

***Supporting information:***

**Copper Catalyzed Coupling of Protecting Group Free and Sterically Hindered 2-Bromobenzyl Tertiary Alcohols with Phenols and Anilines: Facile Synthesis of Xanthenes and Dihydroacridines**

Lodi Mahendar and Gedu Satyanarayana

Department of Chemistry, Indian Institute of Technology Hyderabad, Kandi – 502 285, Sangareddy, Telangana, INDIA

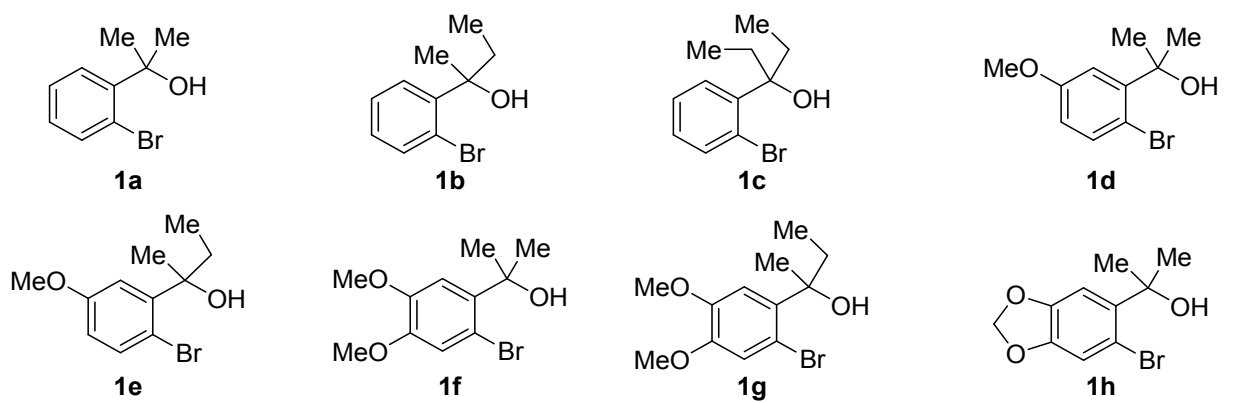
Phone: (040) 2301 6033; Fax: (040) 2301 6003/32

E-mail: [gvsatya@iith.ac.in](mailto:gvsatya@iith.ac.in)

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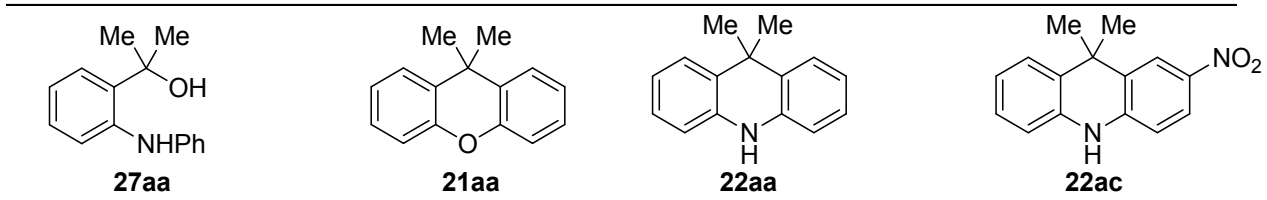
The following 2-bromobenzyl tertiary alcohols **1a-i**<sup>1</sup> are known in the literature (Table 1).

**Table: 1**



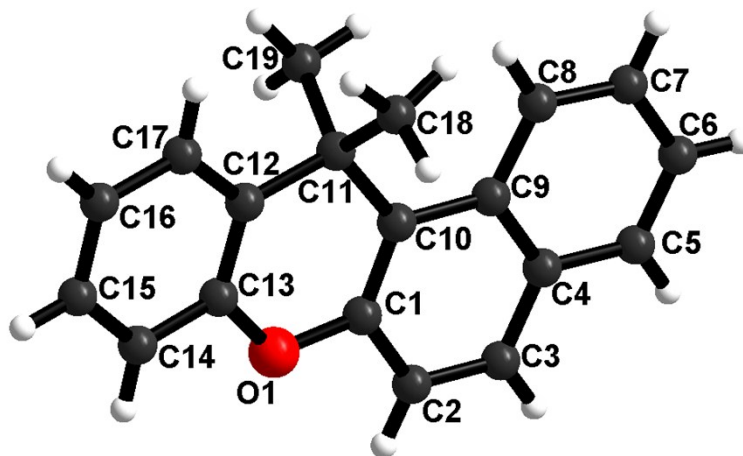
- 1) L. Mahendar, J. Krishna, A. G. K. Reddy, B. V. Ramulu and G. Satyanarayana, *Org. Lett.* 2012, **14**, 628.

The following molecules **27aa**,<sup>2</sup> **21aa**,<sup>3</sup> **22aa**<sup>4</sup> and **22ac**<sup>4</sup> are known in the literature (Table 2).



- 2) S. N. Bagriantsev, K. -H. Ang, A. Gallardo-Godoy, K. A. Clark, M. R. Arkin, A. R. Renslo, and D. L. Minor, Jr. *ACS Chem. Biol.* 2013, **8**, 1841.  
3) J. S. Nowick, P. Ballester, F. Ebmeyer, and J. Rebek, Jr. *J. Am. Chem. Soc.* 1990, **112**, 8902.  
4) T. L. Andrew and T. M. Swager, *J. Org. Chem.* 2011, **76**, 2976.

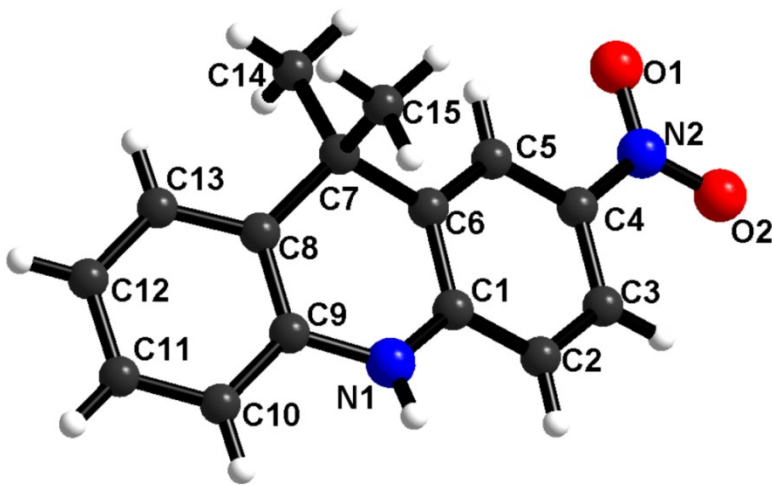
X-ray crystal structure data for the xanthene (**21ab**): CCDC 1446328



Operator	Ch. Nagababu
Diffractometer	Oxford Super Nova
CCDC	1446328
Empirical formula	C <sub>19</sub> H <sub>16</sub> O
Formula weight	260.32
Temperature/K	293 (2)
Crystal system	Trigonal
Space group	P 3 <sub>1</sub>
a/Å	20.6263(7)
b/Å	20.6263(7)
c/Å	8.4471(3)
α/°	90
β/°	90
γ/°	120
Volume/Å <sup>3</sup>	3112.29(19)
Z	9
ρ <sub>calc</sub> /mg/mm <sup>3</sup>	1.250
m/mm <sup>-1</sup>	0.585
F(000)	1242.0
Crystal size/mm <sup>3</sup>	0.18 × 0.14 × 0.12
2θ range for data collection	8.58 to 142.78°
Index ranges	-21 ≤ h ≤ 25, -25 ≤ k ≤ 20, -10 ≤ l ≤ 5
Reflections collected	6975
Independent reflections	4791[R(int) = 0.0176]
Data/restraints/parameters	4791/1/547
Goodness-of-fit on F <sup>2</sup>	1.057
Final R indexes [I ≥ 2σ (I)]	R1 = 0.0468, wR2 = 0.1114
Final R indexes [all data]	R1 = 0.0531, wR2 = 0.1202

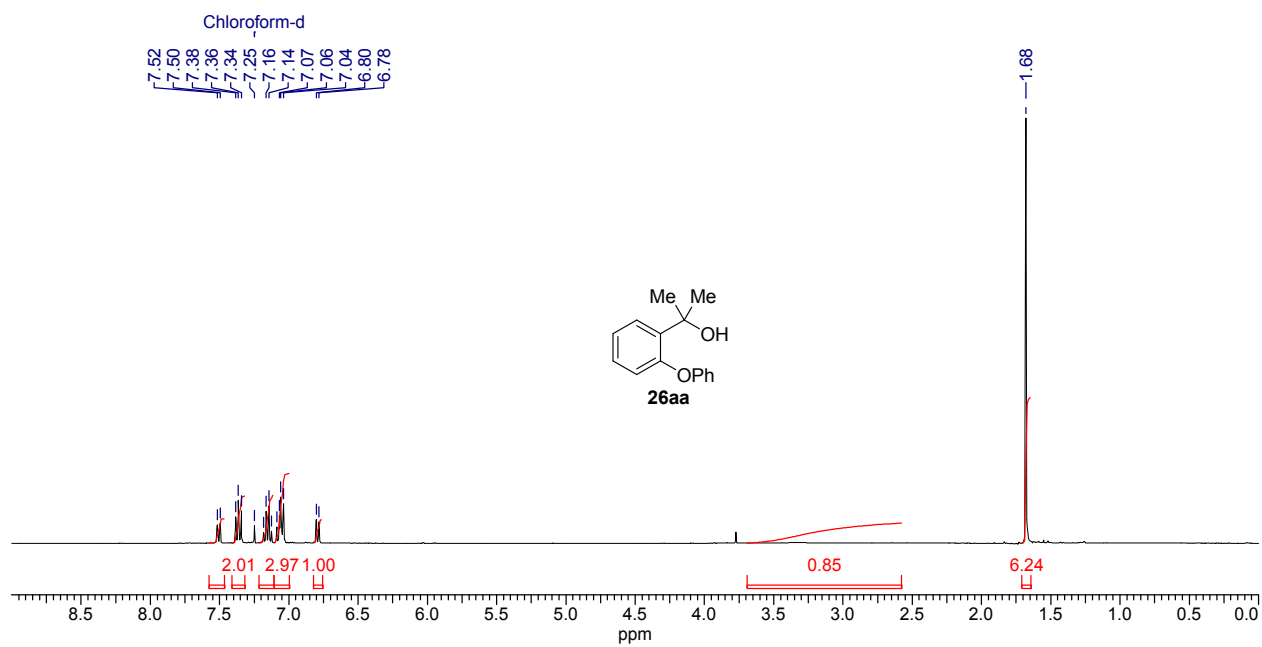
Largest diff. peak/hole / e Å<sup>-3</sup> 0.11/-0.20

X-ray crystal structure data for the dihydroacrididine (**22ac**): **CCDC 1446323**

