

## Supplementary Material

### Synthesis of new anthraquinone compounds and evaluation of their considerable xanthine oxidase inhibitory activities

Ufuk Parladi <sup>a</sup>, Ülkü Yılmaz <sup>b\*</sup>, Samir Abbas Ali Noma <sup>c</sup>, Burhan Ateş <sup>a</sup>, and Hasan Küçükbay <sup>a</sup>

<sup>a</sup>*Department of Chemistry, Faculty of Science and Arts, İnönü University, Malatya 44280, Turkey*

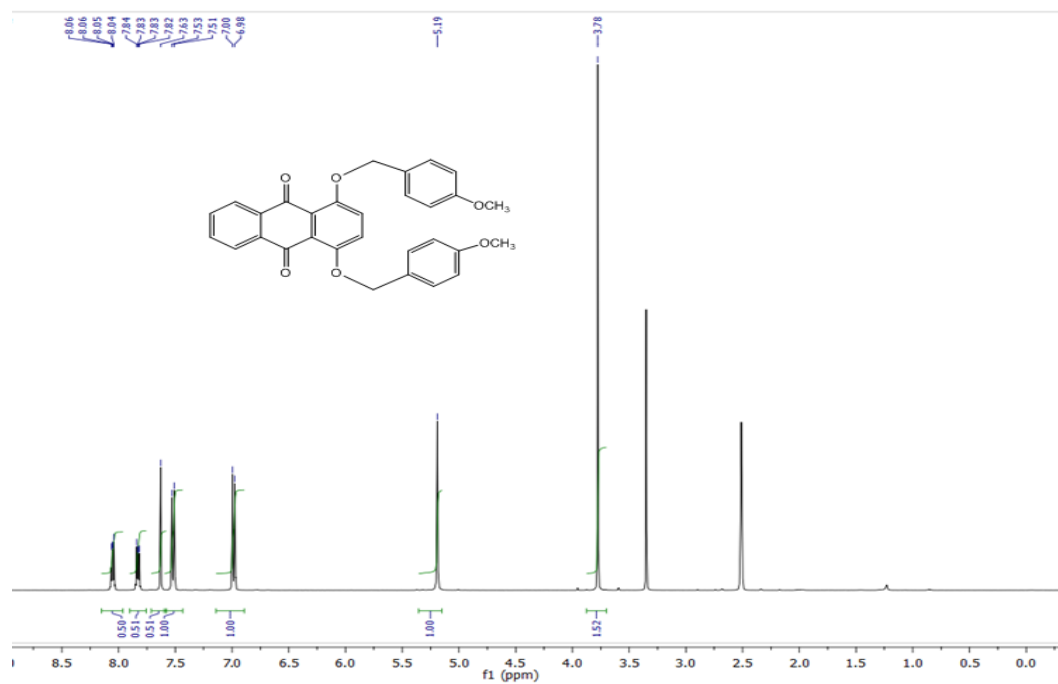
<sup>b</sup>*Department of Engineering Basic Sciences, Faculty of Engineering and Natural Sciences, Malatya Turgut Özal University, Malatya 44210, Turkey*

<sup>c</sup>*Department of Chemistry, Faculty of Arts and Science, Bursa Uludağ University, Bursa 16059, Turkey*

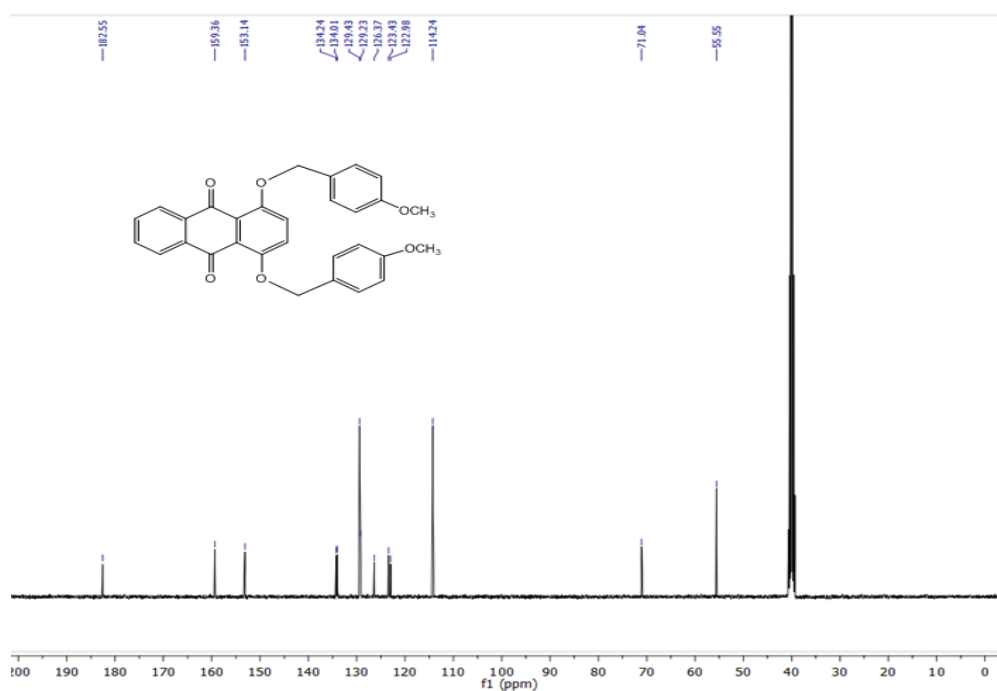
E-mail: [ulku.yilmaz@ozal.edu.tr](mailto:ulku.yilmaz@ozal.edu.tr)

#### Table of Contents

|                                                                          |    |
|--------------------------------------------------------------------------|----|
| Spectra of compounds ( <sup>1</sup> H, <sup>13</sup> C NMR and IR) ..... | S2 |
|--------------------------------------------------------------------------|----|



**Figure 1.** <sup>1</sup>H-NMR of compound **1** (DMSO-d<sub>6</sub>, 400 MHz)



**Figure 2.** <sup>13</sup>C-NMR of compound **1** (DMSO-d<sub>6</sub>, 100 MHz)

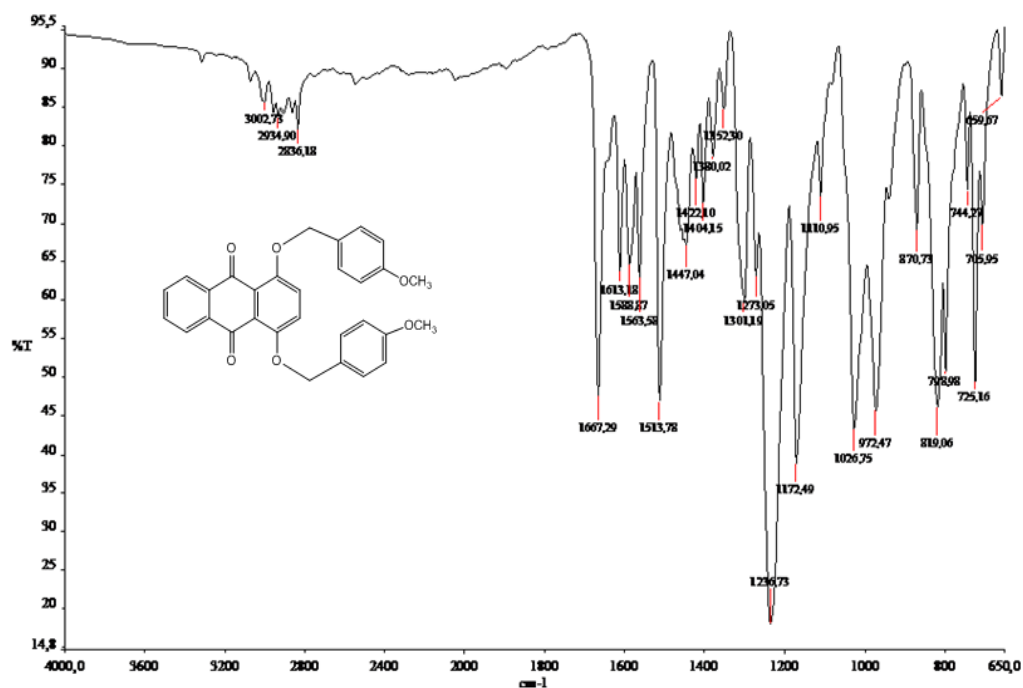
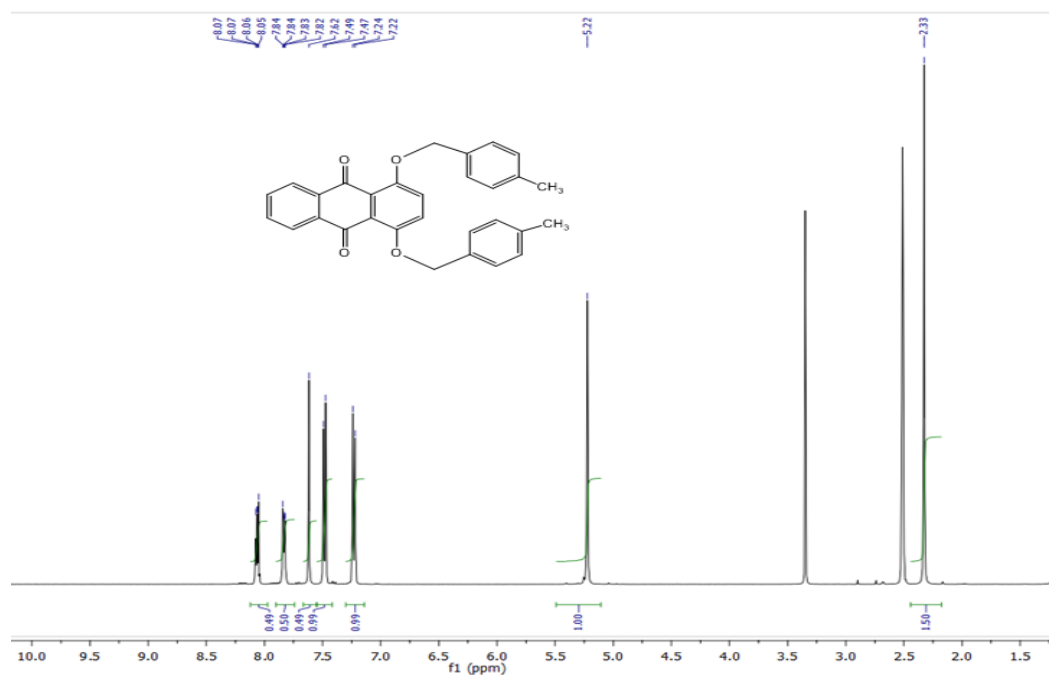


