BEILSTEIN JOURNAL OF ORGANIC CHEMISTRY

Supporting Information

for

Synthesis and investigation on optical and electrochemical properties of 2,4-diaryl-9-chloro-5,6,7,8-tetrahydroacridines

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Synthesis and analytical data of starting compound 2 and copies of spectra for the synthesized compounds

1. Procedure for preparing the starting material 2,4-dibromo-9-chloro-5,6,7,8-tetrahydroacridine (2)

3,5-Dibromoanthranilic acid (2.92 g,10 mmol, 1 equiv) and cyclohexanone (1.07 mL, 11 mmol, 1.1 equiv) were stirred in an ice bath. Then, 15 mL of $POCl_3$ were carefully added and the mixture was heated under reflux for 4 h. The mixture was cooled to room temperature and concentrated to give a slurry. The residue was diluted with dichloromethane, neutralized with aqueous $NaHCO_3$, and washed with brine. The organic layer was dried over anhydrous K_2CO_3 and concentrated to afford a yellow solid. It was recrystallized from acetone to give **2** as pale yellow solid (3.24 g, 87%).

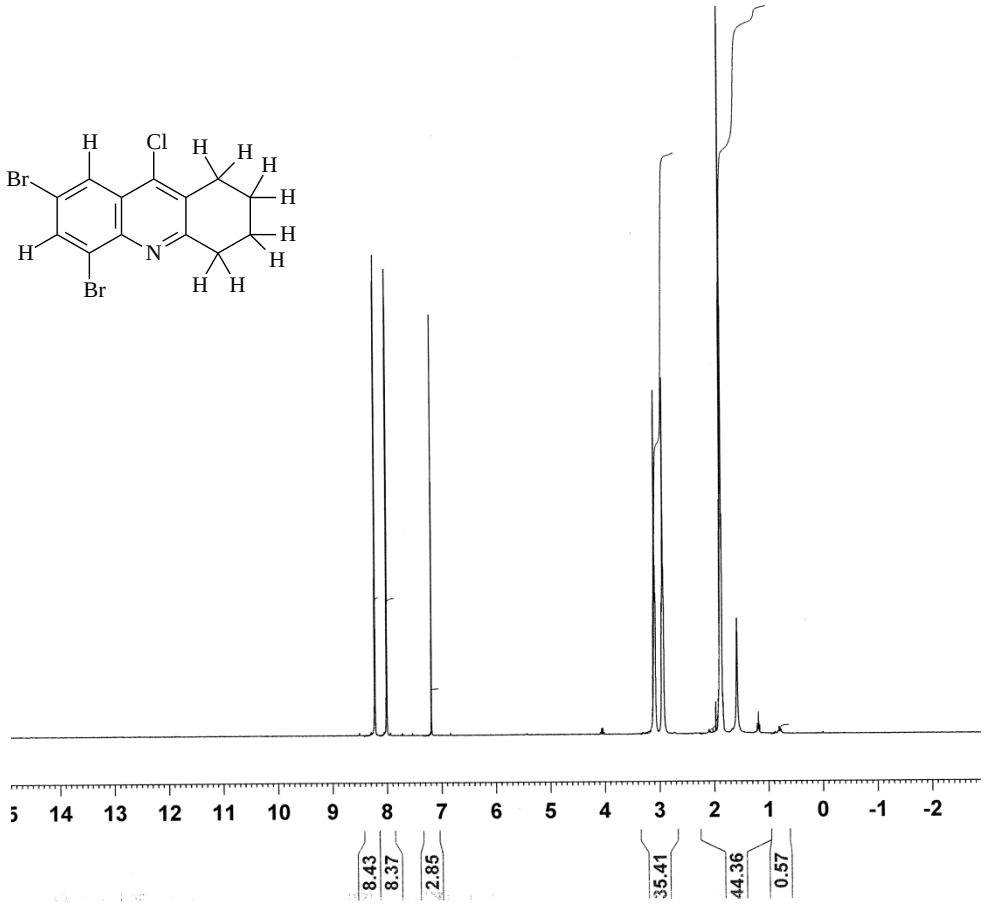


Figure S1: ^1H NMR (300 MHz, $CDCl_3$) of 2,4-dibromo-9-chloro-5,6,7,8-tetrahydroacridine (**2**).

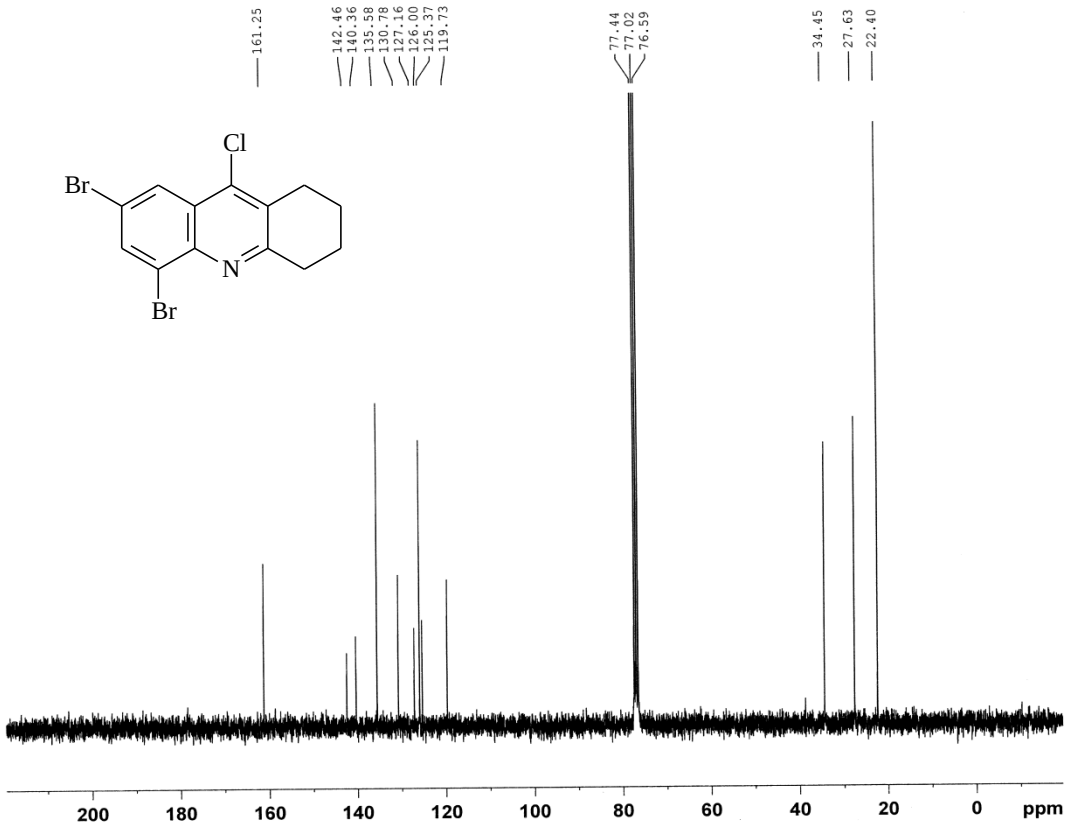


Figure S2: ^{13}C NMR (75 MHz, $CDCl_3$) of 2,4-dibromo-9-chloro-5,6,7,8-tetrahydroacridine (**2**).