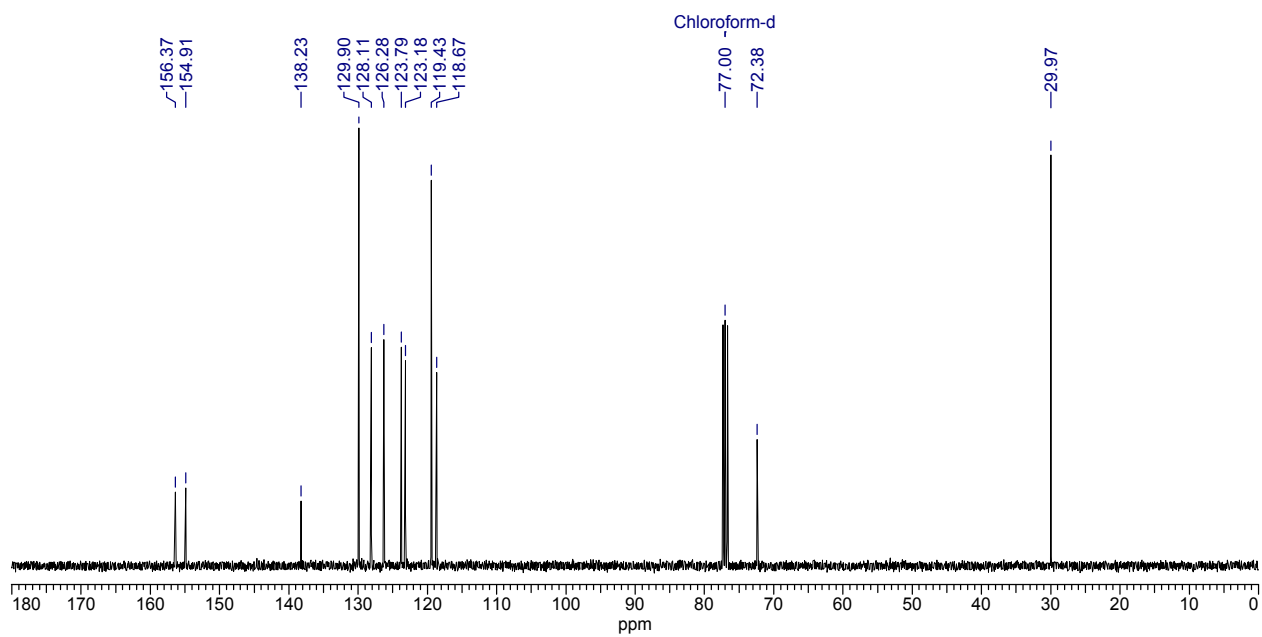


Operator	K. Srinivas
Diffractometer	Oxford Super Nova
CCDC	1049624
Empirical formula	C <sub>15</sub> H <sub>14</sub> N <sub>2</sub> O <sub>2</sub>
Formula weight	254.29
Temperature/K	293
Crystal system	orthorhombic
Space group	Pbca
a/Å	9.3070(3)
b/Å	16.5482(5)
c/Å	32.8832(9)
α/°	90
β/°	90
γ/°	90
Volume/Å <sup>3</sup>	5064.5(3)
Z	16
ρ <sub>calc</sub> /mg/mm <sup>3</sup>	1.3339
m/mm <sup>-1</sup>	0.730
F(000)	2150.9
Crystal size/mm <sup>3</sup>	0.24 × 0.18 × 0.14
2θ range for data collection	10.7 to 141.6°
Index ranges	-11 ≤ h ≤ 10, -17 ≤ k ≤ 20, -39 ≤ l ≤ 29
Reflections collected	13211
Independent reflections	4806[R(int) = 0.0206]
Data/restraints/parameters	4806/0/351
Goodness-of-fit on F <sup>2</sup>	1.067
Final R indexes [I ≥ 2σ (I)]	R1 = 0.0485, wR2 = 0.1289

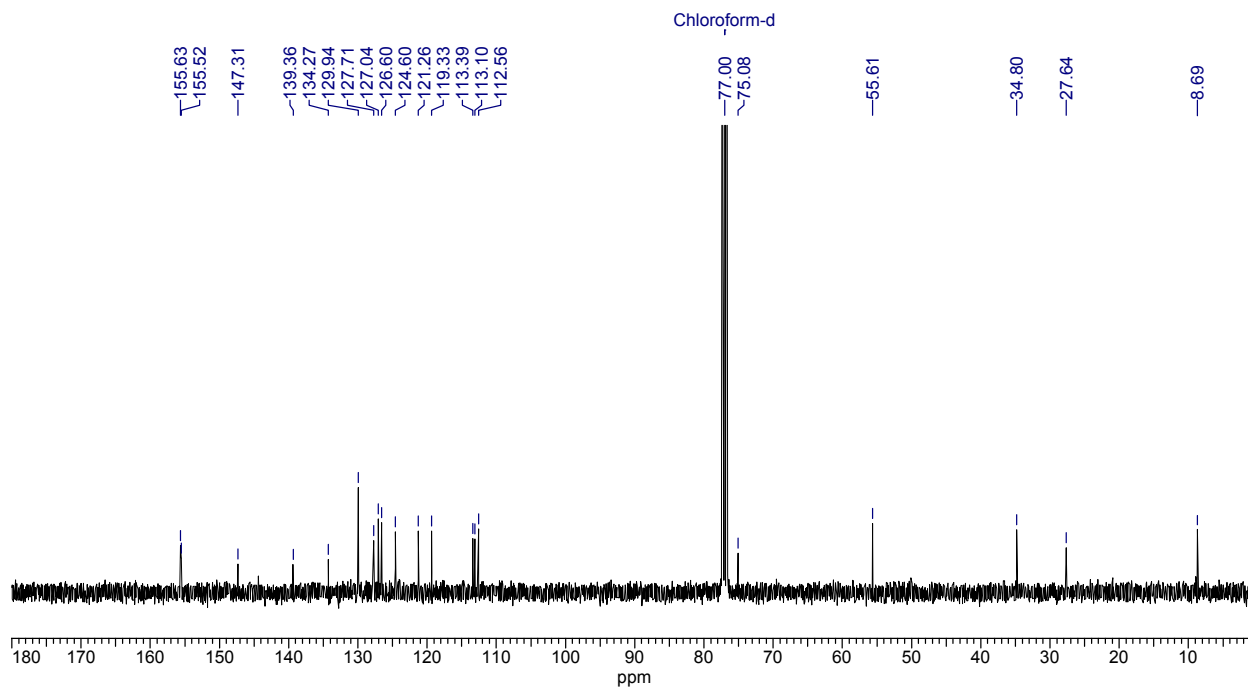
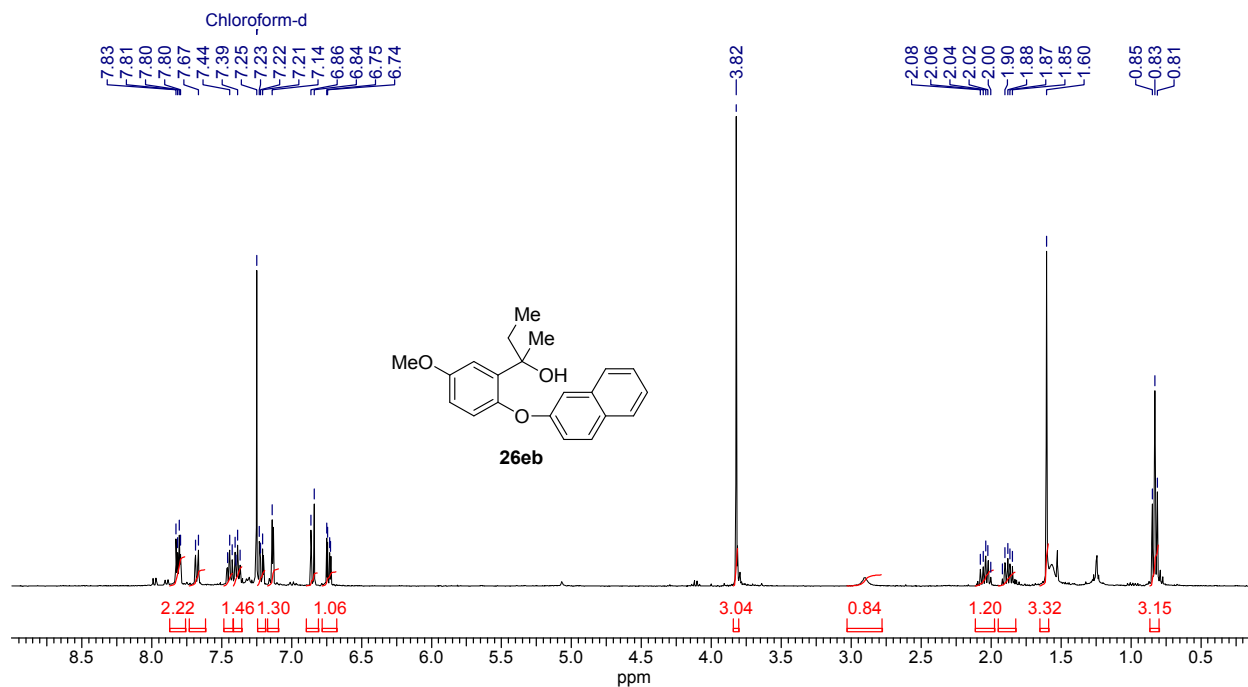
Final R indexes [all data] R1 = 0.0611, wR2 = 0.1424  
Largest diff. peak/hole / e Å<sup>-3</sup> 0.26/-0.16