Figure 3. IR of compound 1

Figure 4. <sup>1</sup>H-NMR of compound 2 (DMSO-d<sub>6</sub>, 400 MHz)

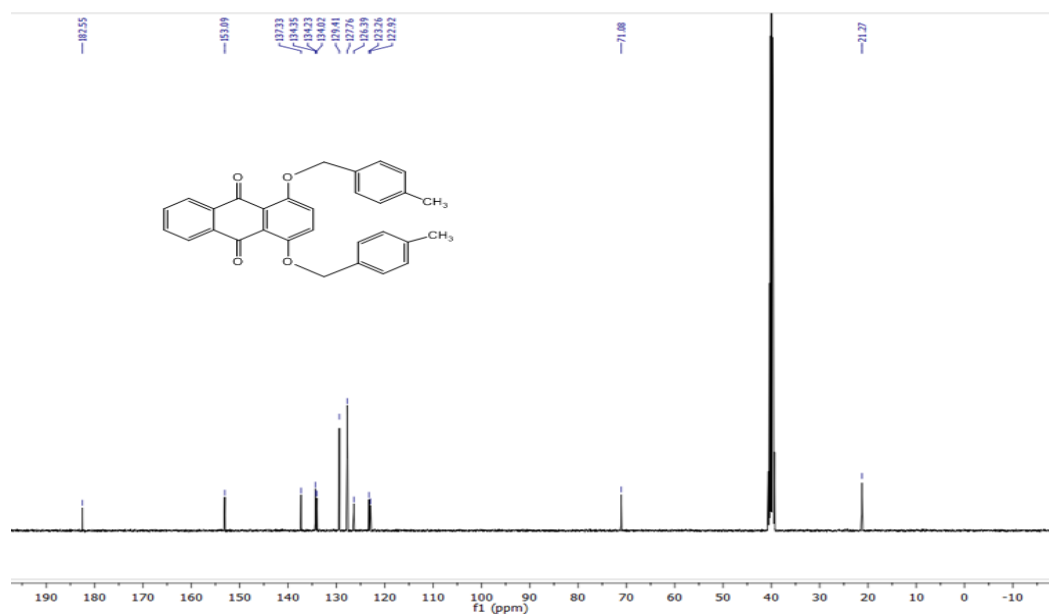


Figure 5. <sup>13</sup>C-NMR of compound 2 (DMSO-d<sub>6</sub>, 100 MHz)

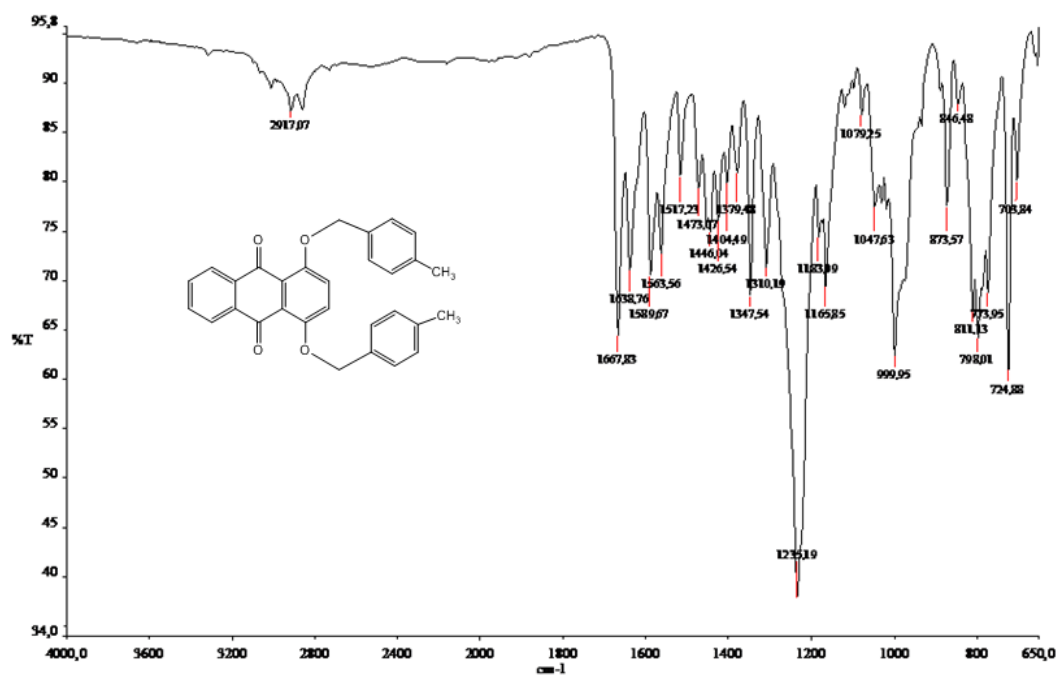
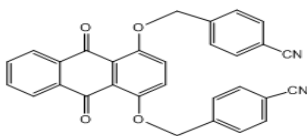
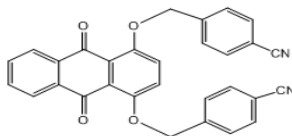


Figure 6. IR of compound 2



**Figure 7.**  $^1\text{H}$ -NMR of compound **3** ( $\text{CDCl}_3$ , 400 MHz)



**Figure 8.**  $^{13}\text{C}$ -NMR of compound **3** ( $\text{CDCl}_3$ , 100 MHz)

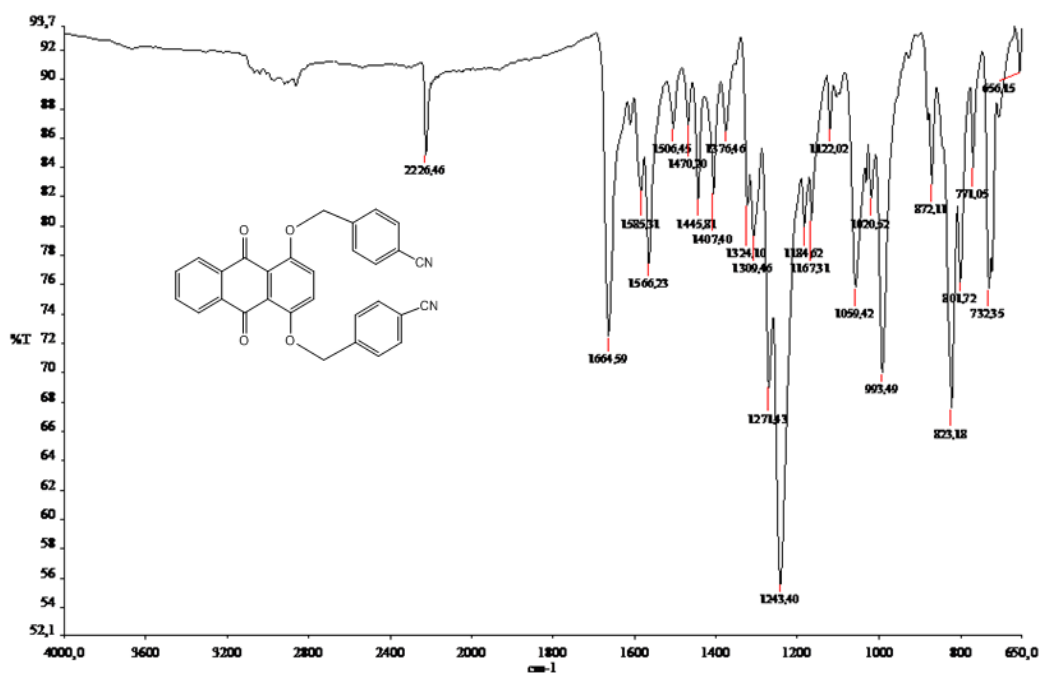
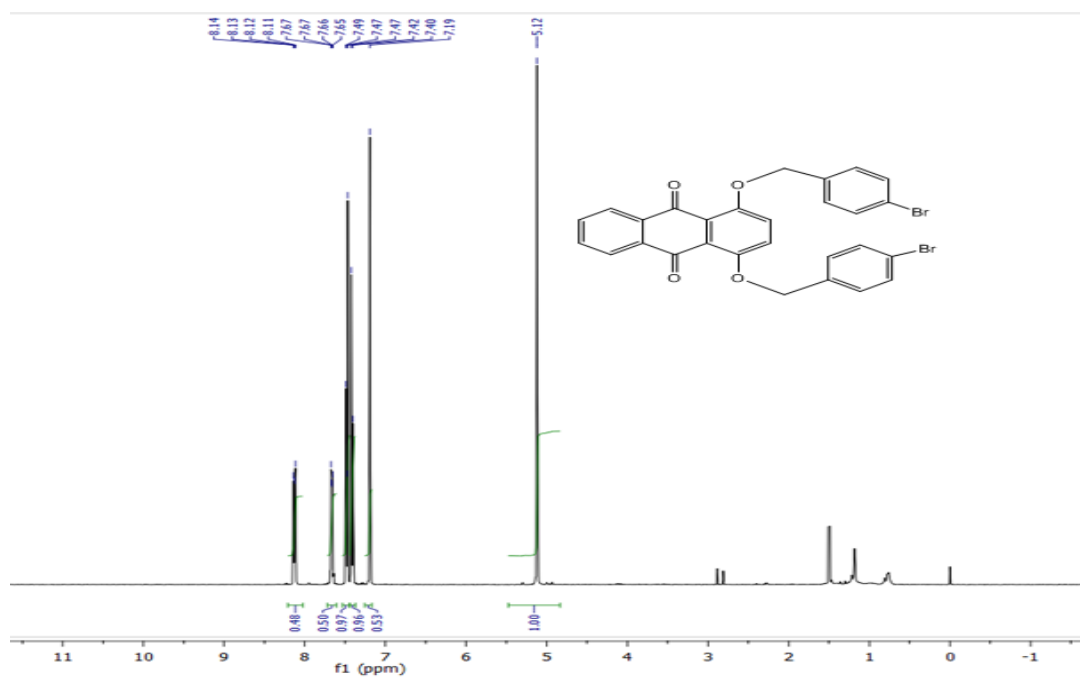