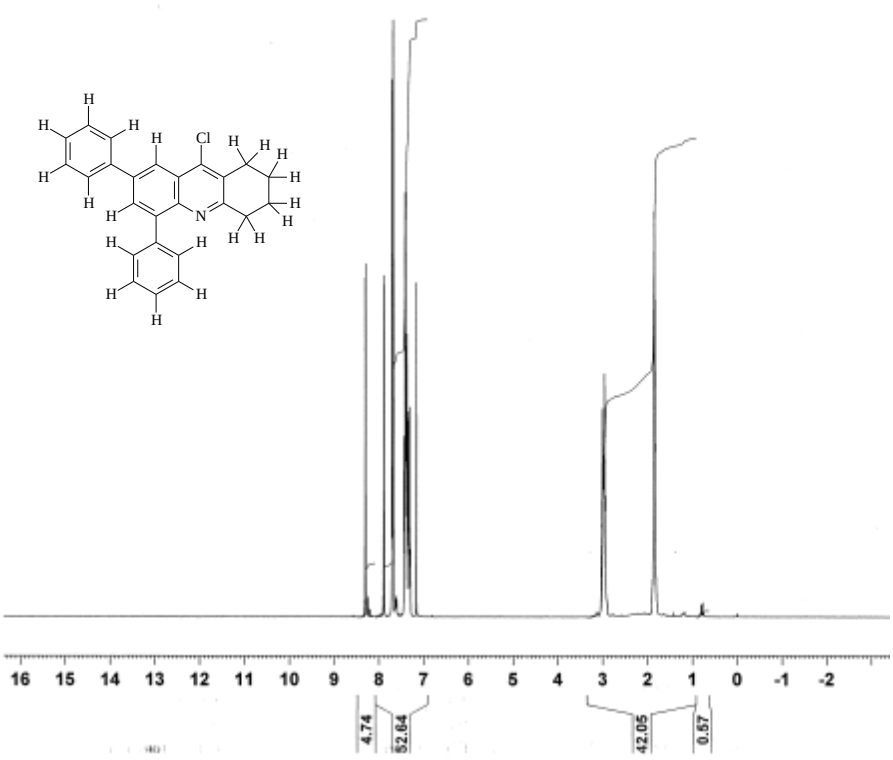


Figure S3: ^{1}H NMR (300 MHz, $CDCl_3$) of 2,4-diphenyl-9-chloro-5,6,7,8-tetrahydroacridine **(4a)**

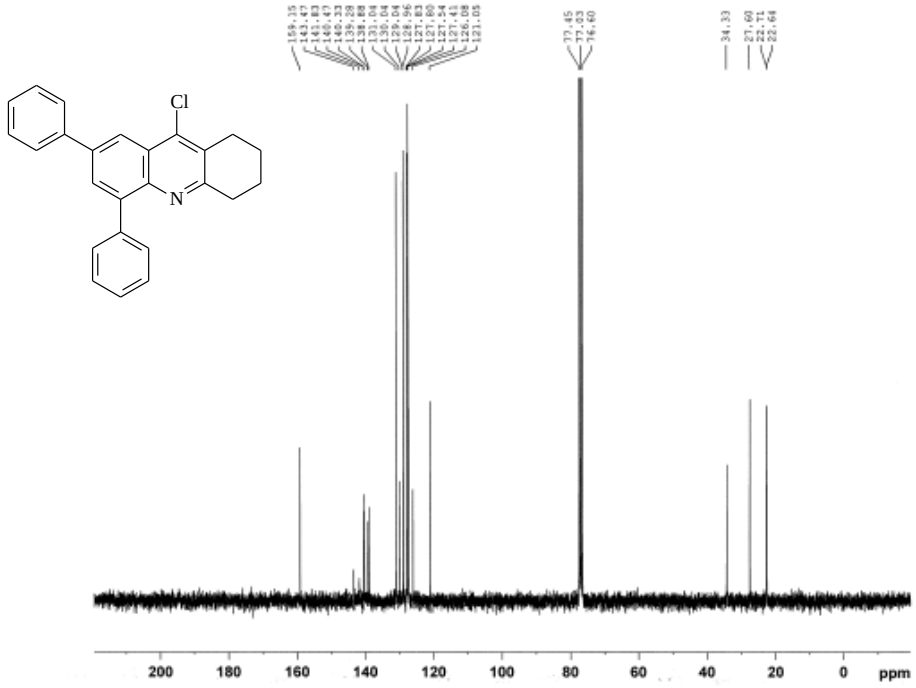


Figure S4: ^{13}C NMR (75 MHz, $CDCl_3$) of 2,4-diphenyl-9-chloro-5,6,7,8-tetrahydroacridine **(4a)**

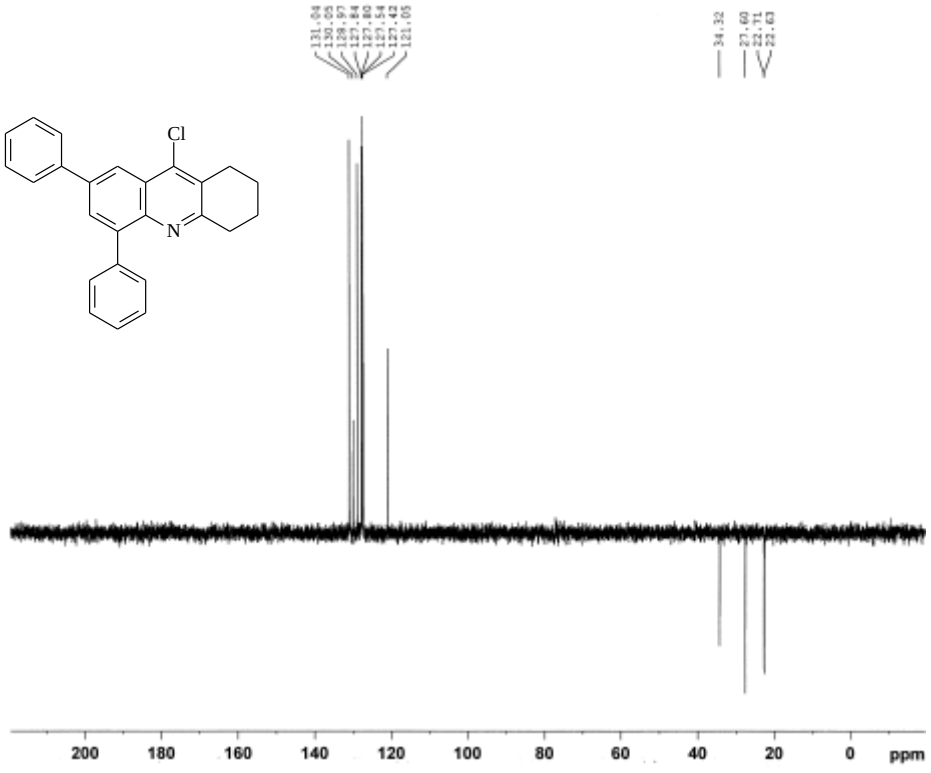
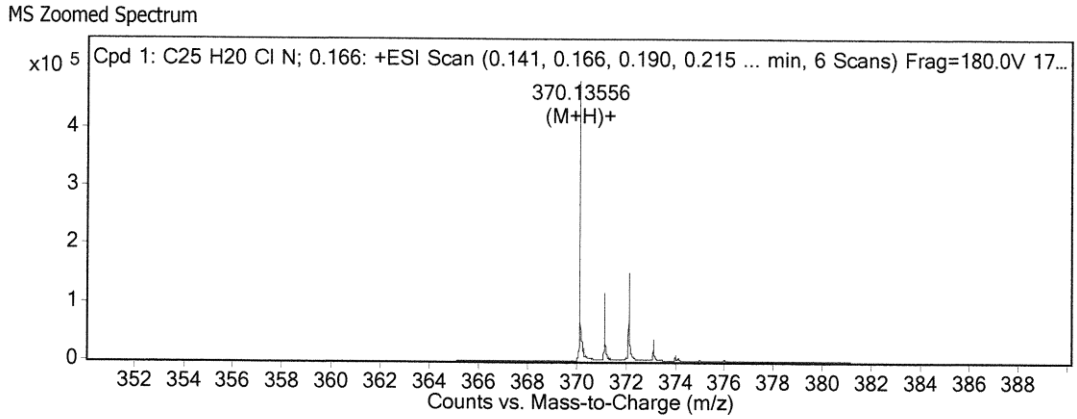