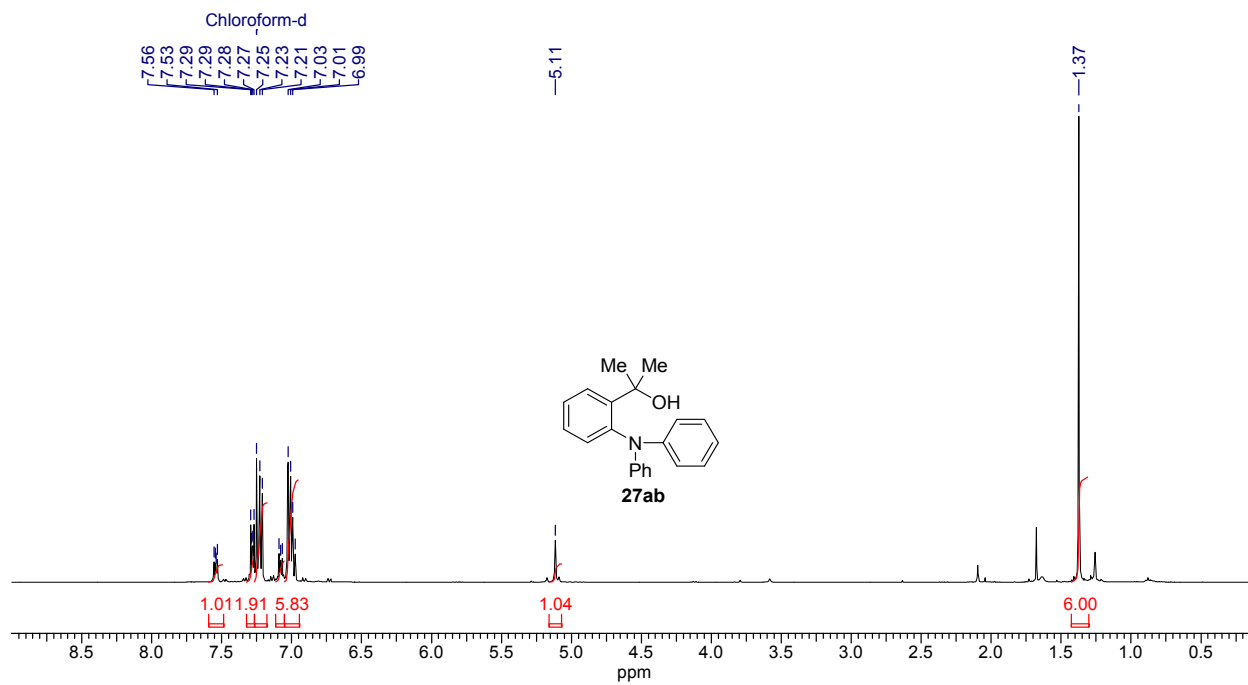


$^1\text{H}$  NMR (400 MHz) spectrum of **26aa** in  $\text{CDCl}_3$

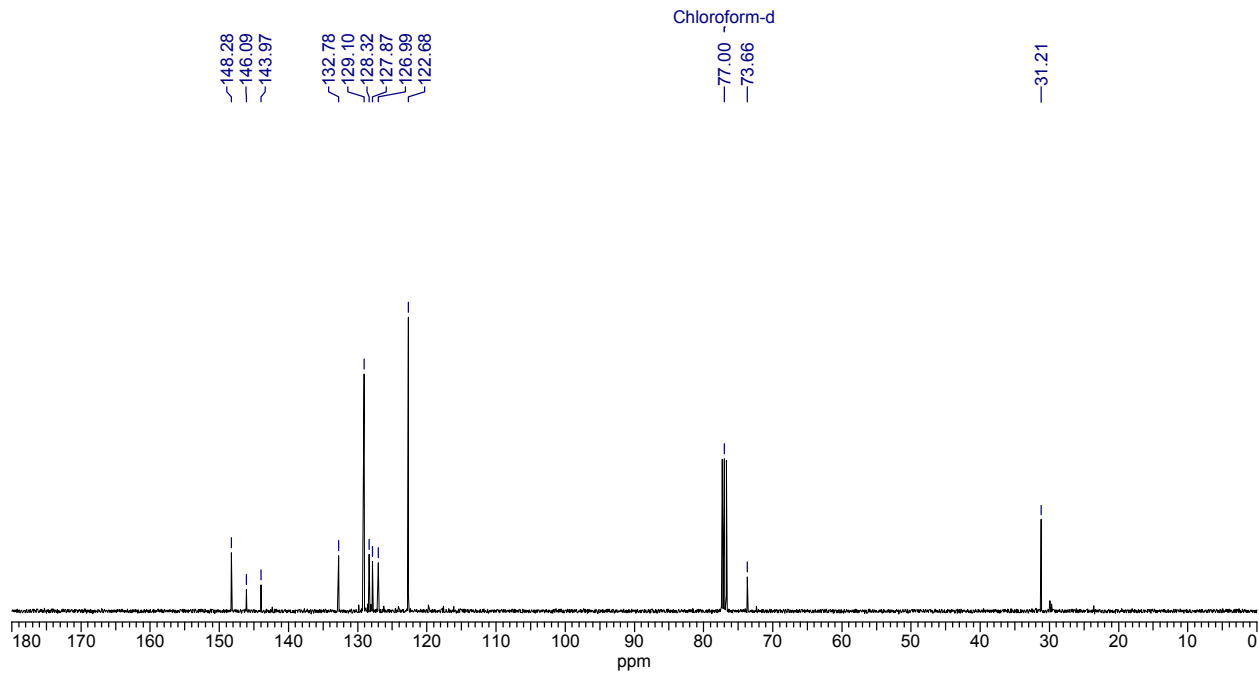


$^{13}\text{C}$  NMR (100 MHz) spectrum of **26aa** in  $\text{CDCl}_3$



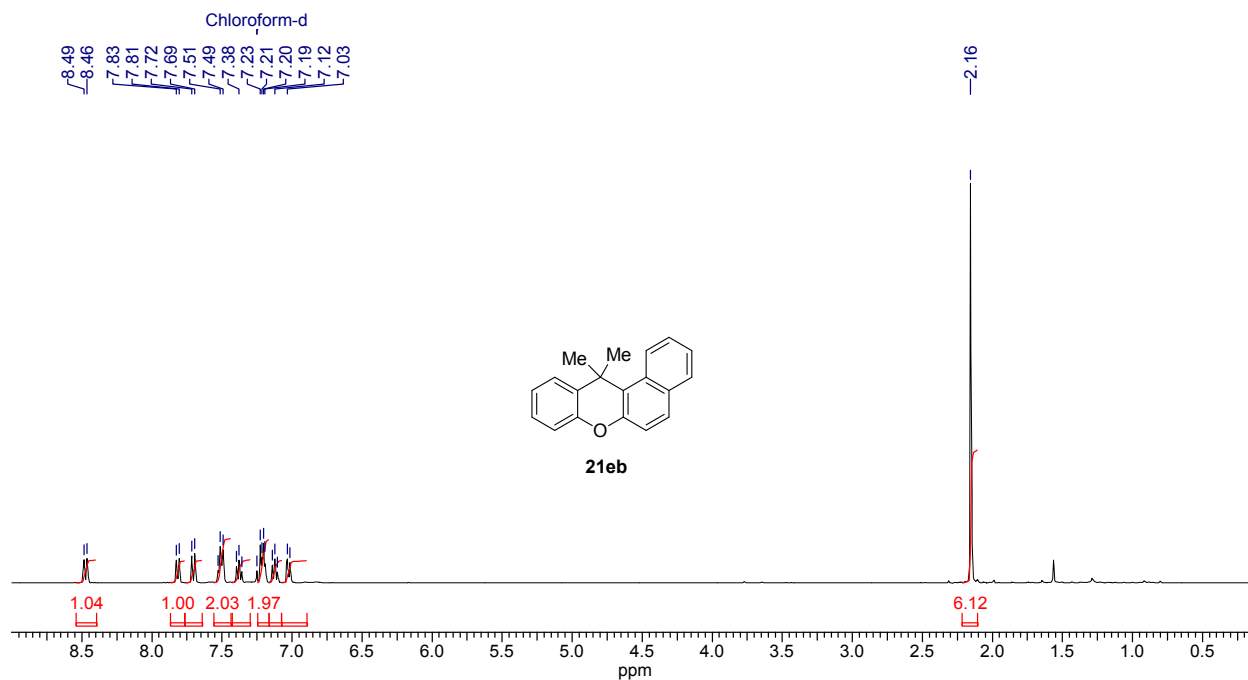


$^1\text{H}$  NMR (400 MHz) spectrum of **27ab** in  $\text{CDCl}_3$

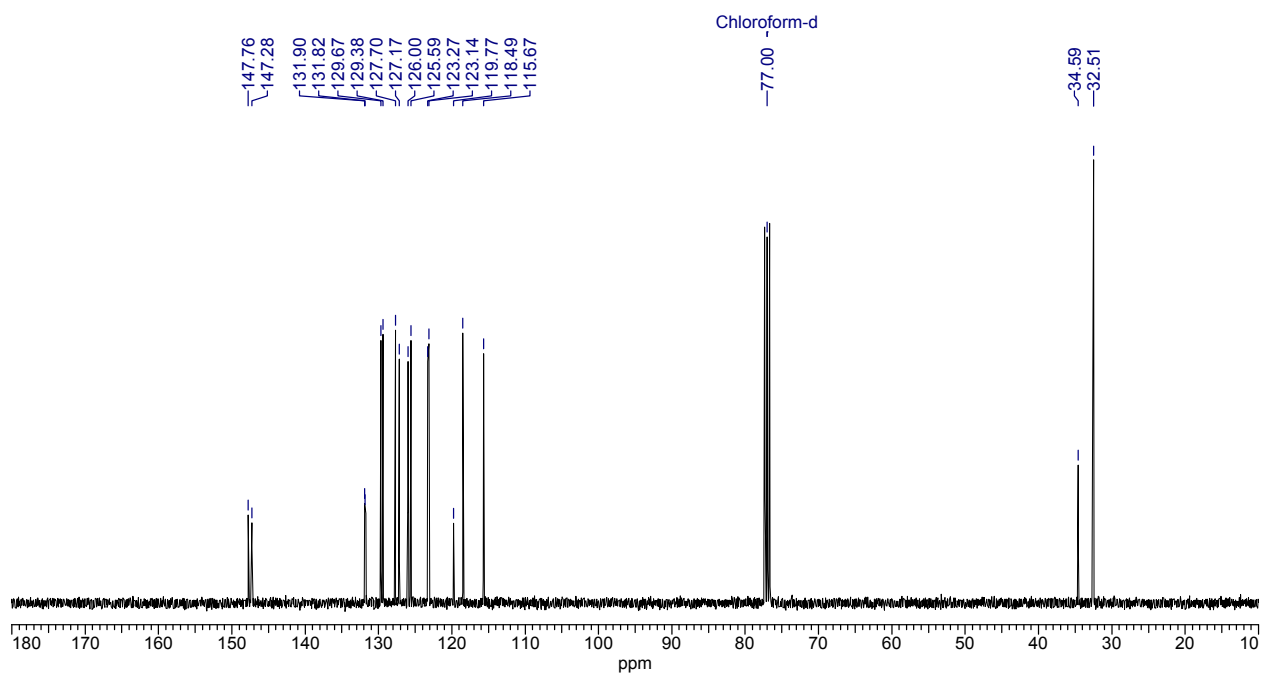


$^{13}\text{C}$  NMR (100 MHz) spectrum of **27ab** in  $\text{CDCl}_3$

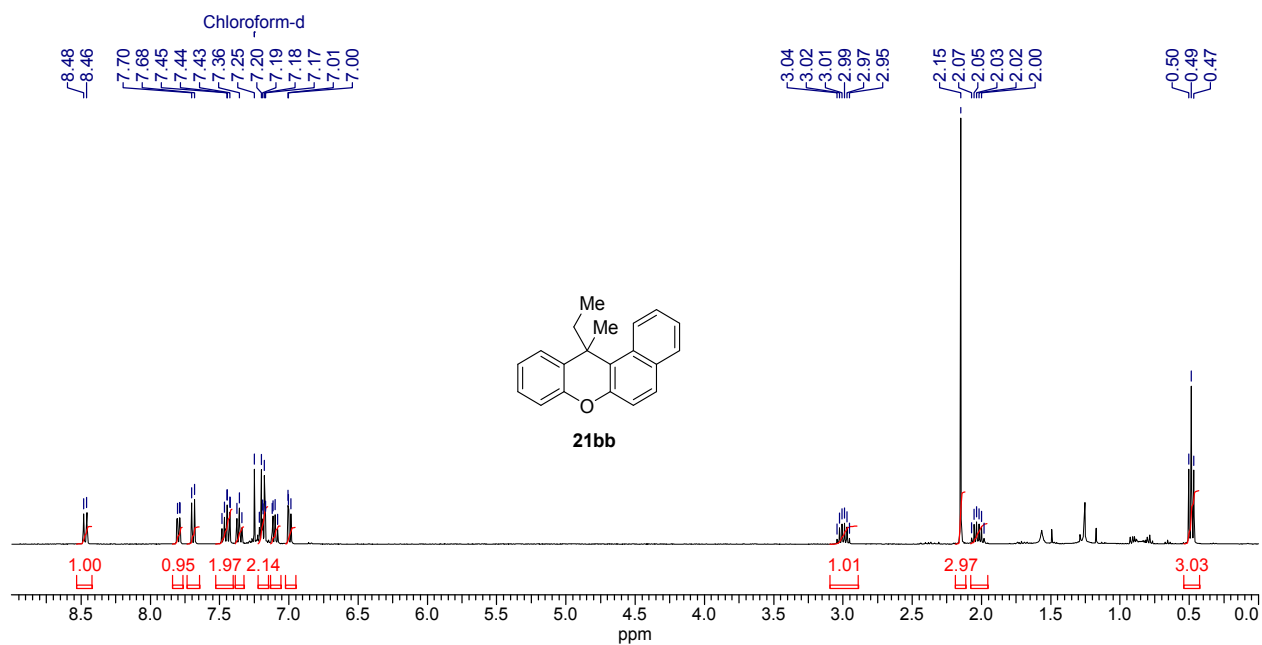




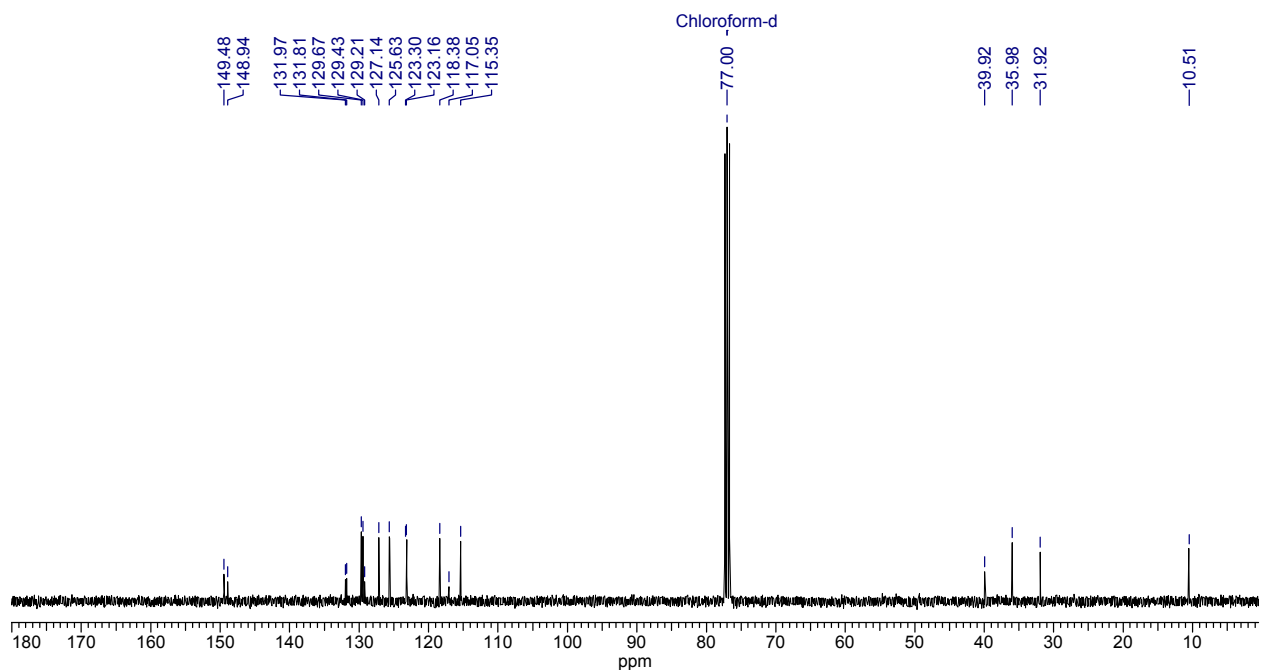
$^1\text{H}$  NMR (400 MHz) spectrum of **21eb** in  $\text{CDCl}_3$



