

## Supporting Information File 2

for

### **2-Hetaryl-1,3-tropolones based on five-membered nitrogen heterocycles: synthesis, structure and properties**

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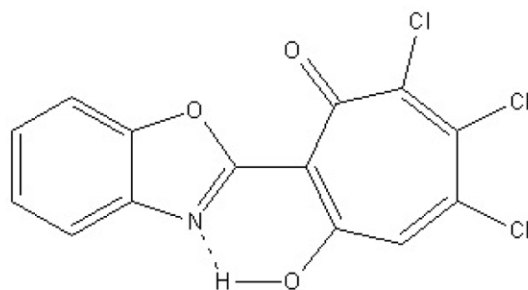
\* Corresponding author

**Copies of <sup>1</sup>H and <sup>13</sup>C NMR spectra of 5a–g, 6a–g, 11a–g, 13**

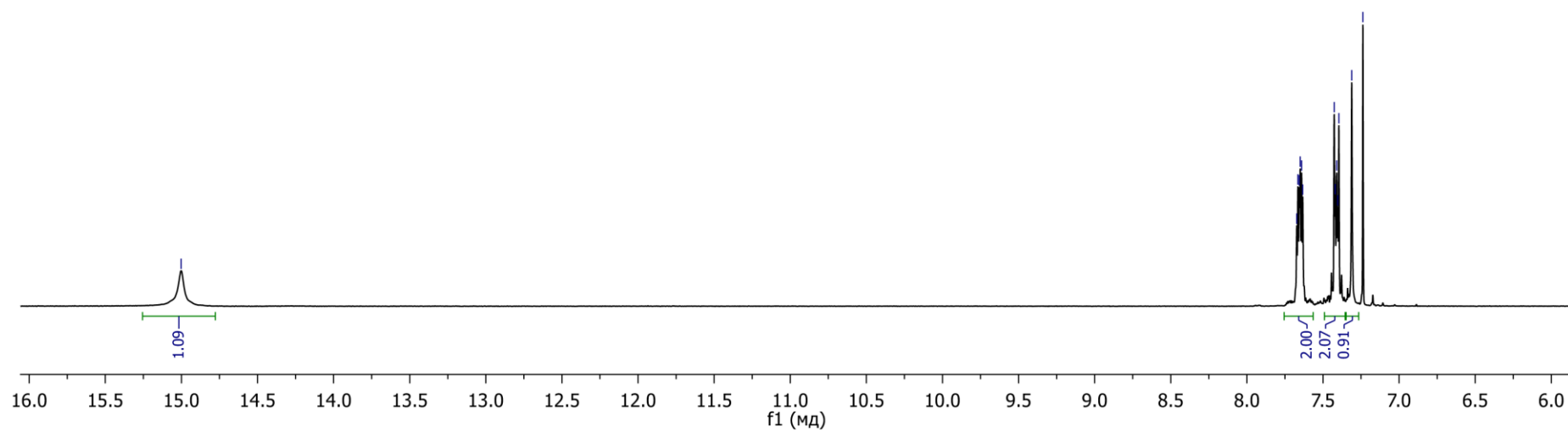
5a

—15.00

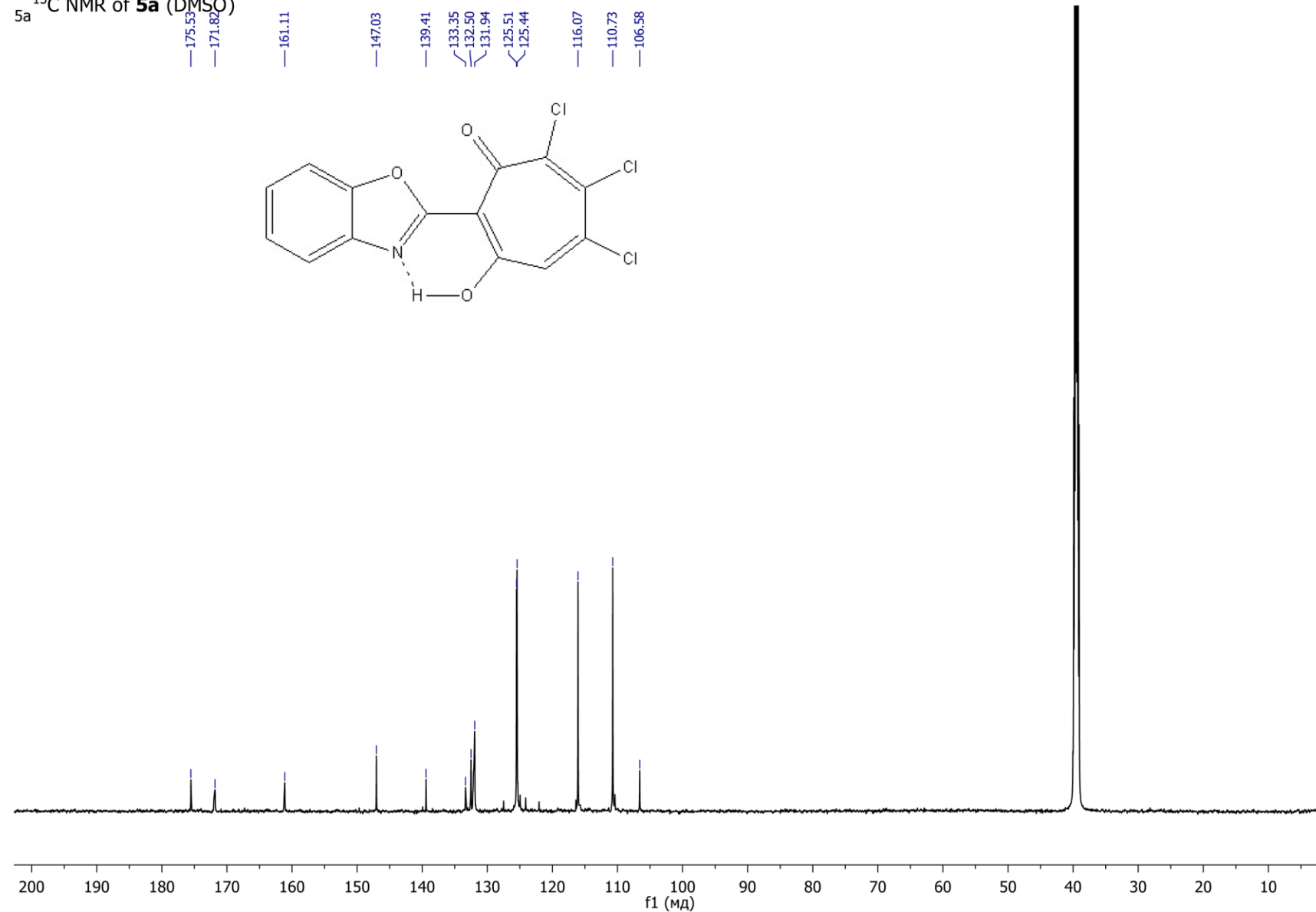
$^1\text{H}$  NMR of **5a** ( $\text{CDCl}_3$ )



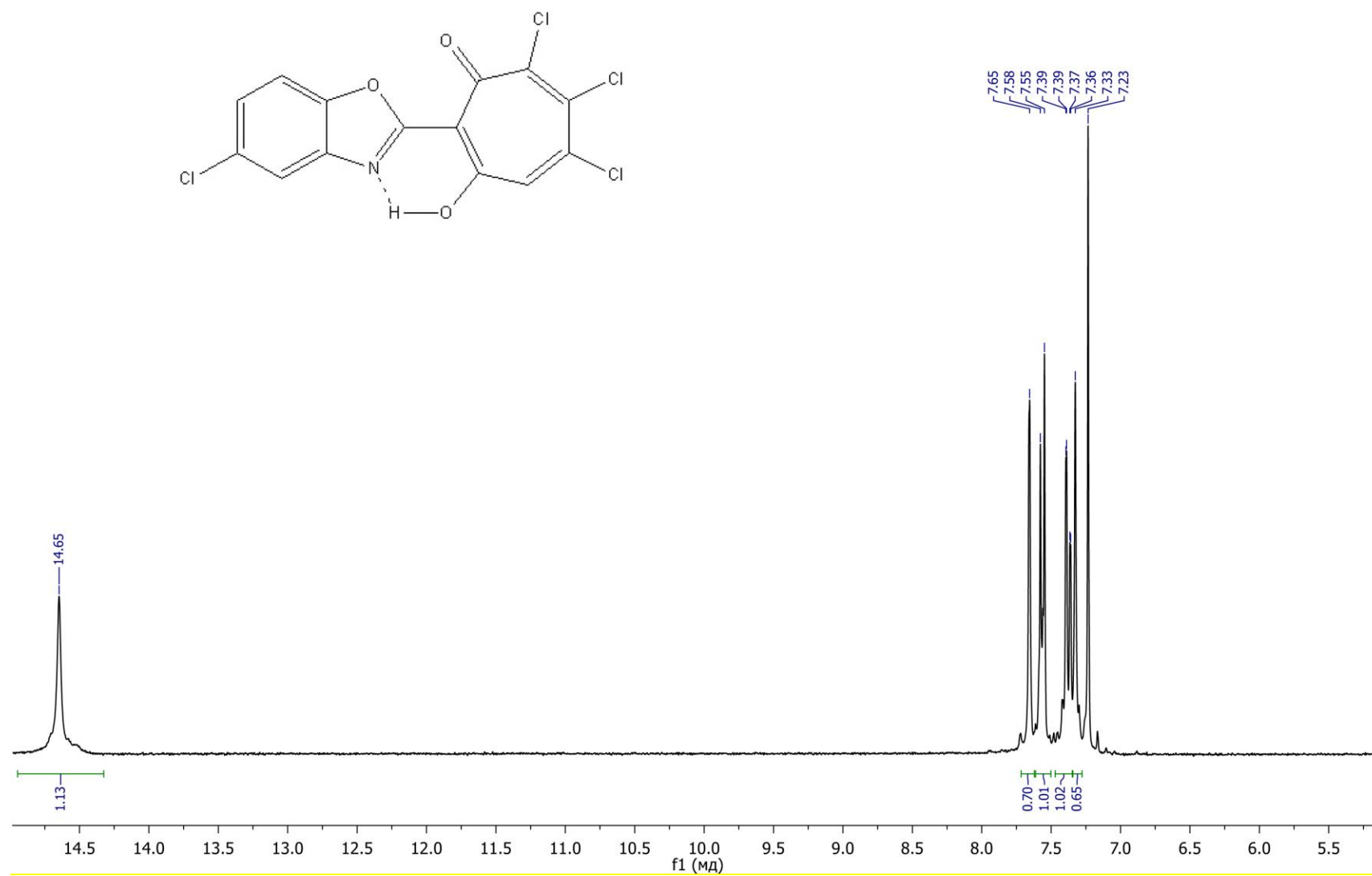
7.67  
7.66  
7.66  
7.65  
7.64  
7.63  
7.43  
7.42  
7.41  
7.40  
7.40  
7.31  
7.24