Figure 9. IR of compound 3



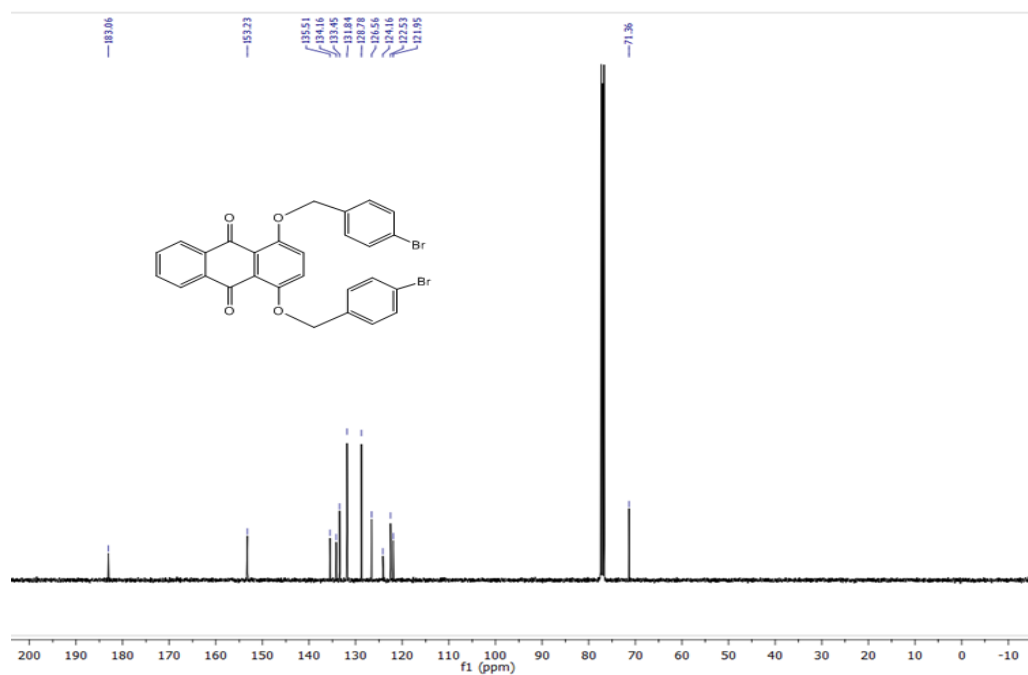


Figure 11. <sup>13</sup>C-NMR of compound 4 (CDCl<sub>3</sub>, 100 MHz)

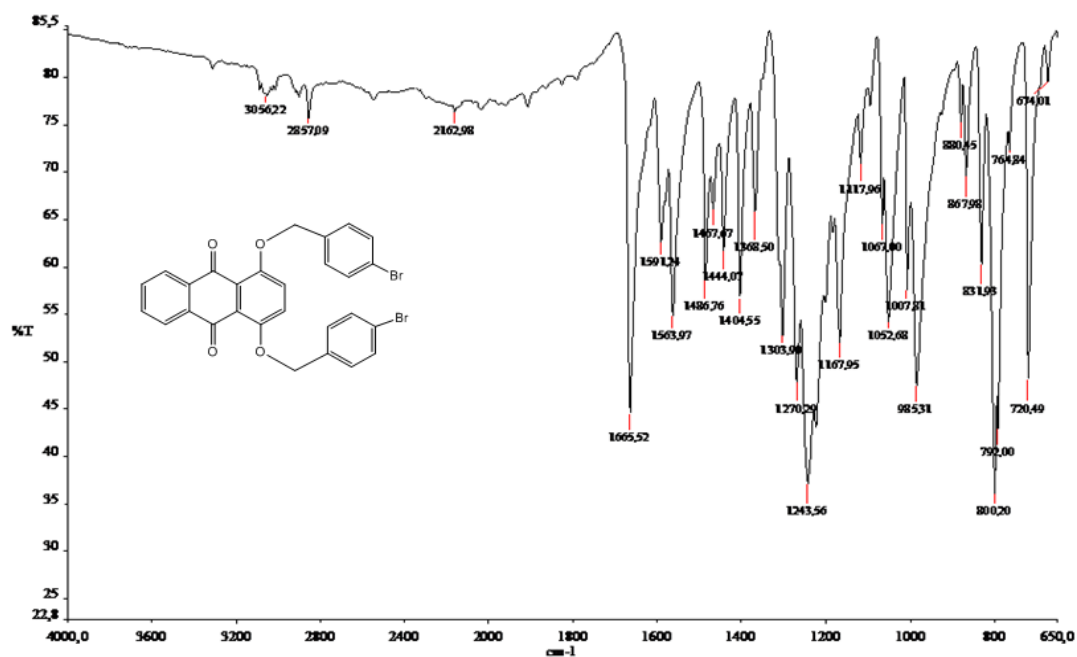
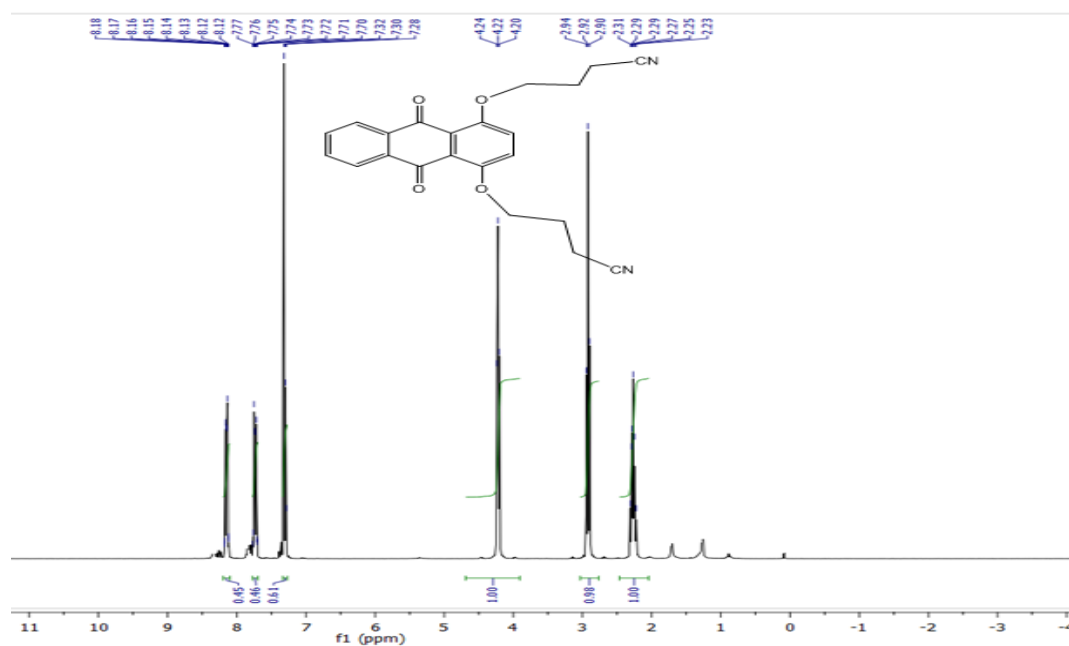
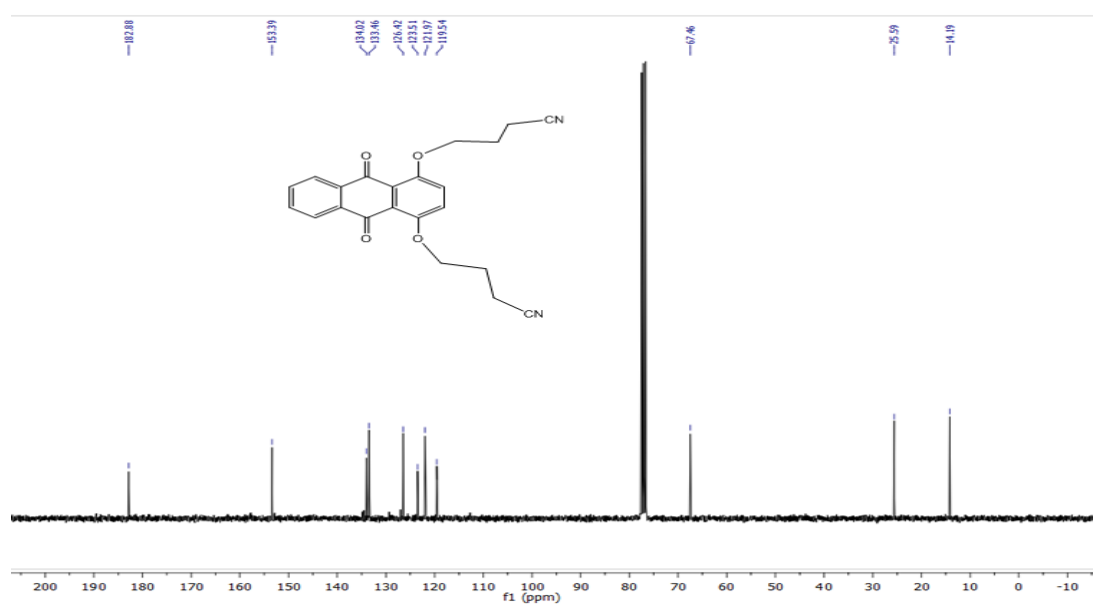