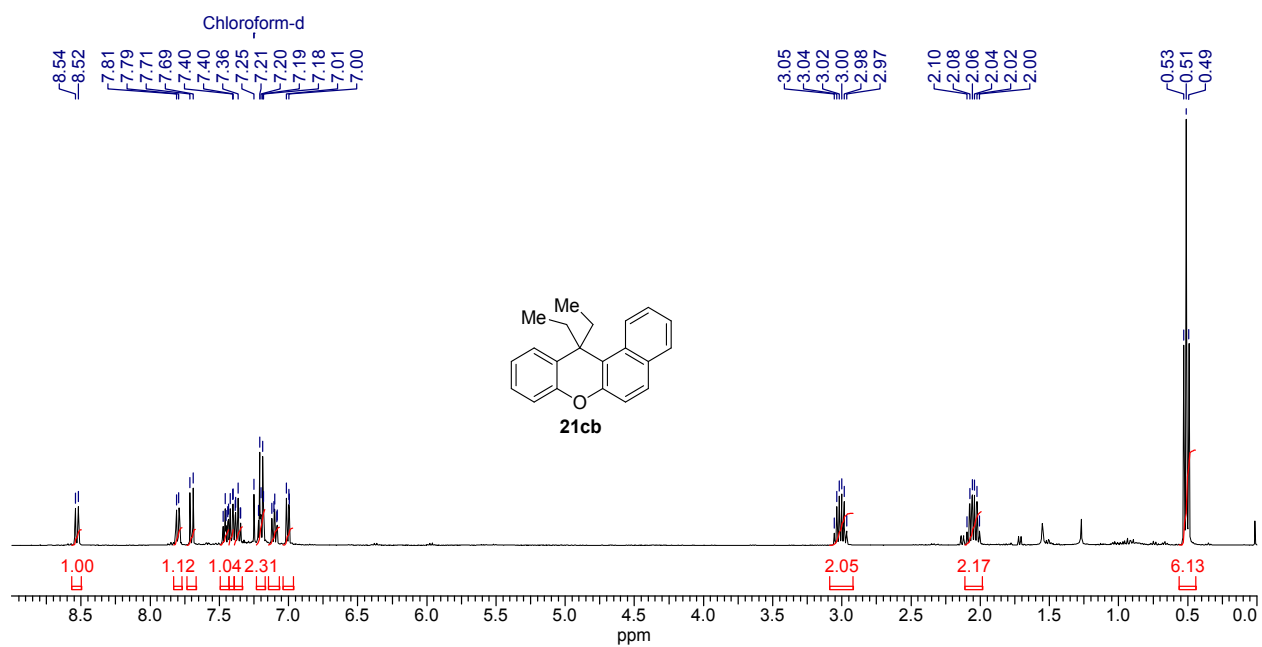
$^{13}\text{C}$  NMR (100 MHz) spectrum of **21eb** in  $\text{CDCl}_3$



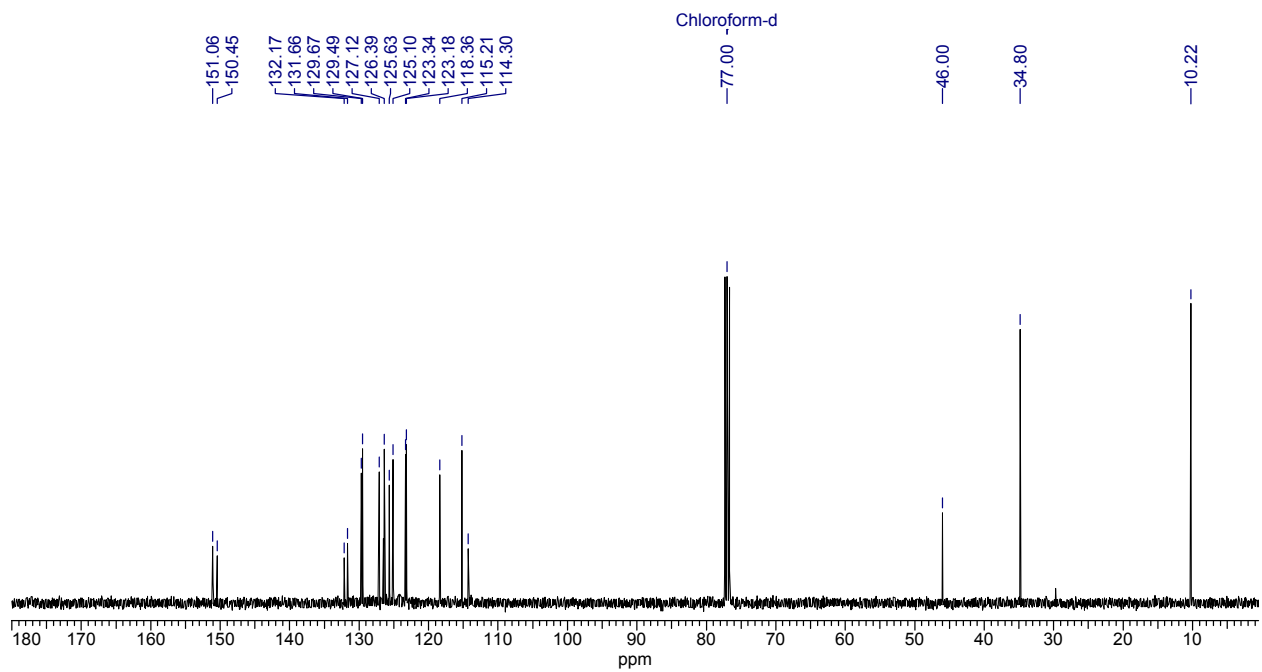
**1H NMR (400 MHz) spectrum of **21bb** in CDCl<sub>3</sub>**



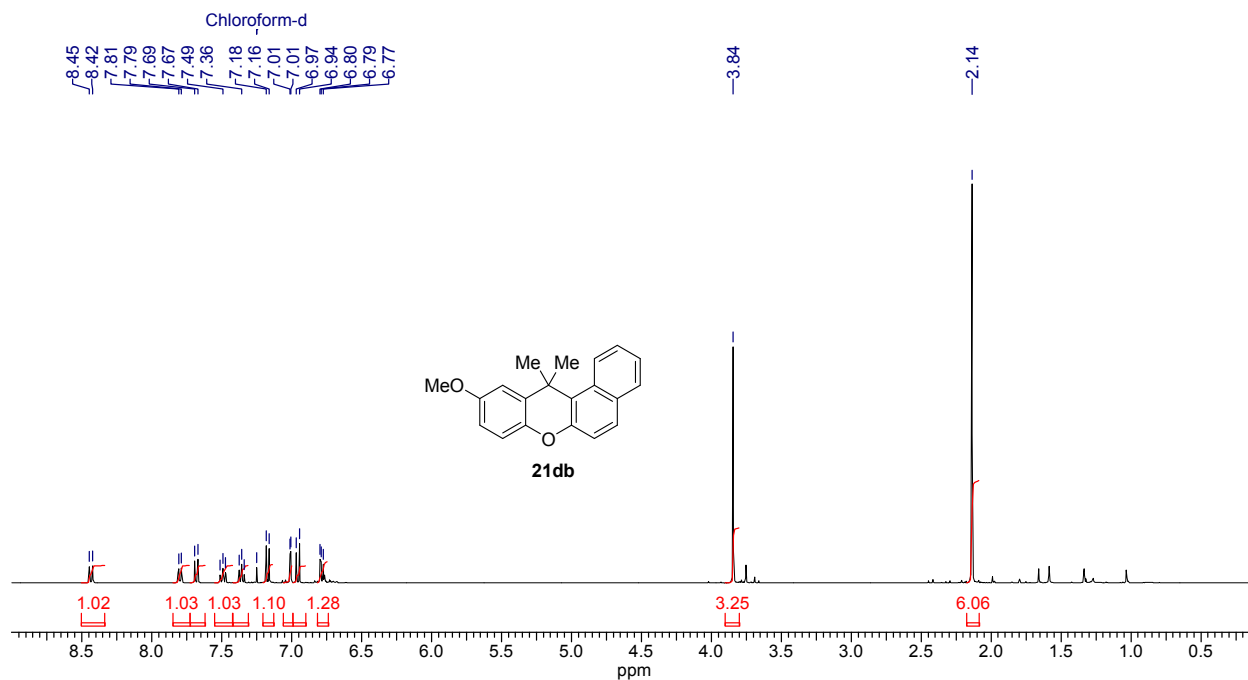
**13C NMR (100 MHz) spectrum of **21bb** in CDCl<sub>3</sub>**



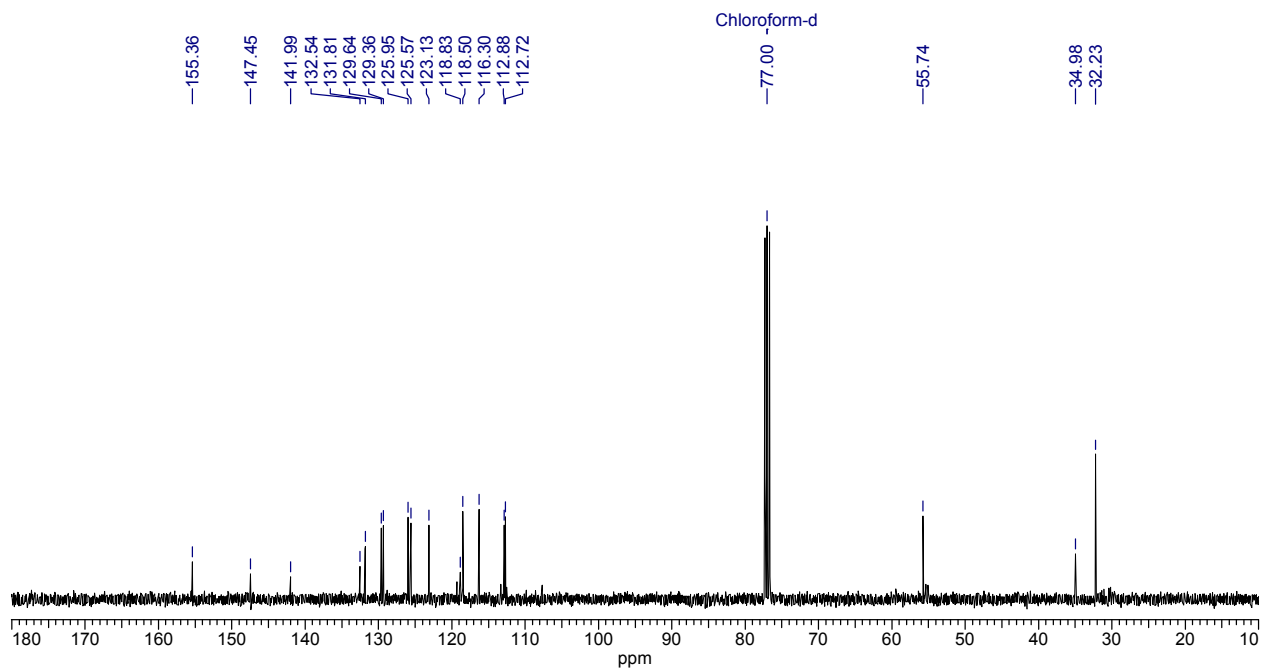
$^1\text{H}$  NMR (400 MHz) spectrum of **21cb** in  $\text{CDCl}_3$



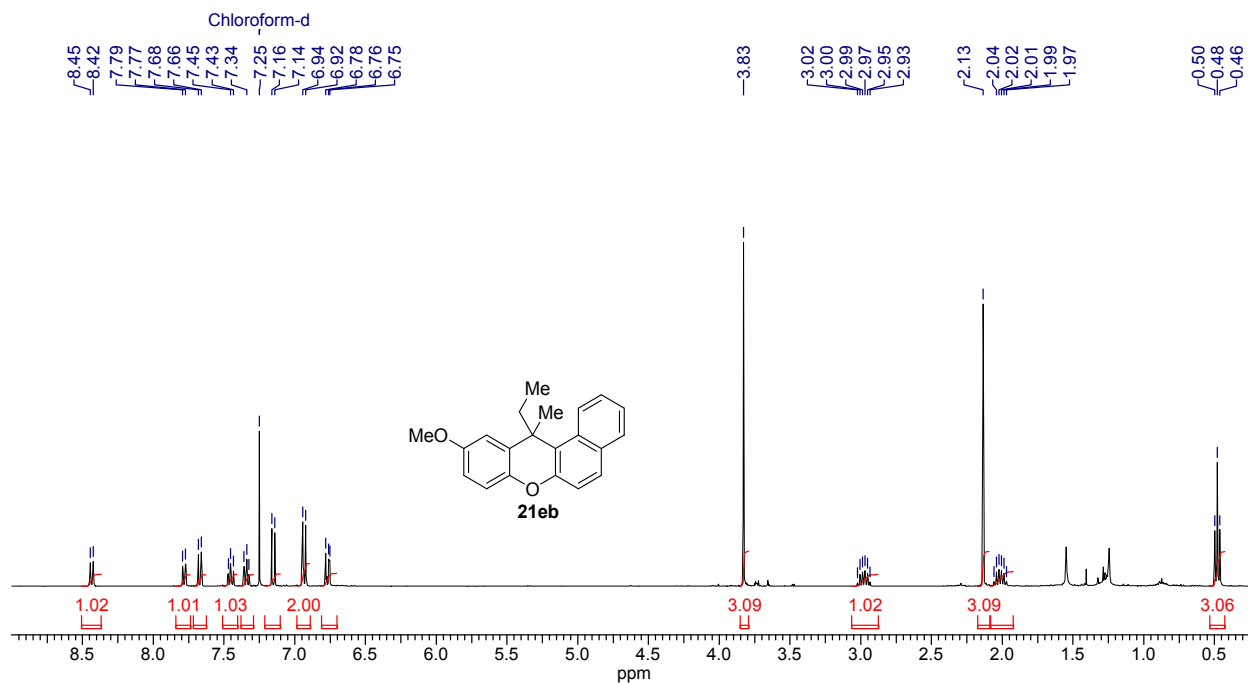
$^{13}\text{C}$  NMR (100 MHz) spectrum of **21cb** in  $\text{CDCl}_3$



