

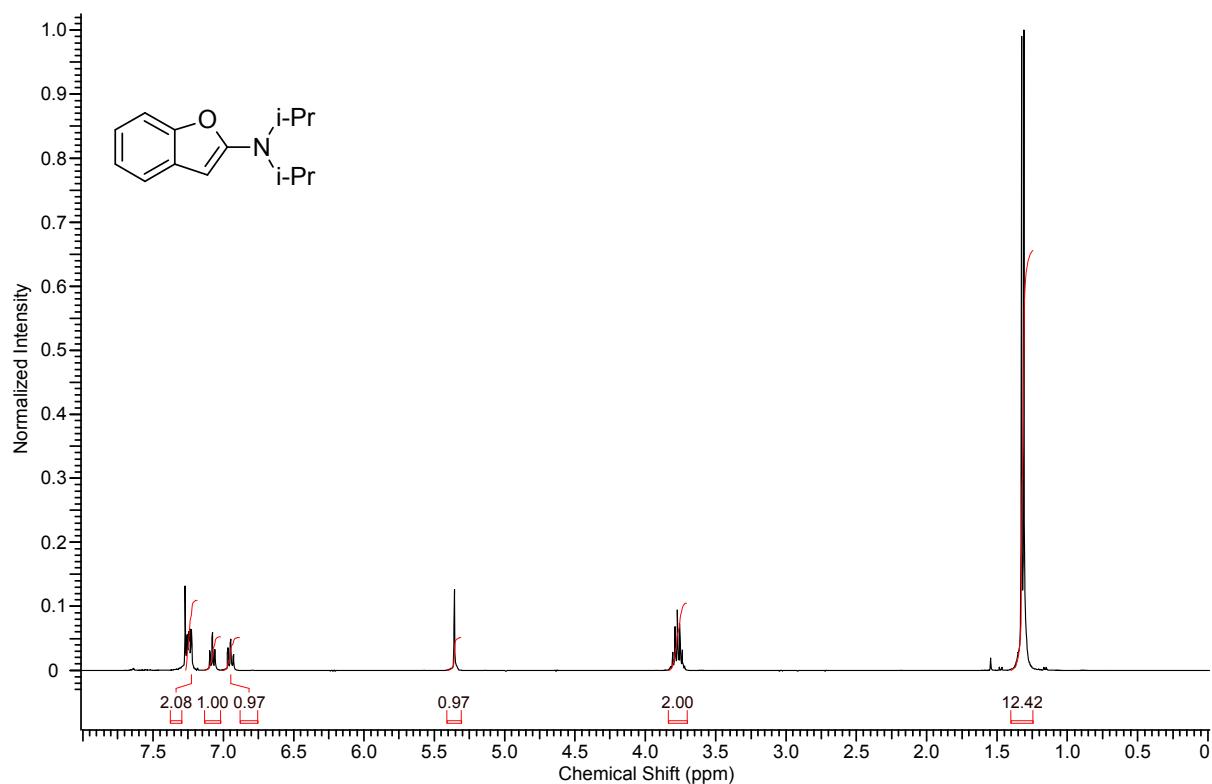
# **Copper-Catalyzed Electrophilic Amination of Heteroarenes *via* C-H Alumination**

Hongju Yoon and Yunmi Lee\*

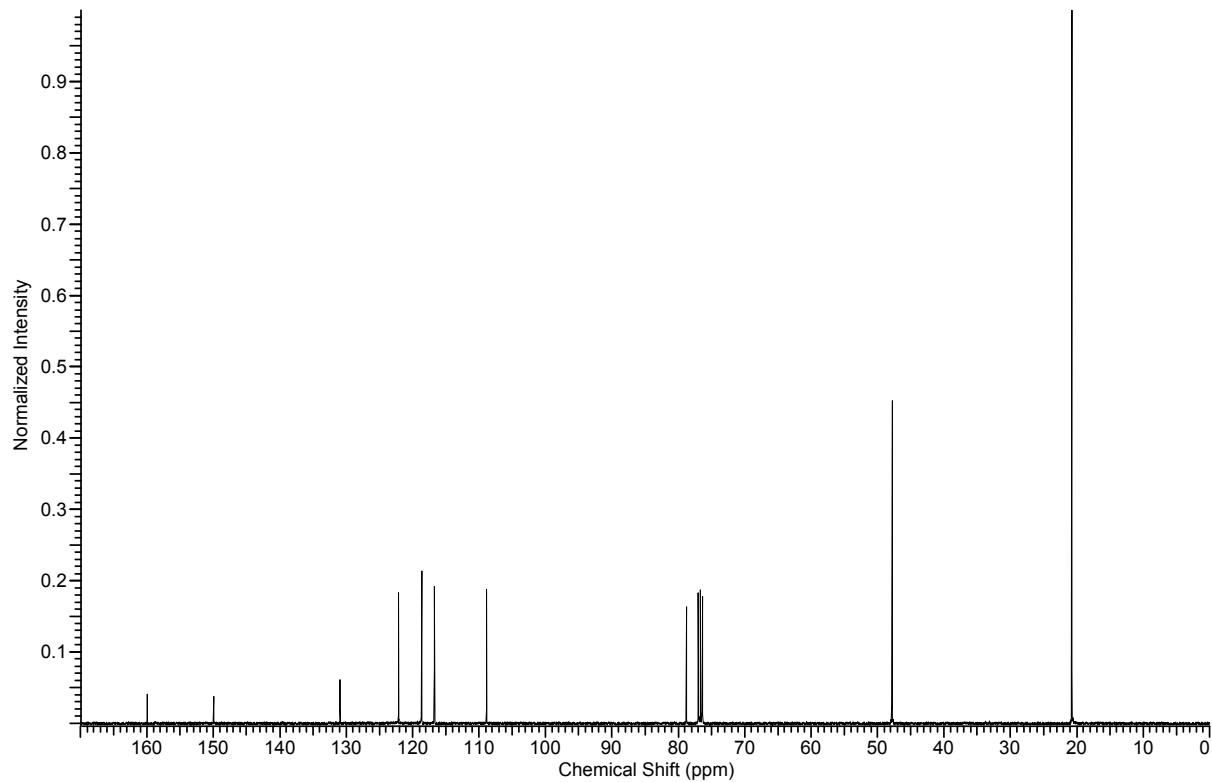
*Department of Chemistry, Kwangwoon University, Seoul 01897, Republic of Korea*

## **Supplementary Information**

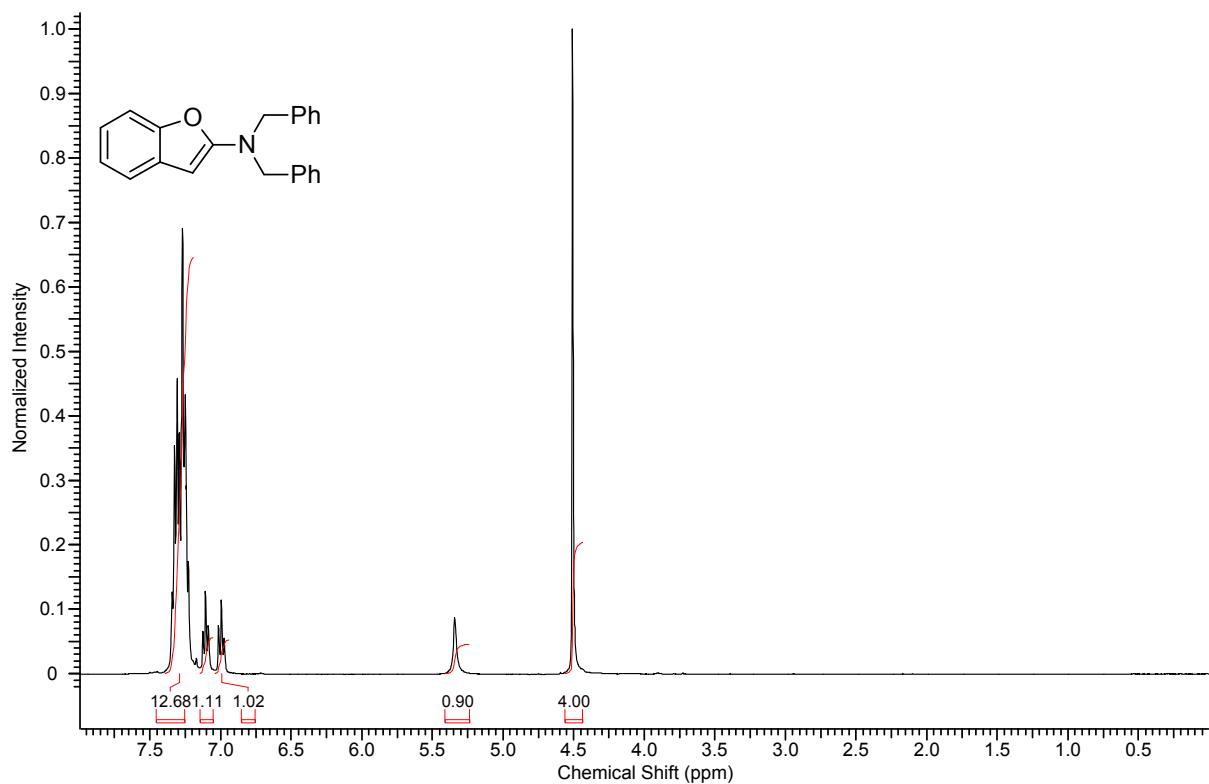
■  $^1\text{H}$  NMR and  $^{13}\text{C}$  NMR spectra for all products:



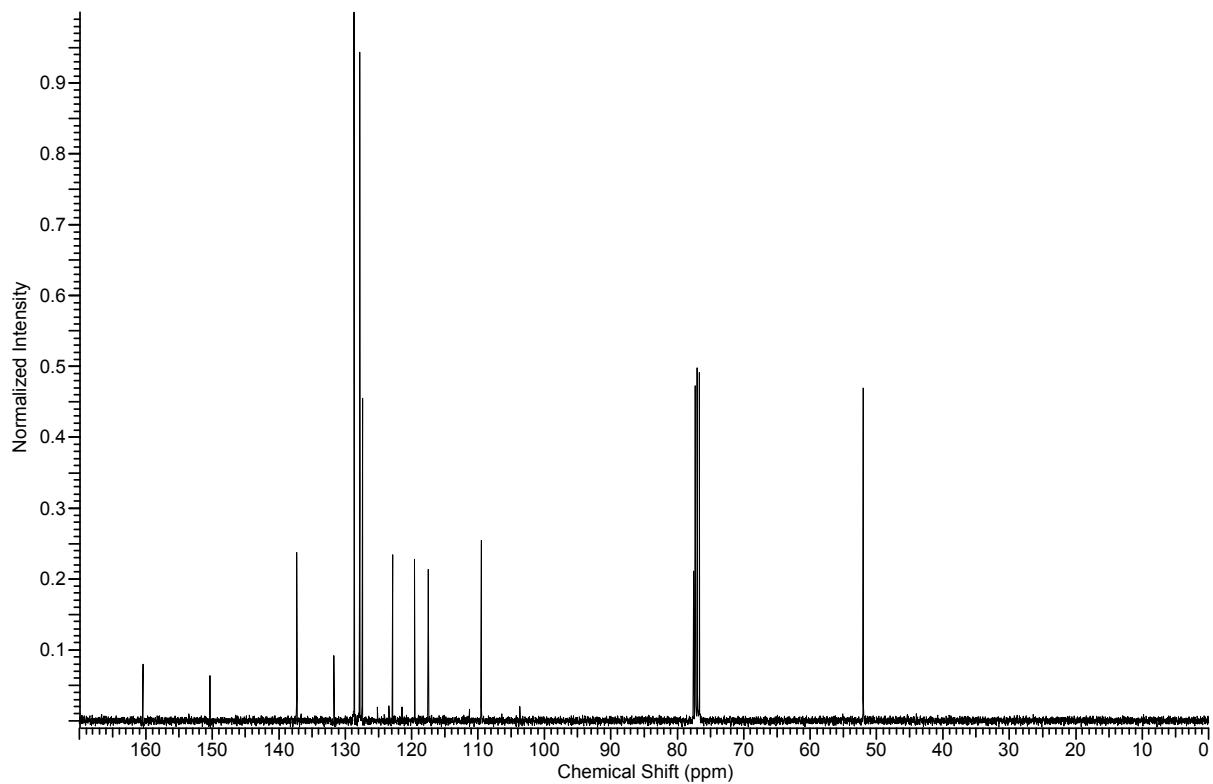
**Figure S1.**  $^1\text{H}$  NMR spectrum of the compound 4aa



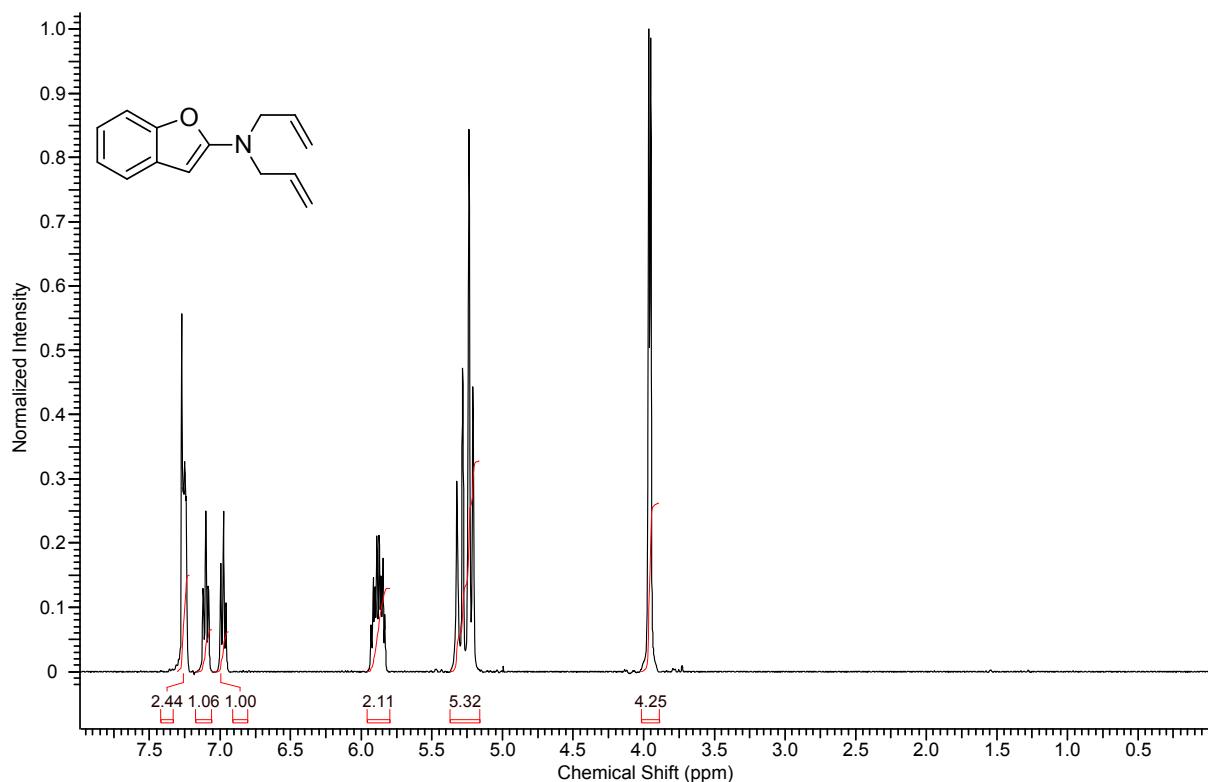
**Figure S2.**  $^{13}\text{C}$  NMR spectrum of the compound 4aa



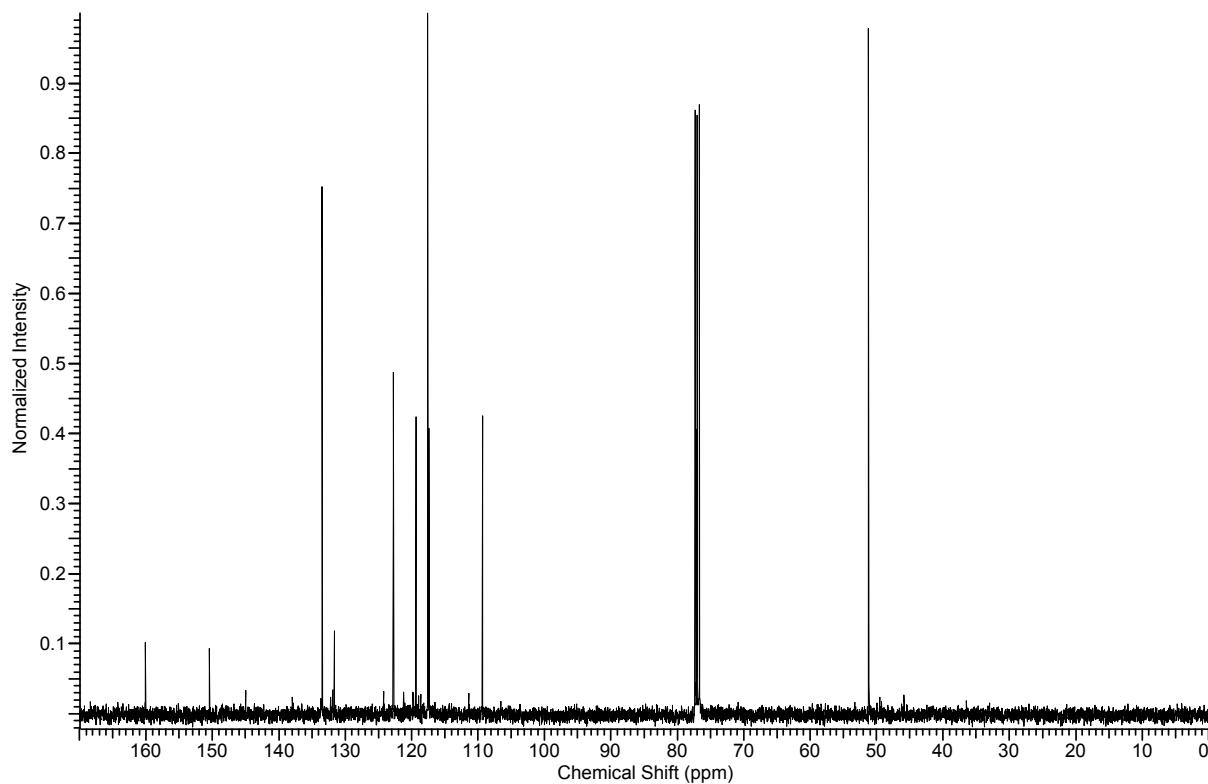
**Figure S3.** <sup>1</sup>H NMR spectrum of the compound 4ab



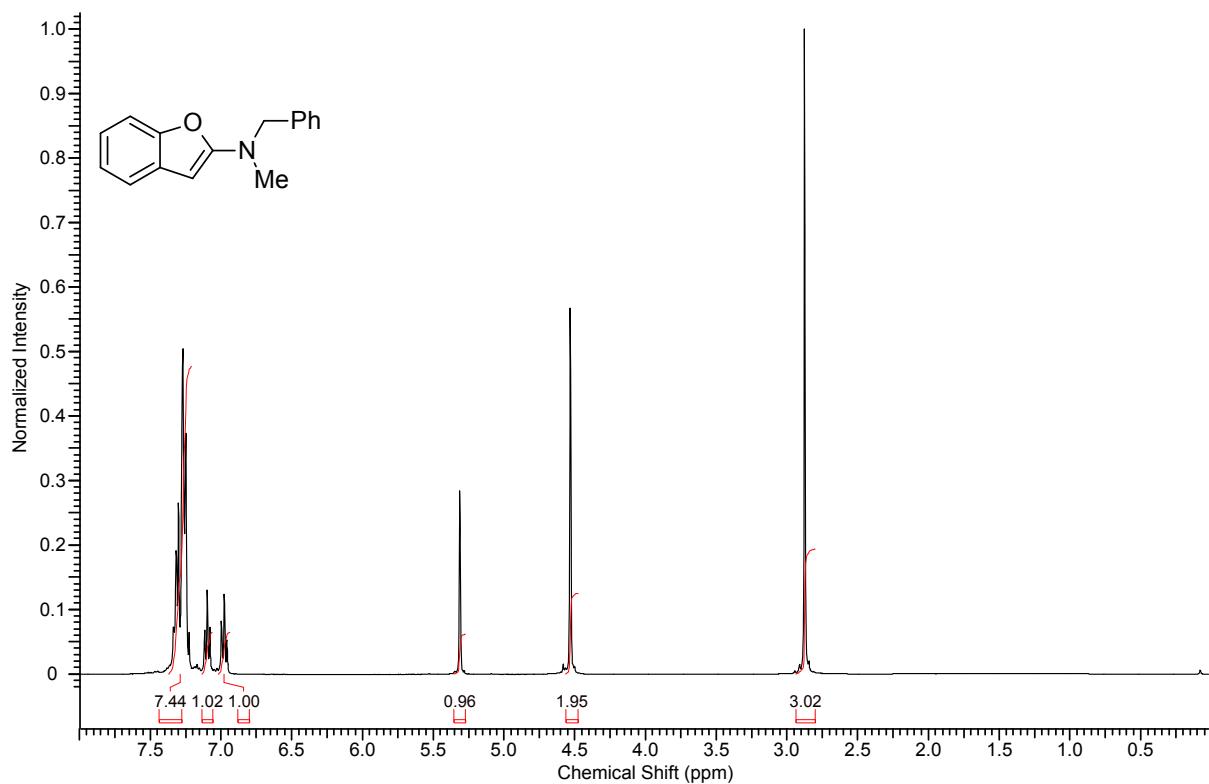
**Figure S4.** <sup>13</sup>C NMR spectrum of the compound 4ab