Figure 12. IR of compound 4



**Figure 13.** <sup>1</sup>H-NMR of compound **5** (CDCl<sub>3</sub>, 400 MHz)



**Figure 14.** <sup>13</sup>C-NMR of compound **5** (CDCl<sub>3</sub>, 100 MHz)

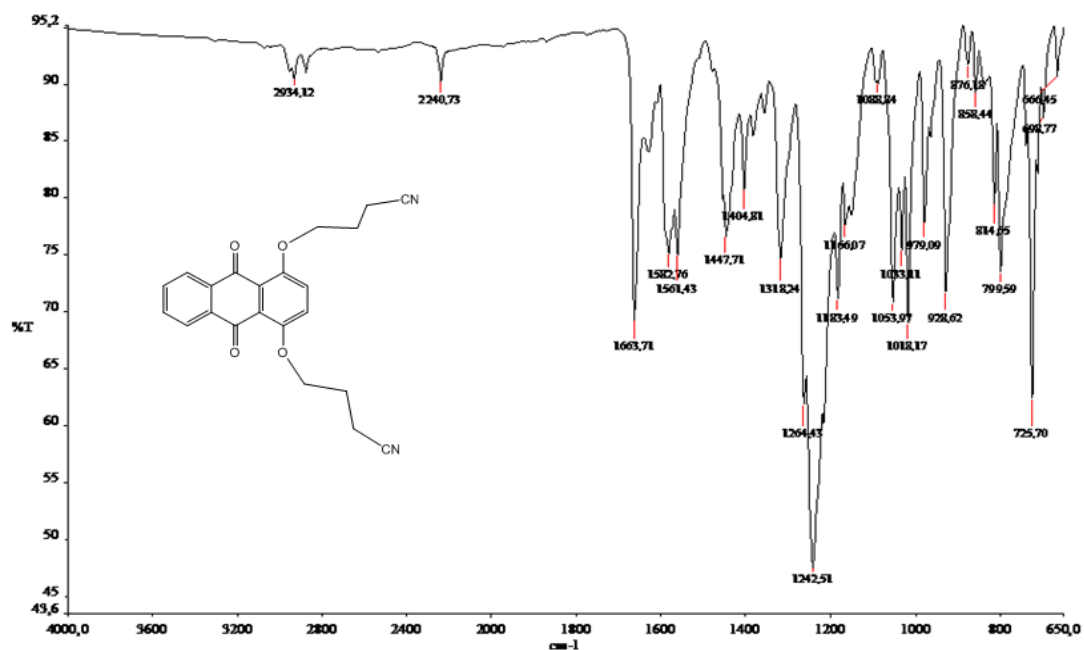
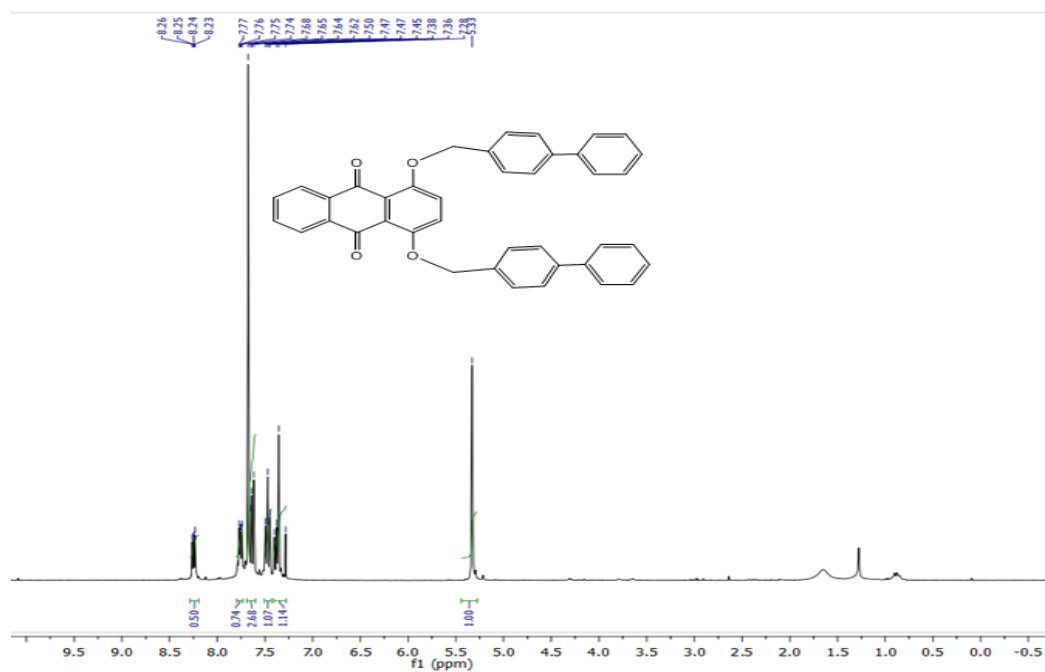


Figure 15. IR of compound 5

Figure 16. <sup>1</sup>H-NMR of compound 6 (CDCl<sub>3</sub>, 400 MHz)

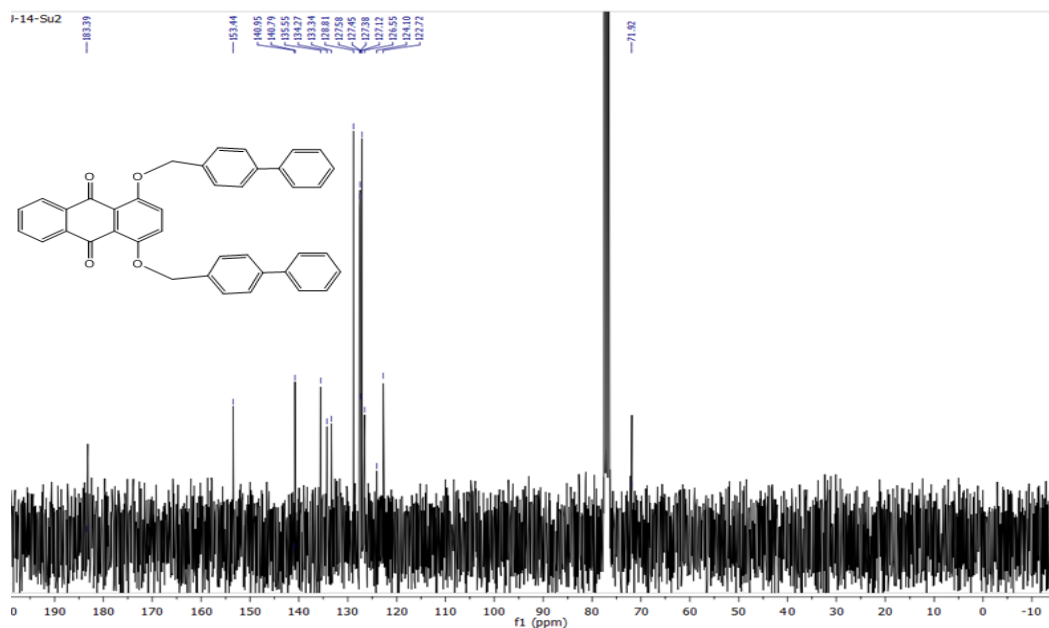


Figure 17.  $^{13}\text{C}$ -NMR of compound 6 ( $\text{CDCl}_3$ , 100 MHz)