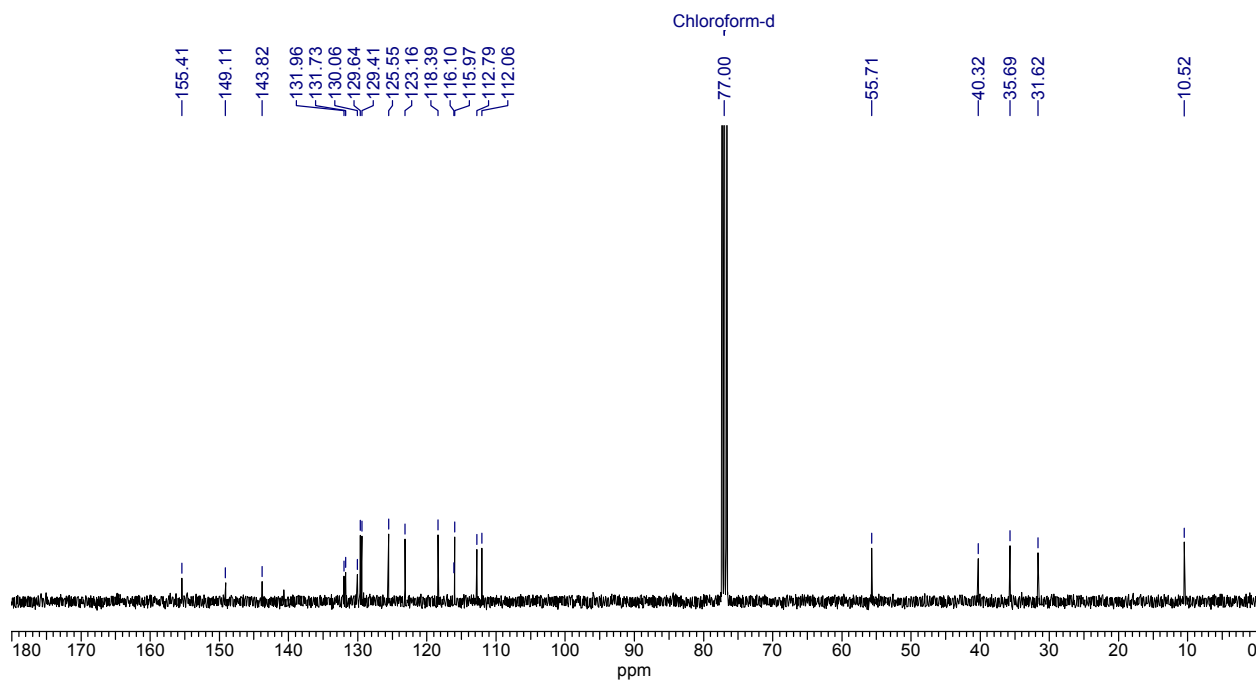
$^1\text{H}$  NMR (400 MHz) spectrum of **21db** in  $\text{CDCl}_3$



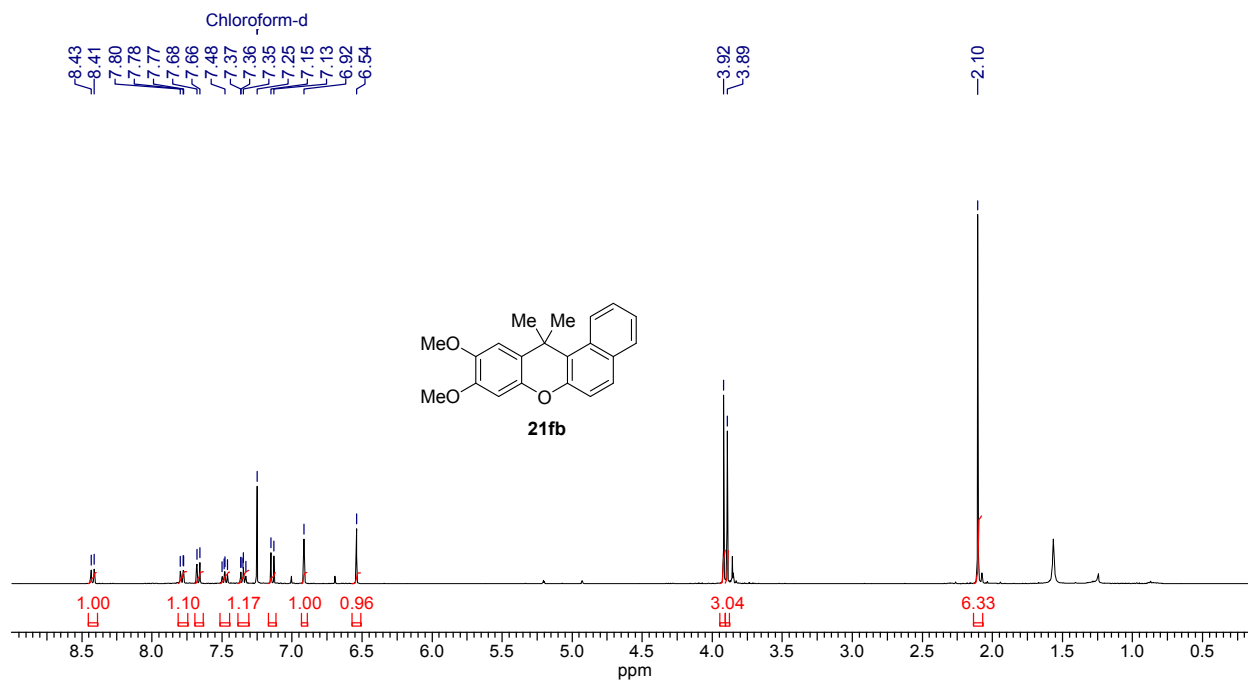
$^{13}\text{C}$  NMR (100 MHz) spectrum of **21db** in  $\text{CDCl}_3$



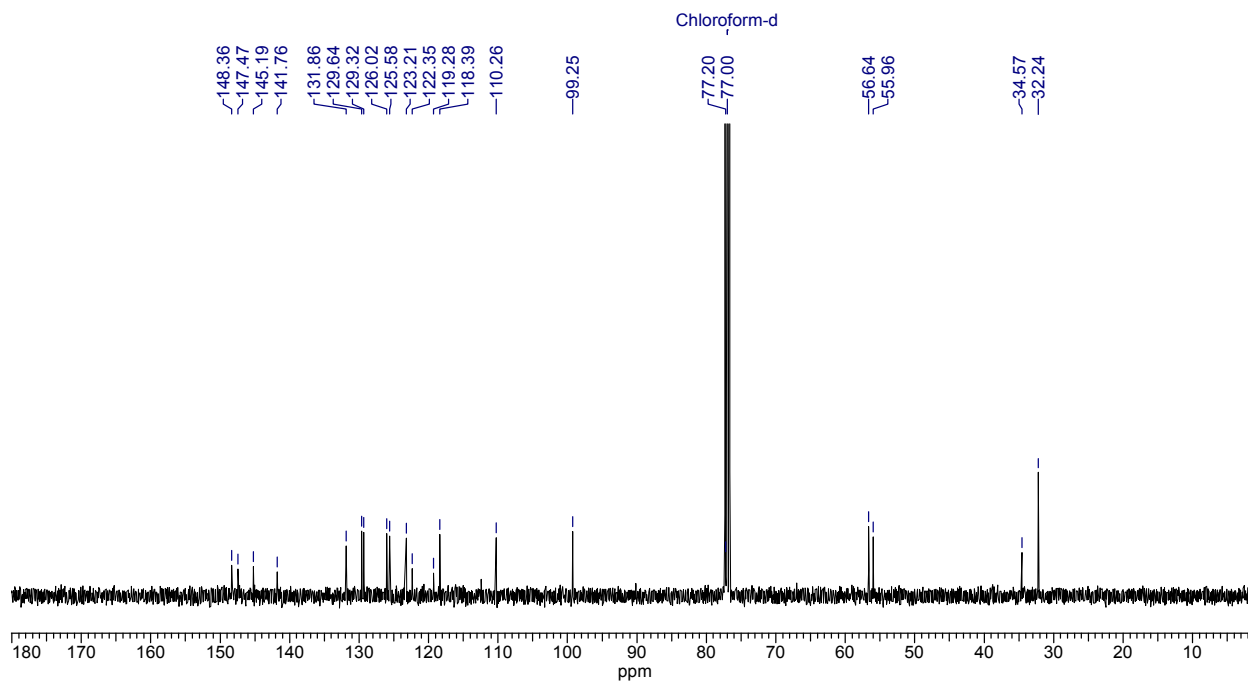
$^1\text{H}$  NMR (400 MHz) spectrum of **21eb** in  $\text{CDCl}_3$



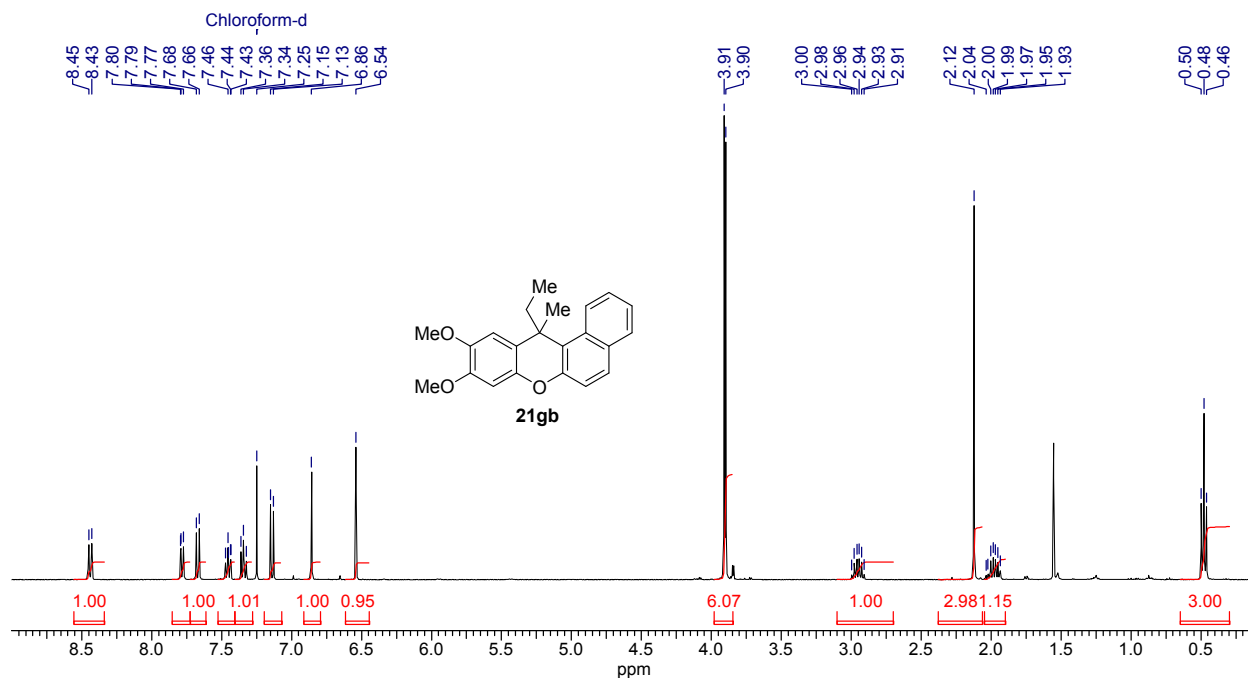
$^{13}\text{C}$  NMR (100 MHz) spectrum of **21eb** in  $\text{CDCl}_3$