Figure S5: ^{13}C NMR DEPT 135 spectrum of 2,4-diphenyl-9-chloro-5,6,7,8-tetrahydroacridine **(4a)**



MS Spectrum Peak List

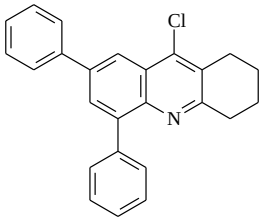
Ion	Abund	Formula	Calculated Mass	Measured Mass	Difference	Diff (ppm)
(M+H)+	485856.59	C25H20ClN	370.1357	370.13556	0.14	0.38

--- End Of Report ---

Figure S6: MS spectra of of 2,4-diphenyl-9-chloro-5,6,7,8-tetrahydroacridine **(4a)**

calculated mass: 369.1357

measured mass: 369.1355



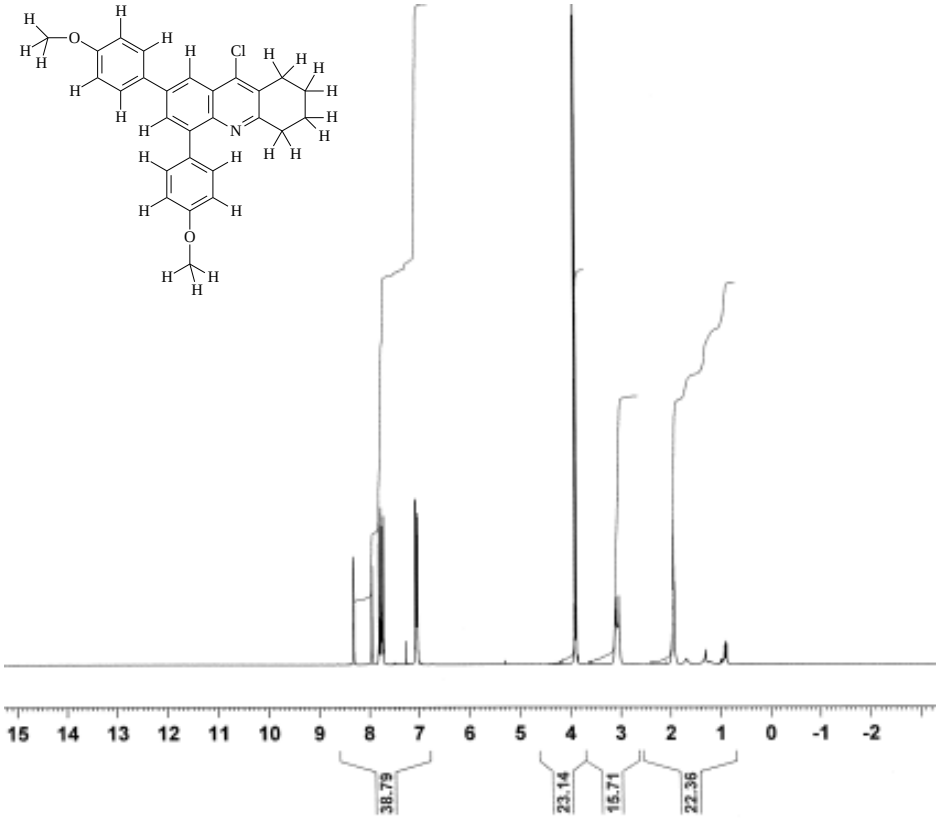


Figure S7: ^{1}H NMR (300 MHz, $CDCl_3$) of 2,4-bis(4-methoxyphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4b)**

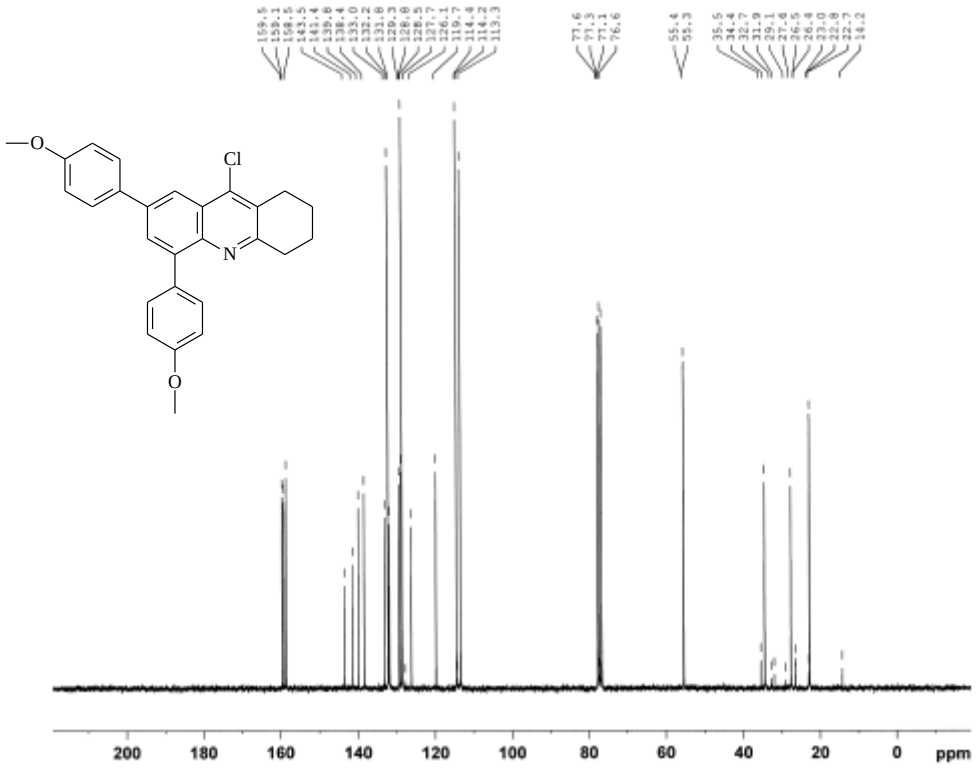


Figure S8: ^{13}C NMR (75 MHz, $CDCl_3$)) of 2,4-bis(4-methoxyphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4b)**

