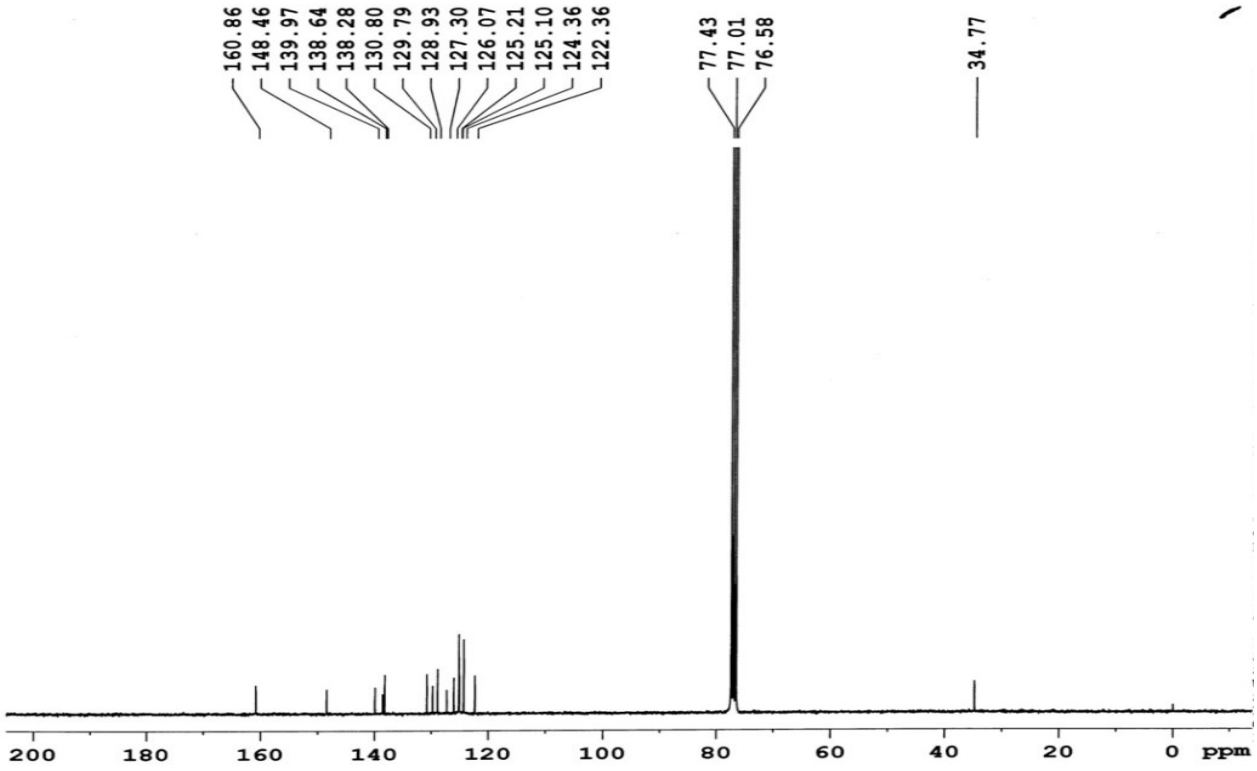
^{1}H ($CDCl_3$) NMR (300 MHz) spectrum of Compound 1