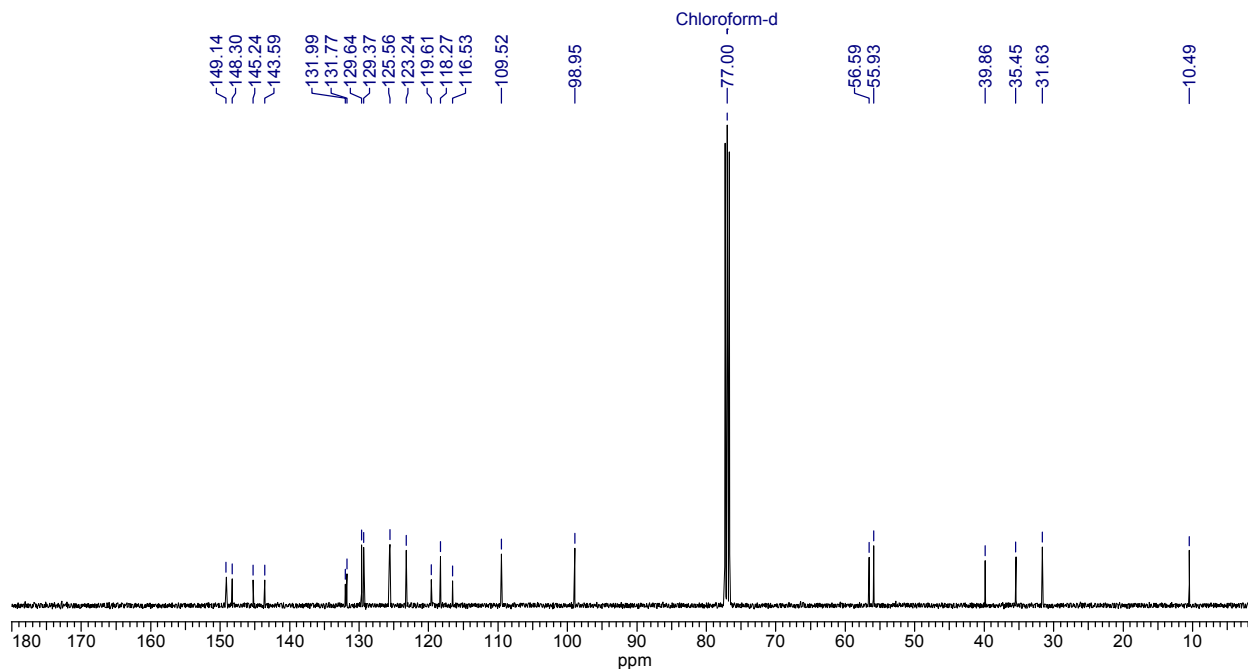
$^1\text{H}$  NMR (400 MHz) spectrum of **21fb** in  $\text{CDCl}_3$



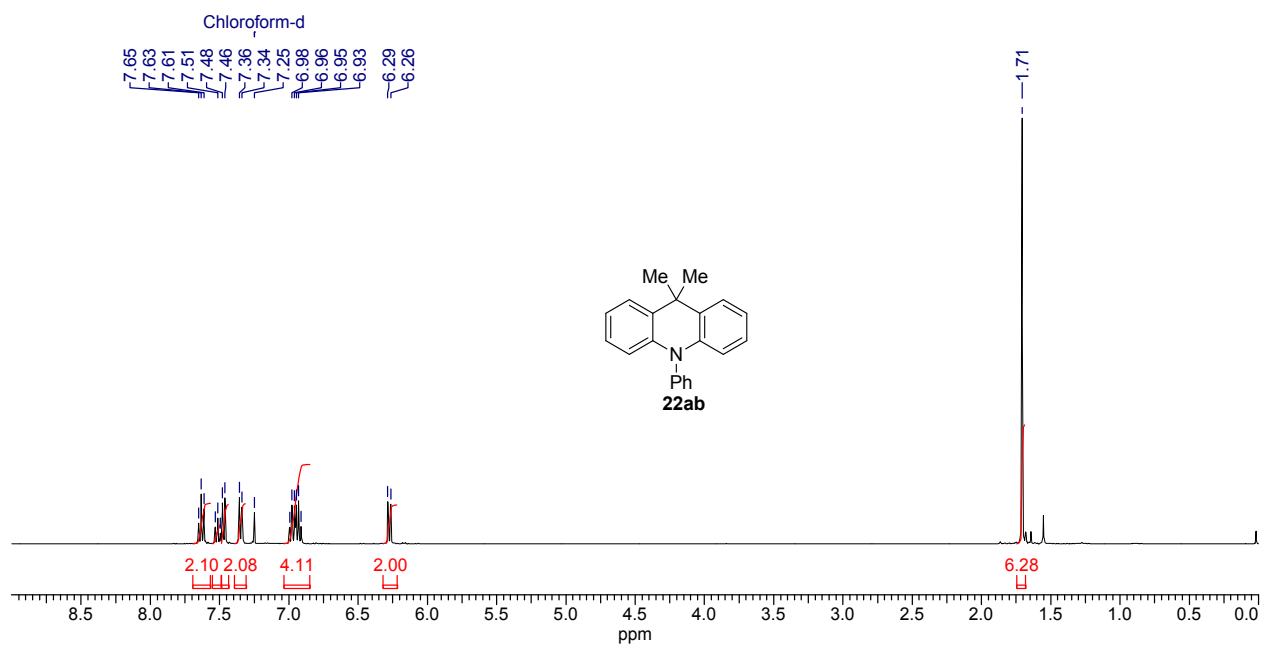
$^{13}\text{C}$  NMR (100 MHz) spectrum of **21fb** in  $\text{CDCl}_3$



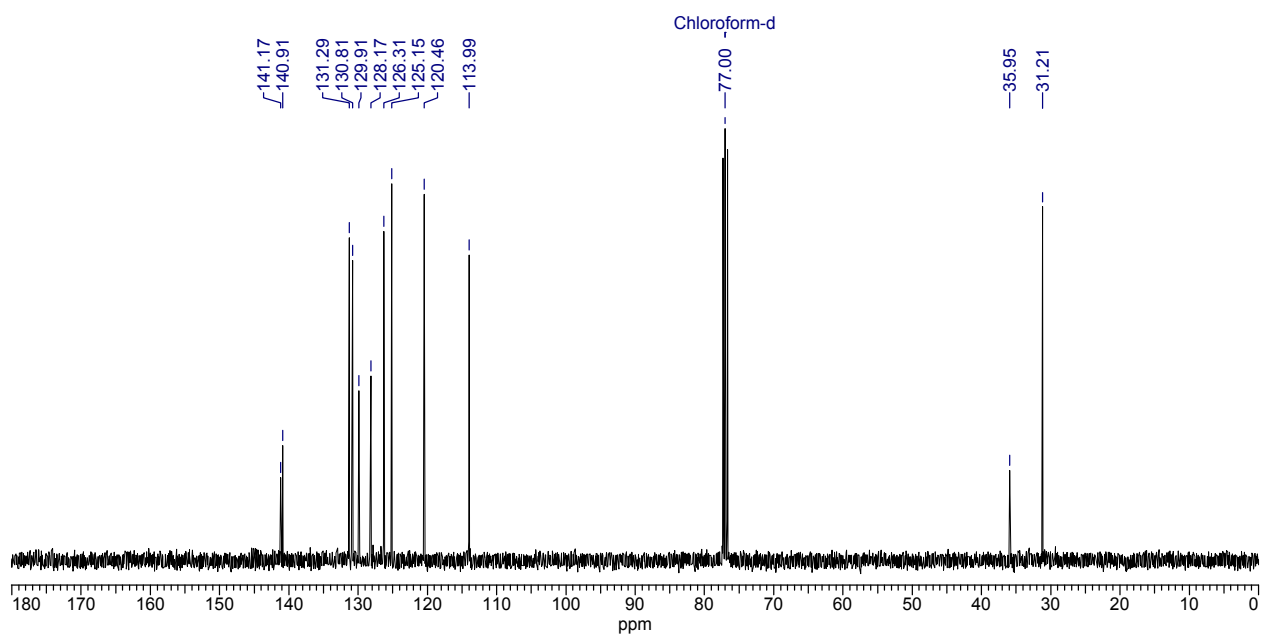
$^1\text{H}$  NMR (400 MHz) spectrum of **21gb** in  $\text{CDCl}_3$