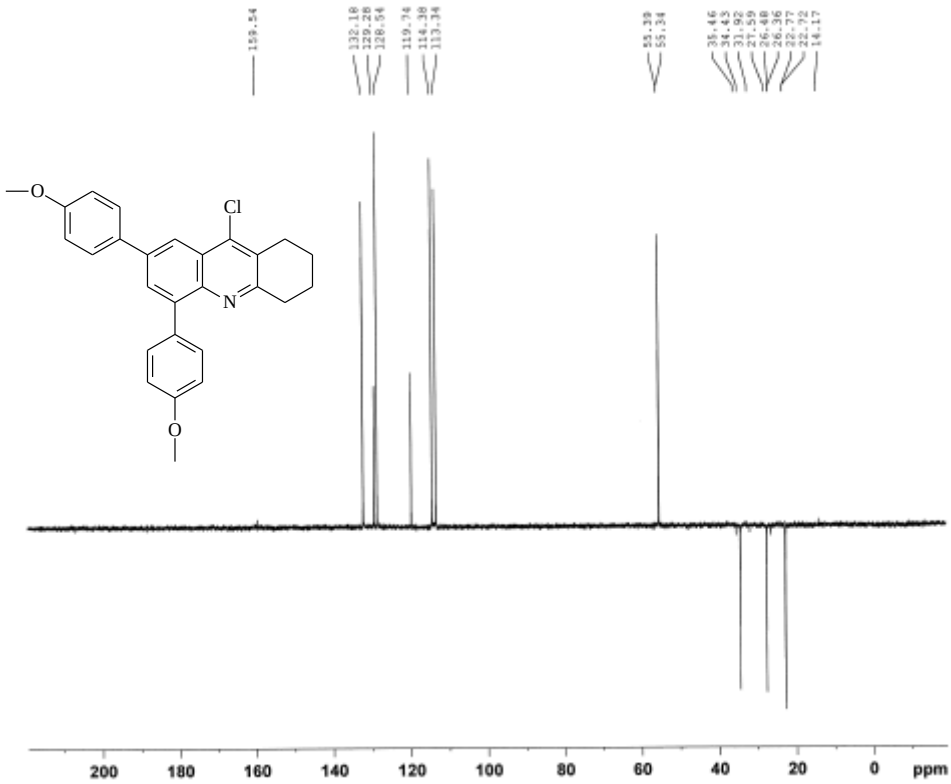


Figure S9: ^{13}C NMR DEPT 135 spectrum of 2,4-bis(4-methoxyphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4b)**

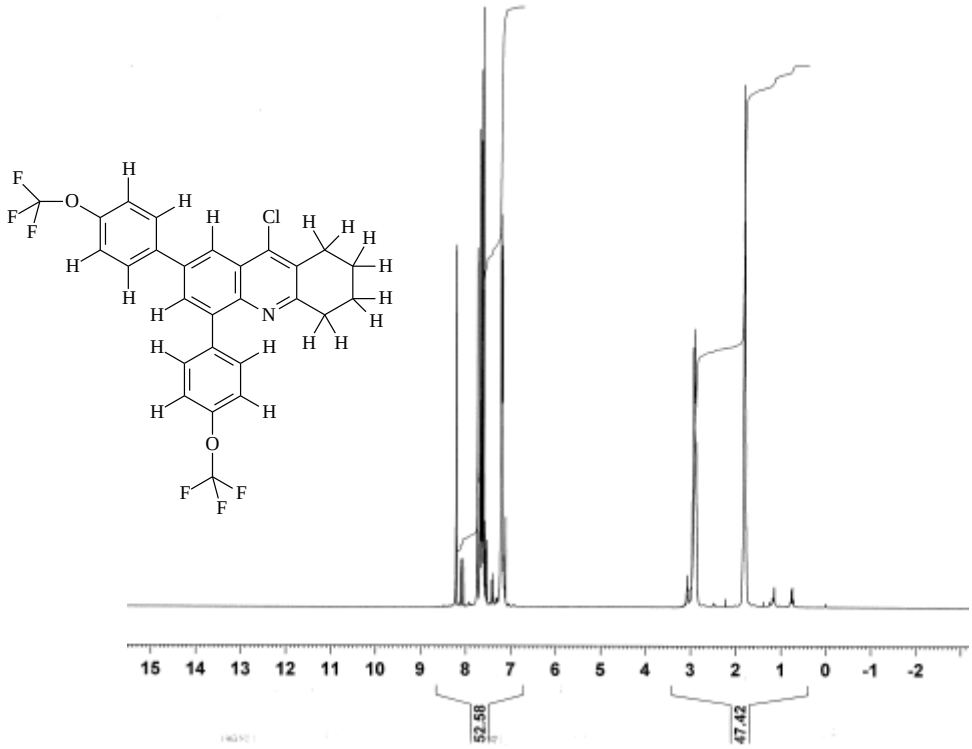


Figure S10: ^{1}H NMR (300 MHz, $CDCl_3$) of 2,4-bis(4-trifluoromethoxyphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4c)**