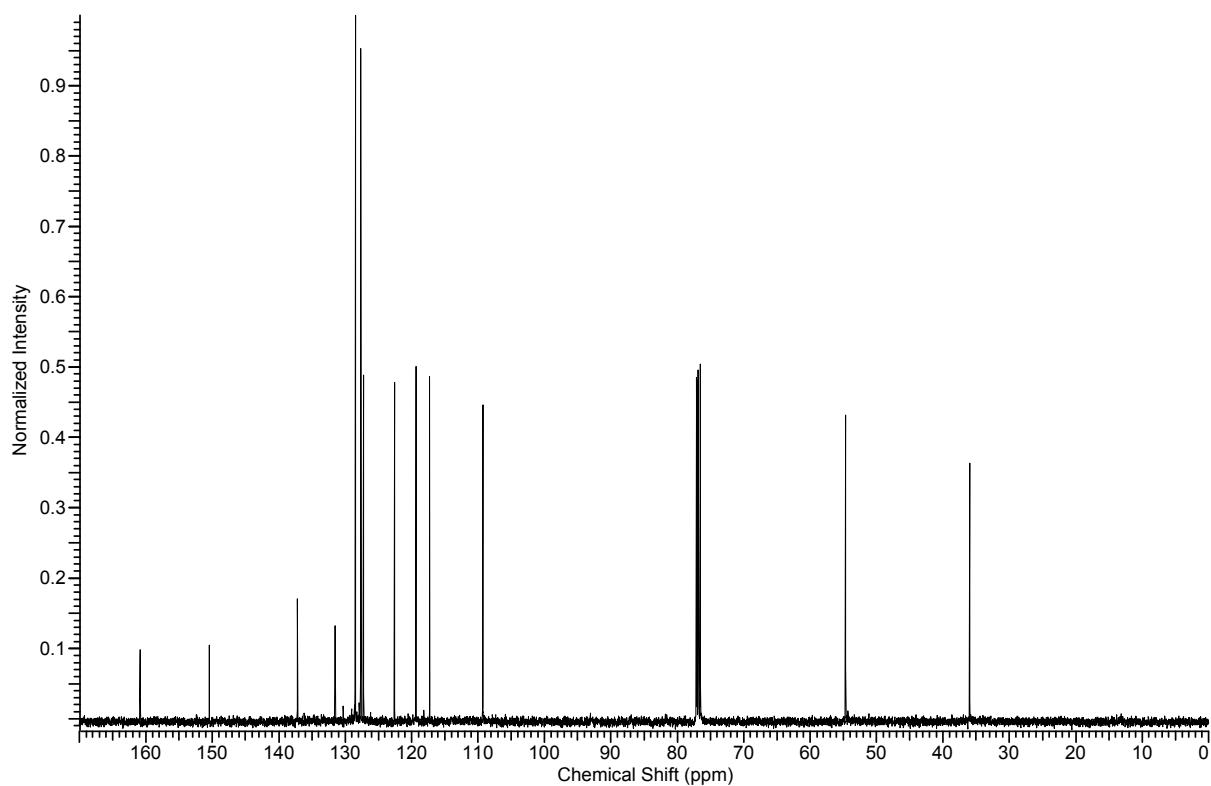
**Figure S5.** <sup>1</sup>H NMR spectrum of the compound 4ac



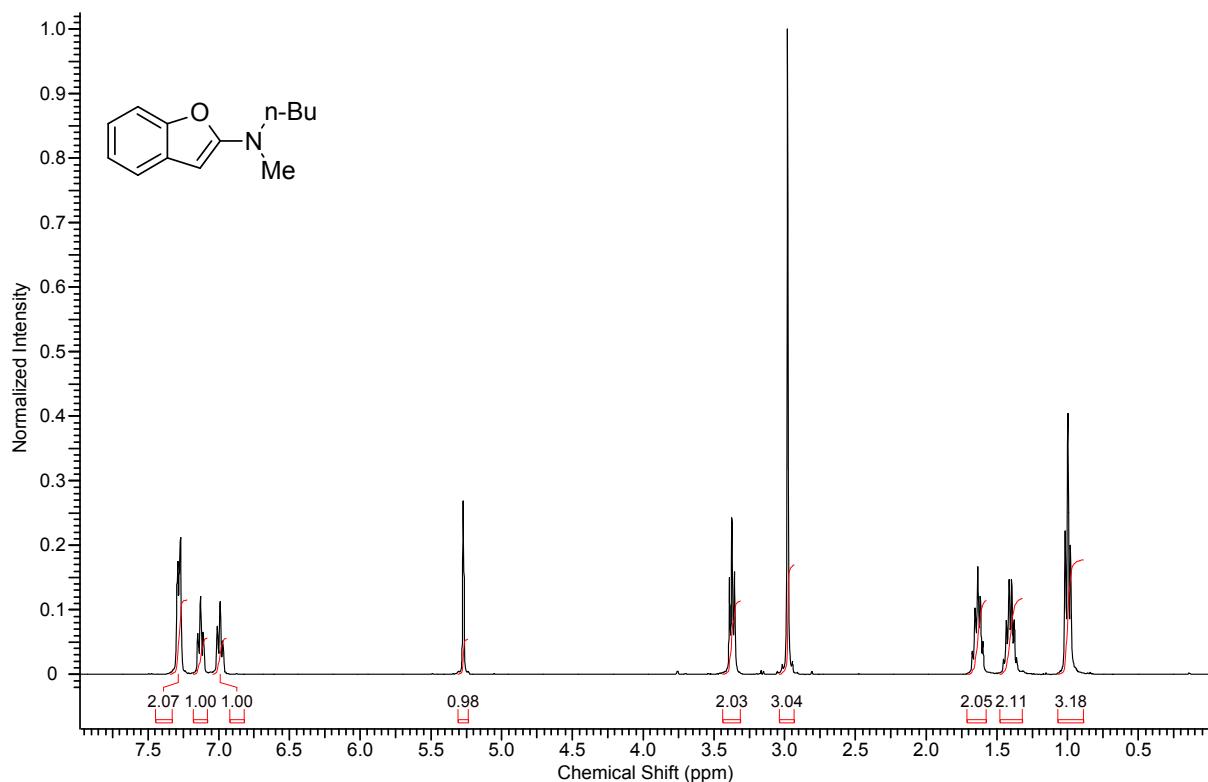
**Figure S6.** <sup>13</sup>C NMR spectrum of the compound 4ac



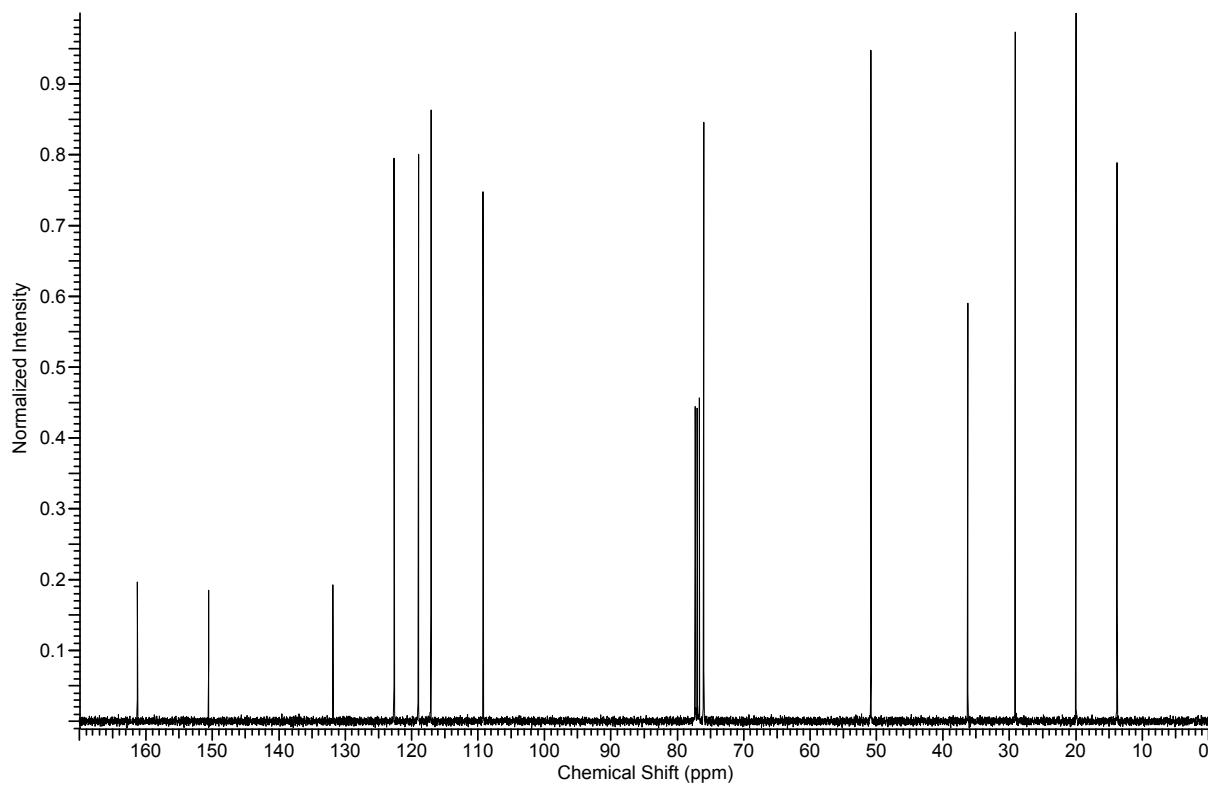
**Figure S7.** <sup>1</sup>H NMR spectrum of the compound 4ad



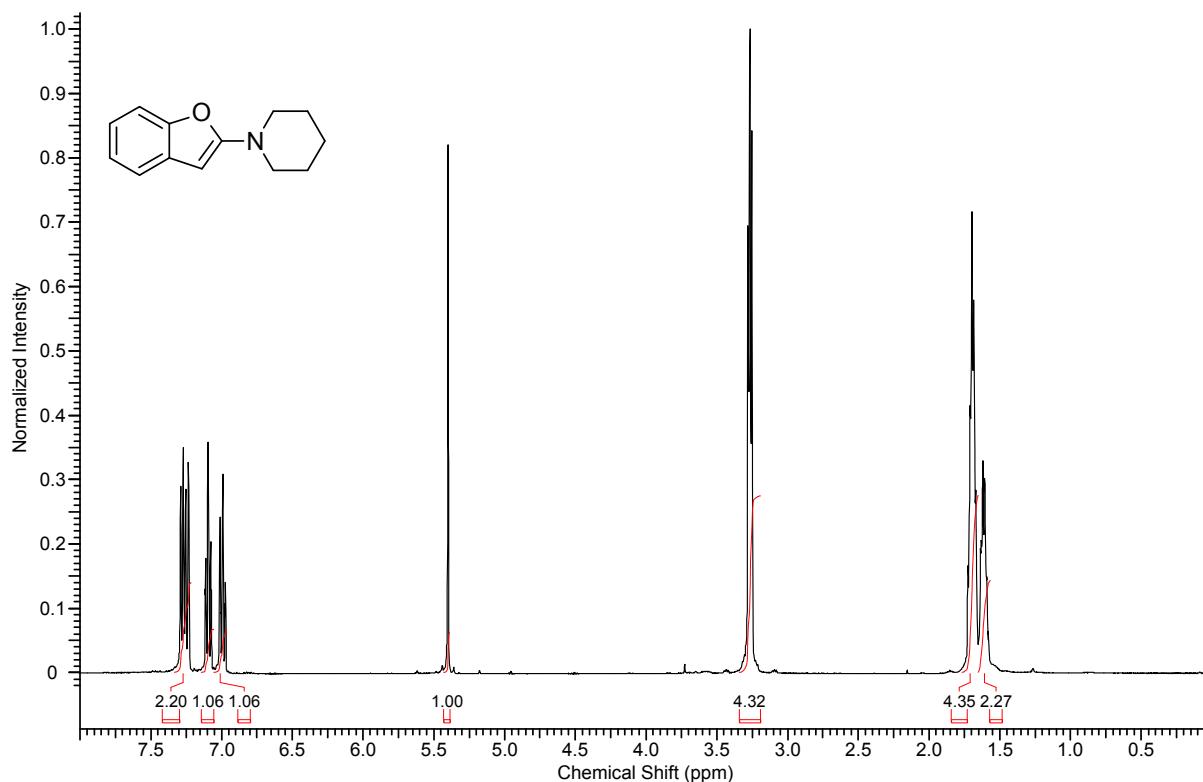
**Figure S8.** <sup>13</sup>C NMR spectrum of the compound 4ad



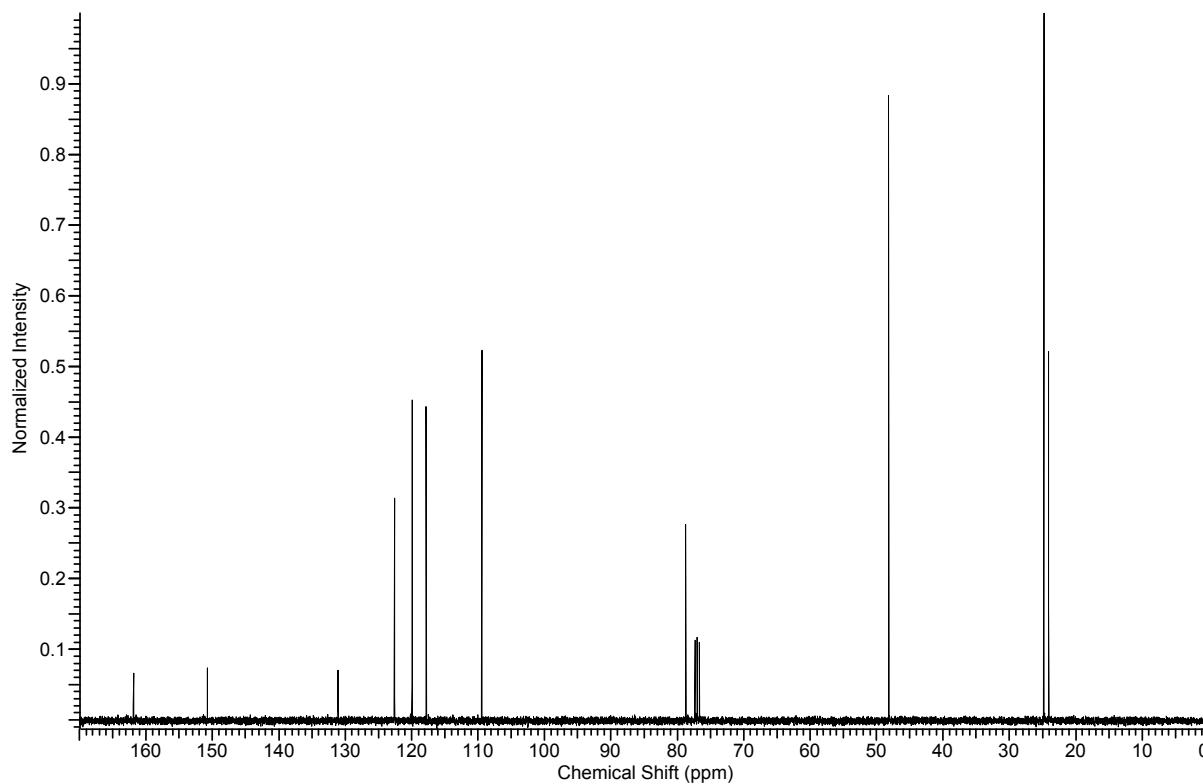
**Figure S9.**  $^1\text{H}$  NMR spectrum of the compound **4ae**



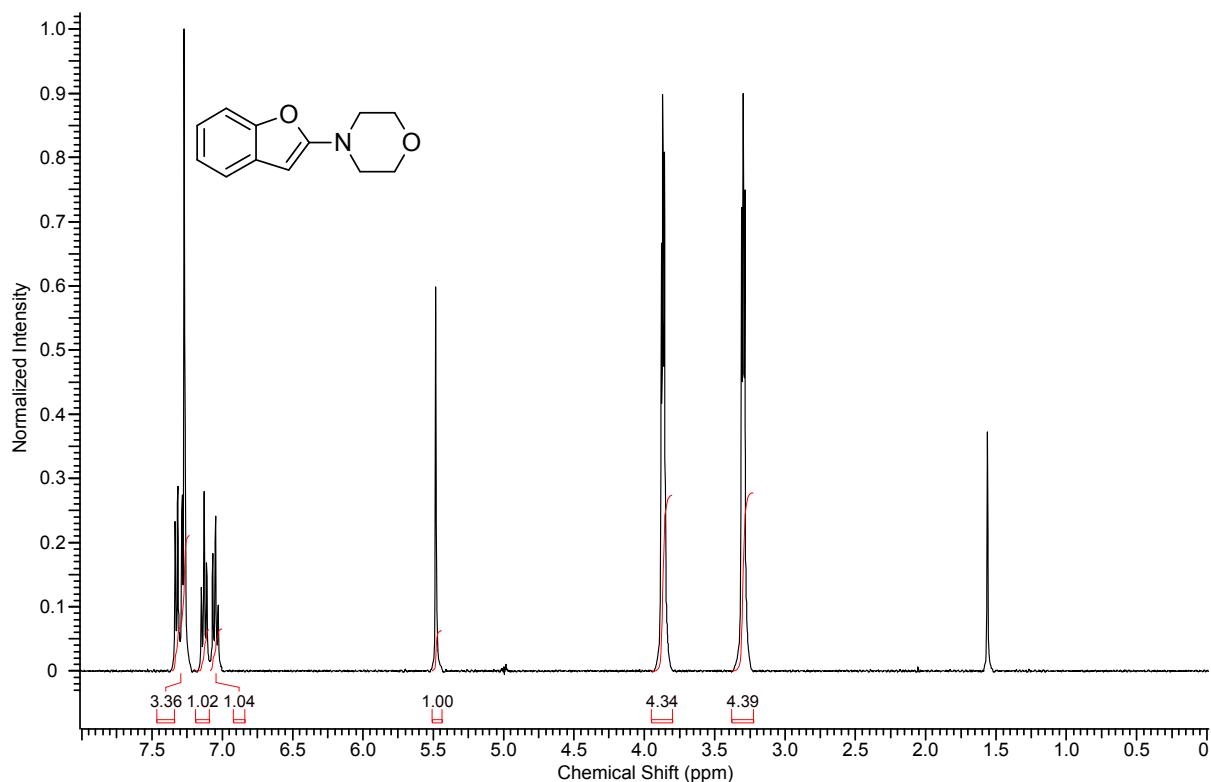
**Figure S10.**  $^{13}\text{C}$  NMR spectrum of the compound **4ae**



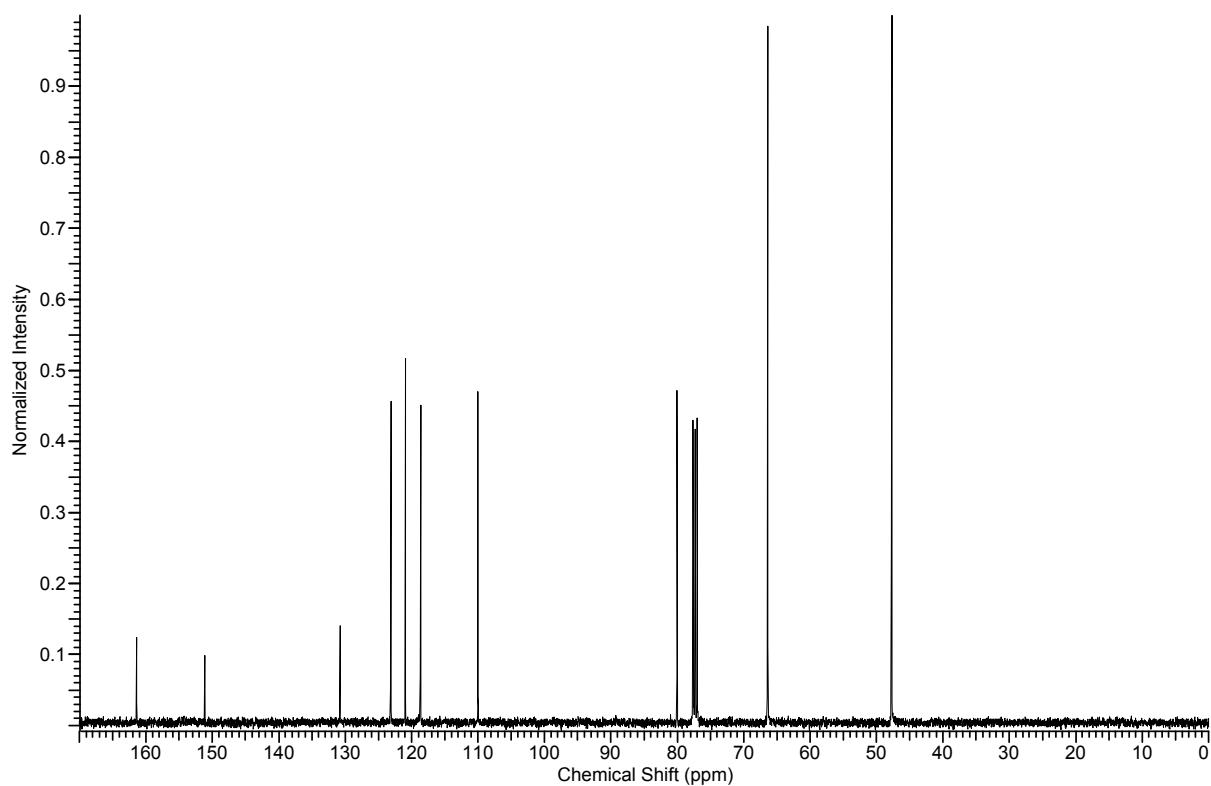
**Figure S11.** <sup>1</sup>H NMR spectrum of the compound 4af



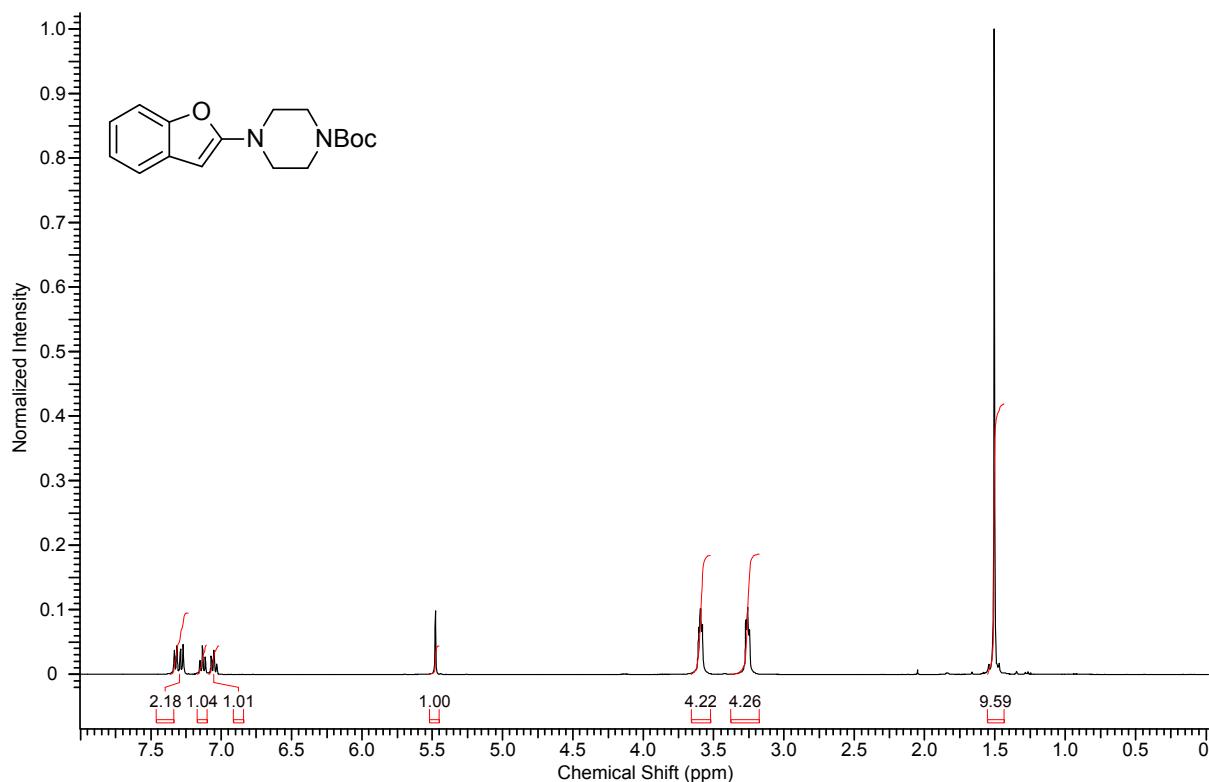
**Figure S12.** <sup>13</sup>C NMR spectrum of the compound 4af