$^{13}\text{C}$  NMR (100 MHz) spectrum of **21gb** in  $\text{CDCl}_3$

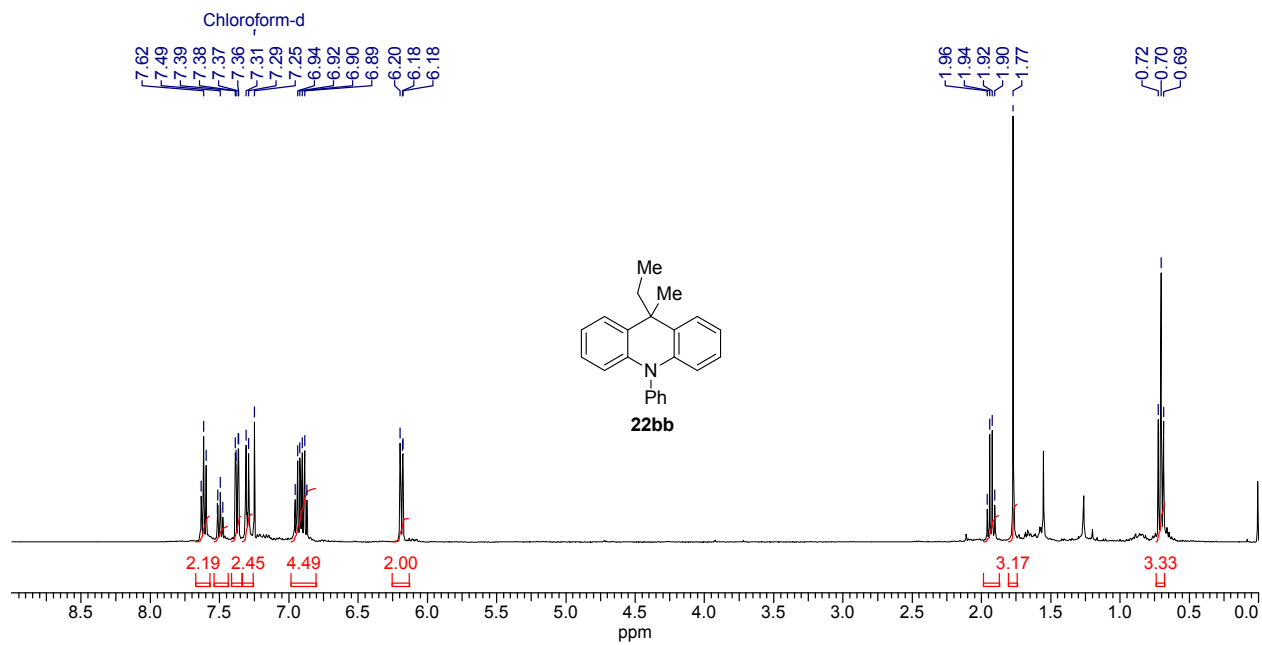


$^1\text{H}$  NMR (400 MHz) spectrum of **22ab** in  $\text{CDCl}_3$

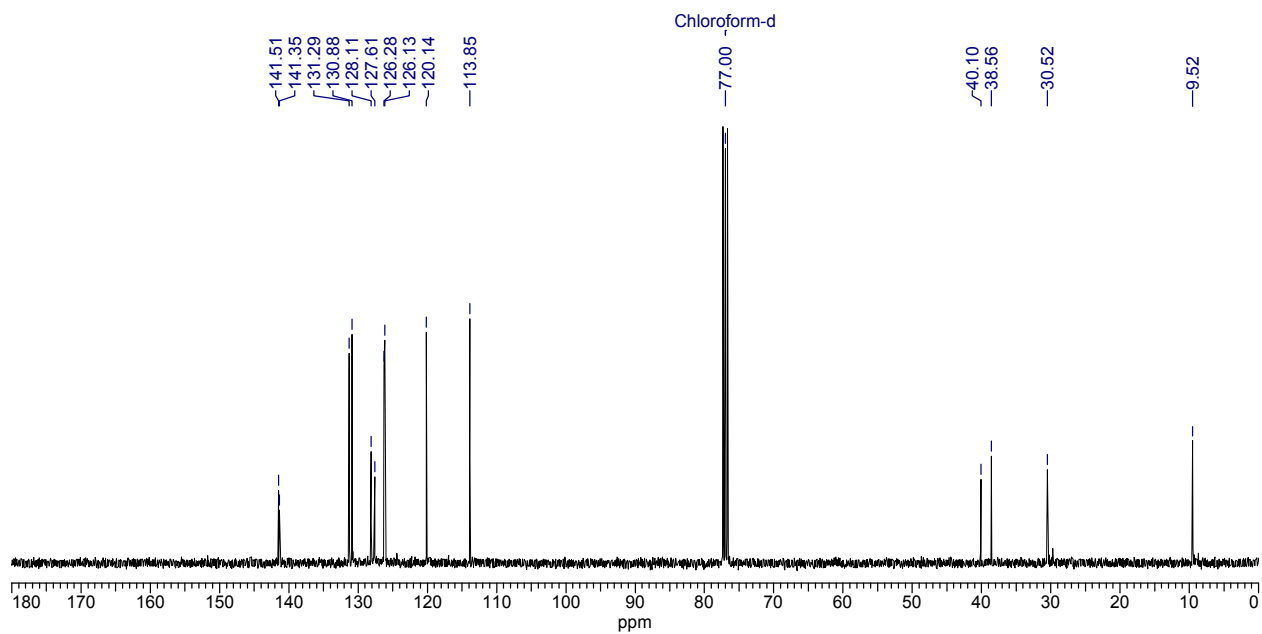


$^{13}\text{C}$  NMR (100 MHz) spectrum of **22ab** in  $\text{CDCl}_3$

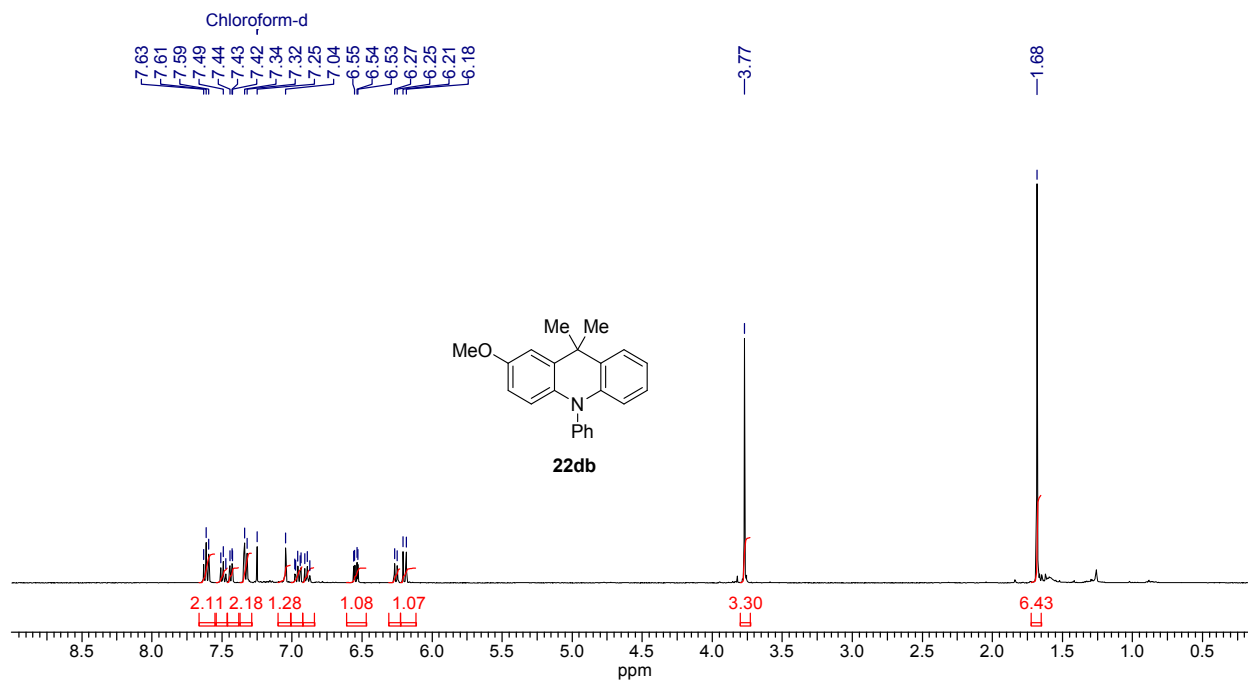




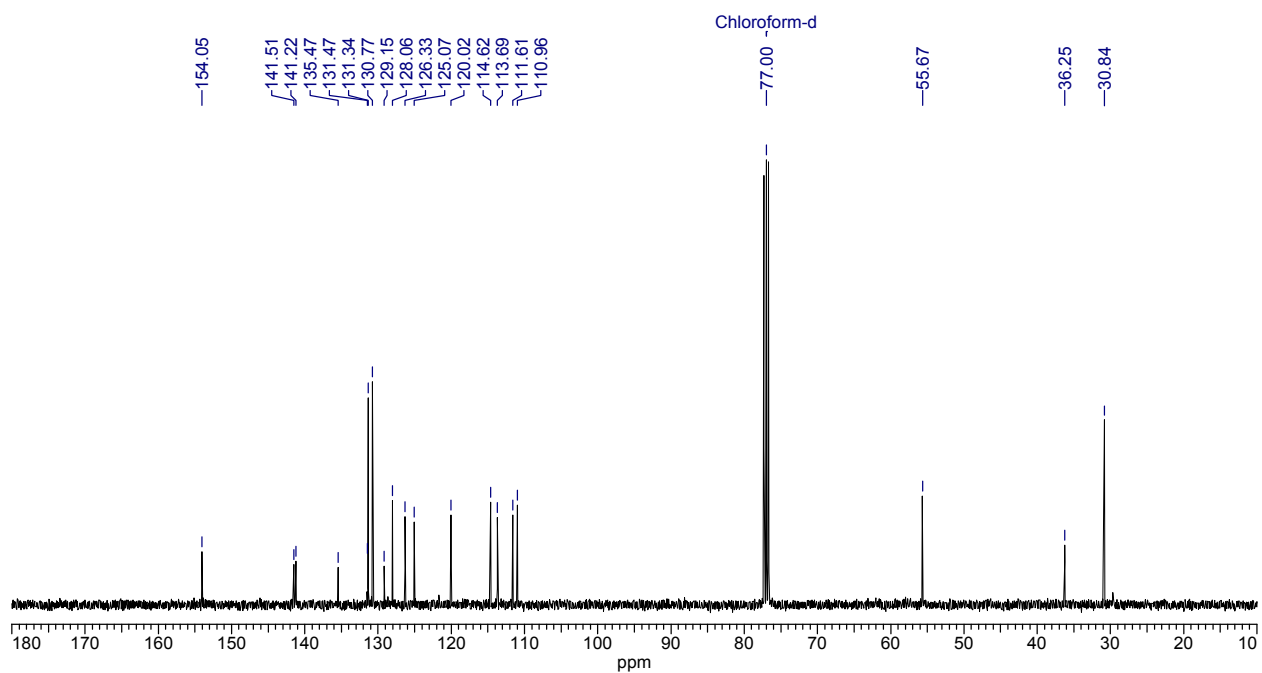
$^1\text{H}$  NMR (400 MHz) spectrum of **22bb** in  $\text{CDCl}_3$



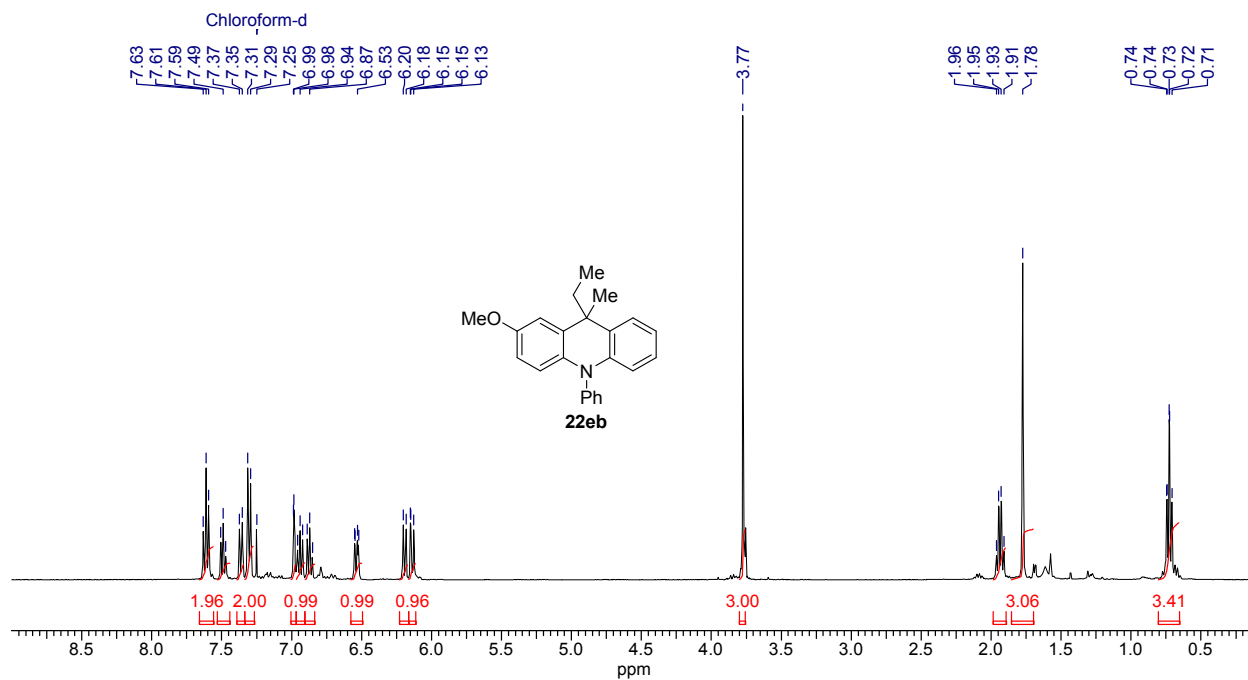
$^{13}\text{C}$  NMR (100 MHz) spectrum of **22bb** in  $\text{CDCl}_3$



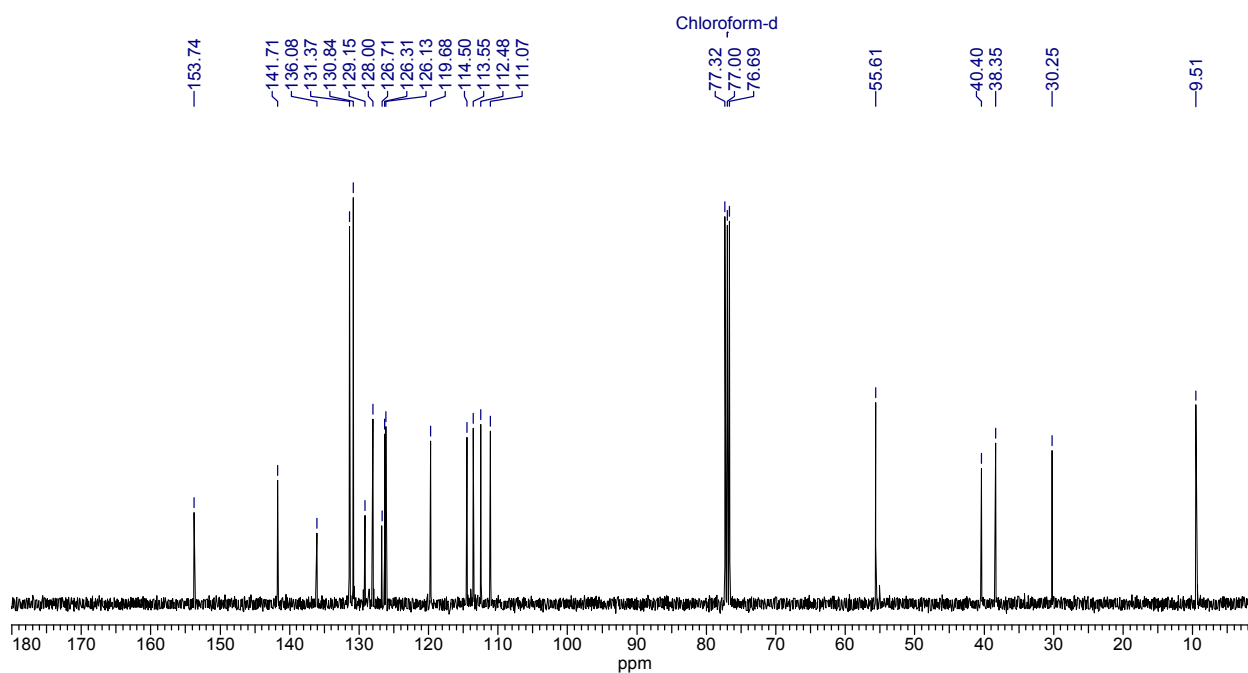
$^1\text{H}$  NMR (400 MHz) spectrum of **22db** in  $\text{CDCl}_3$