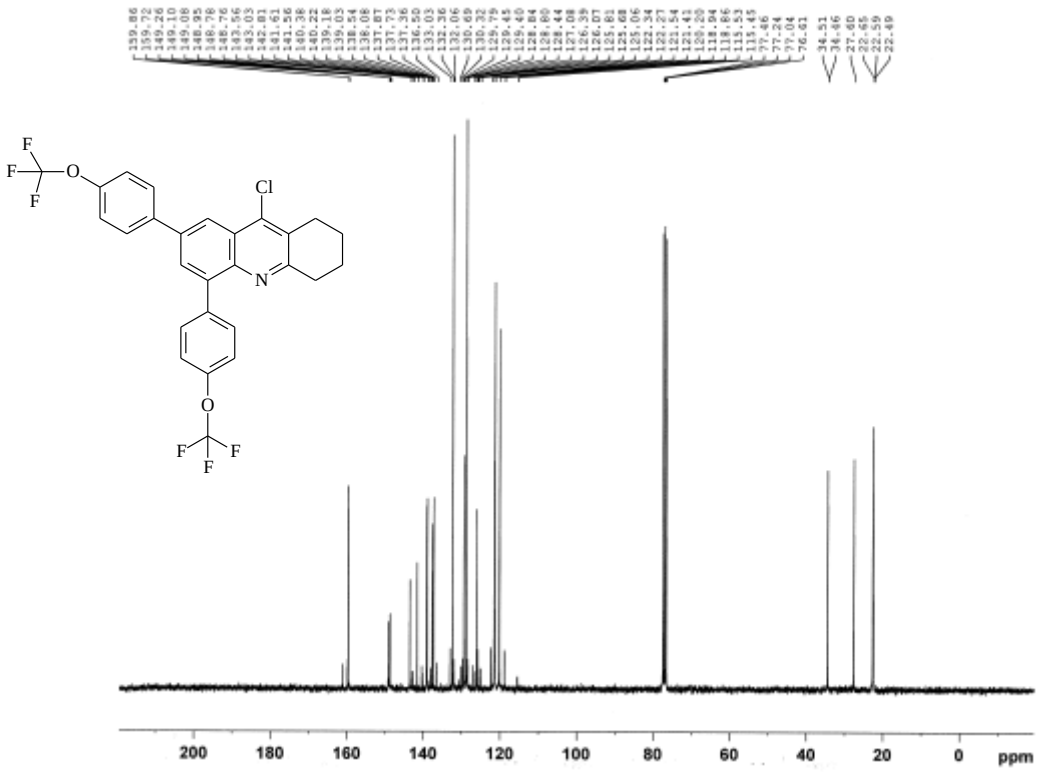


Figure S11: ^{13}C NMR (75 MHz, $CDCl_3$) of 2,4-bis(4-trifluoromethoxyphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4c)**

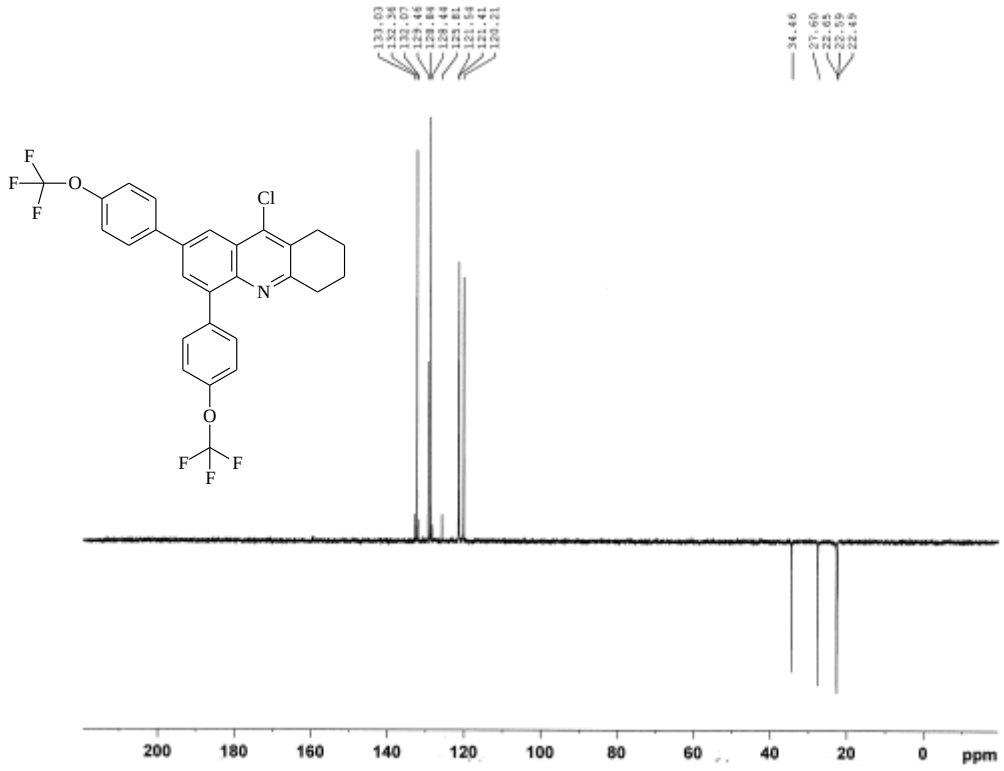


Figure S12: ^{13}C NMR DEPT 135 spectrum of 2,4-bis(4-trifluoromethoxyphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4c)**

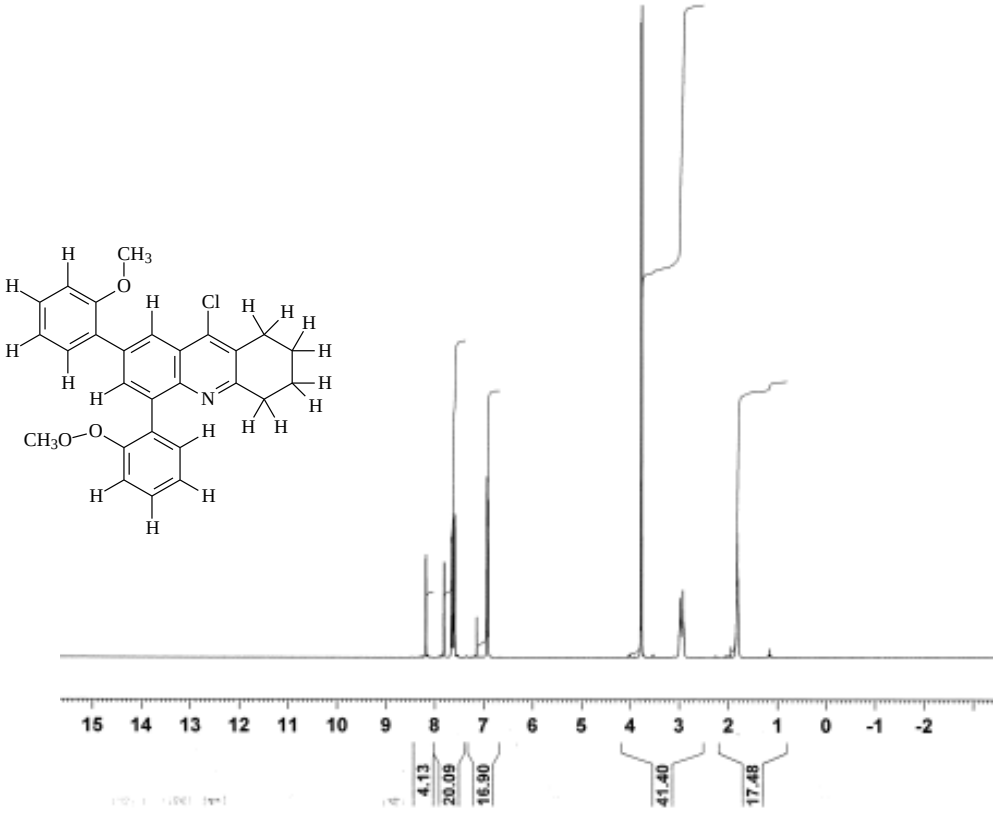


Figure S13: ^{1}H NMR (300 MHz, $CDCl_3$) of 2,4-bis(2-methoxyphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4d)**