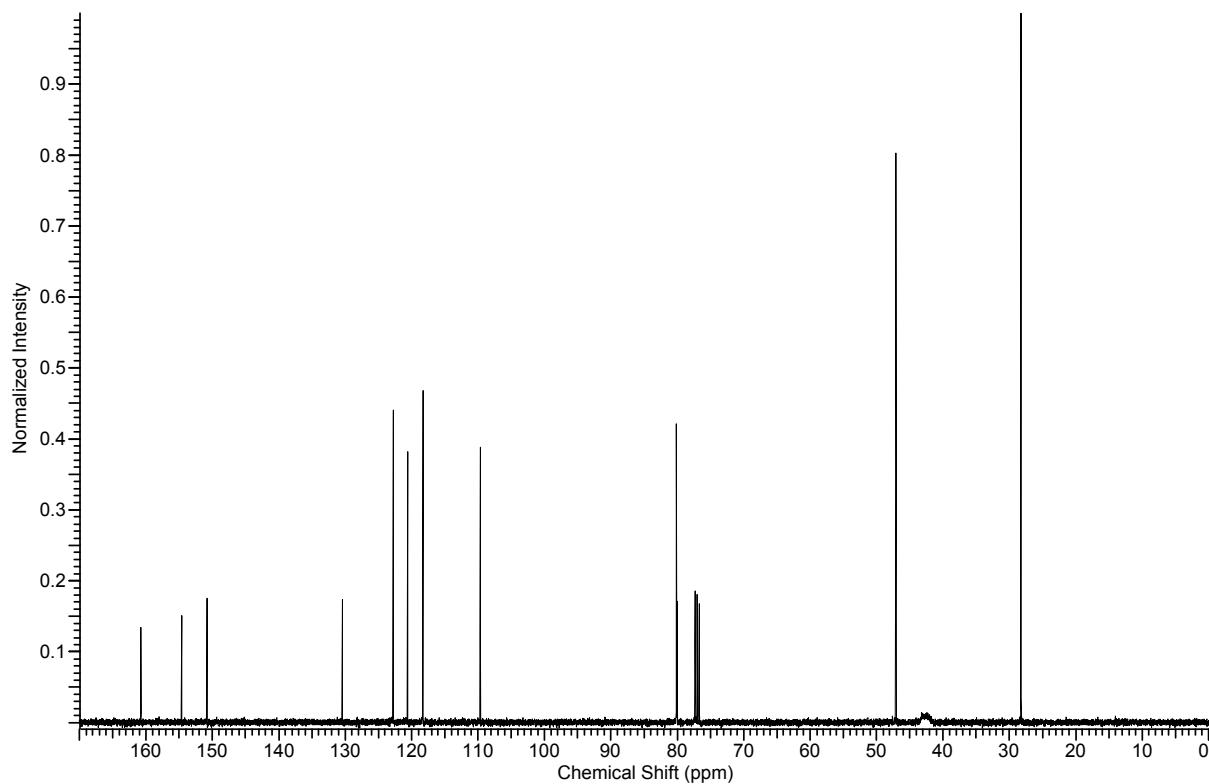
**Figure S13.** <sup>1</sup>H NMR spectrum of the compound 4ag



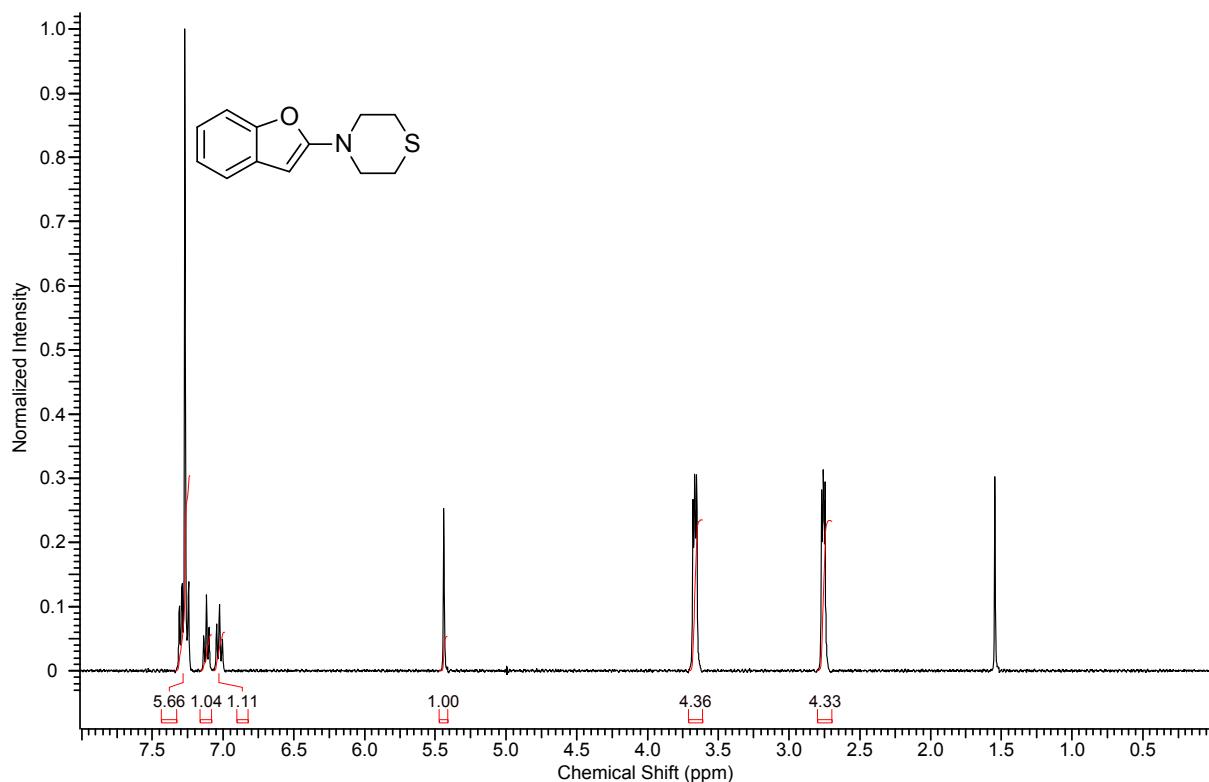
**Figure S14.** <sup>13</sup>C NMR spectrum of the compound 4ag



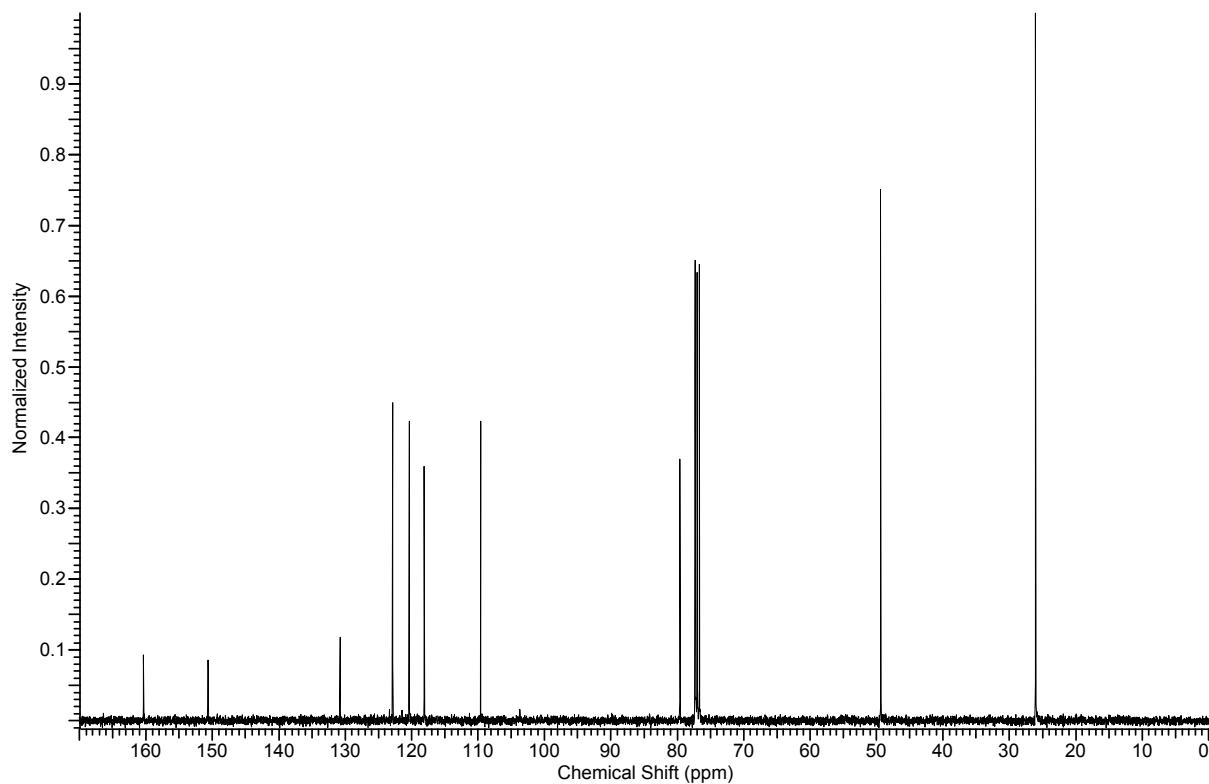
**Figure S15.** <sup>1</sup>H NMR spectrum of the compound 4ah



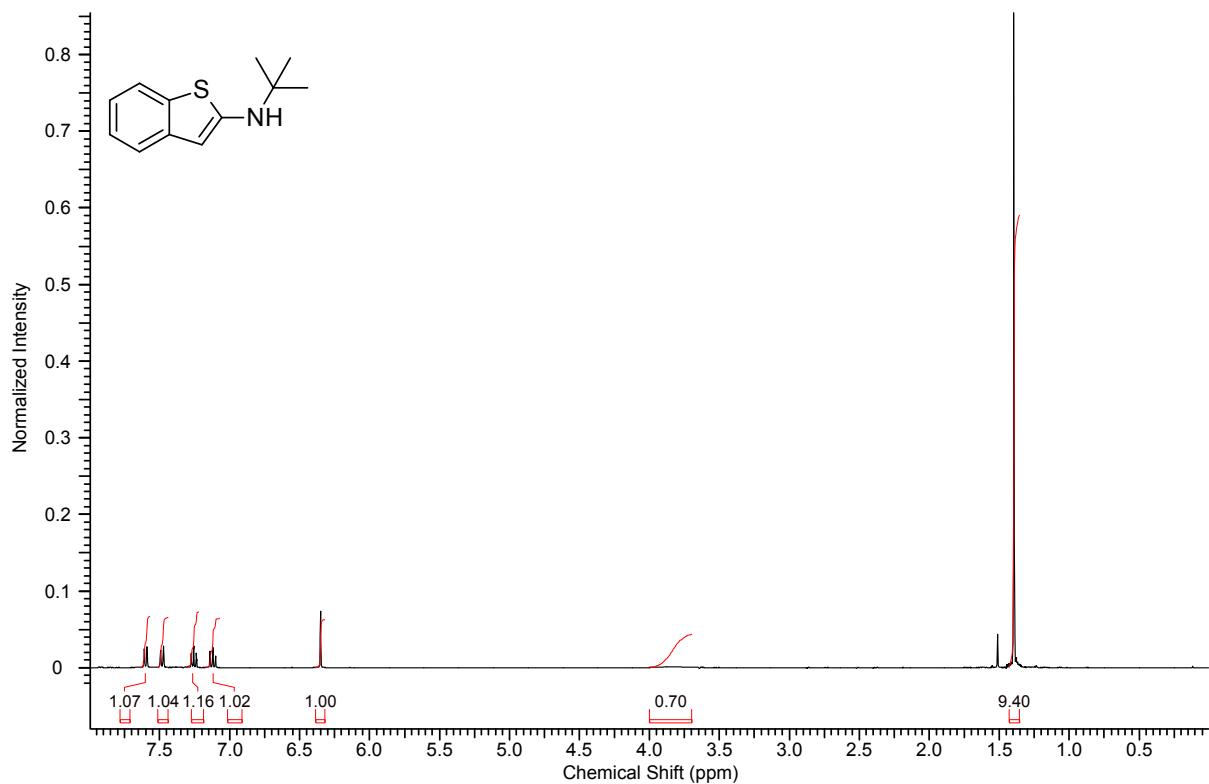
**Figure S16.** <sup>13</sup>C NMR spectrum of the compound 4ah



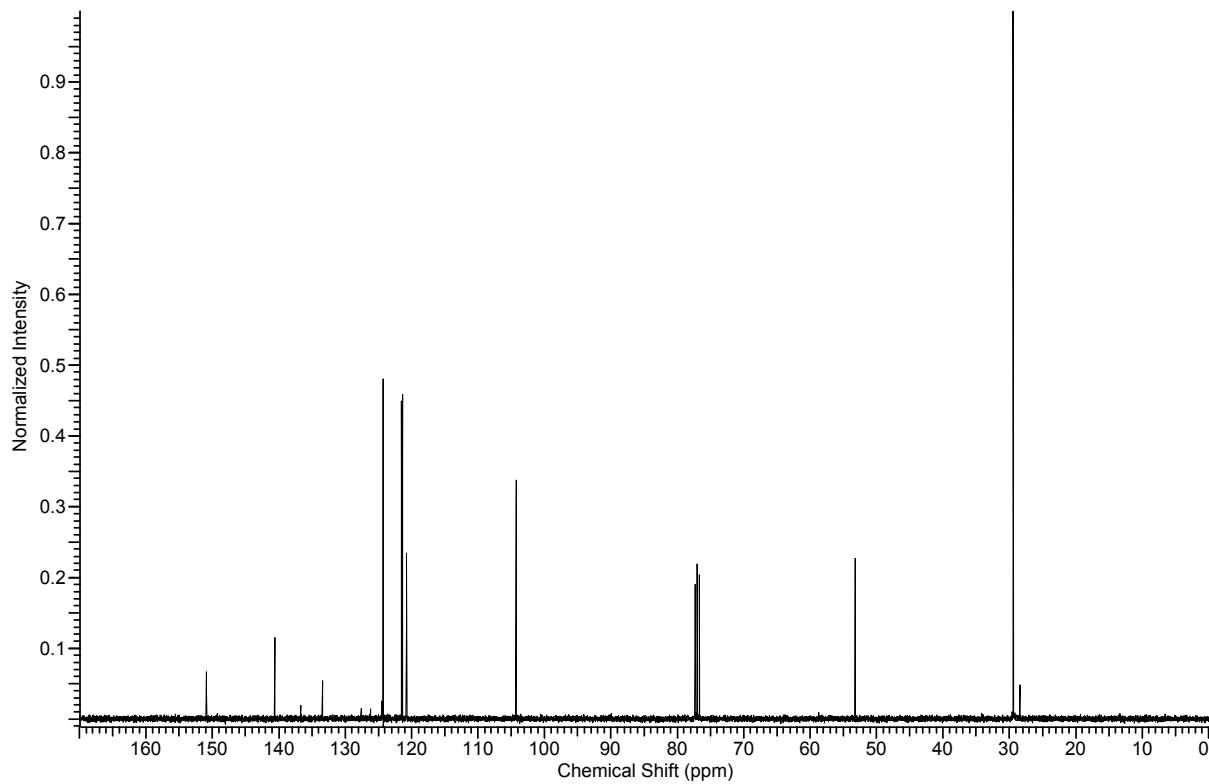
**Figure S17.** <sup>1</sup>H NMR spectrum of the compound 4ai



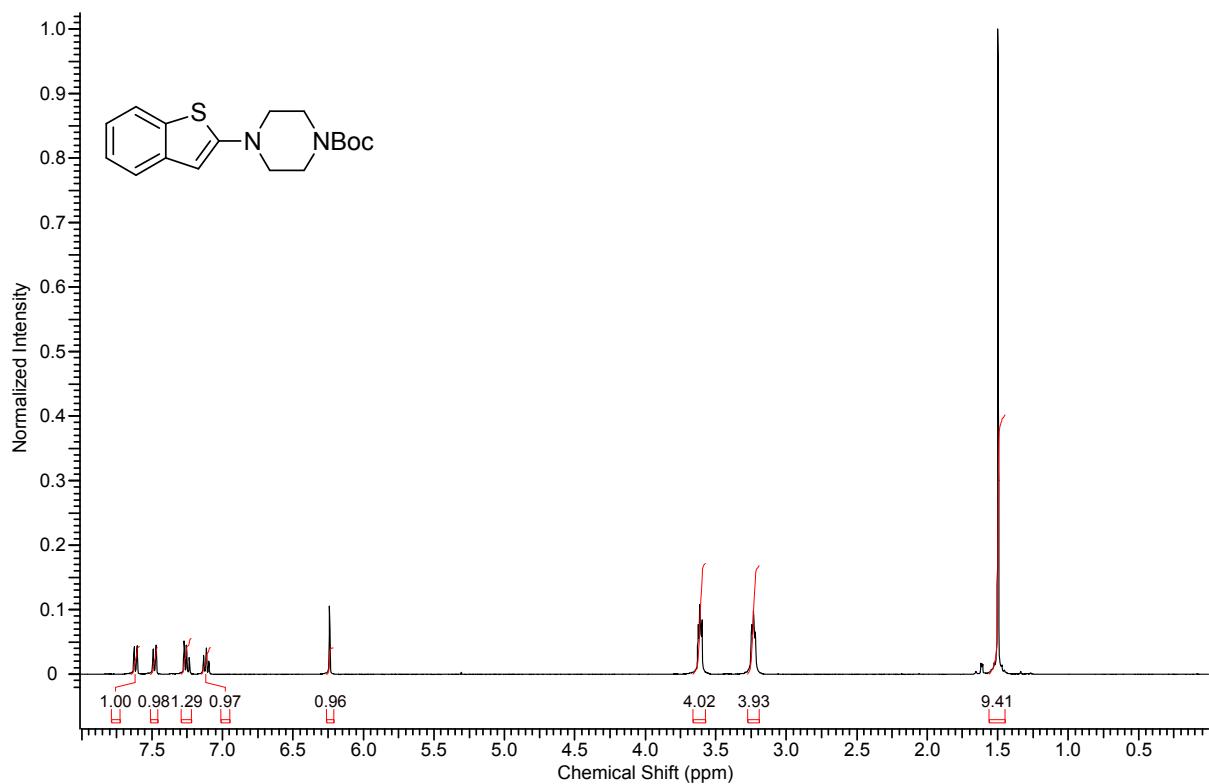
**Figure S18.** <sup>13</sup>C NMR spectrum of the compound 4ai



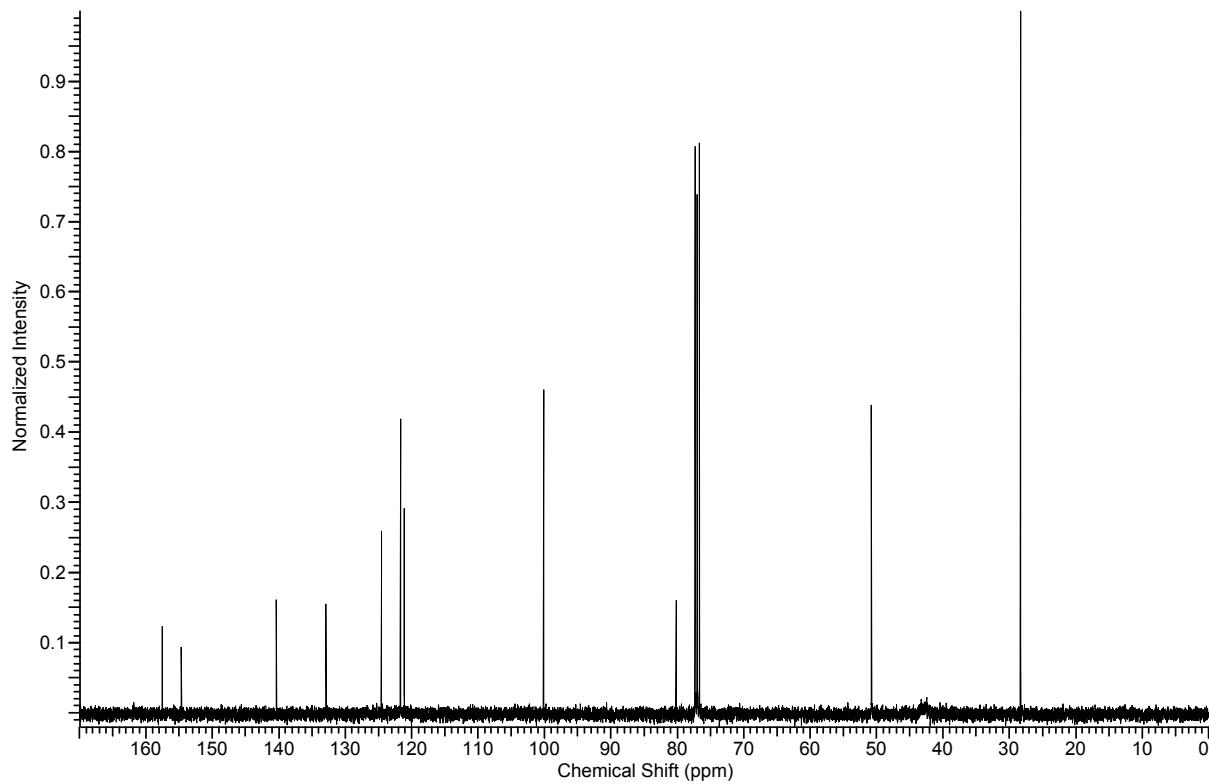
**Figure S19.** <sup>1</sup>H NMR spectrum of the compound 4bj