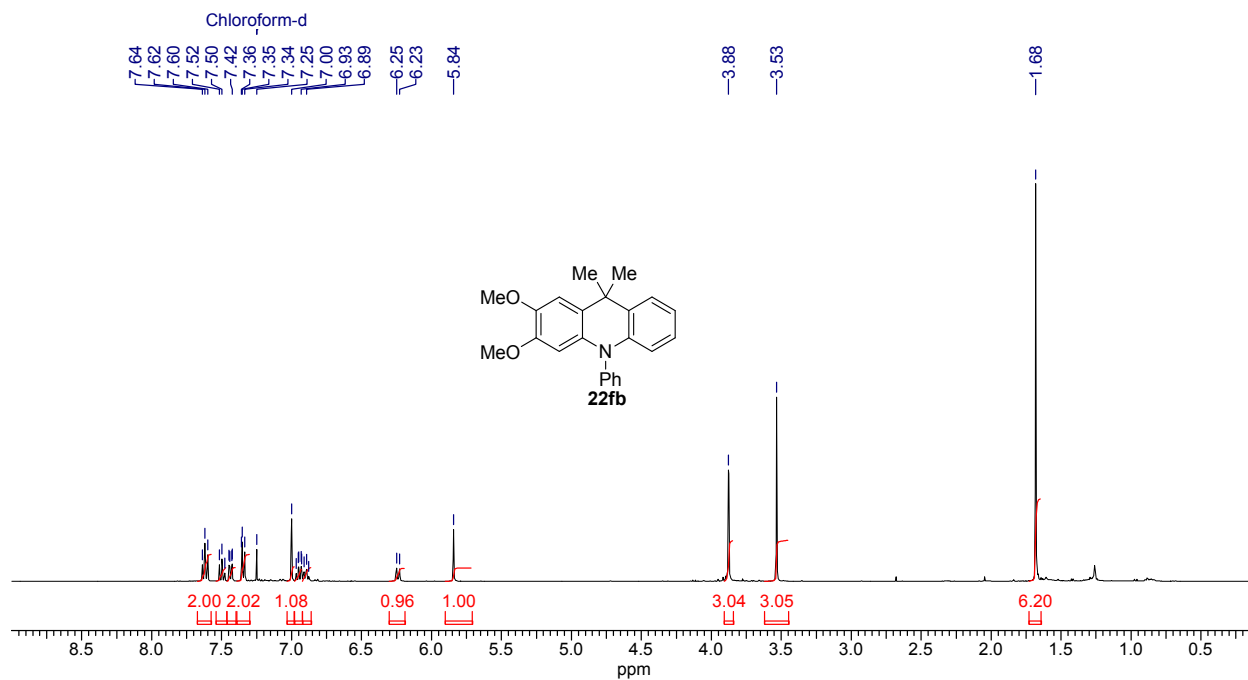
$^{13}\text{C}$  NMR (100 MHz) spectrum of **22db** in  $\text{CDCl}_3$



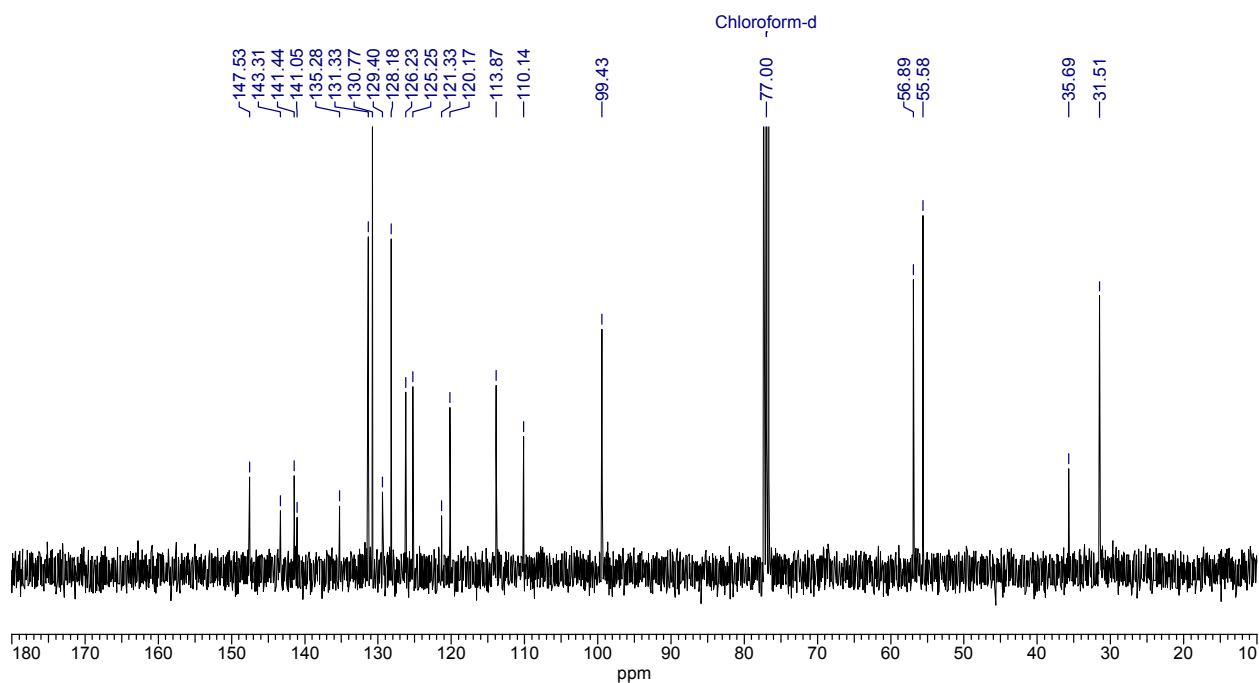
<sup>1</sup>H NMR (400 MHz) spectrum of **22eb** in CDCl<sub>3</sub>



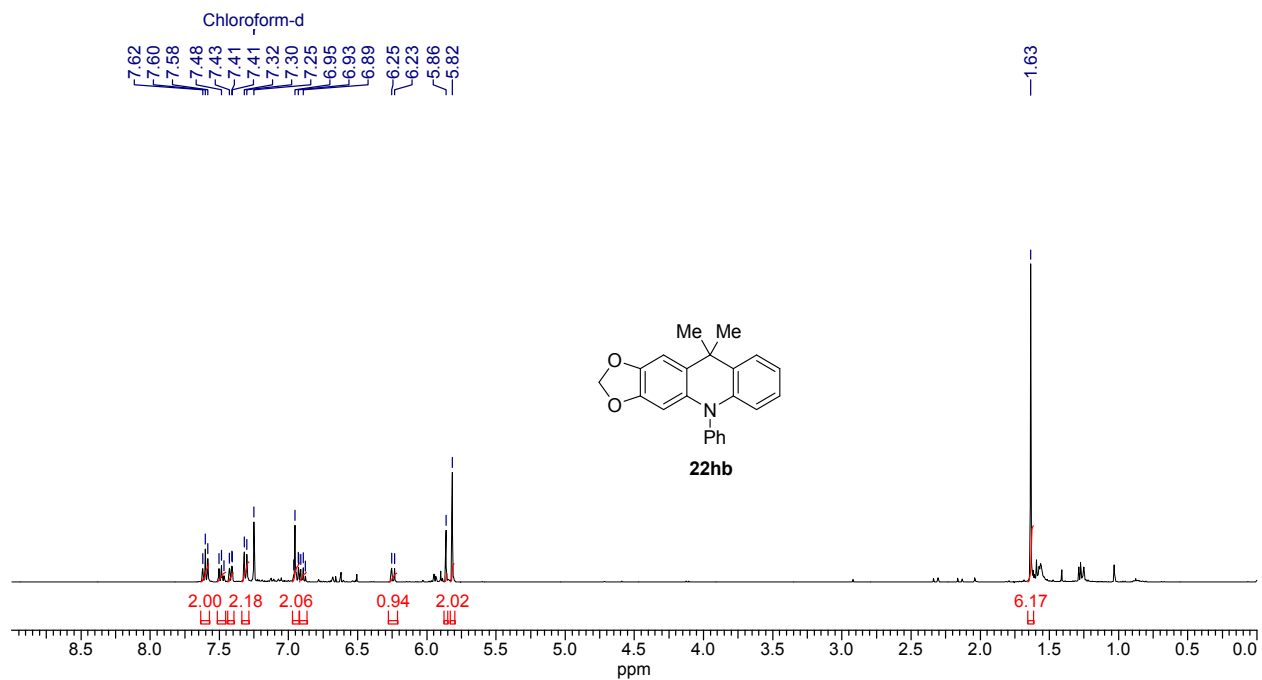
<sup>13</sup>C NMR (100 MHz) spectrum of **22eb** in CDCl<sub>3</sub>



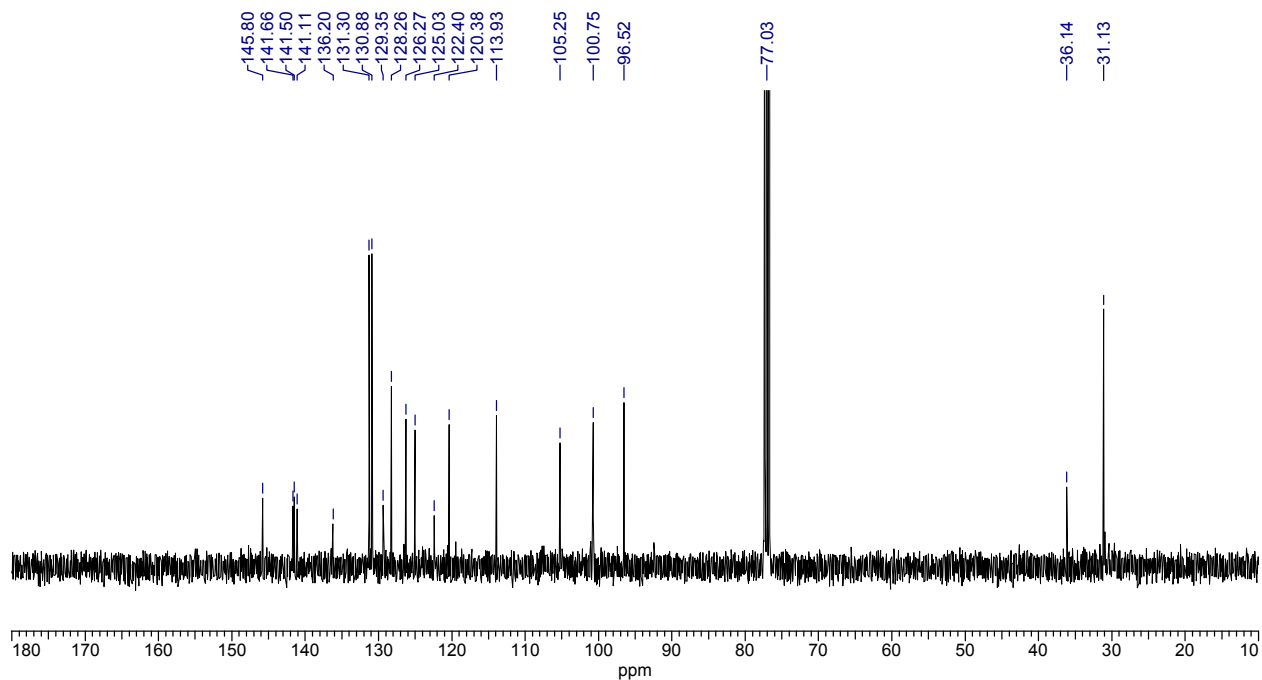
$^1\text{H}$  NMR (400 MHz) spectrum of **22fb** in  $\text{CDCl}_3$



$^{13}\text{C}$  NMR (100 MHz) spectrum of **22fb** in  $\text{CDCl}_3$



$^1\text{H}$  NMR (400 MHz) spectrum of **22hb** in  $\text{CDCl}_3$



$^{13}\text{C}$  NMR (100 MHz) spectrum of **22hb** in  $\text{CDCl}_3$