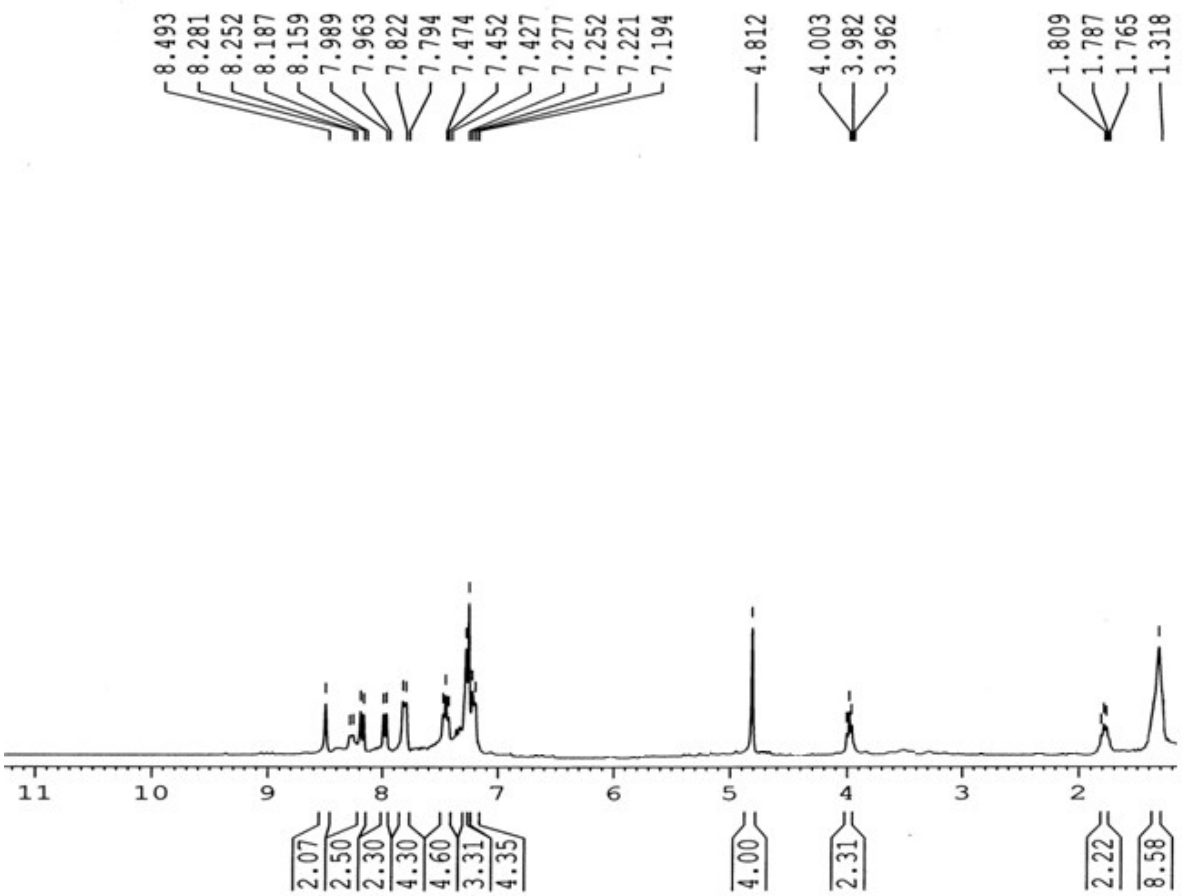
^{13}C ($CDCl_3$) NMR (75 MHz) spectrum of Compound 1



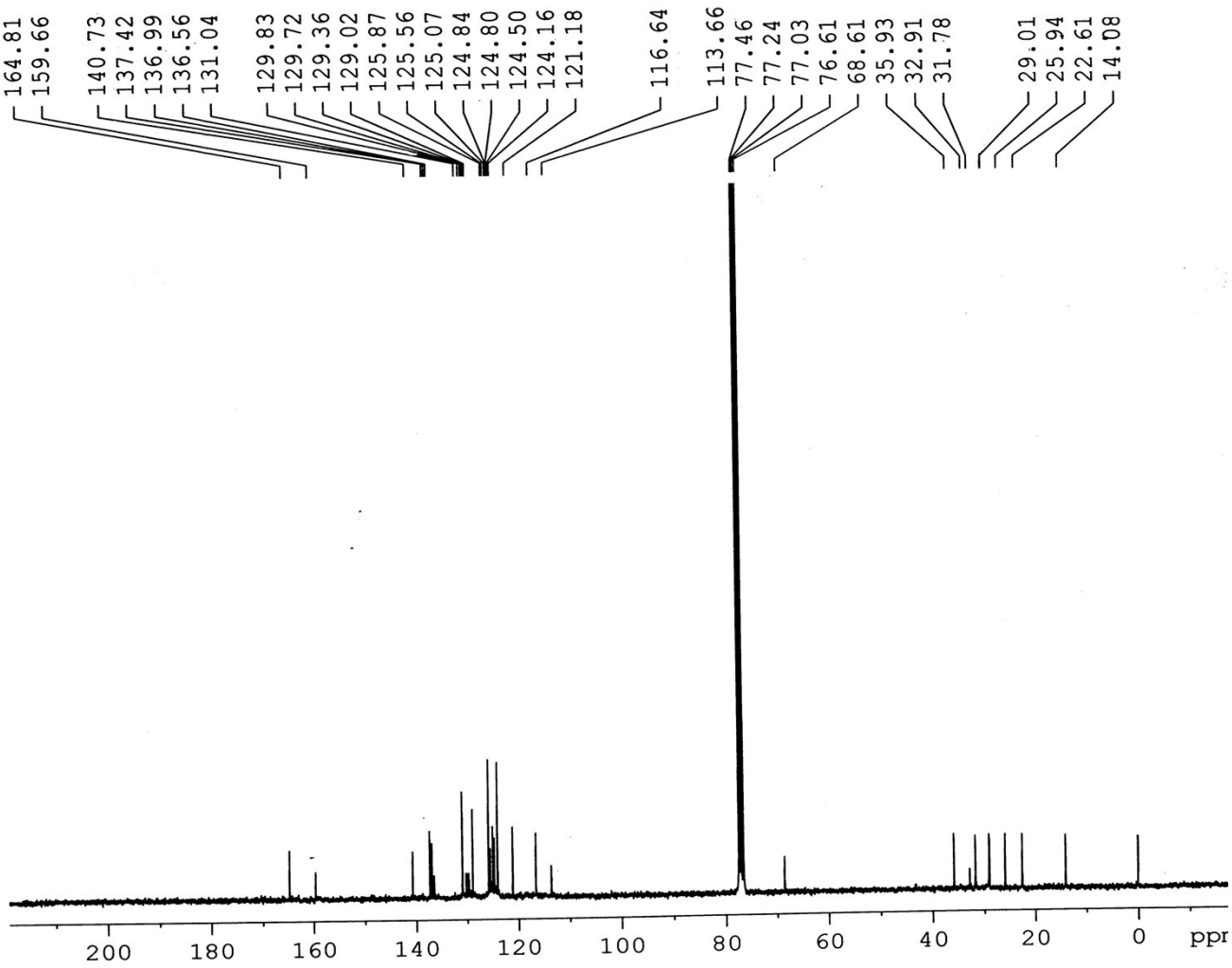
^{1}H ($CDCl_3$) NMR (300 MHz) spectrum of Compound 2