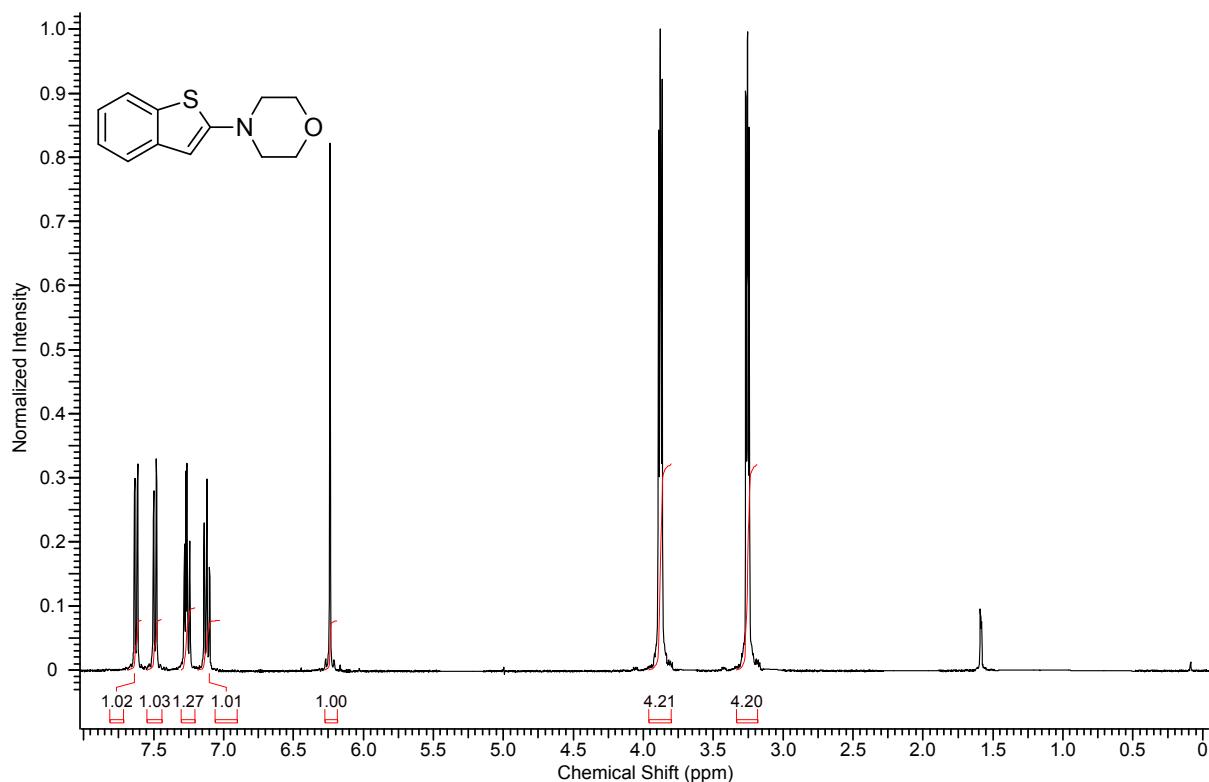
**Figure S20.** <sup>13</sup>C NMR spectrum of the compound 4bj



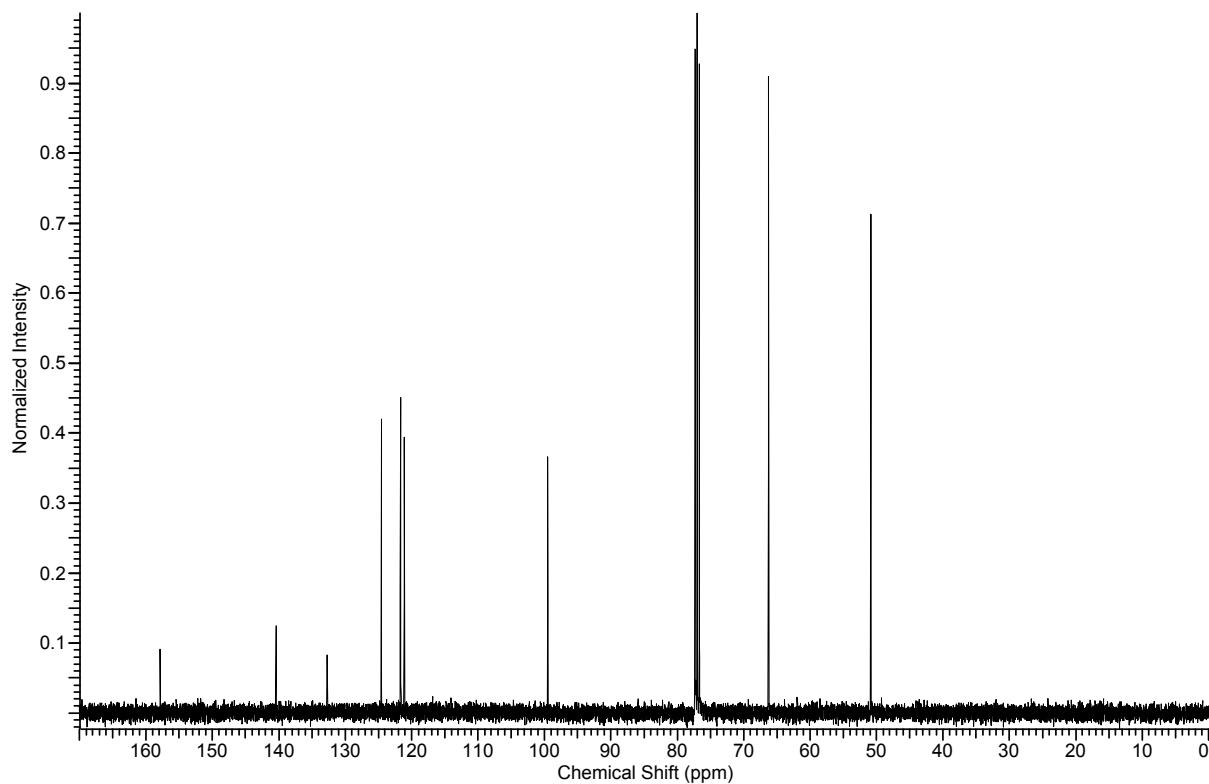
**Figure S21.** <sup>1</sup>H NMR spectrum of the compound **4bh**



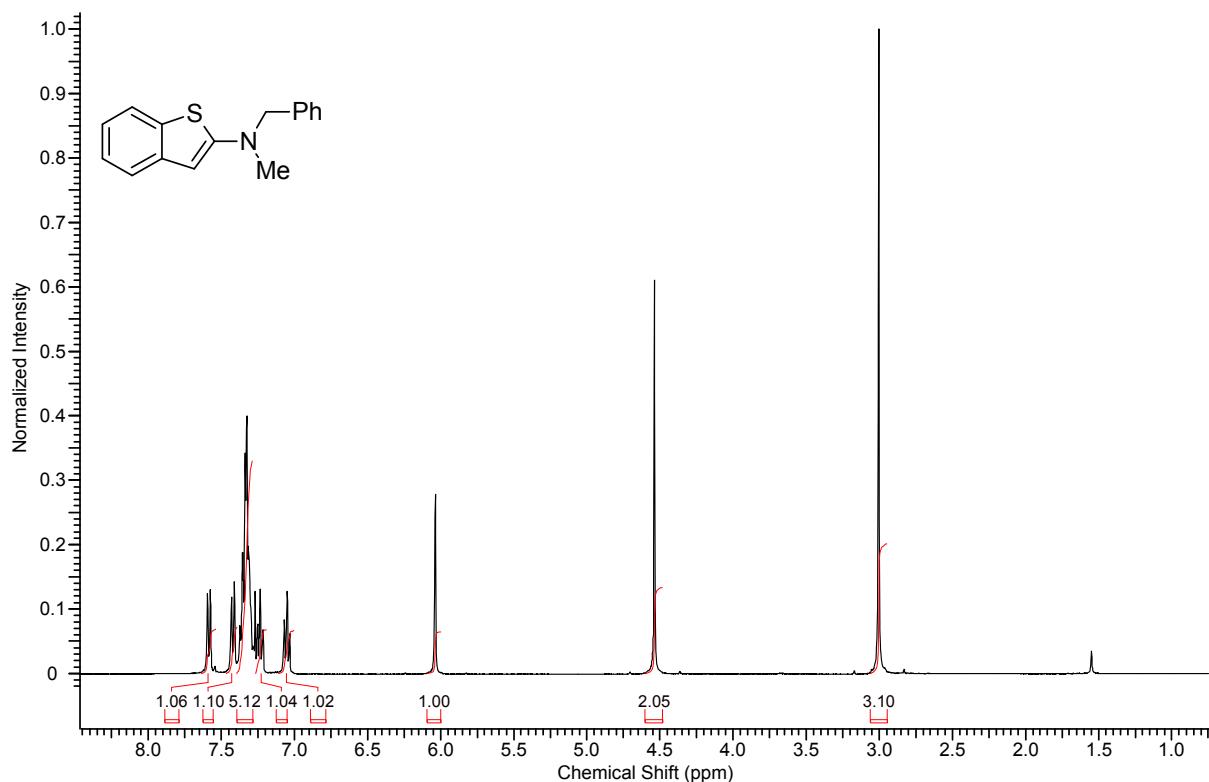
**Figure S22.** <sup>13</sup>C NMR spectrum of the compound **4bh**



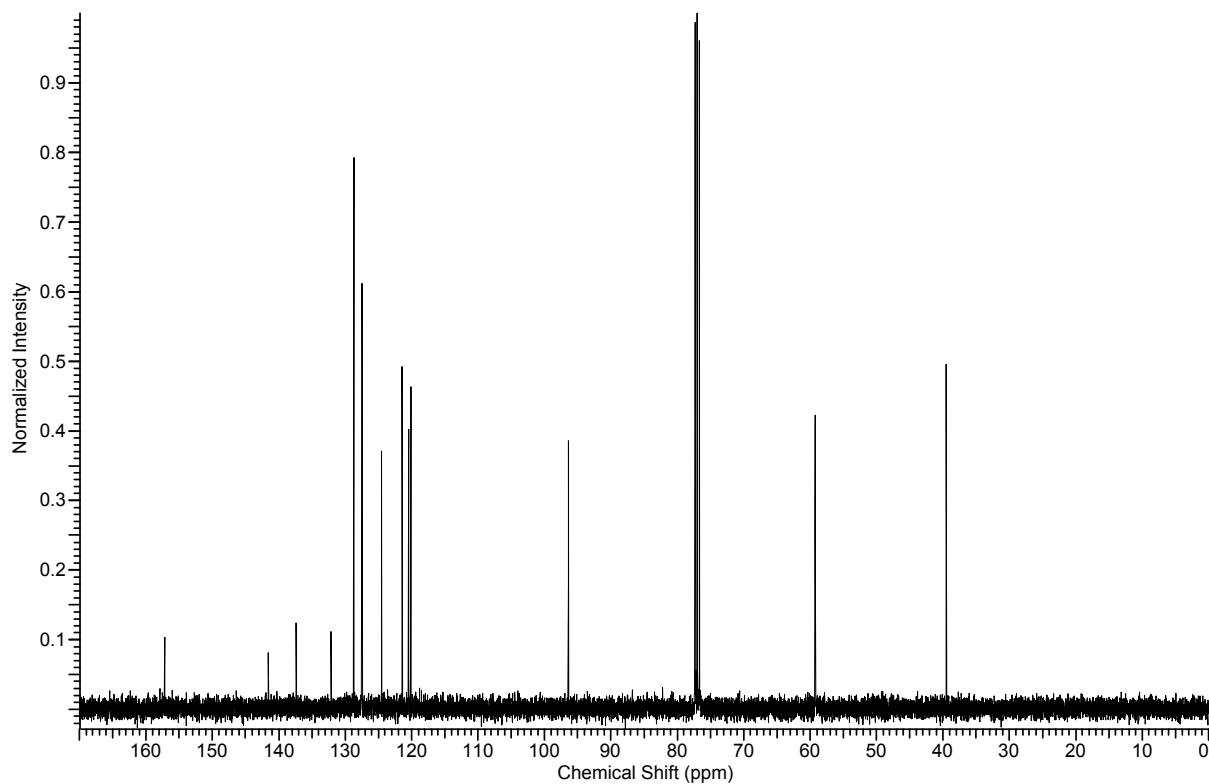
**Figure S23.** <sup>1</sup>H NMR spectrum of the compound **4bg**



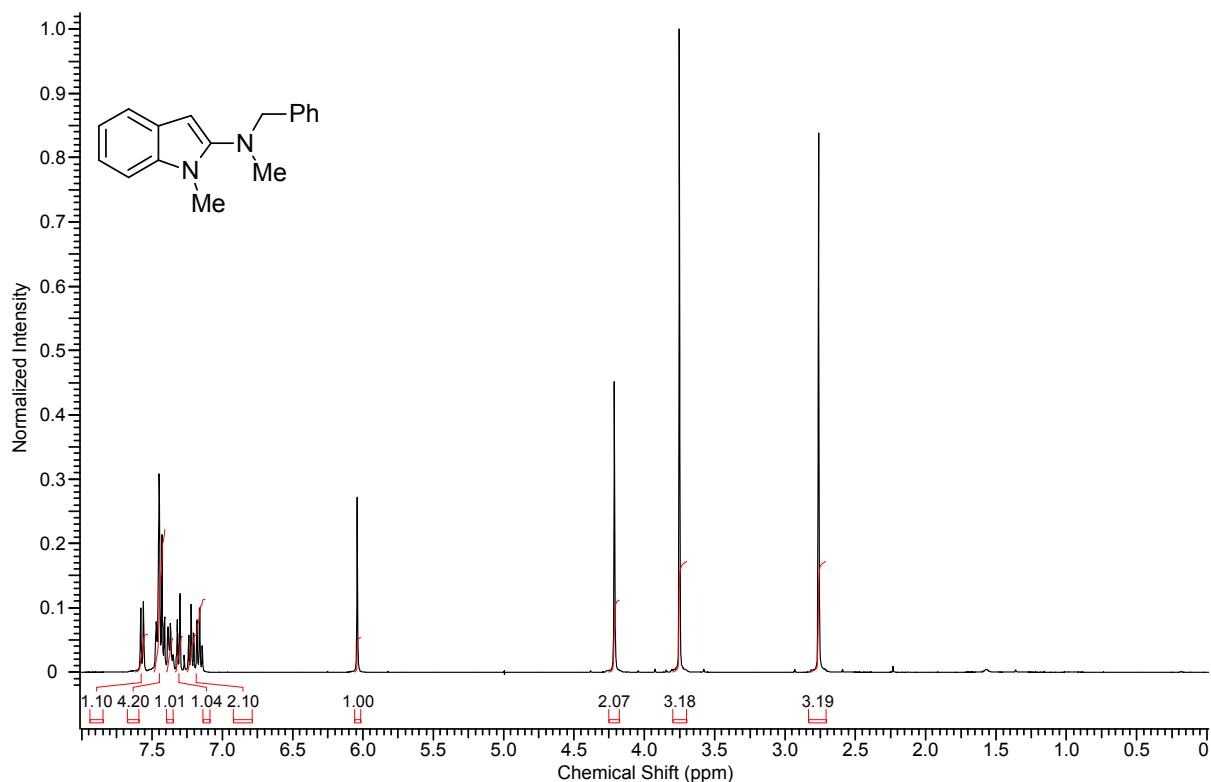
**Figure S24.** <sup>13</sup>C NMR spectrum of the compound **4bg**



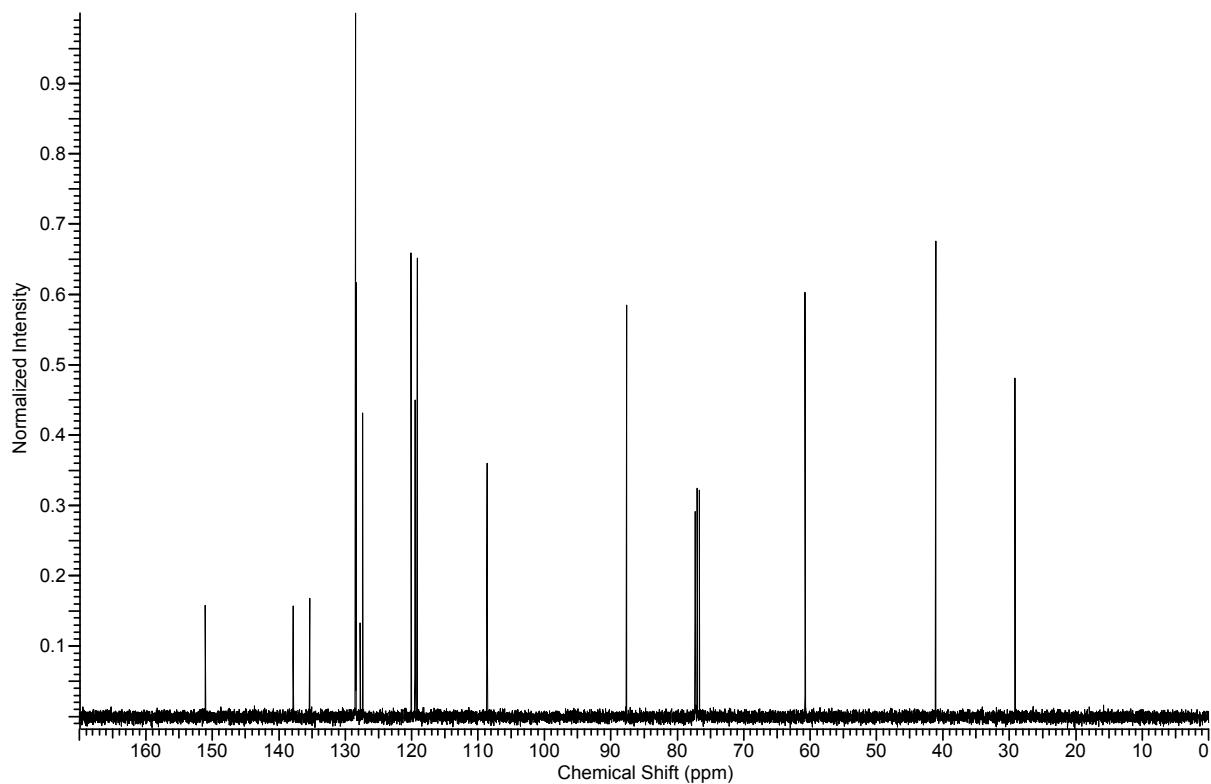
**Figure S25.** <sup>1</sup>H NMR spectrum of the compound **4bd**



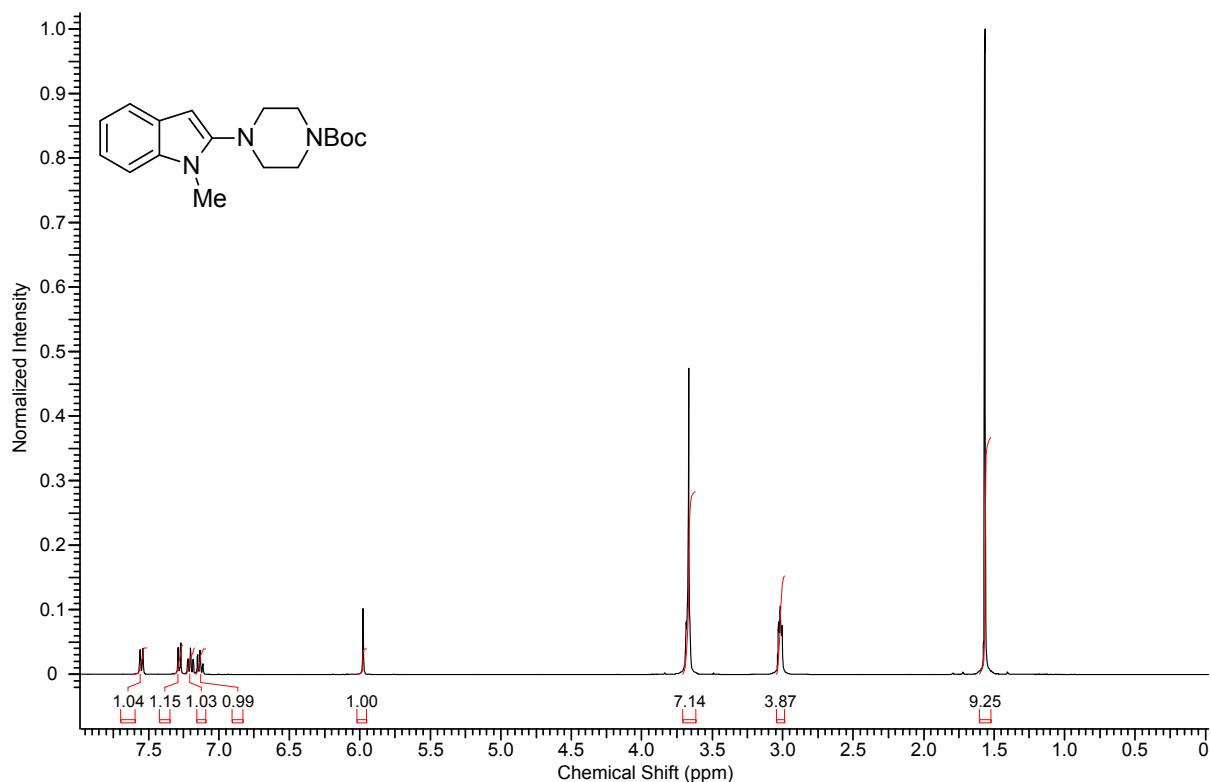
**Figure S26.** <sup>13</sup>C NMR spectrum of the compound **4bd**