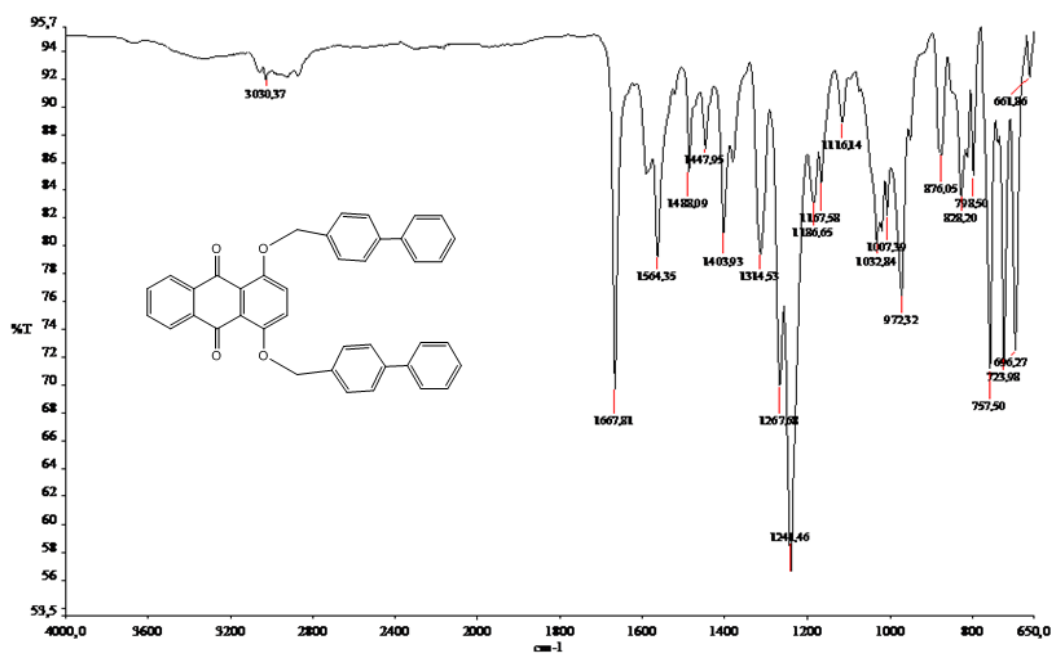
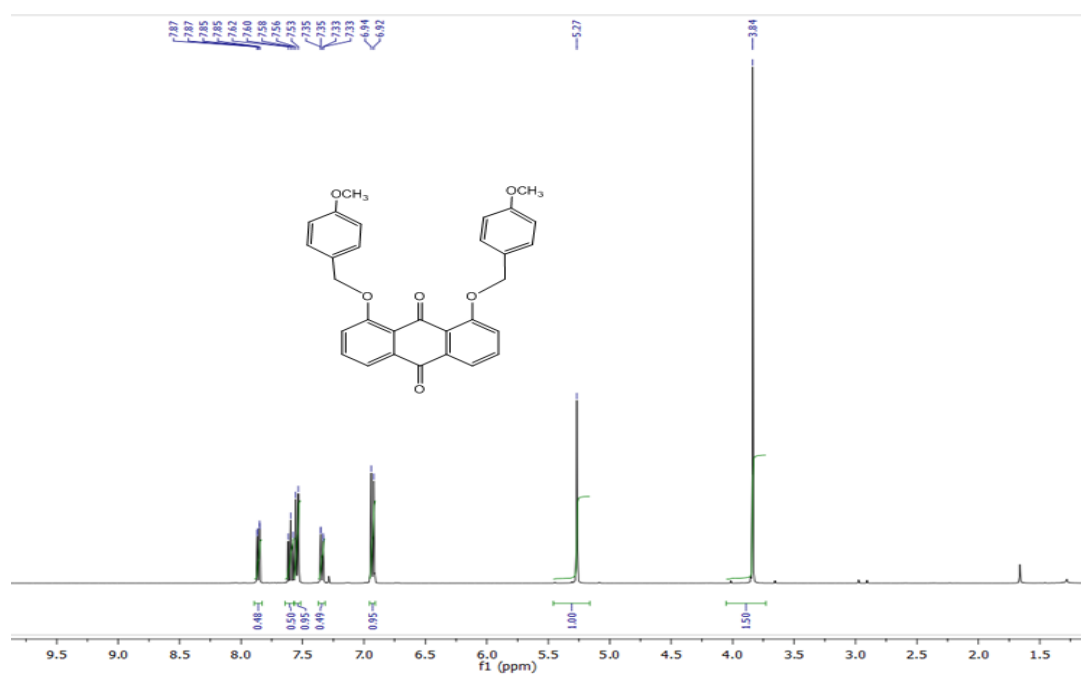
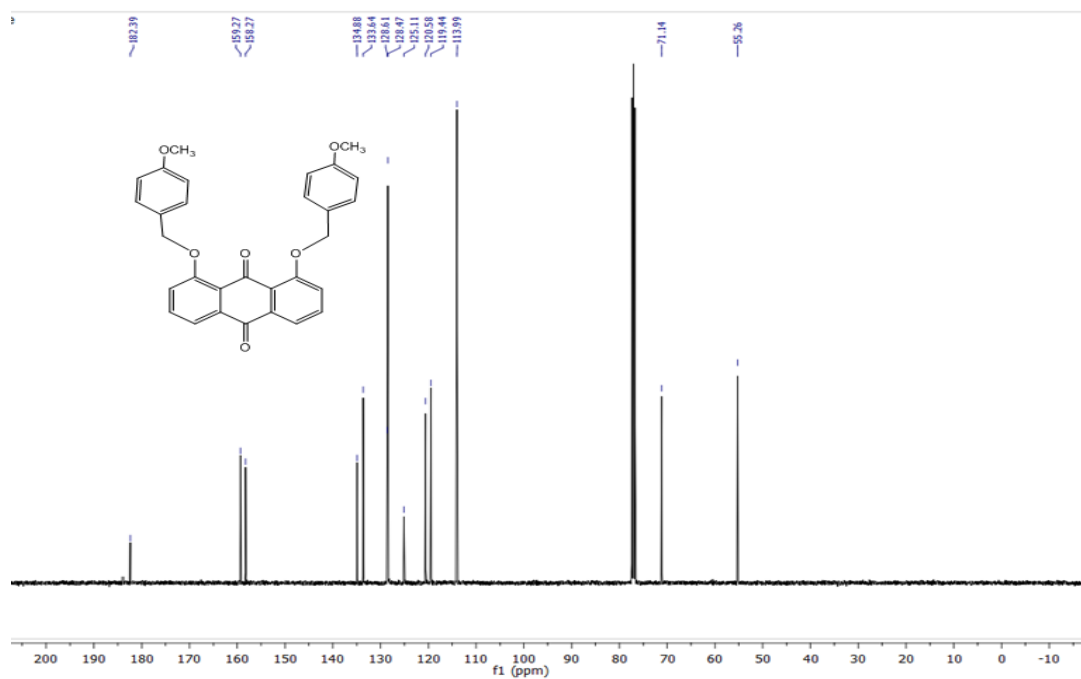