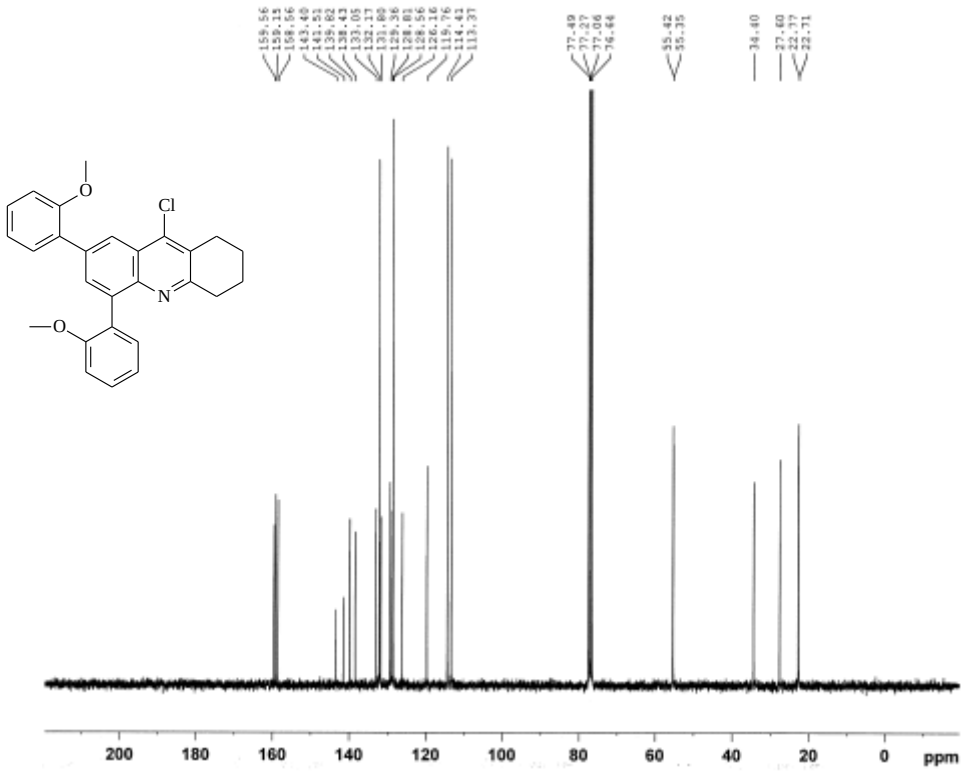


Figure S14: ^{13}C NMR (75 MHz, $CDCl_3$) of 2,4-bis(2-methoxyphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4d)**

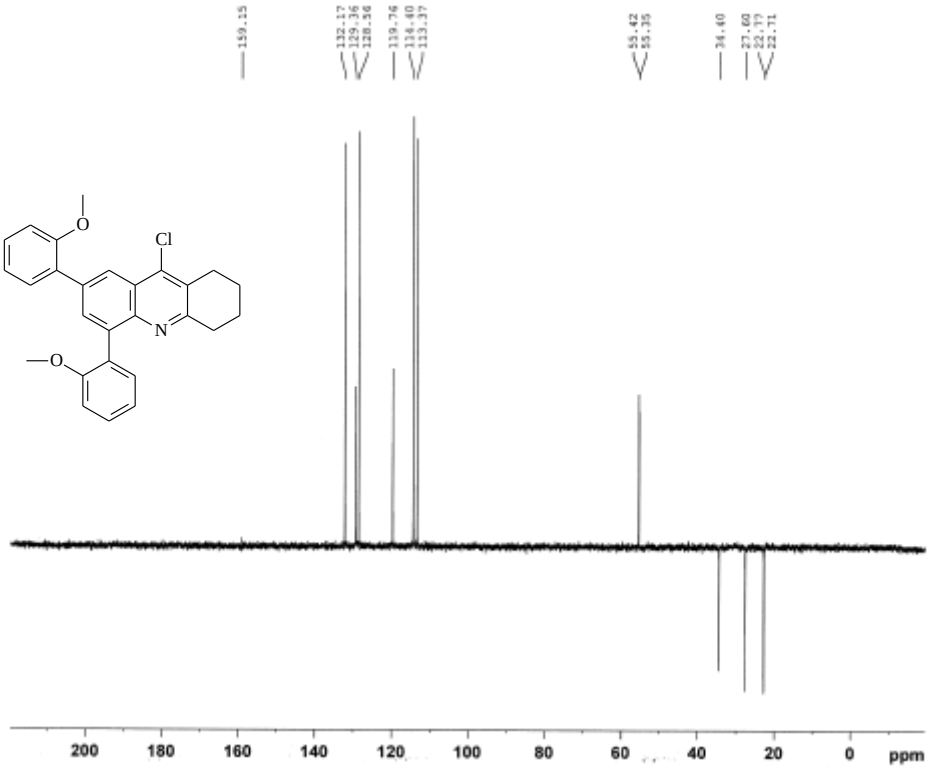


Figure S15: ^{13}C NMR DEPT 135 of 2,4-bis(2-methoxyphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4d)**

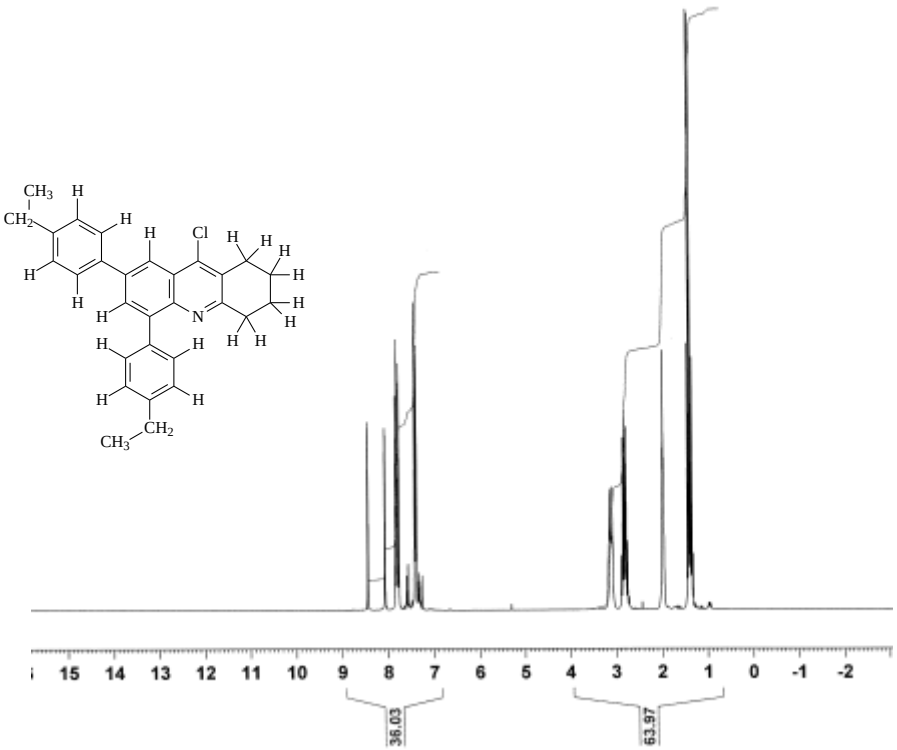


Figure S16: ^{1}H NMR (300 MHz, $CDCl_3$) of 2,4-bis(4-ethylphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4e)**