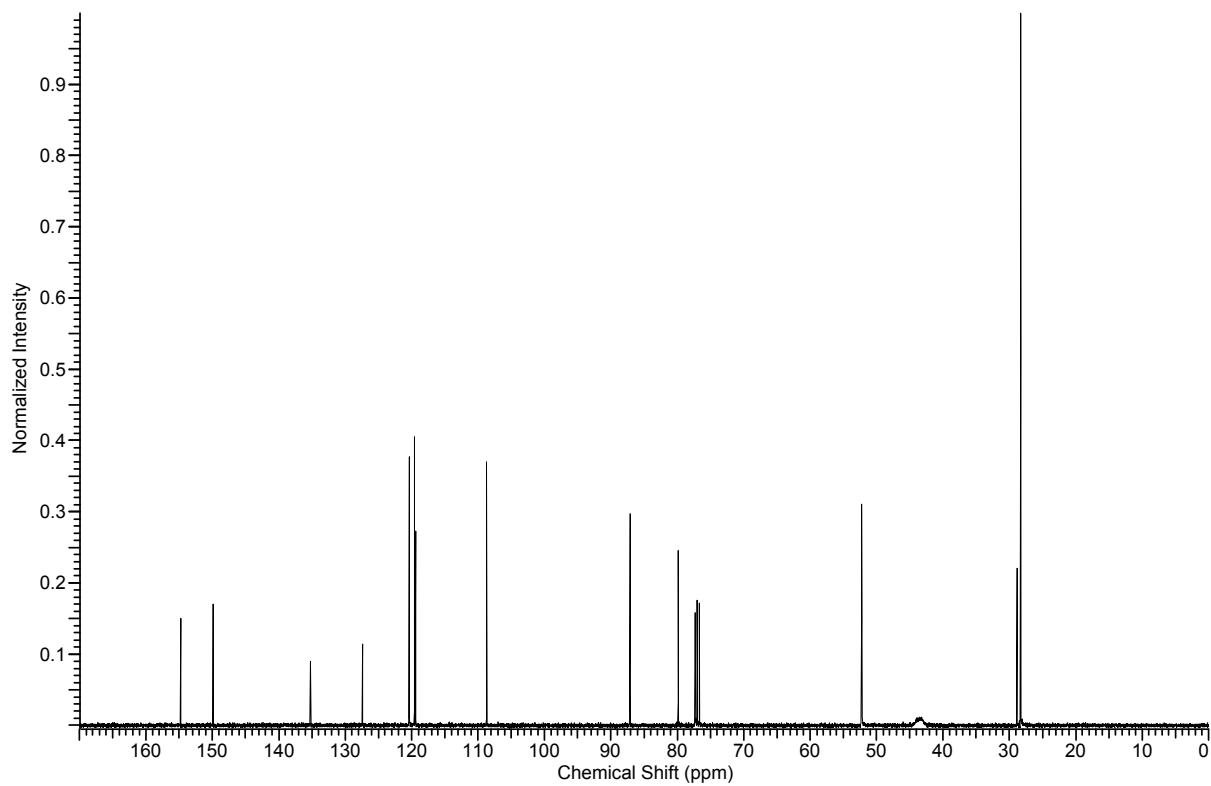
**Figure S27.** <sup>1</sup>H NMR spectrum of the compound **6ad**



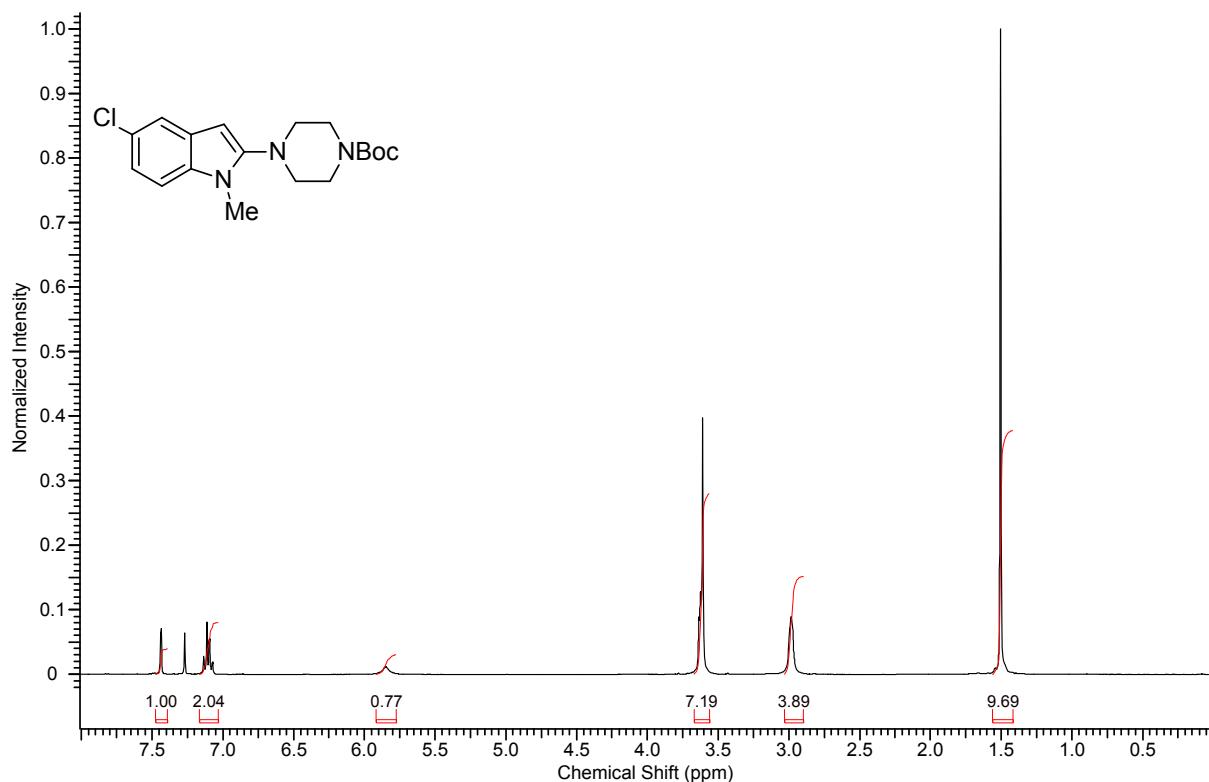
**Figure S28.** <sup>13</sup>C NMR spectrum of the compound **6ad**



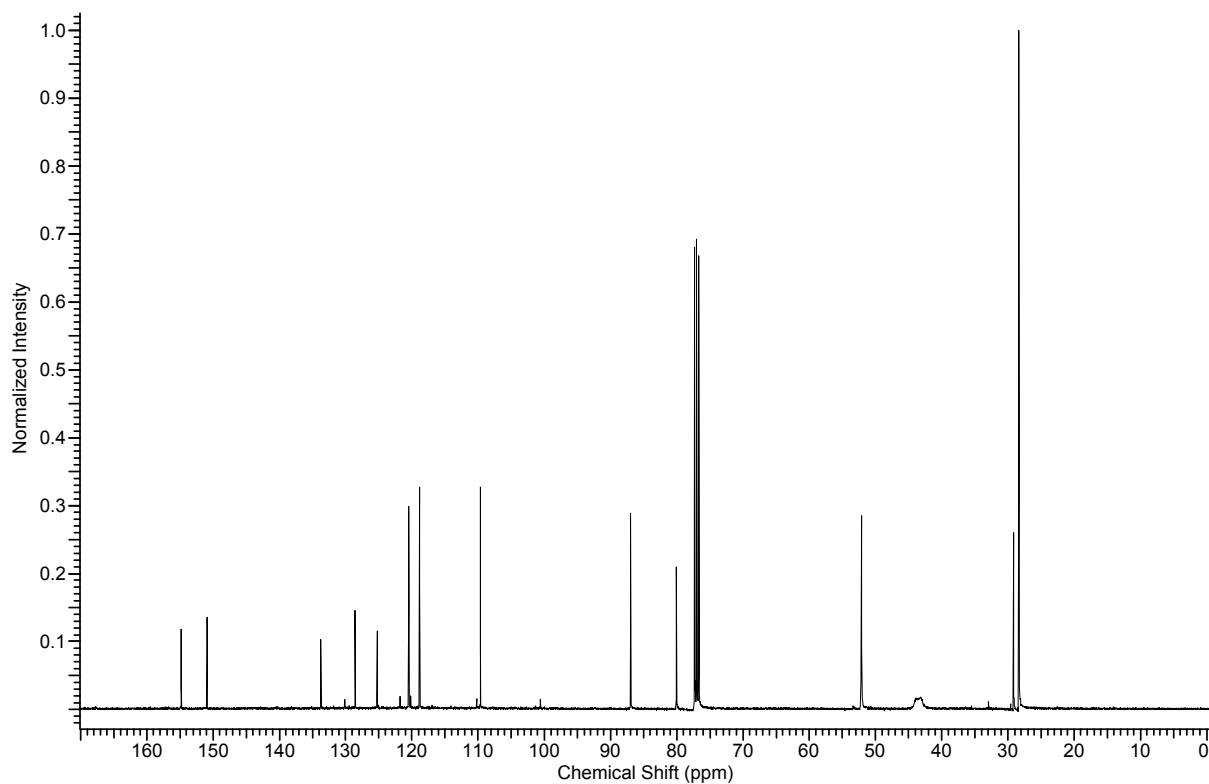
**Figure S29.**  $^1\text{H}$  NMR spectrum of the compound **6ah**



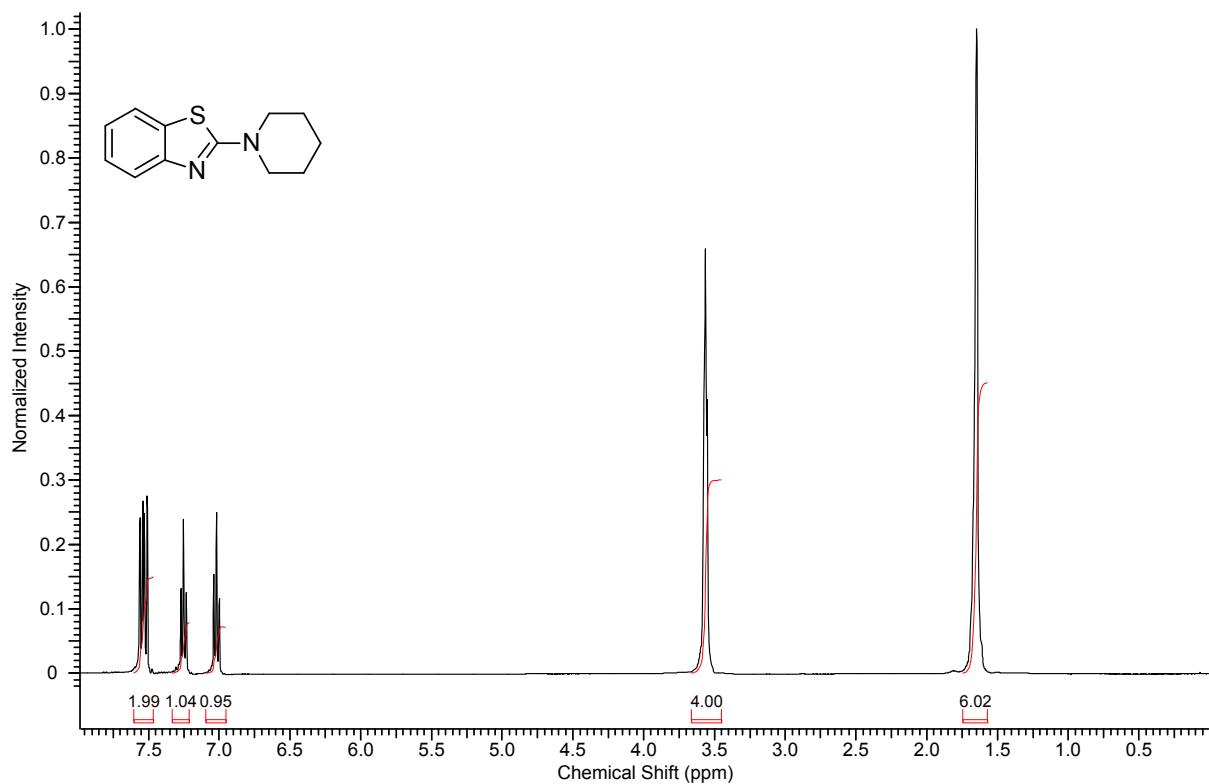
**Figure S30.**  $^{13}\text{C}$  NMR spectrum of the compound **6ah**



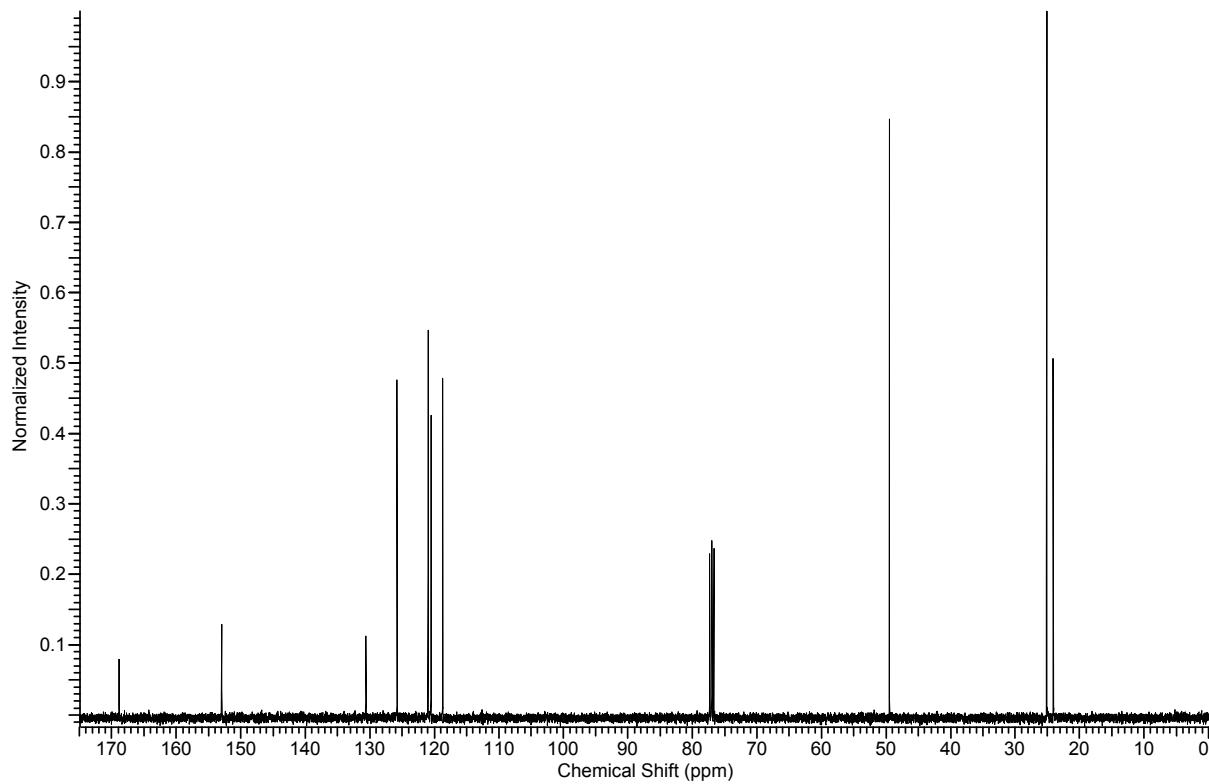
**Figure S31.** <sup>1</sup>H NMR spectrum of the compound **6bh**



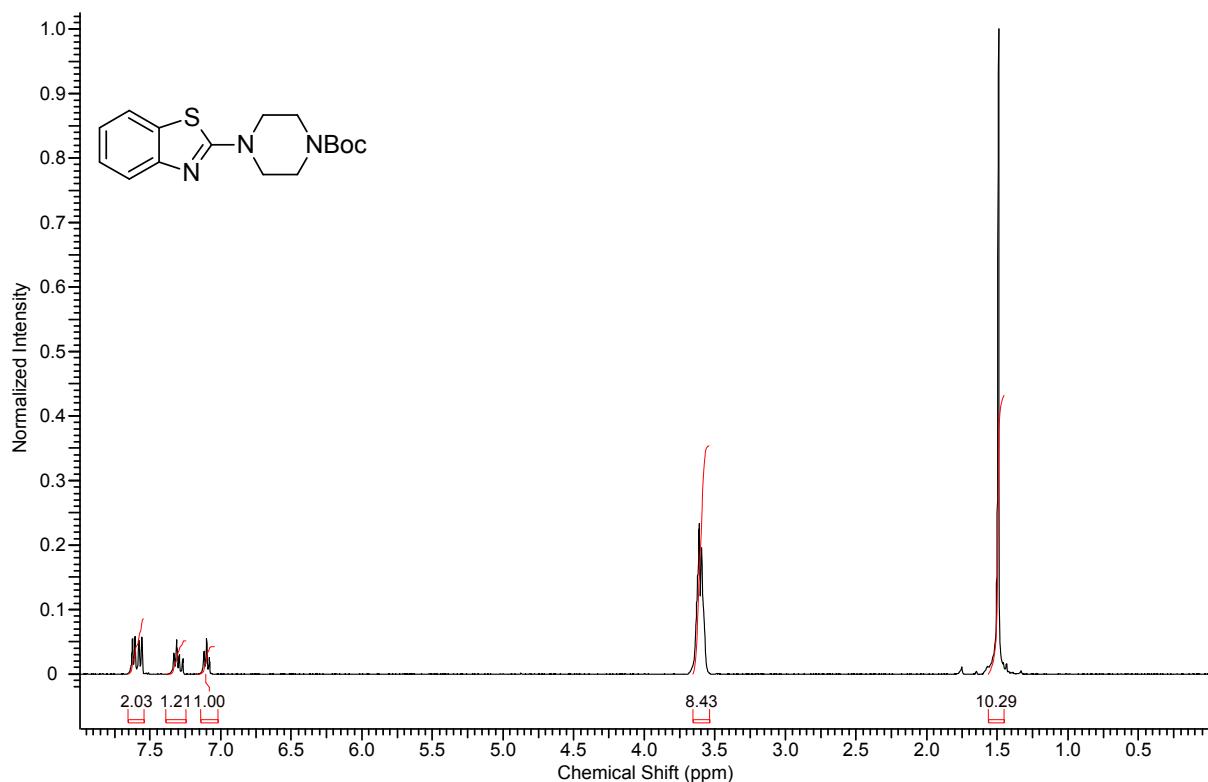
**Figure S32.** <sup>13</sup>C NMR spectrum of the compound **6bh**



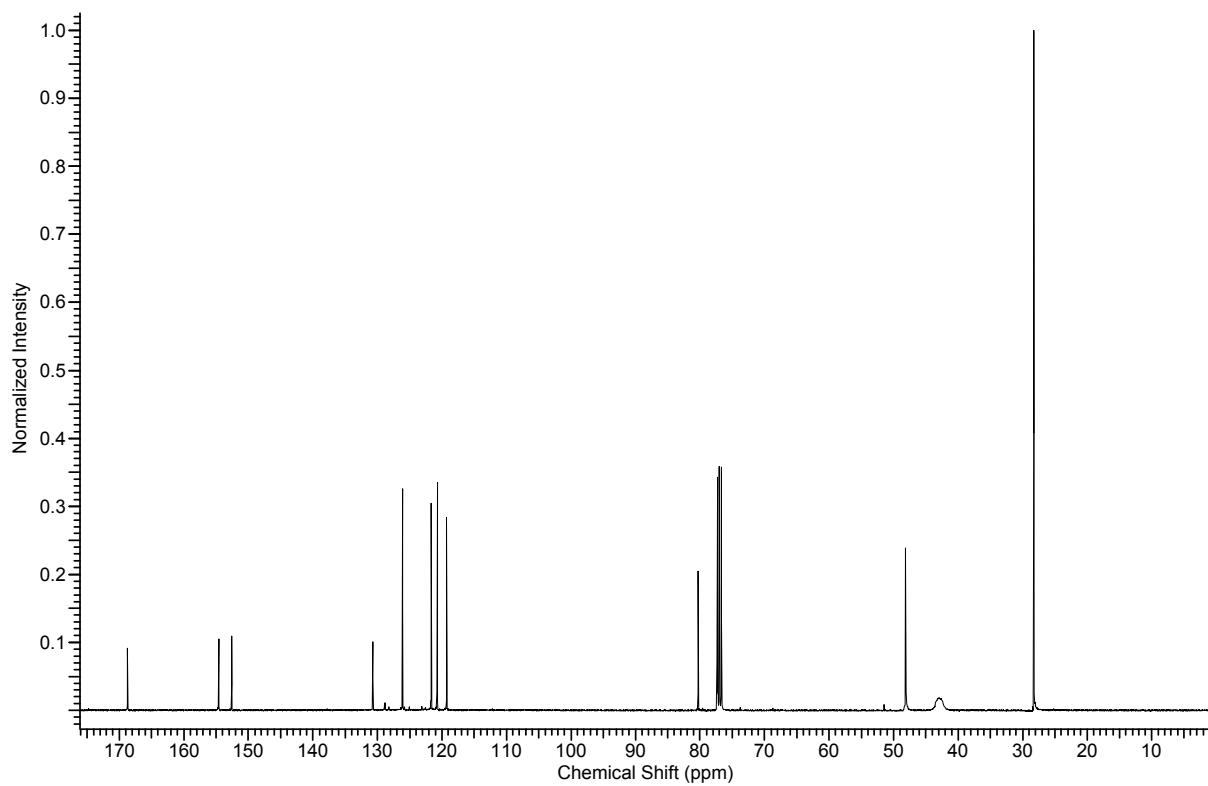
**Figure S33.**  $^1\text{H}$  NMR spectrum of the compound **6cf**