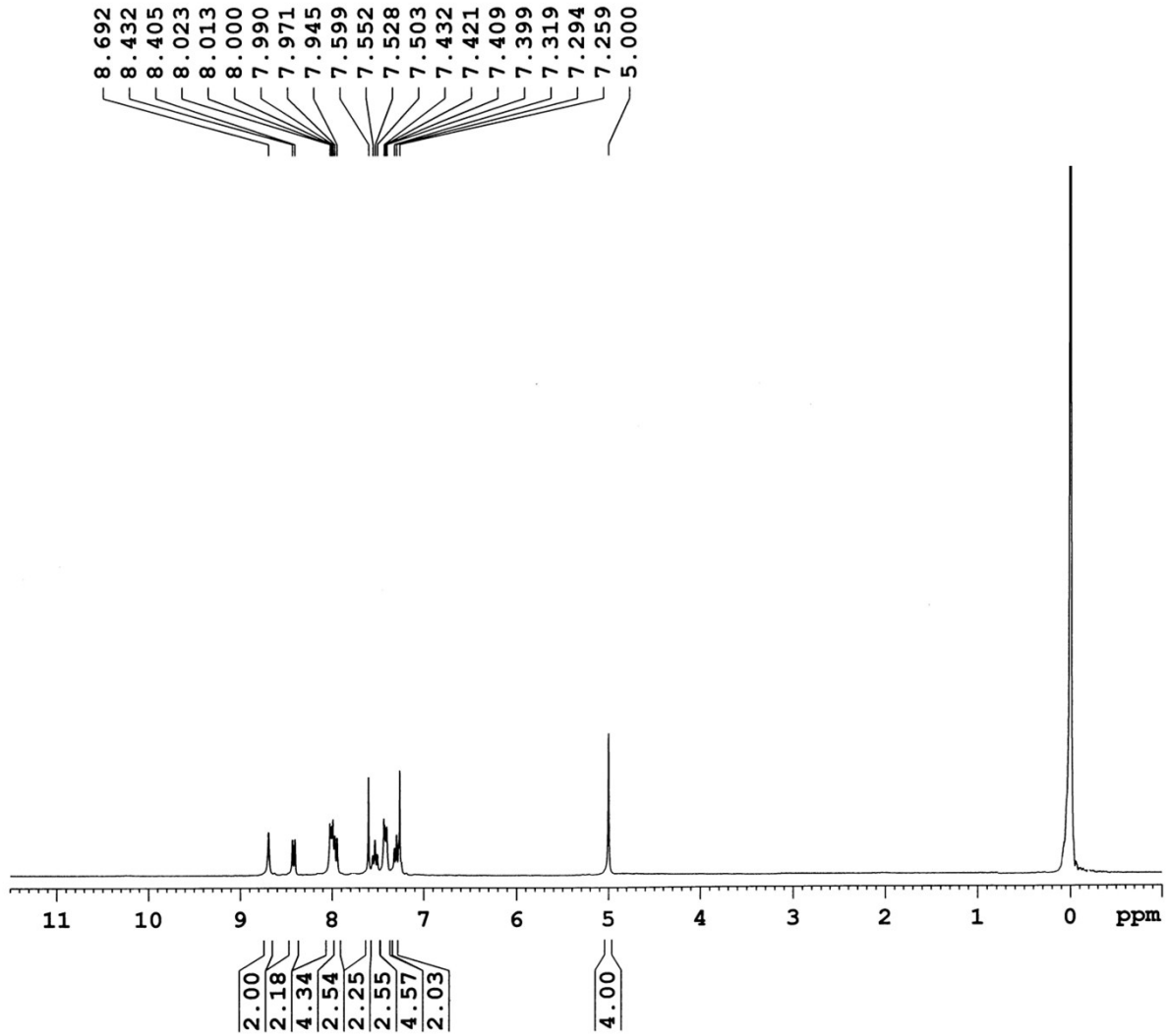
^{13}C ($CDCl_3$) NMR (75 MHz) spectrum of Compound 2