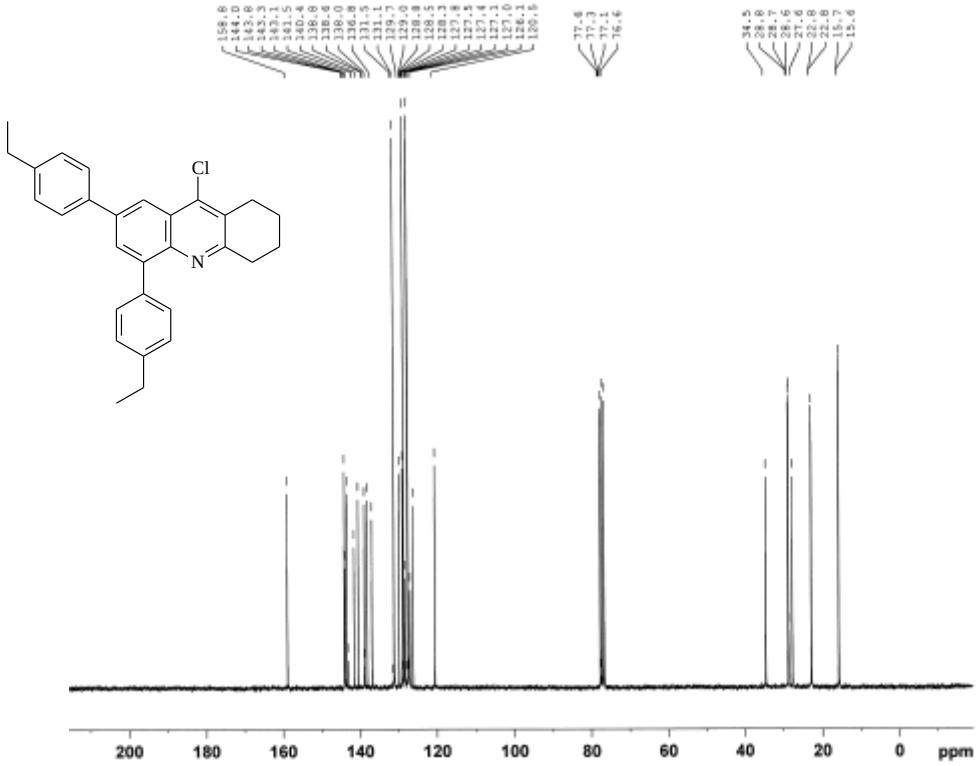


Figure S17: ^{13}C NMR (75 MHz, $CDCl_3$) of 2,4-bis(4-ethylphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4e)**

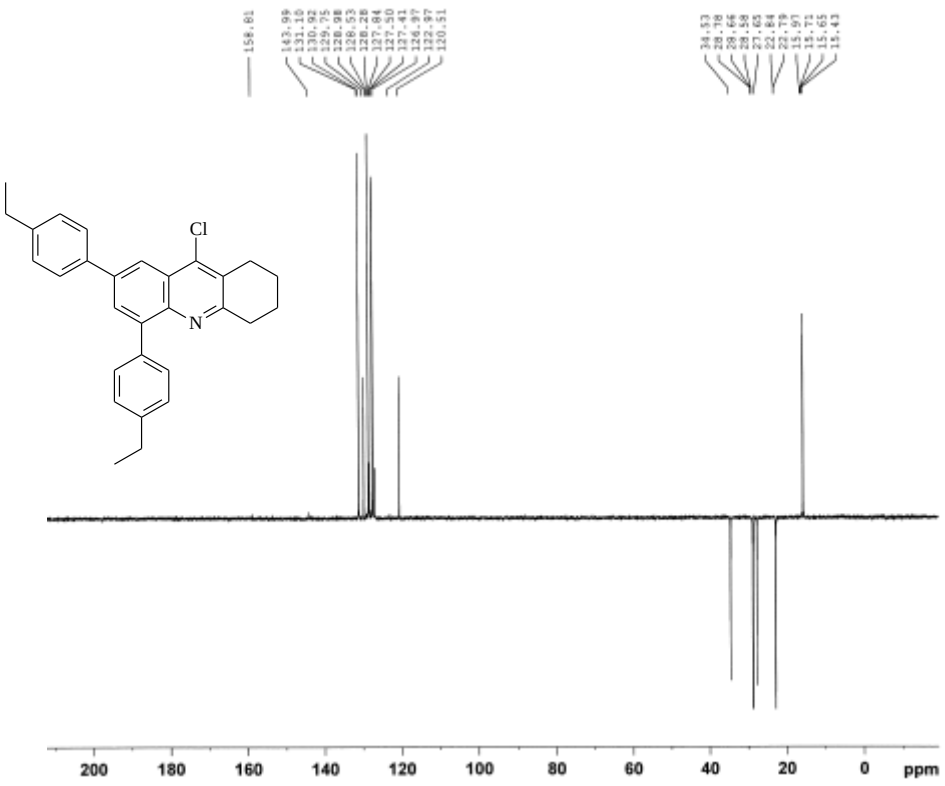


Figure S18: ^{13}C NMR DEPT 135 spectrum of 2,4-bis(4-ethylphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4e)**