Figure 18. IR of compound 6



**Figure 19.** <sup>1</sup>H-NMR of compound **7** (CDCl<sub>3</sub>, 400 MHz)



**Figure 20.** <sup>13</sup>C-NMR of compound **7** (CDCl<sub>3</sub>, 100 MHz)

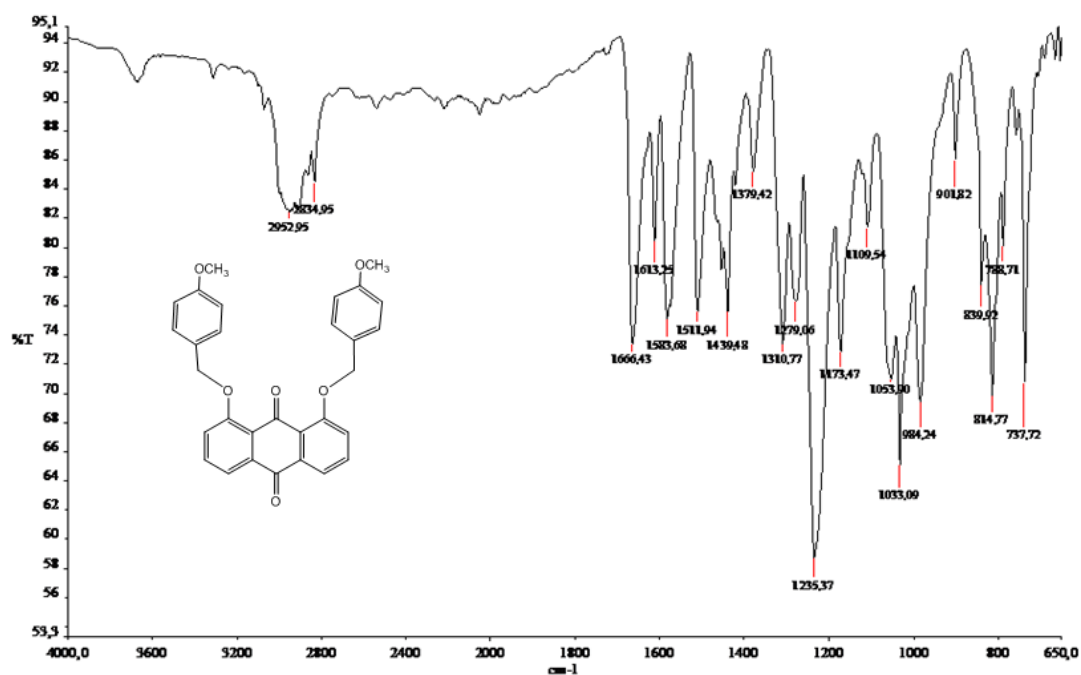
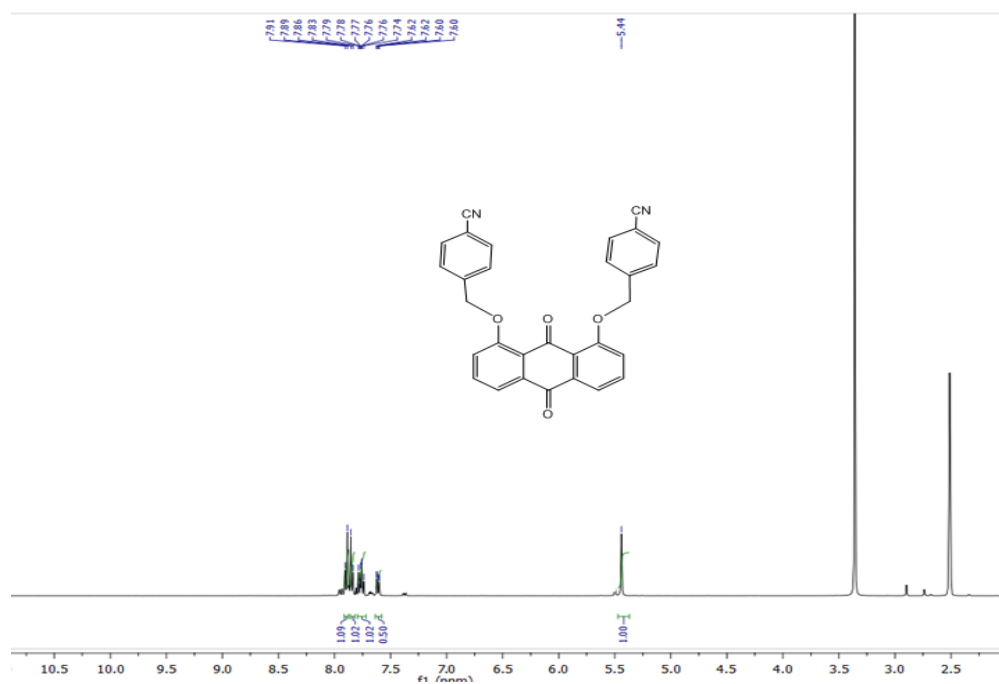


Figure 21. IR of compound 7

Figure 22. <sup>1</sup>H-NMR of compound 8 (DMSO-d<sub>6</sub>, 400 MHz)

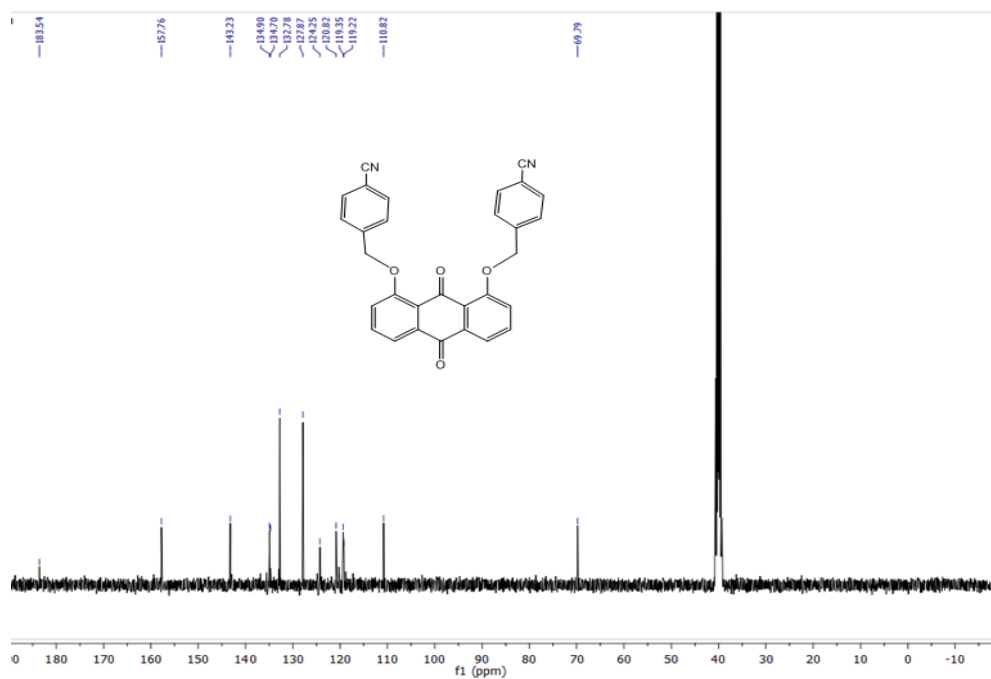


Figure 23. <sup>13</sup>C-NMR of compound 8 (DMSO-d<sub>6</sub>, 400 MHz)

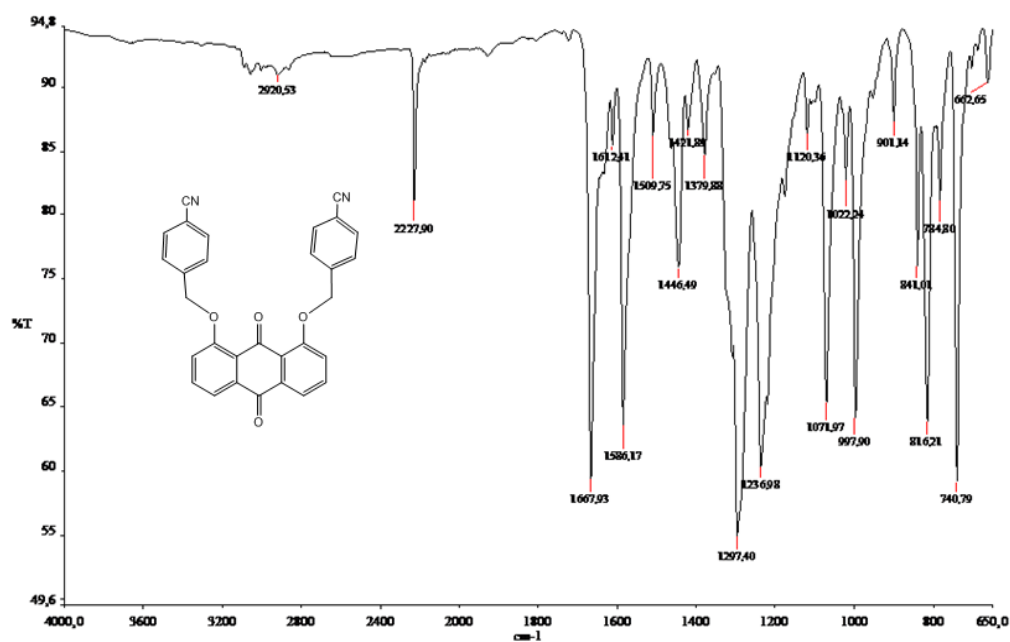
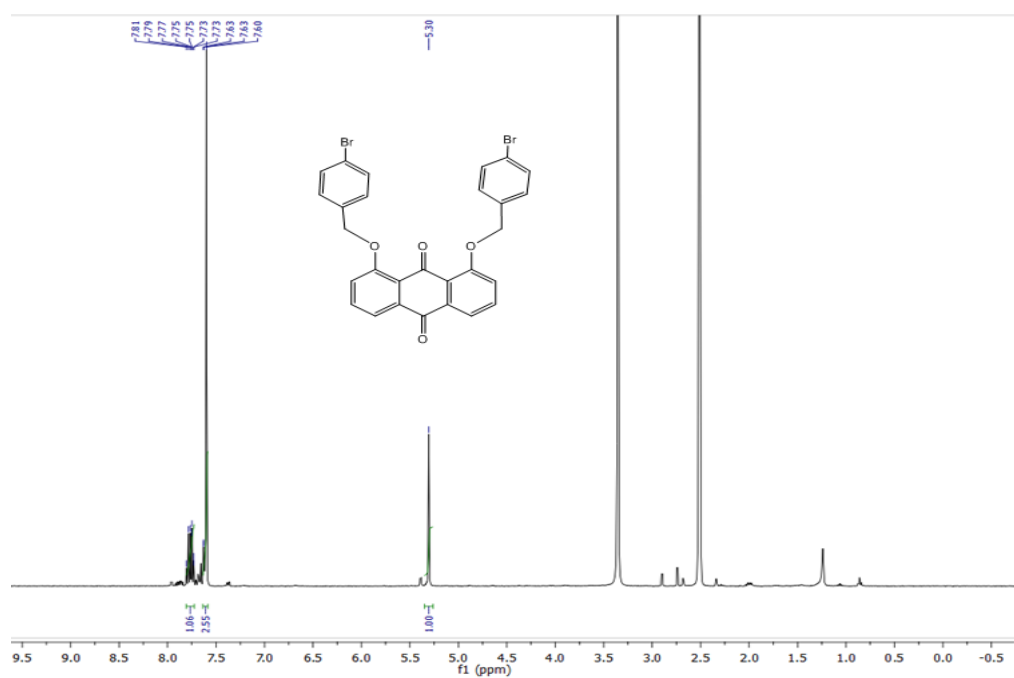
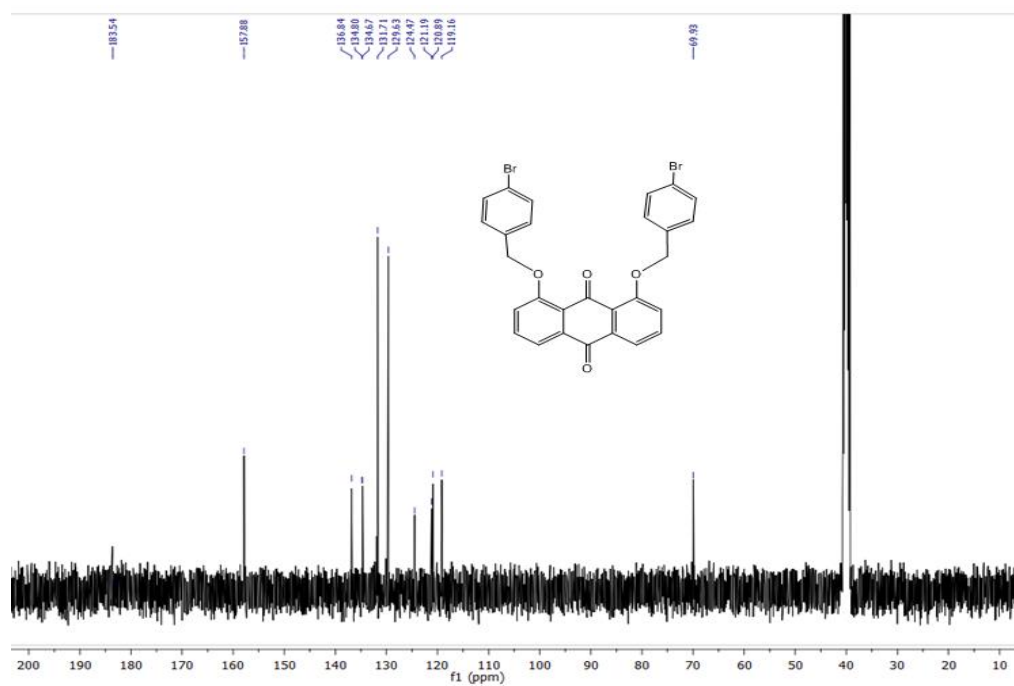