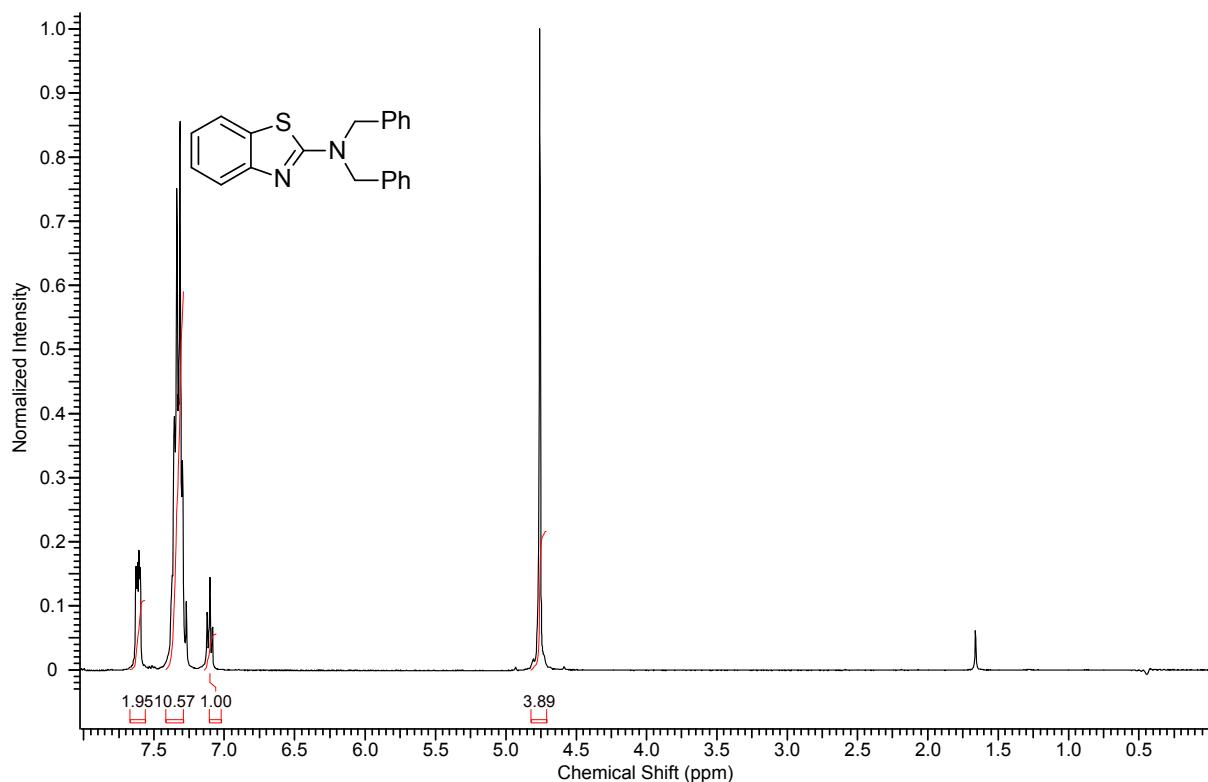
**Figure S34.**  $^{13}\text{C}$  NMR spectrum of the compound **6cf**



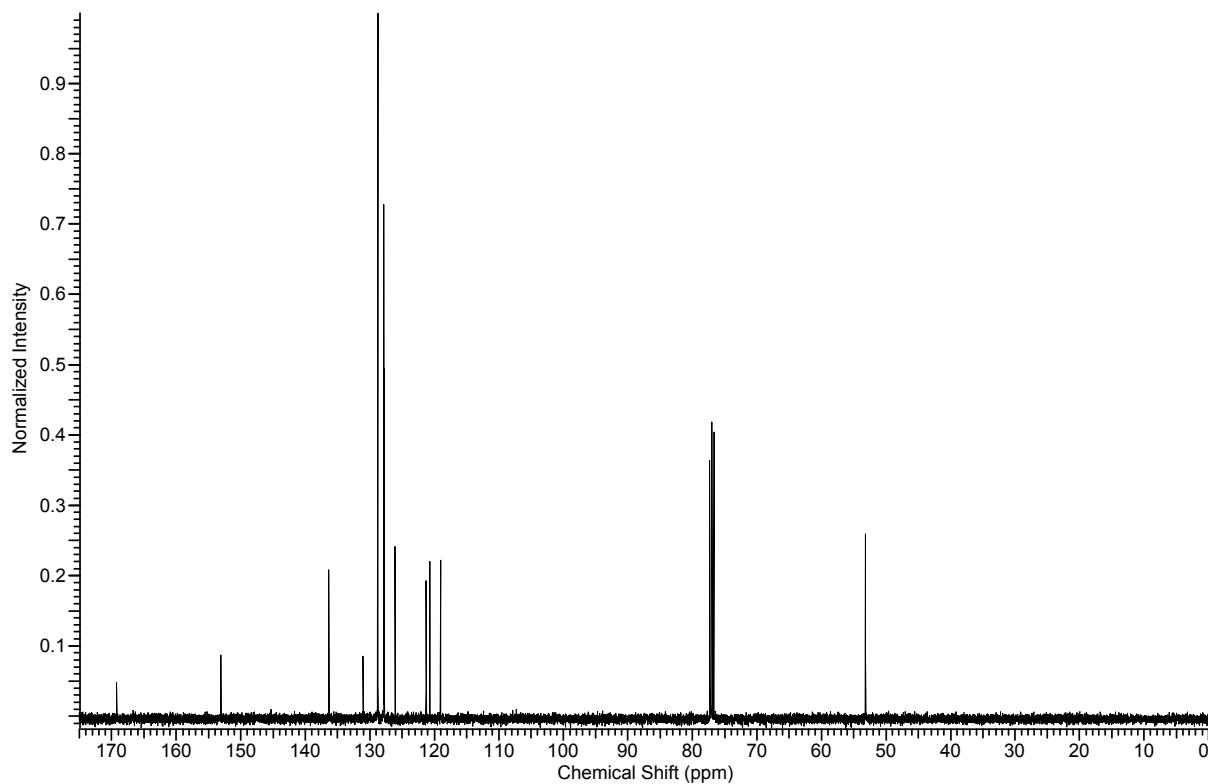
**Figure S35.** <sup>1</sup>H NMR spectrum of the compound **6ch**



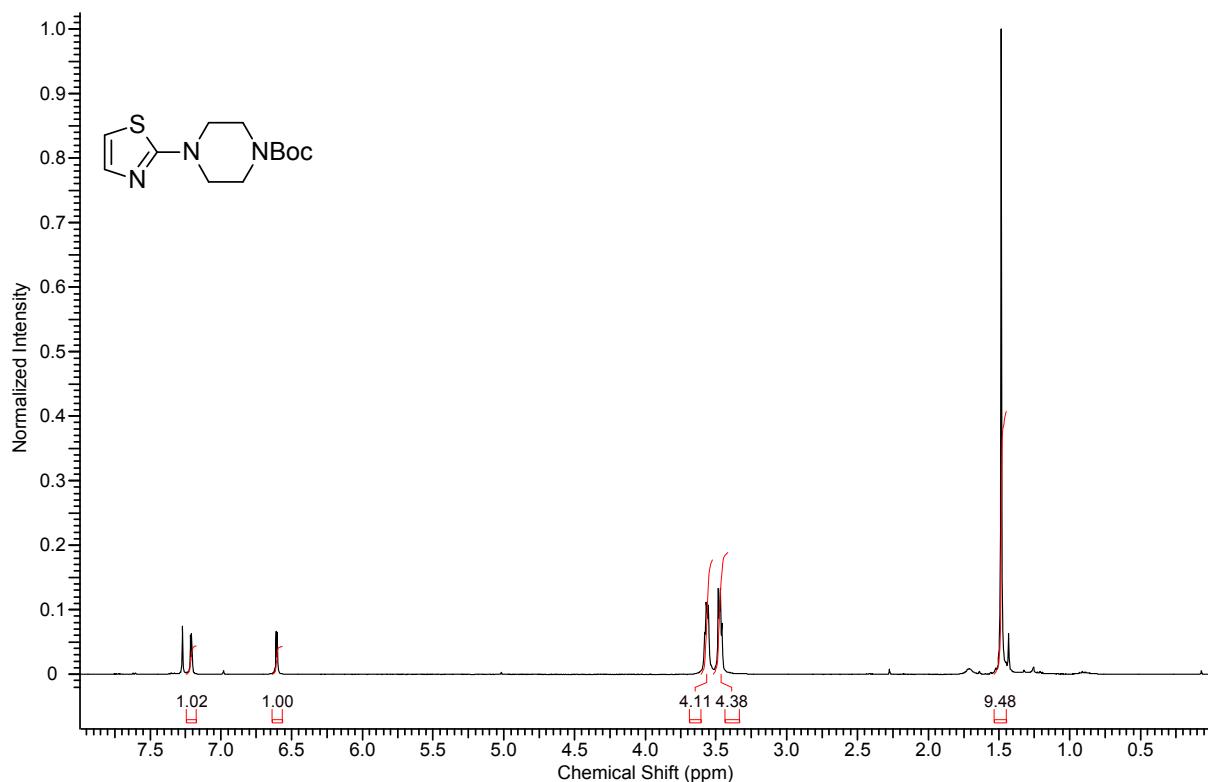
**Figure S36.** <sup>13</sup>C NMR spectrum of the compound **6ch**



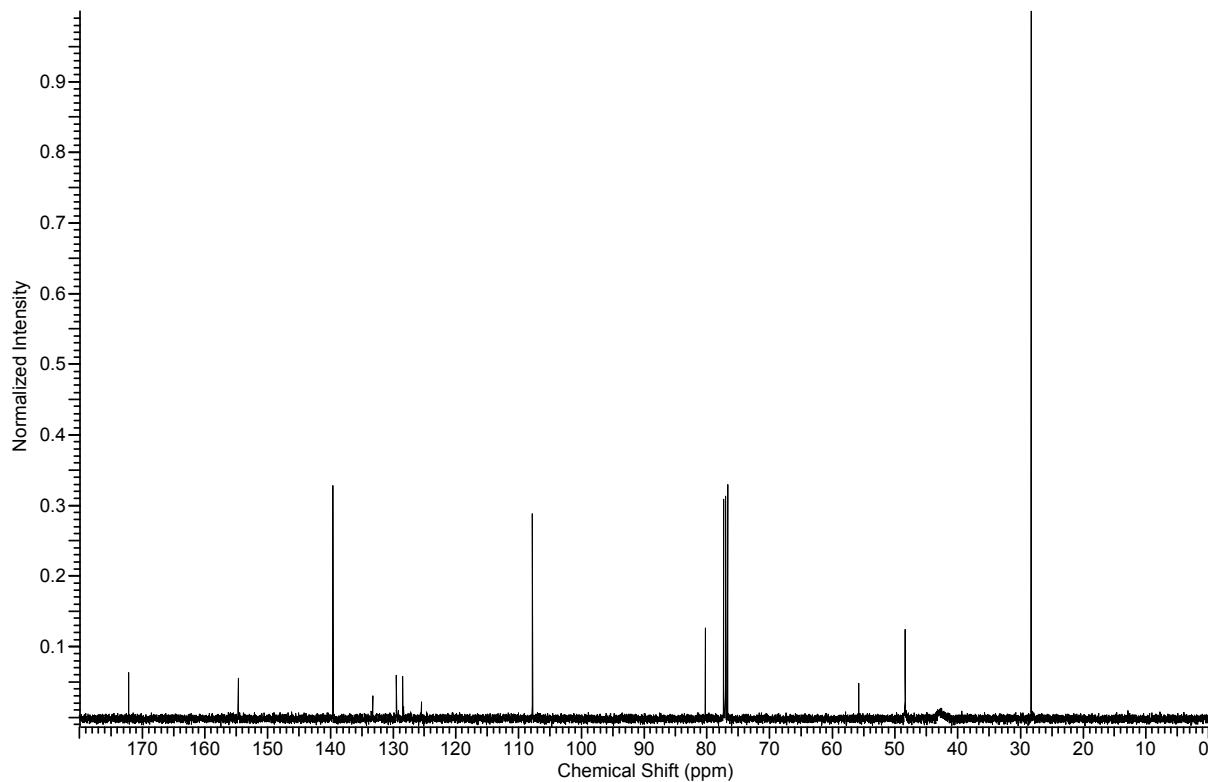
**Figure S37.** <sup>1</sup>H NMR spectrum of the compound **6cb**



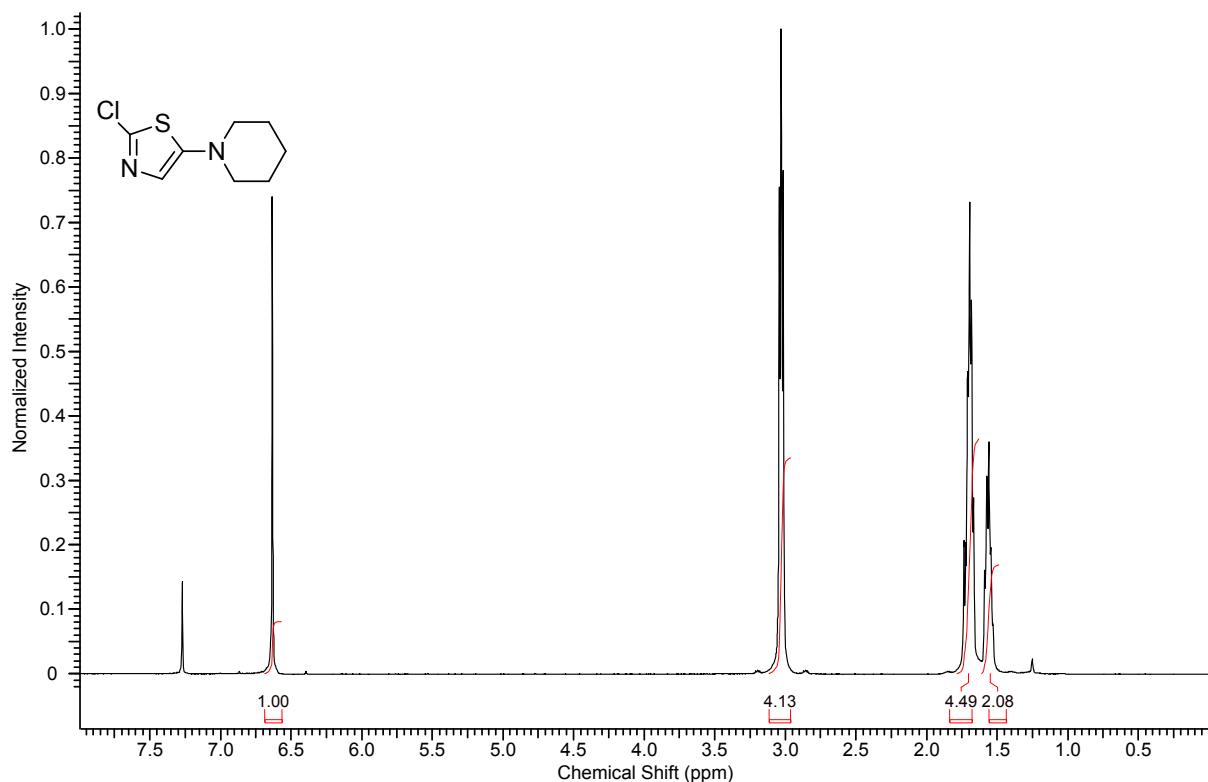
**Figure S38.** <sup>13</sup>C NMR spectrum of the compound **6cb**



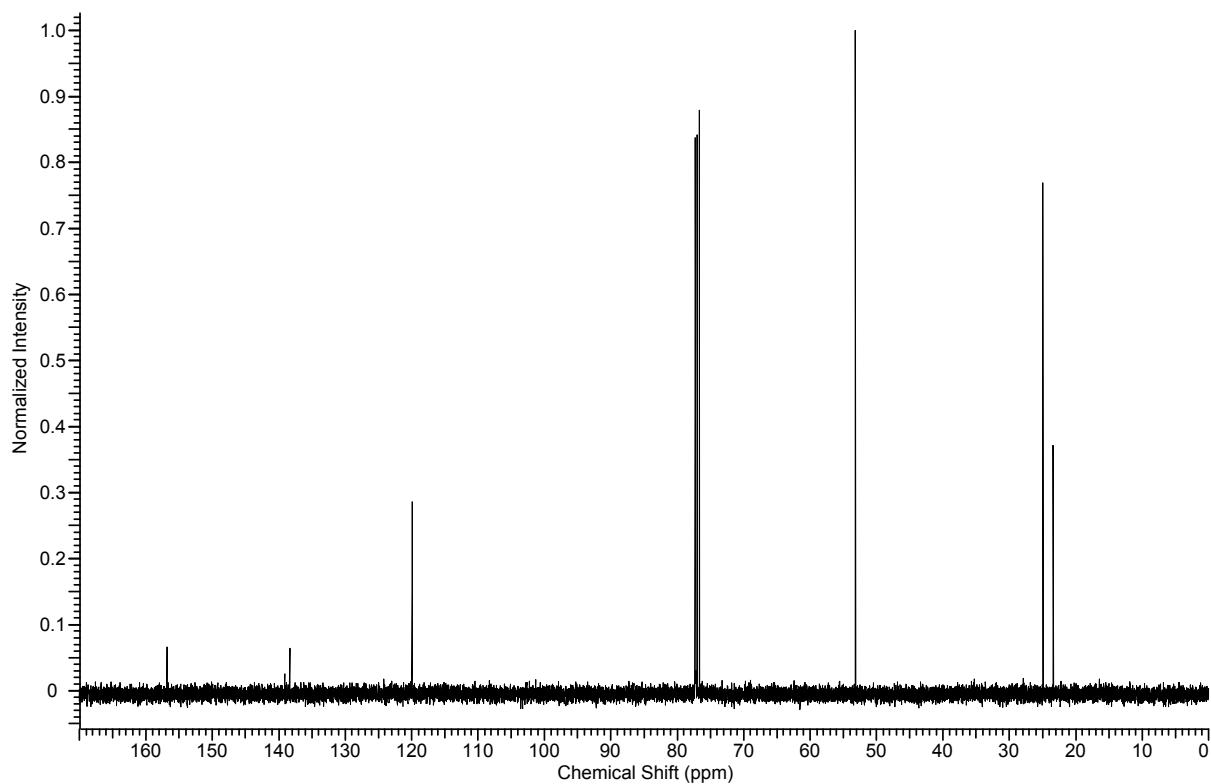
**Figure S39.** <sup>1</sup>H NMR spectrum of the compound **6dh**



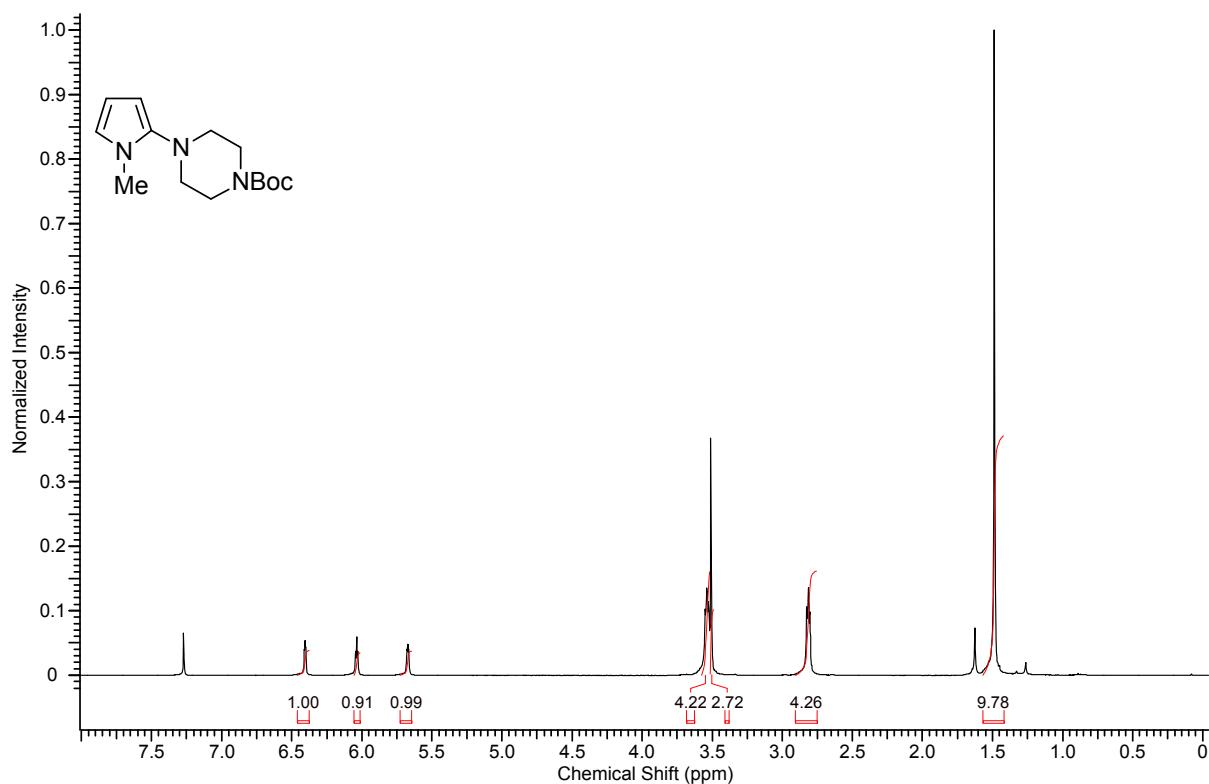
**Figure S40.** <sup>13</sup>C NMR spectrum of the compound **6dh**



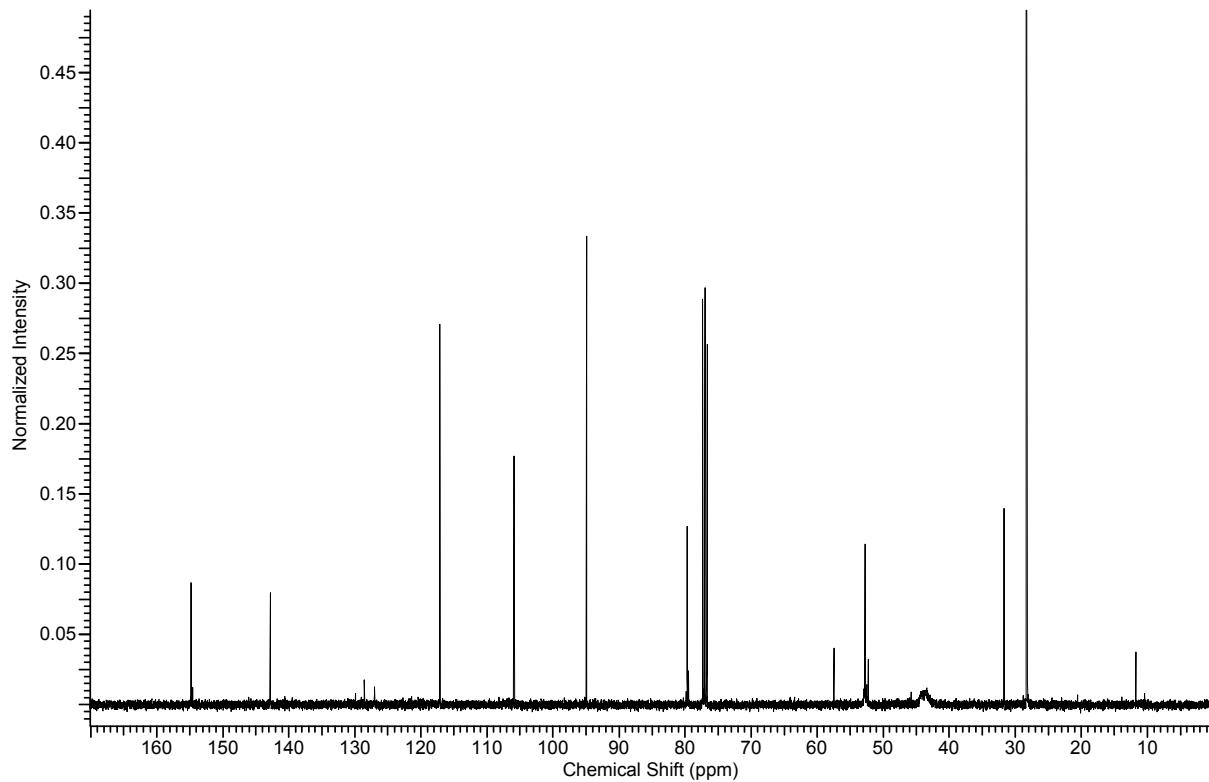
**Figure S41.** <sup>1</sup>H NMR spectrum of the compound **6ef**