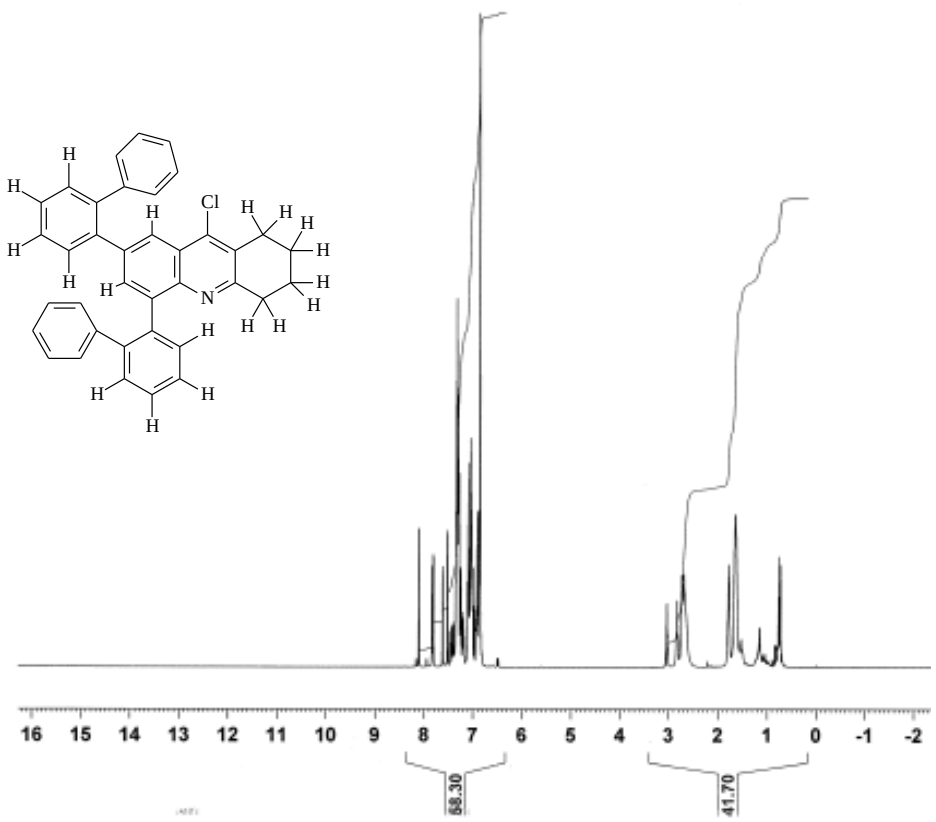


Figure S19: ^{1}H NMR (300 MHz, $CDCl_3$) of 2,4-bis(2-phenylphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4f)**

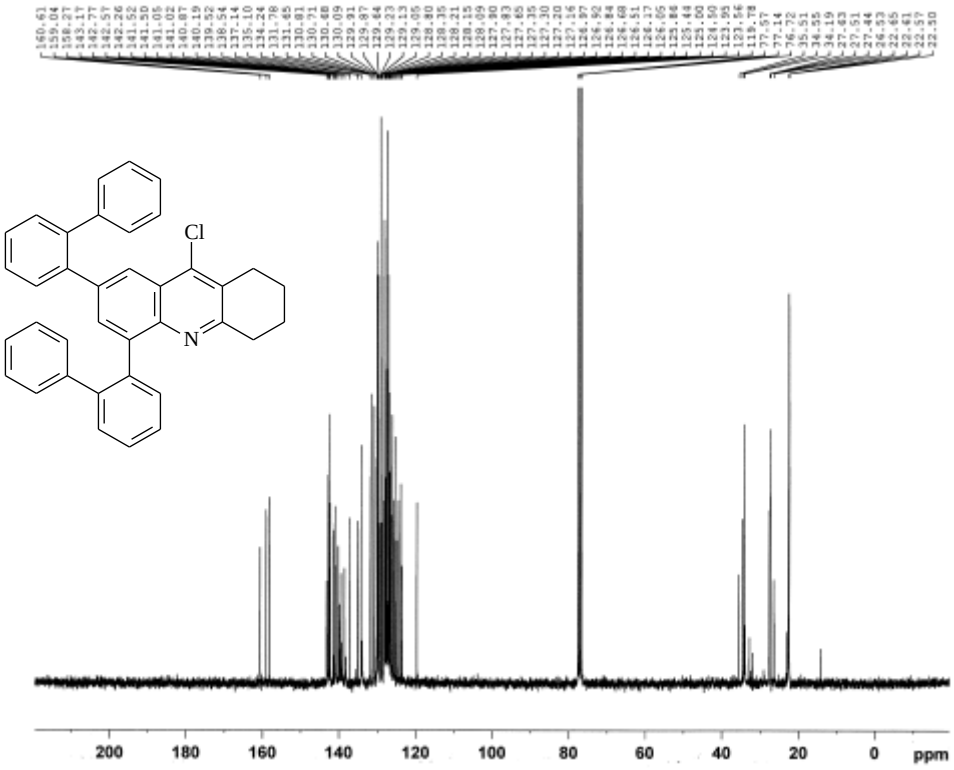


Figure S20: ^{13}C NMR (75 MHz, $CDCl_3$) of 2,4-bis(2-phenylphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4f)**

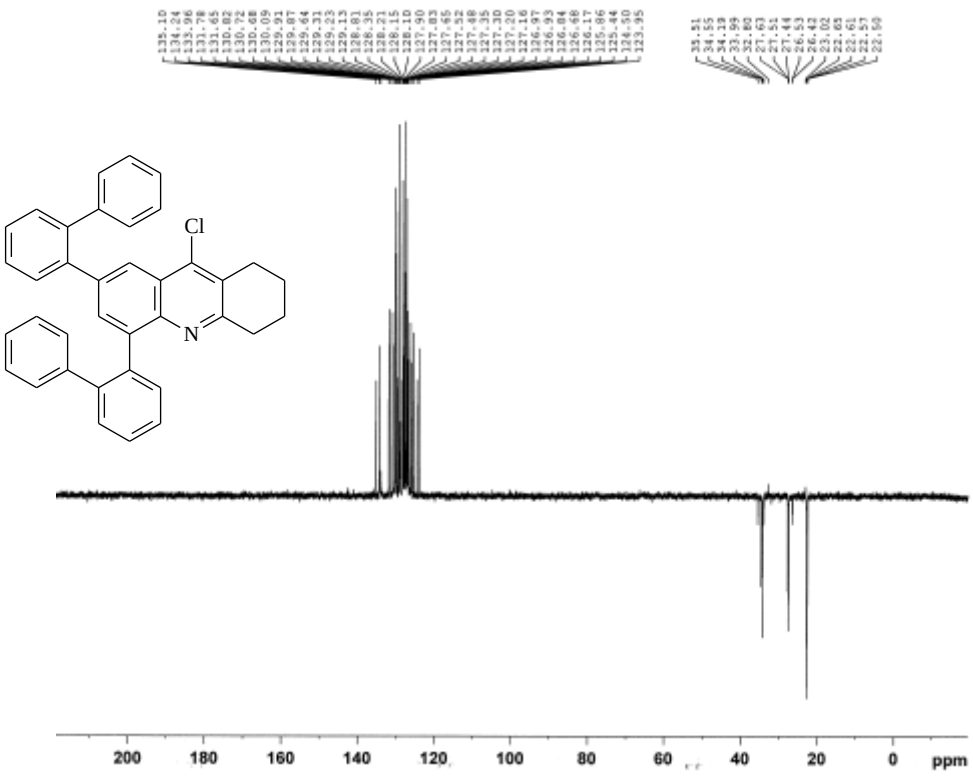


Figure S21: ^{13}C NMR DEPT 135 spectrum of 2,4-bis(2-phenylphenyl)-9-chloro-5,6,7,8-tetrahydroacridine **(4f)**