Figure 24. IR of compound 8



**Figure 25.** <sup>1</sup>H-NMR of compound **9** (DMSO-d<sub>6</sub>, 400 MHz)



**Figure 26.** <sup>13</sup>C-NMR of compound **9** (DMSO-d<sub>6</sub>, 400 MHz)

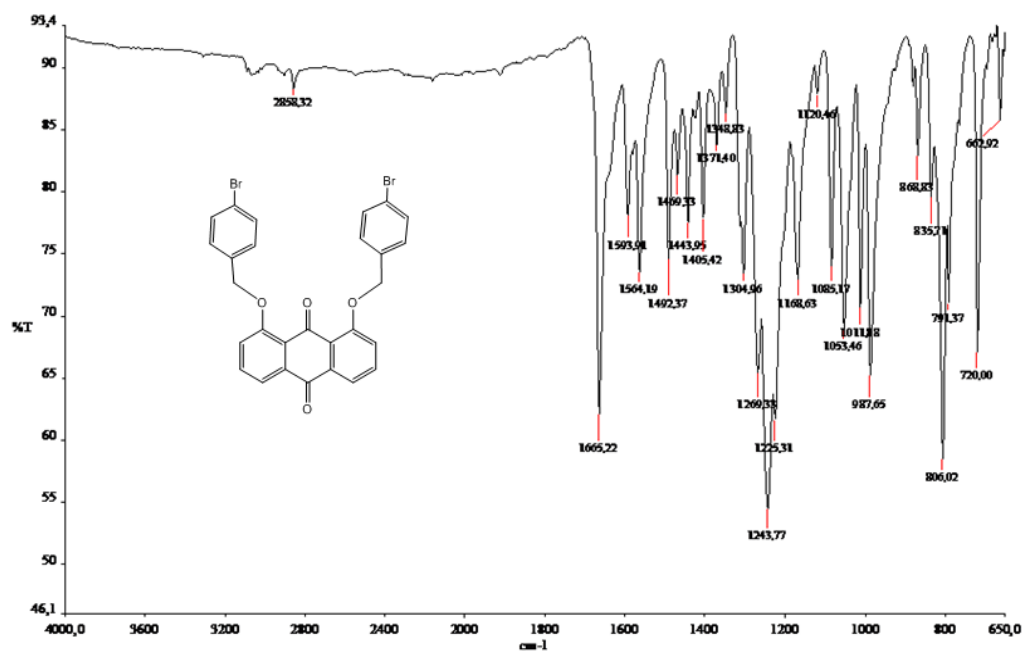
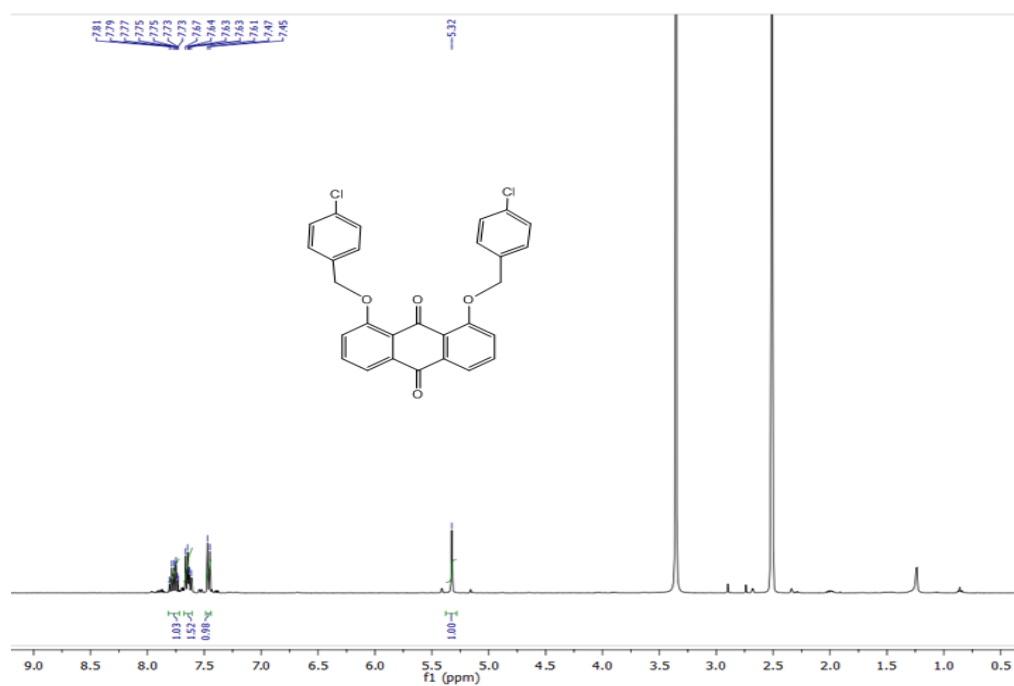


Figure 27. IR of compound 9

Figure 28. <sup>1</sup>H-NMR of compound 10 (DMSO-d<sub>6</sub>, 400 MHz)

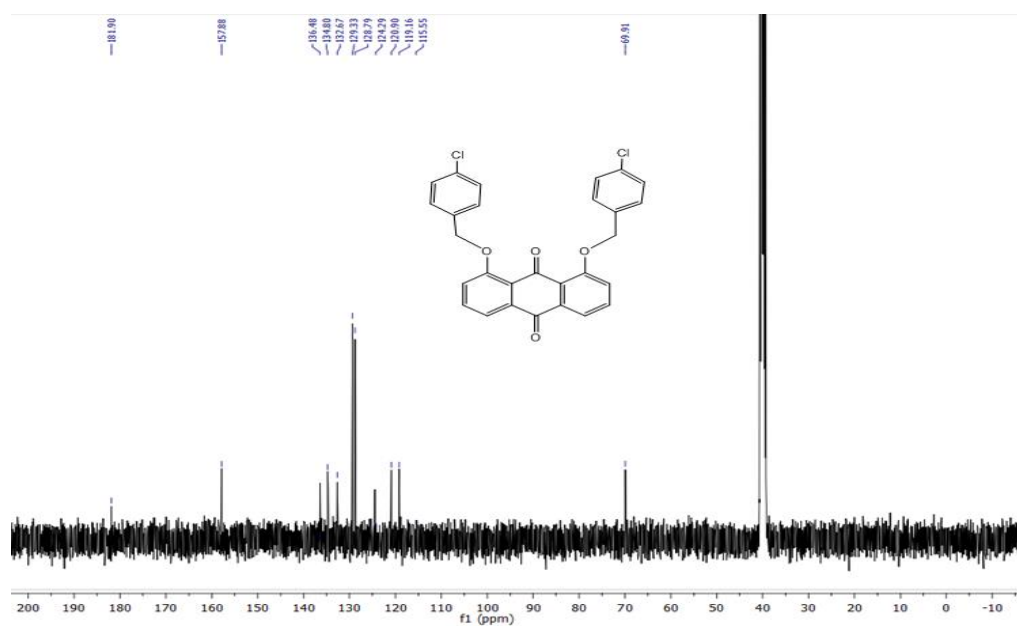


Figure 29.  $^{13}\text{C}$ -NMR of compound 10 (DMSO- $d_6$ , 400 MHz)