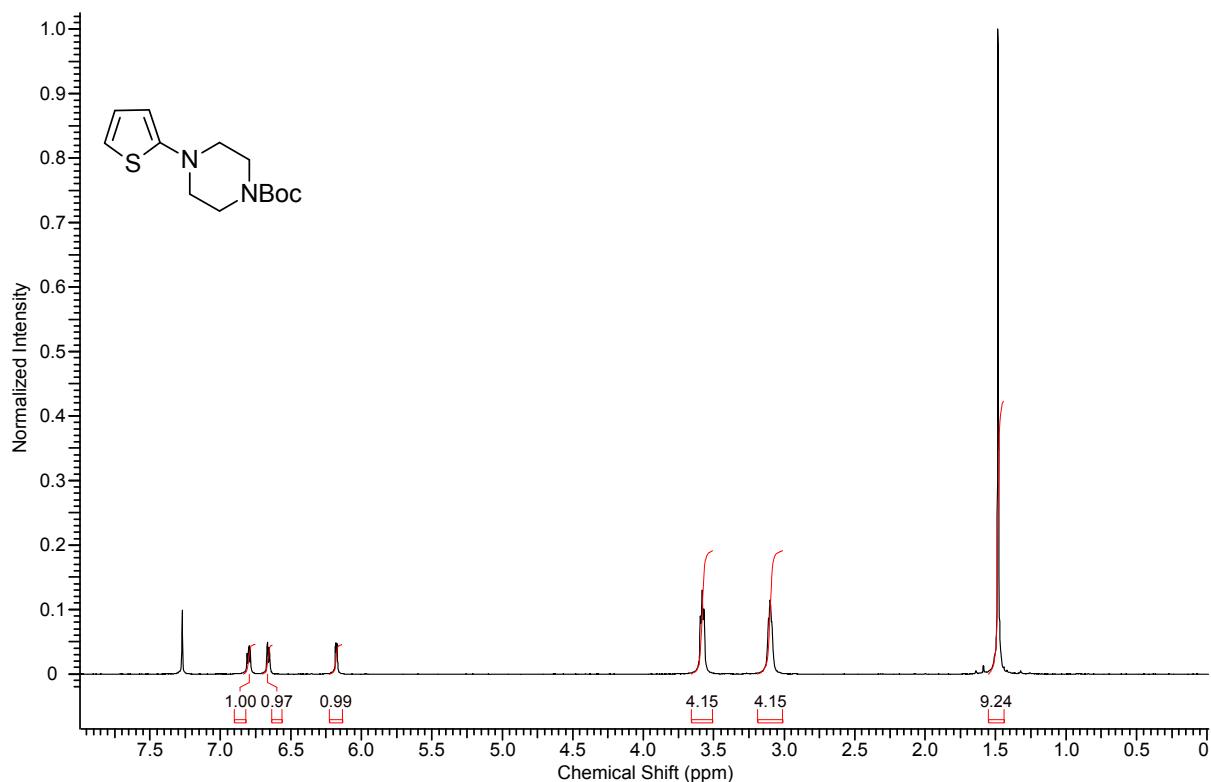
**Figure S42.** <sup>13</sup>C NMR spectrum of the compound **6ef**



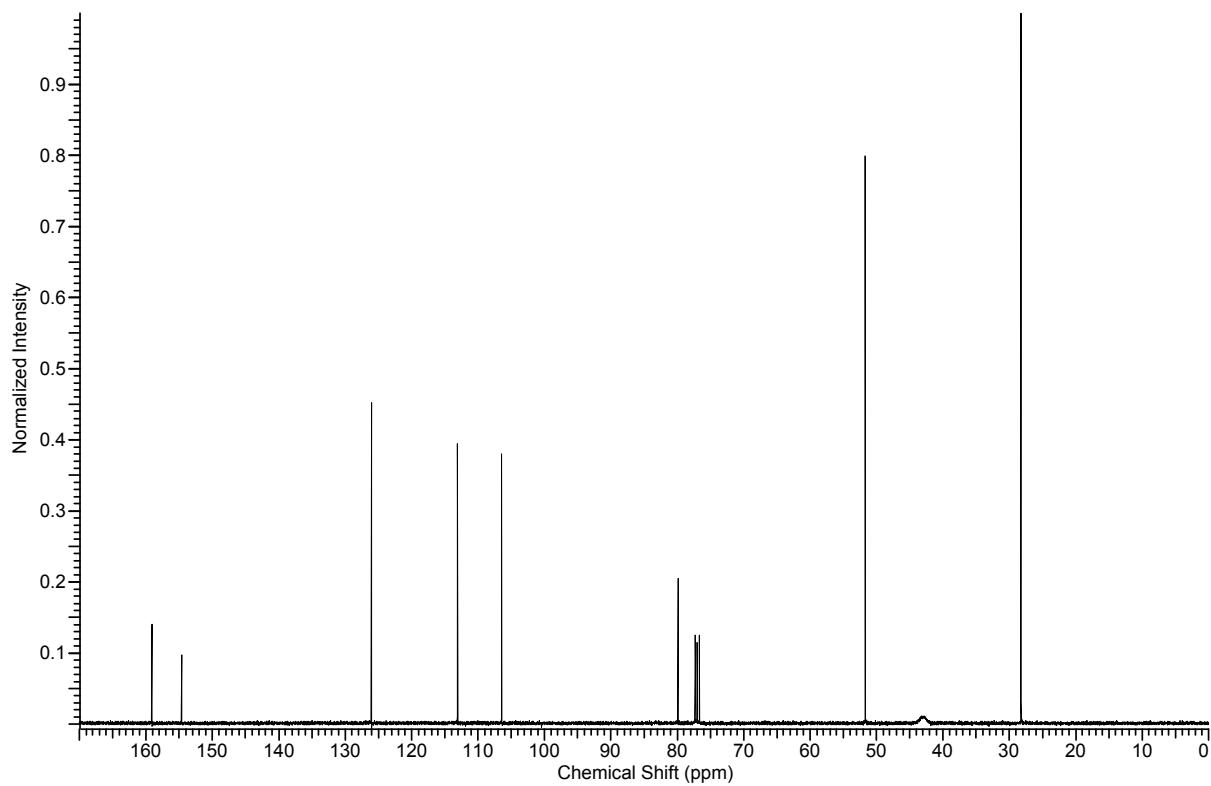
**Figure S43.** <sup>1</sup>H NMR spectrum of the compound **6f**



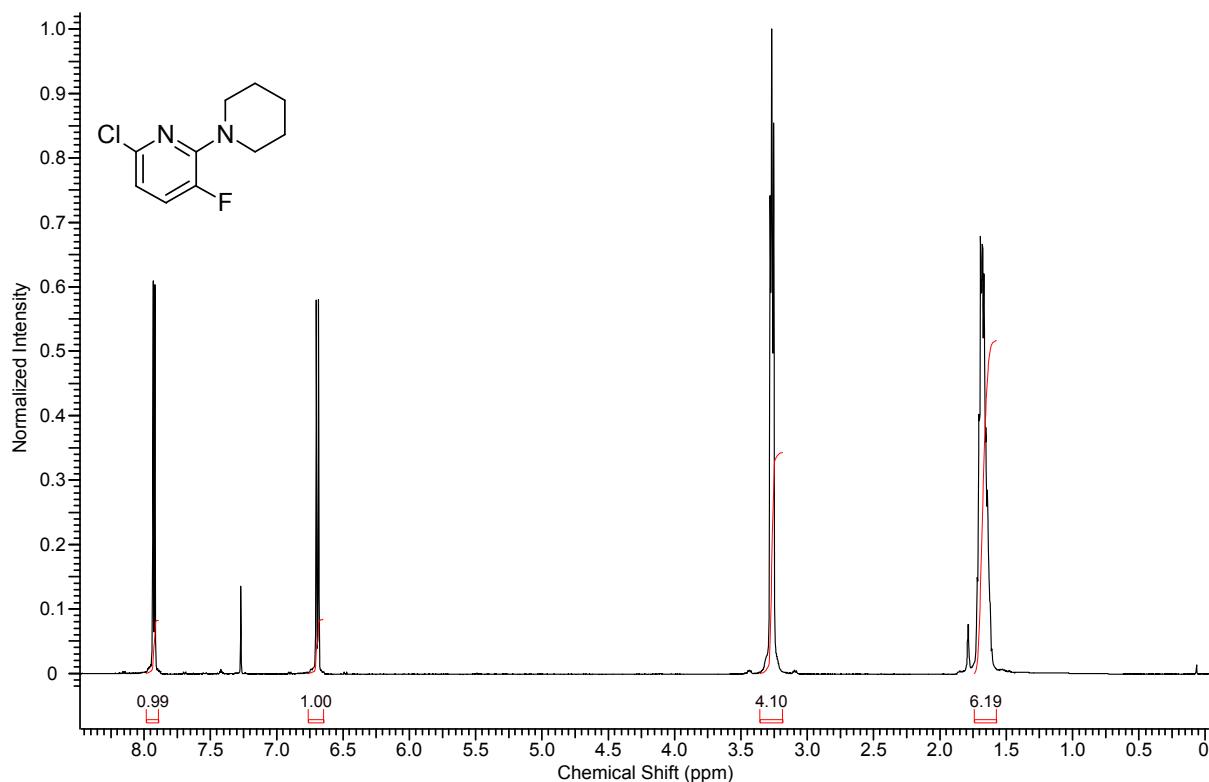
**Figure S44.** <sup>13</sup>C NMR spectrum of the compound **6f**



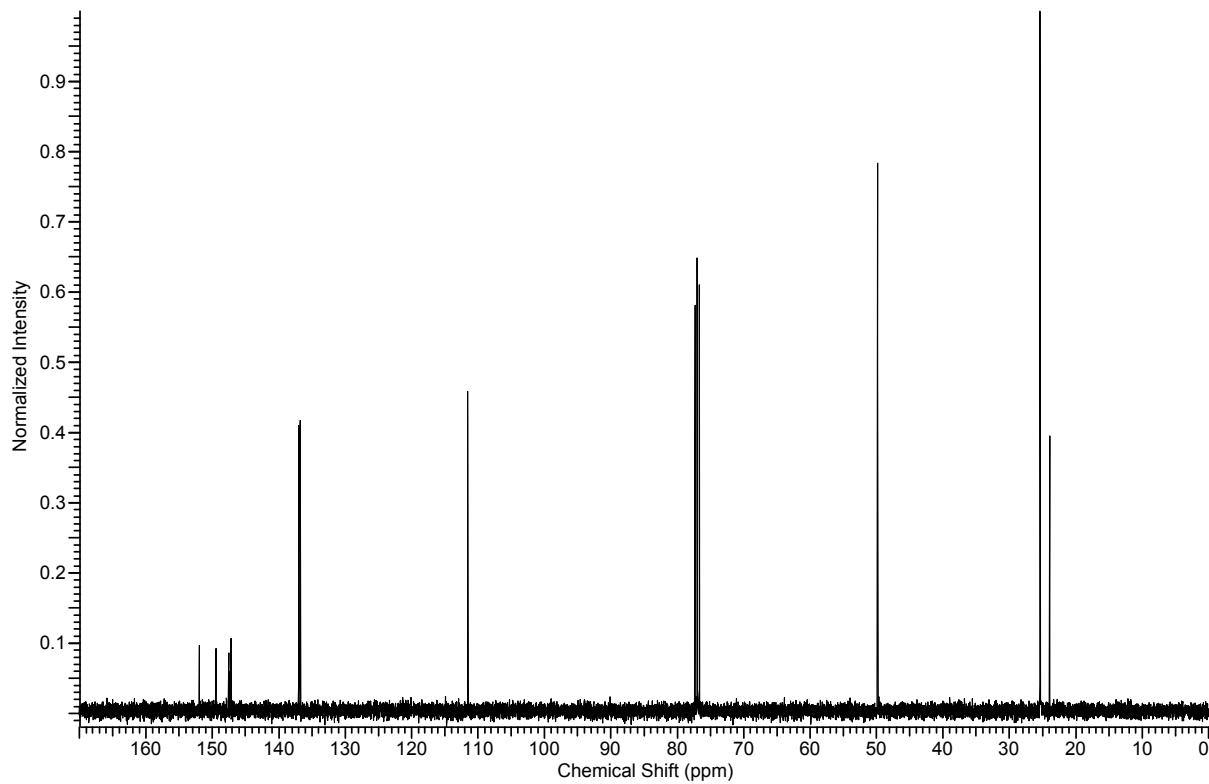
**Figure S45.** <sup>1</sup>H NMR spectrum of the compound 6gh



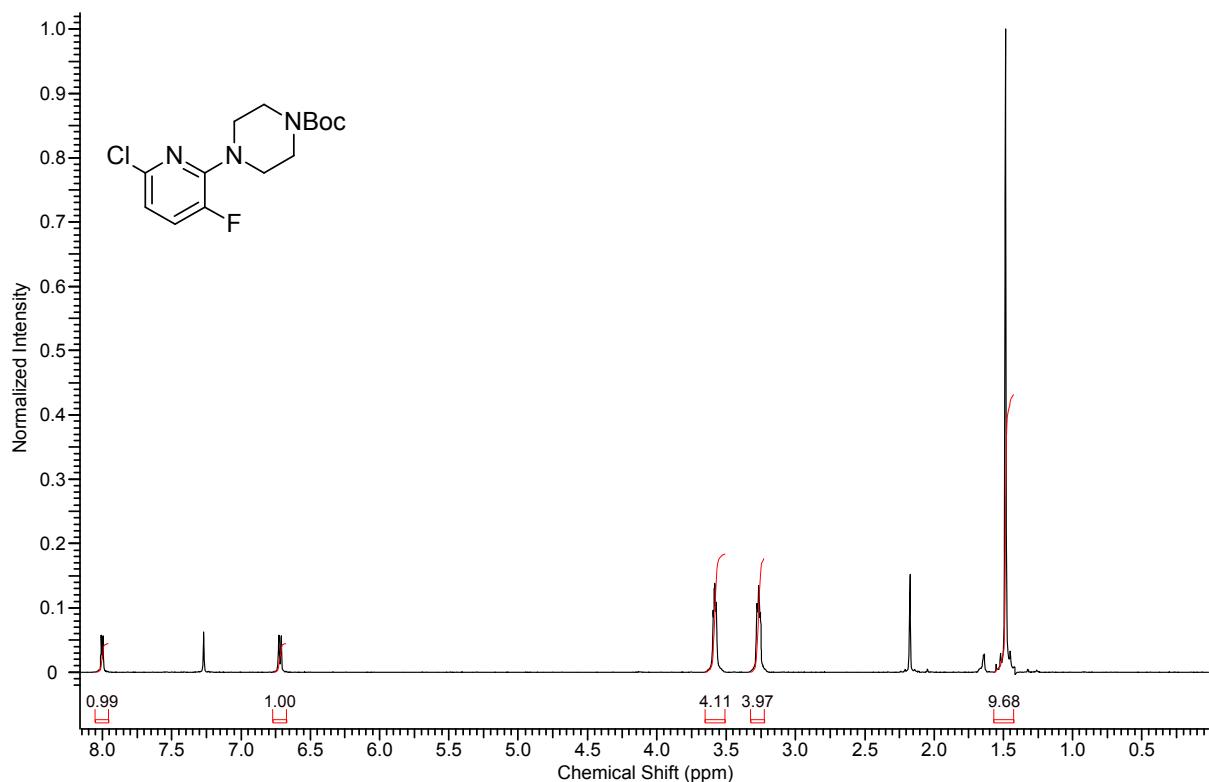
**Figure S46.** <sup>13</sup>C NMR spectrum of the compound 6gh



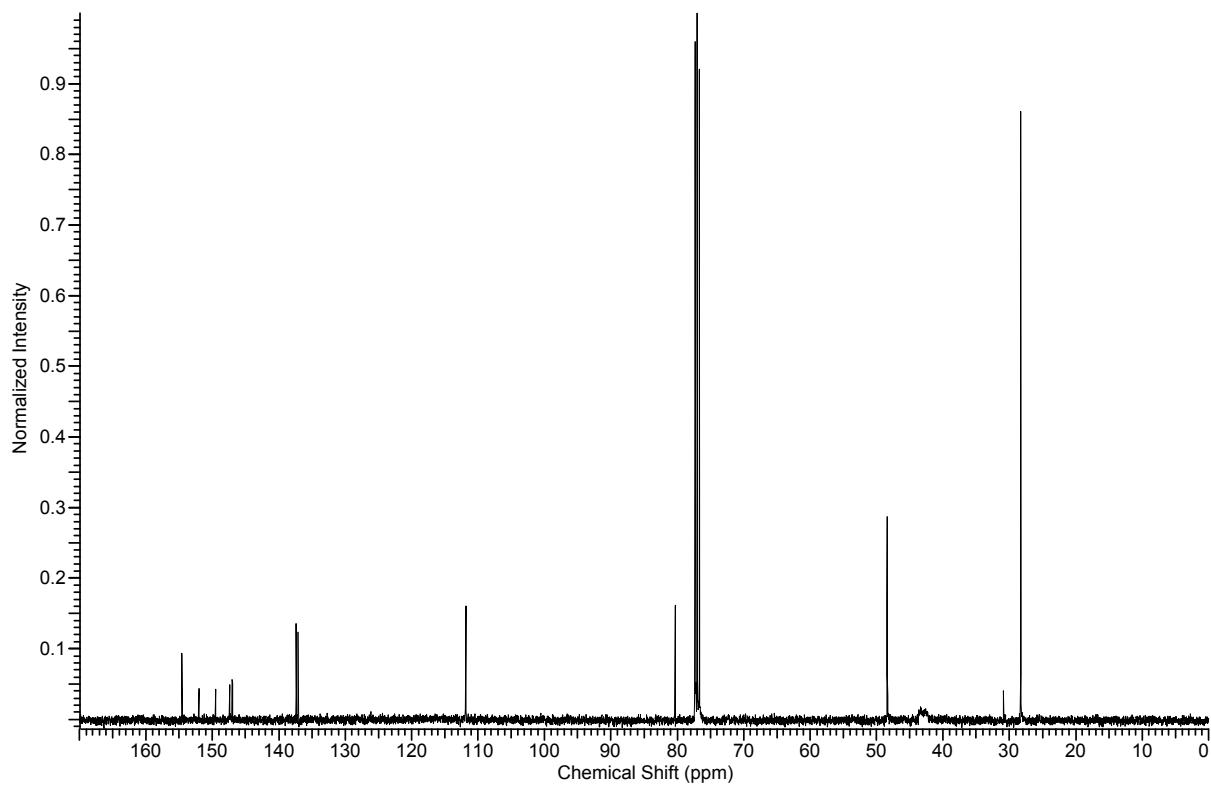
**Figure S47.** <sup>1</sup>H NMR spectrum of the compound **6hf**



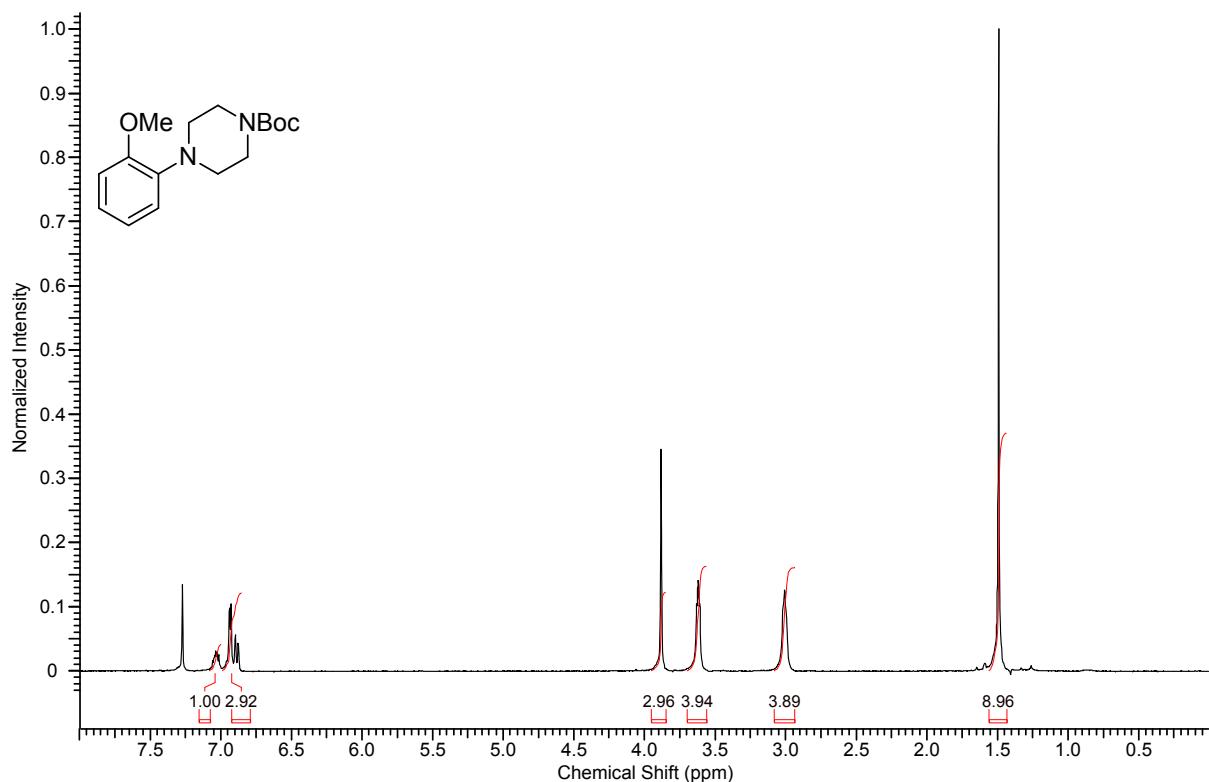
**Figure S48.** <sup>13</sup>C NMR spectrum of the compound **6hf**