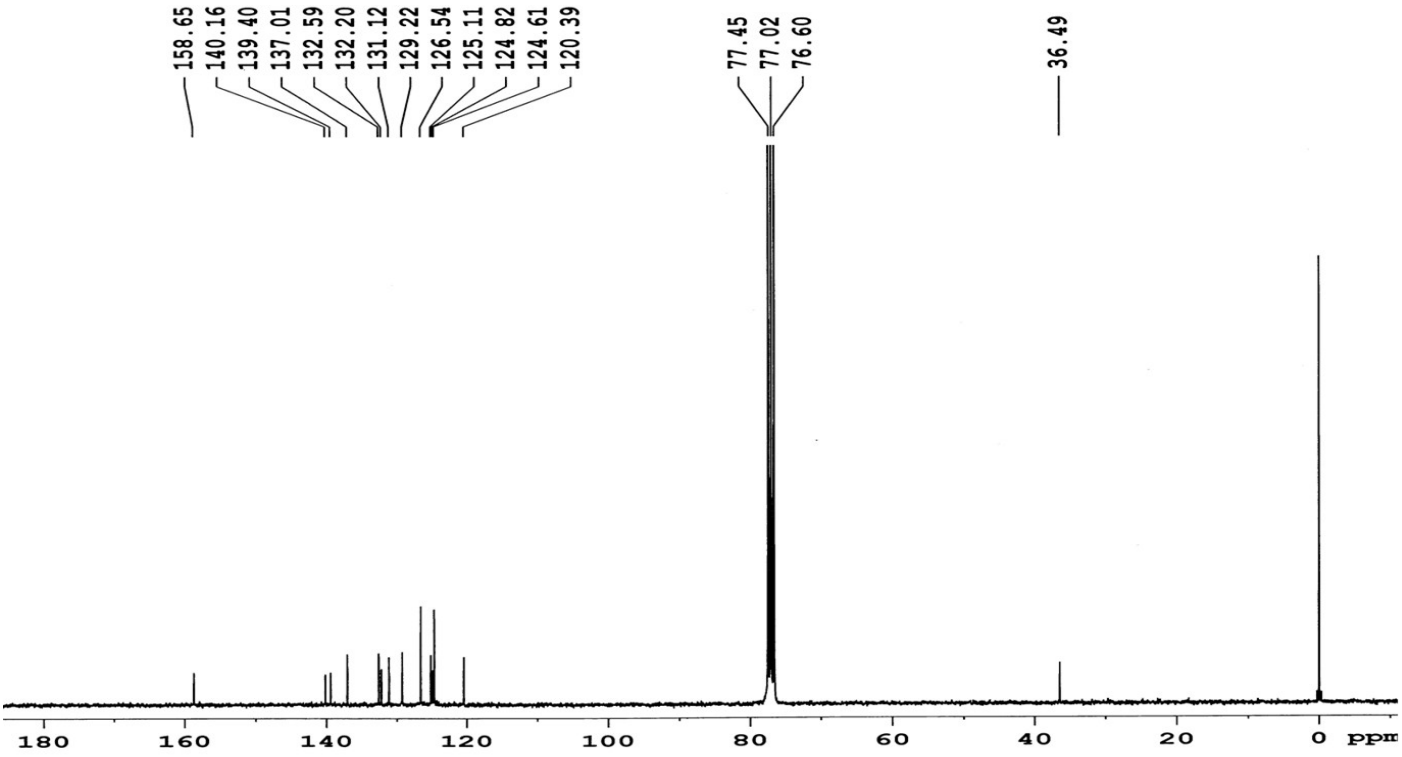
^{1}H ($CDCl_3$) NMR (300 MHz) spectrum of Compound 3



^{13}C ($CDCl_3$) NMR (75 MHz) spectrum of Compound 3



^{1}H ($CDCl_3$) NMR (300 MHz) spectrum of Compound 4



^{13}C ($CDCl_3$) NMR (75 MHz) spectrum of Compound 4