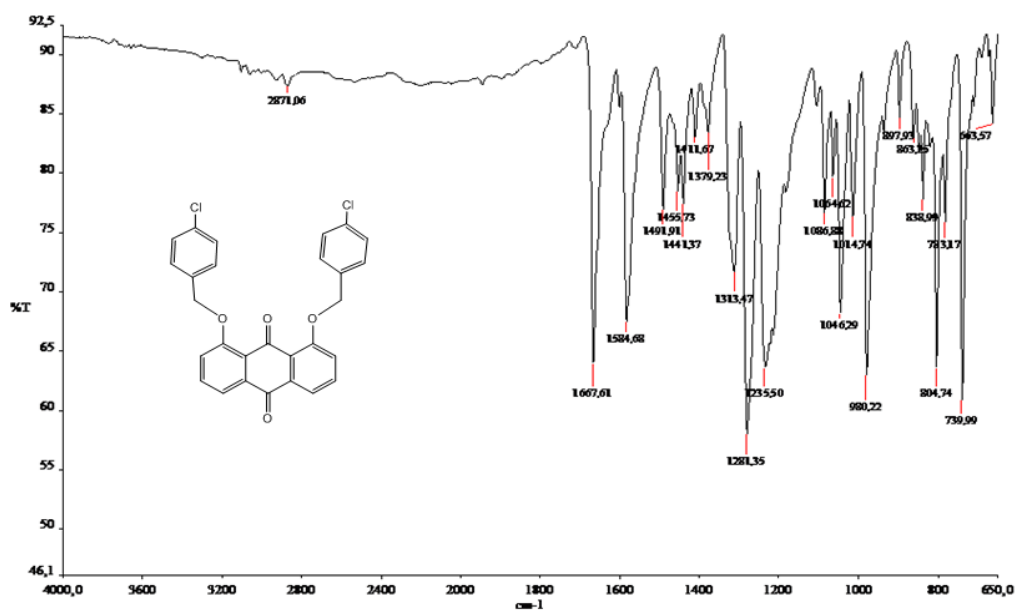
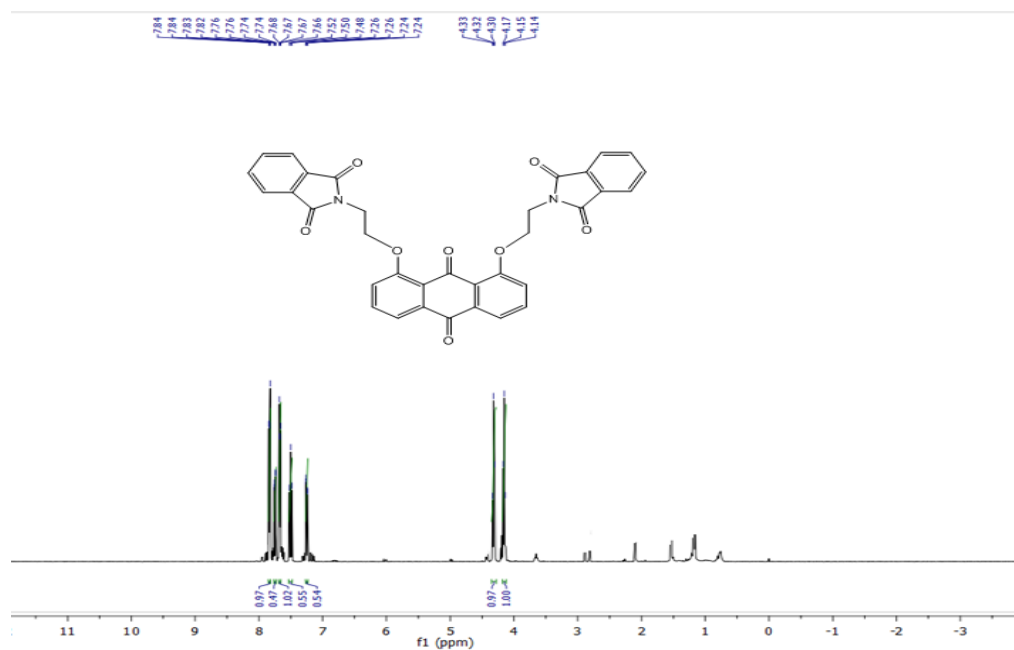
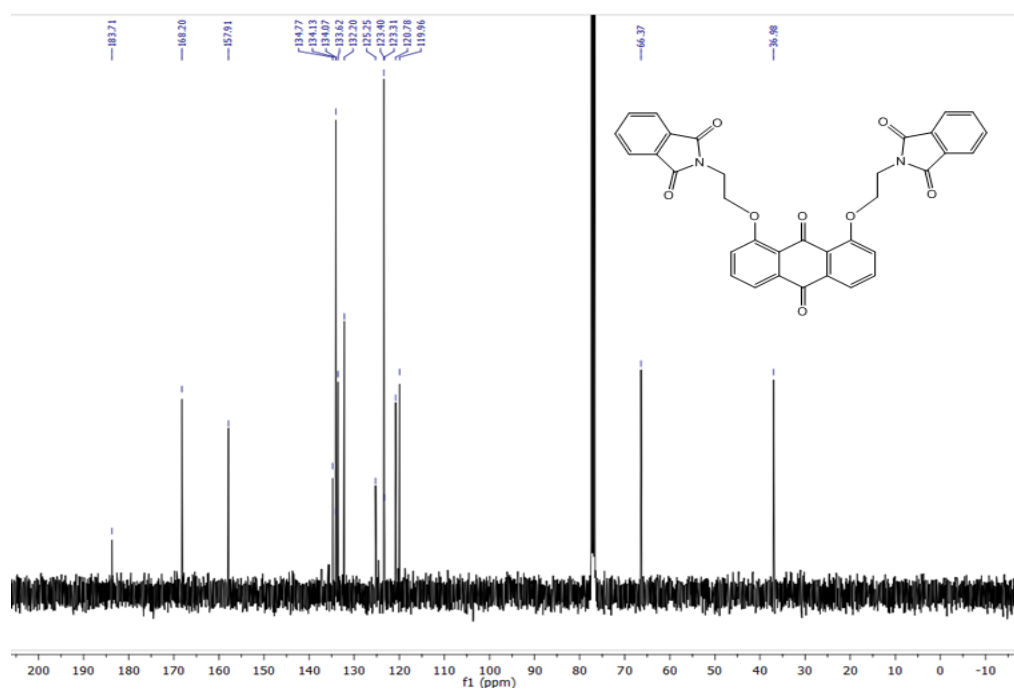


Figure 30. IR of compound 10



**Figure 31.** <sup>1</sup>H-NMR of compound **11** (CDCl<sub>3</sub>, 400 MHz)



**Figure 32.** <sup>13</sup>C-NMR of compound **11** (CDCl<sub>3</sub>, 100 MHz)

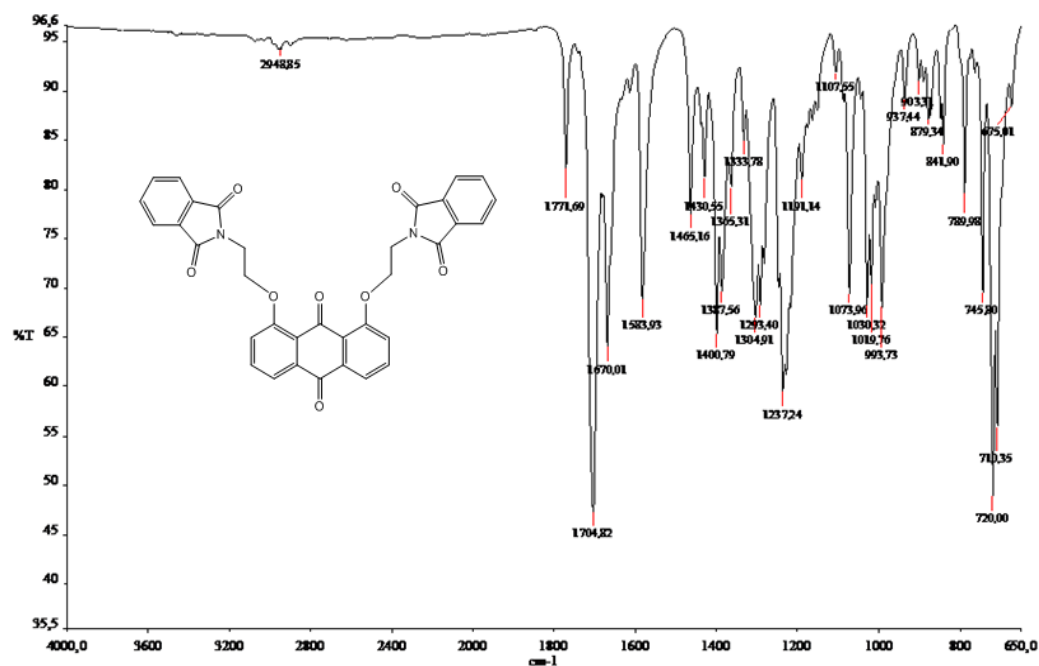


Figure 33. IR of compound 11