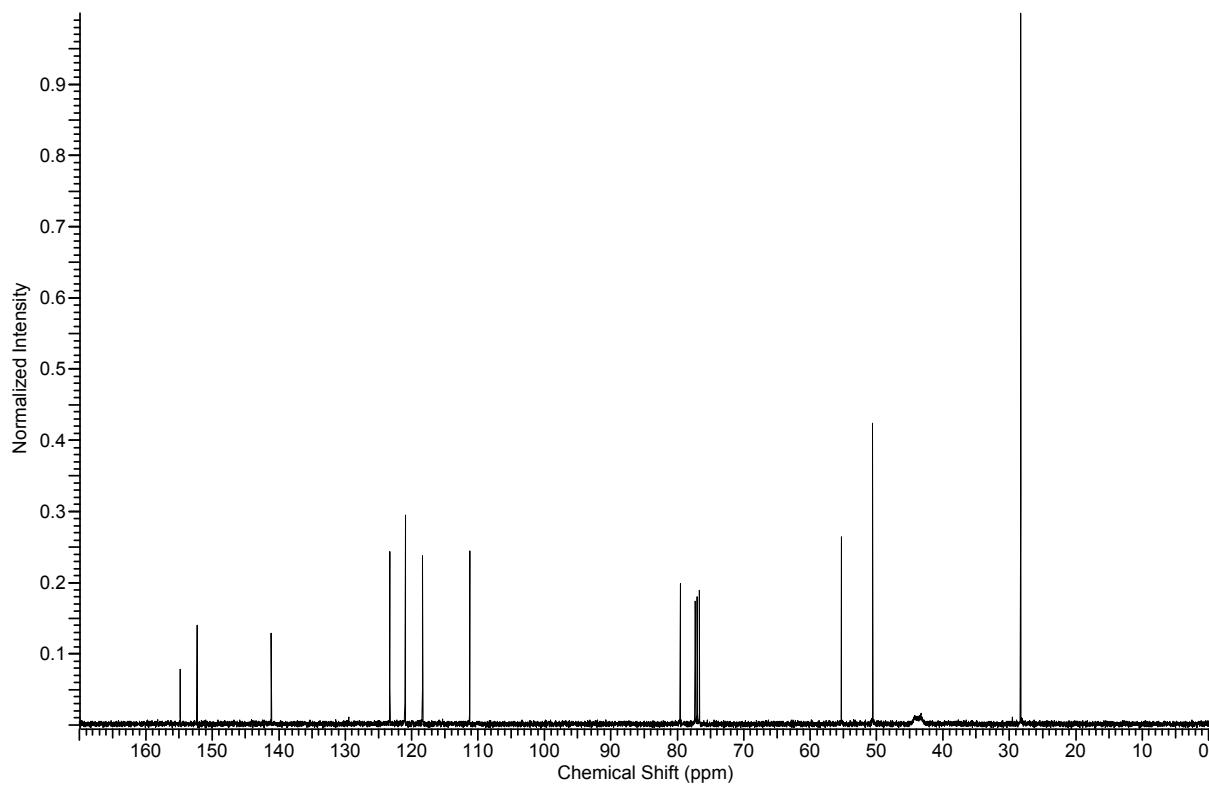
**Figure S49.** <sup>1</sup>H NMR spectrum of the compound **6hh**



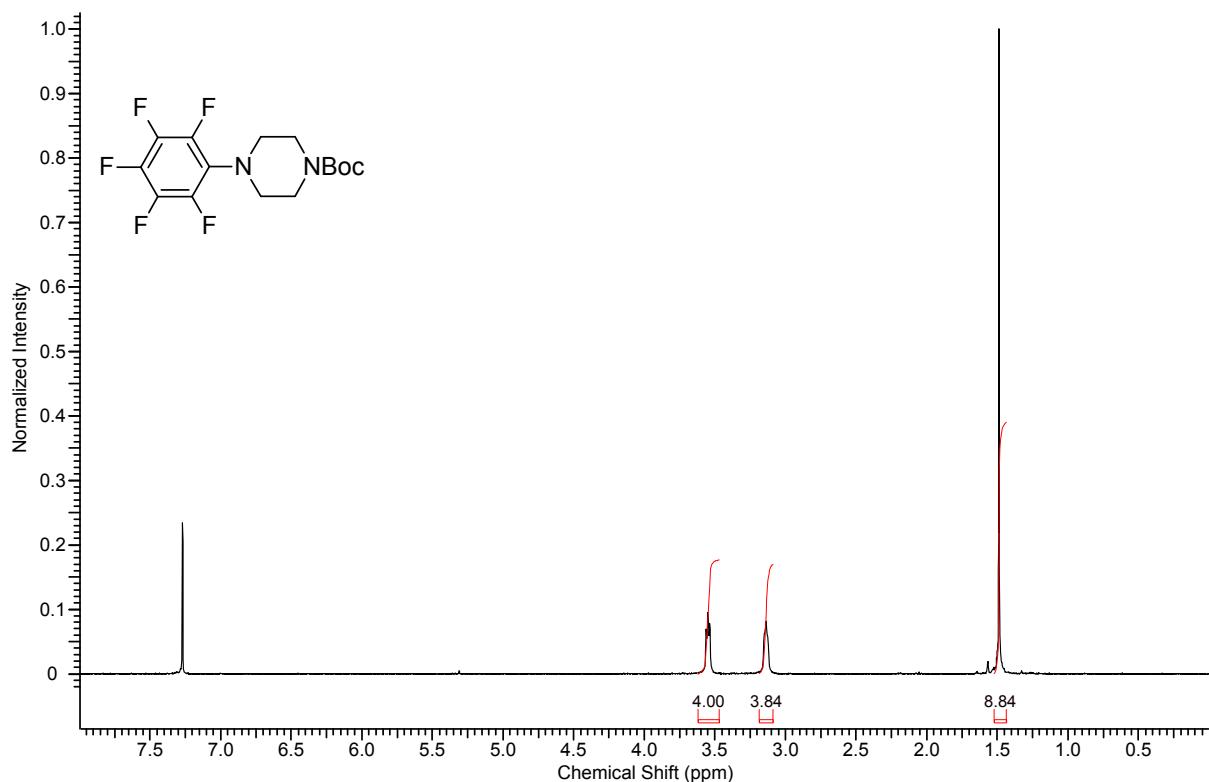
**Figure S50.** <sup>13</sup>C NMR spectrum of the compound **6hh**



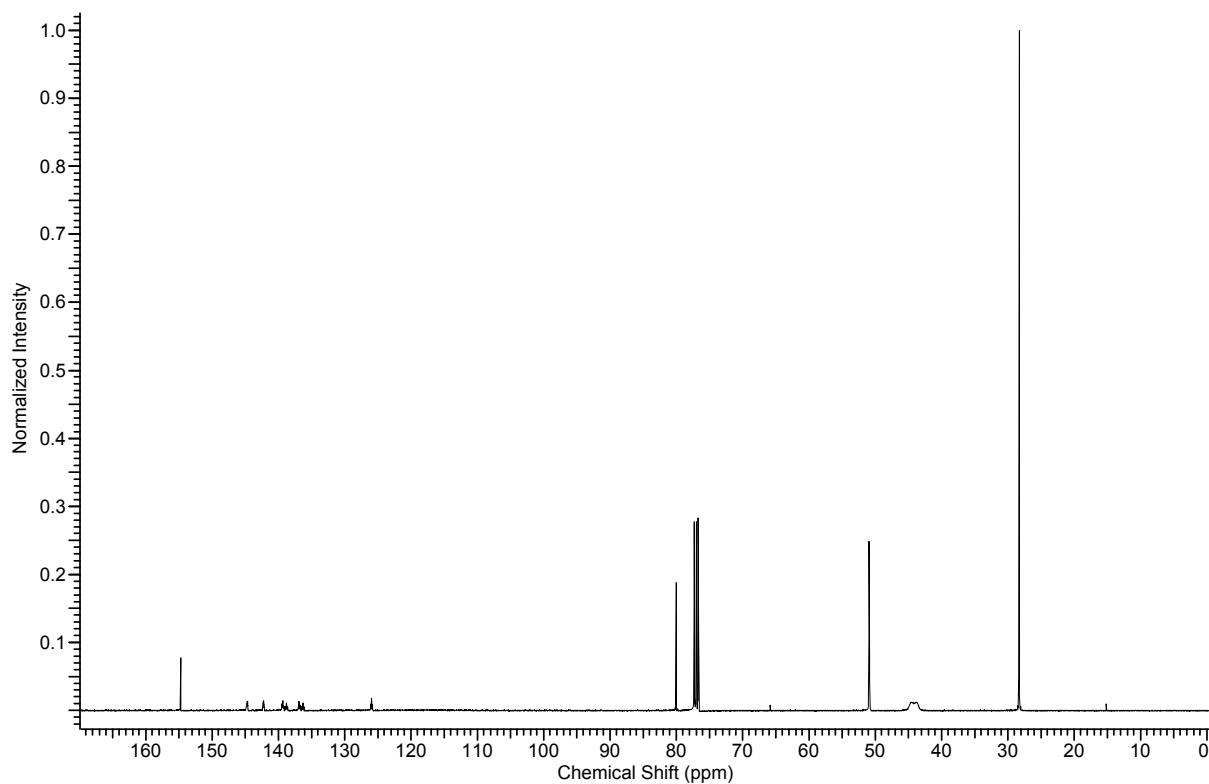
**Figure S51.**  $^1\text{H}$  NMR spectrum of the compound **6ih**



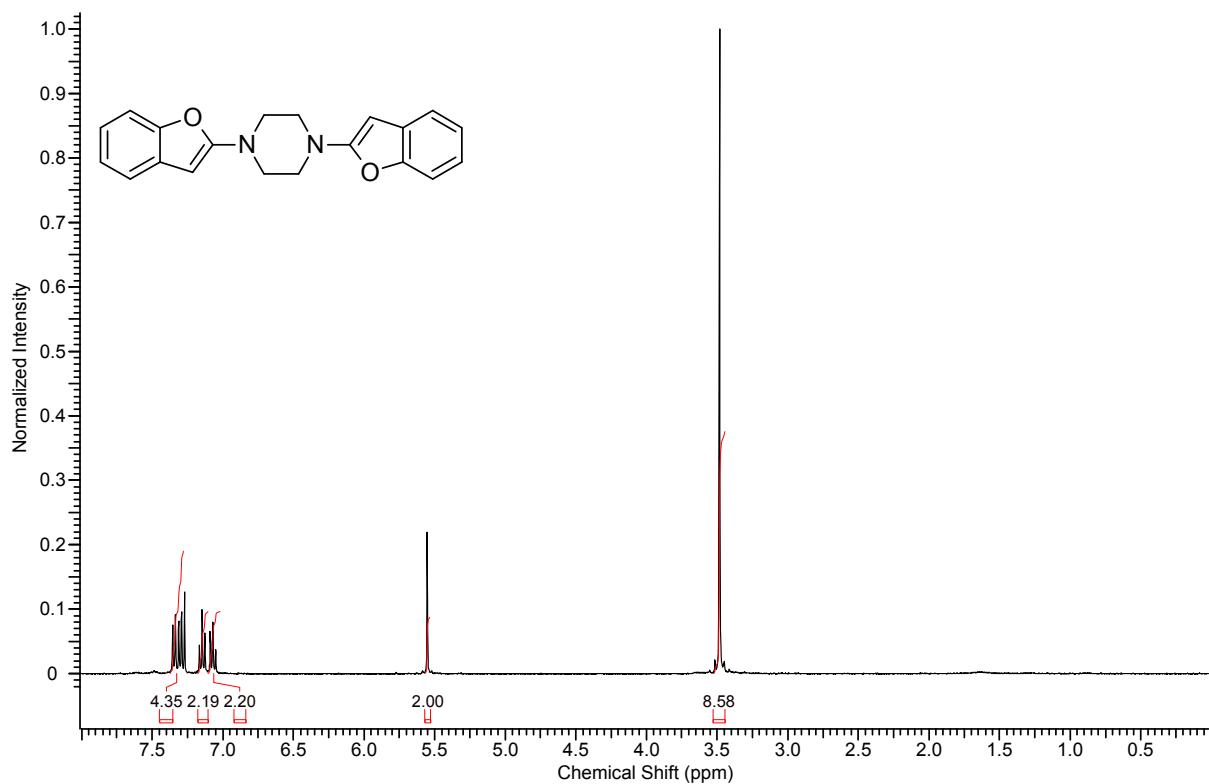
**Figure S52.**  $^{13}\text{C}$  NMR spectrum of the compound **6ih**



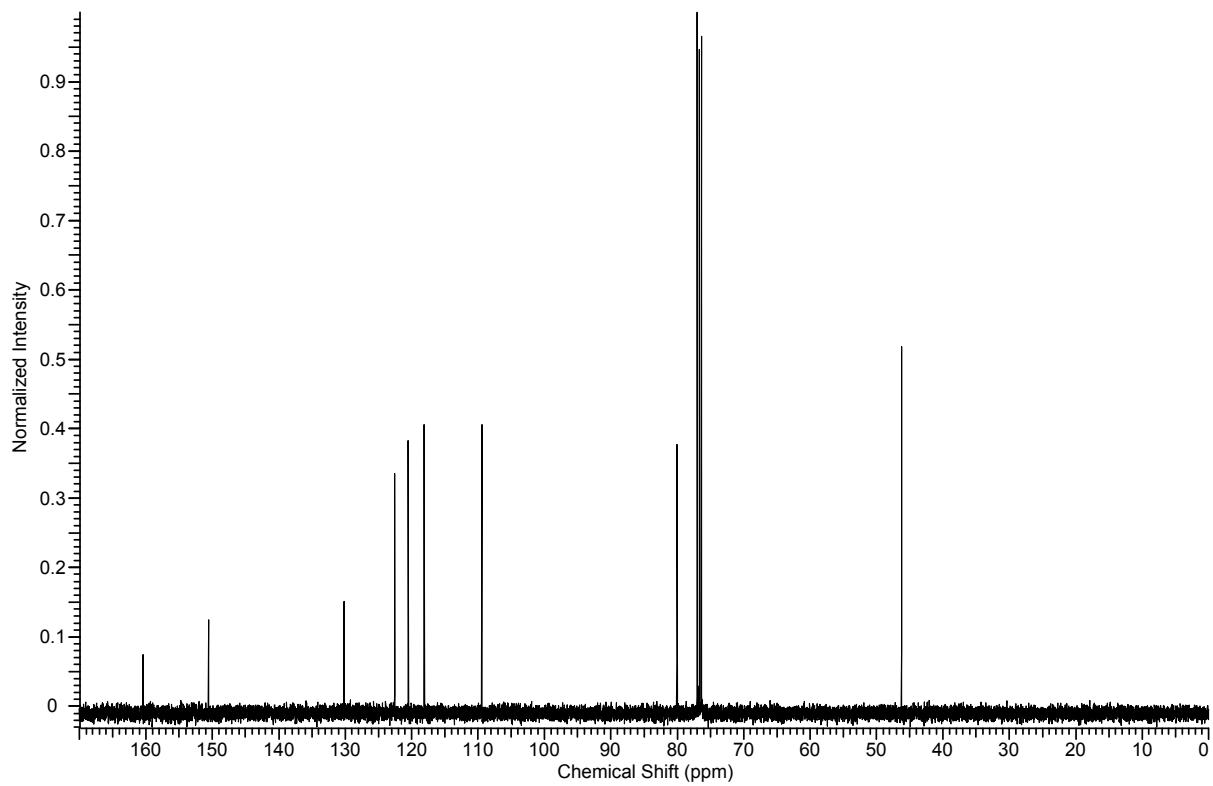
**Figure S53.** <sup>1</sup>H NMR spectrum of the compound **6jh**



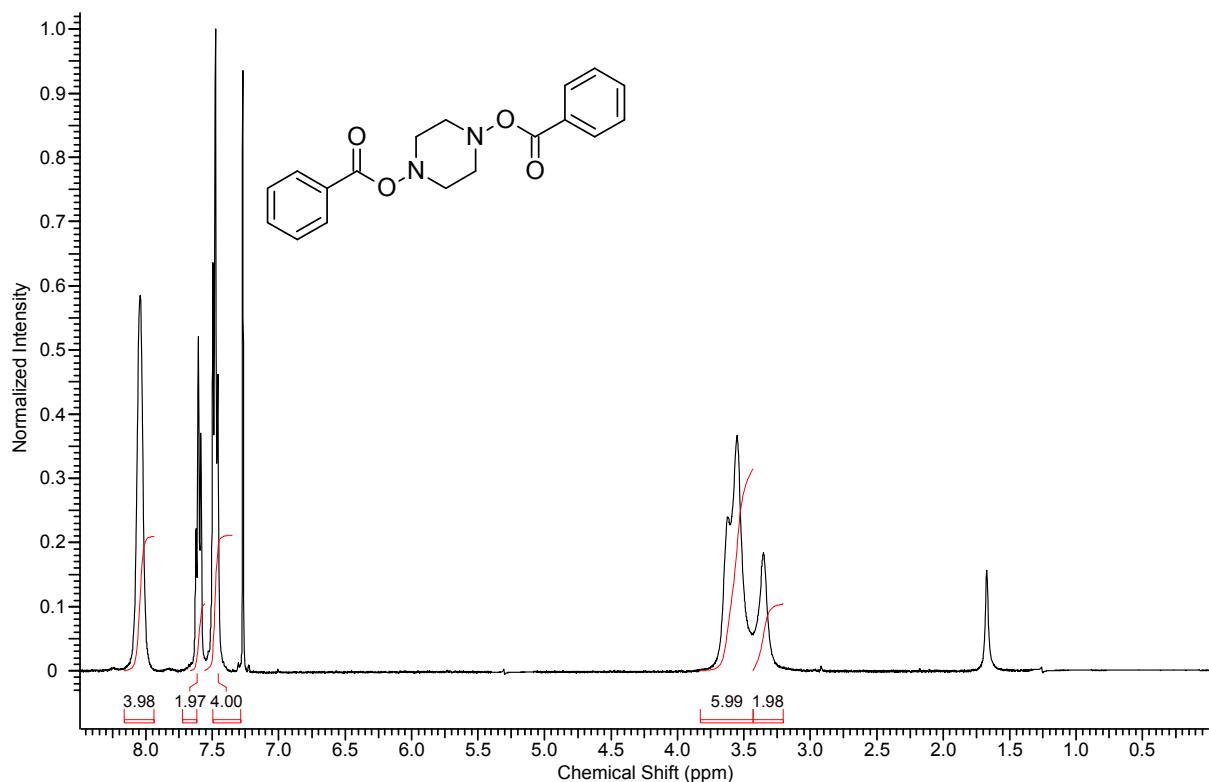
**Figure S54.** <sup>13</sup>C NMR spectrum of the compound **6jh**



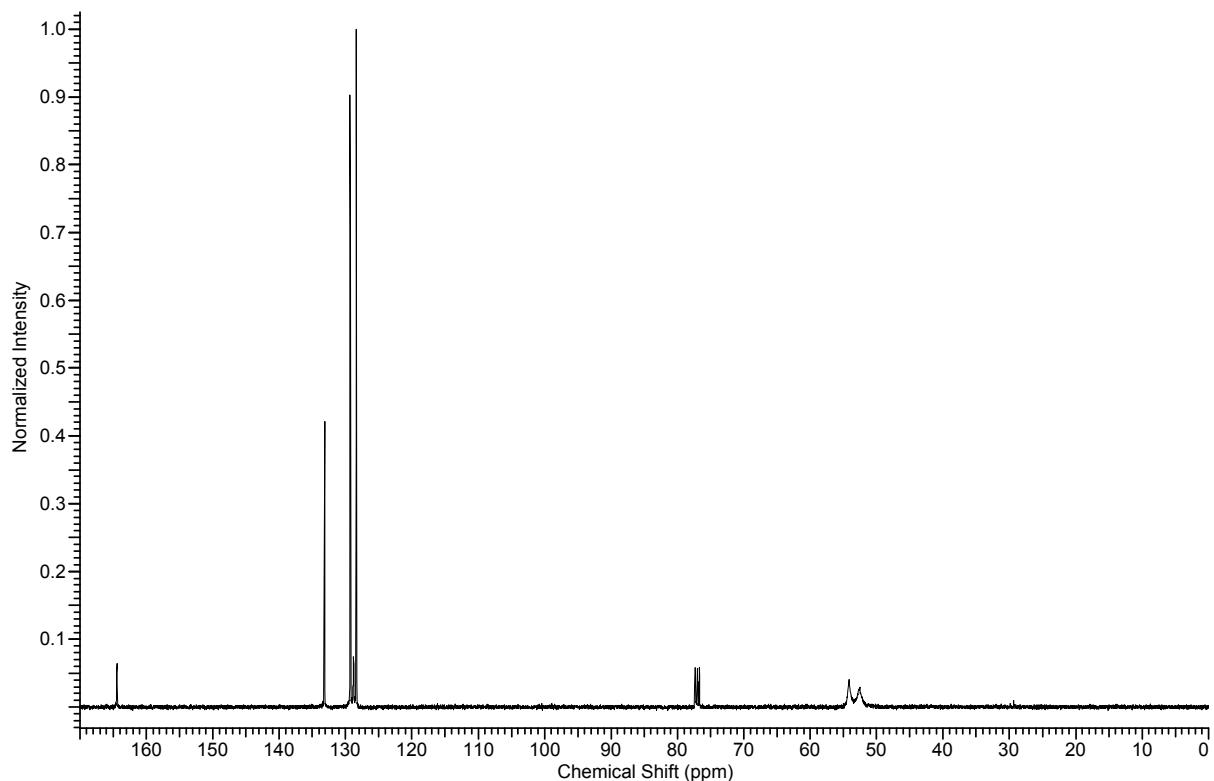
**Figure S55.** <sup>1</sup>H NMR spectrum of the compound **6kk**



**Figure S56.** <sup>13</sup>C NMR spectrum of the compound **6kk**



**Figure S57.** <sup>1</sup>H NMR spectrum of the compound **3k**



**Figure S58.** <sup>13</sup>C NMR spectrum of the compound **3k**