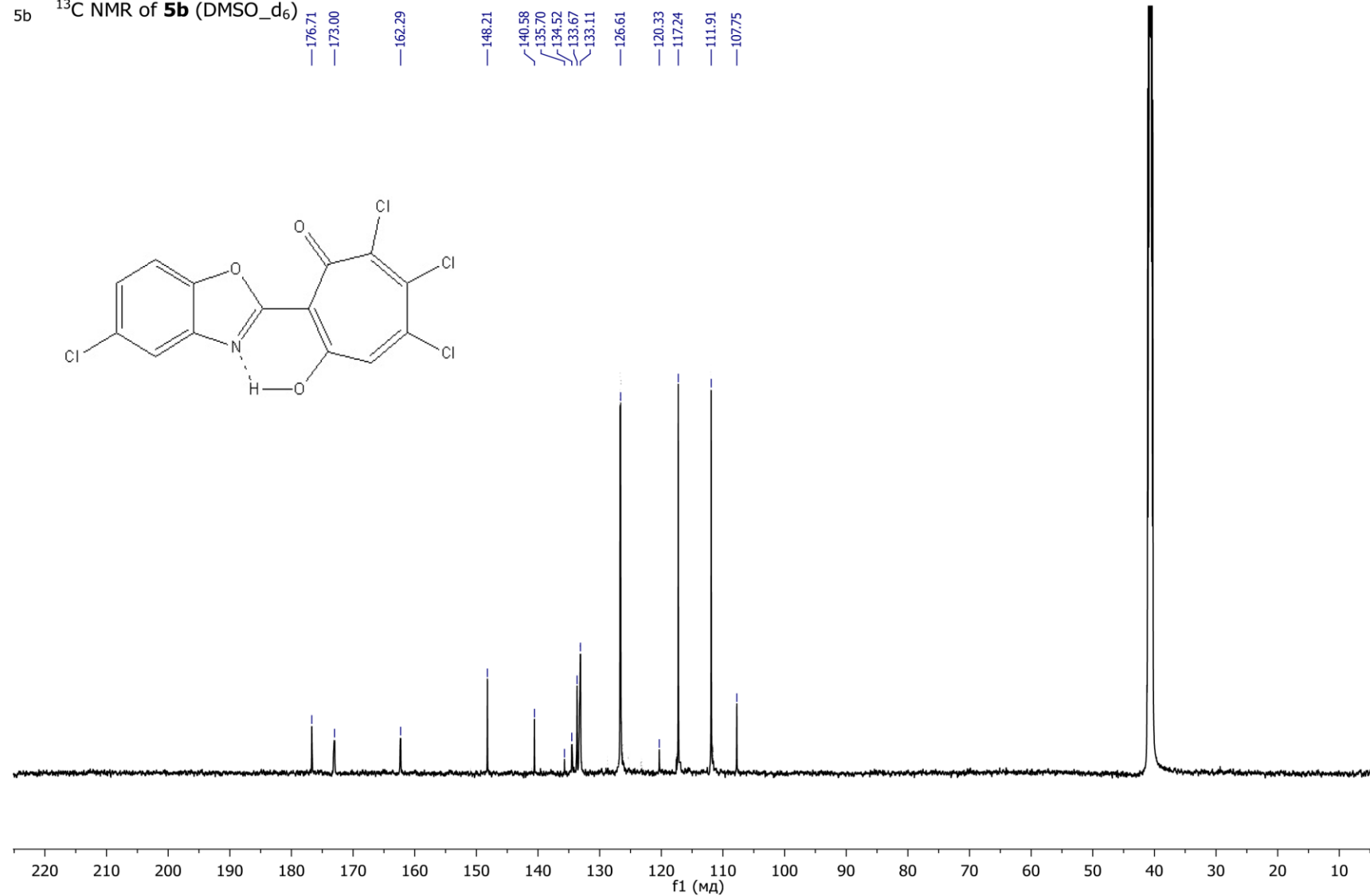
<sup>13</sup>C NMR of **5a** (DMSO)

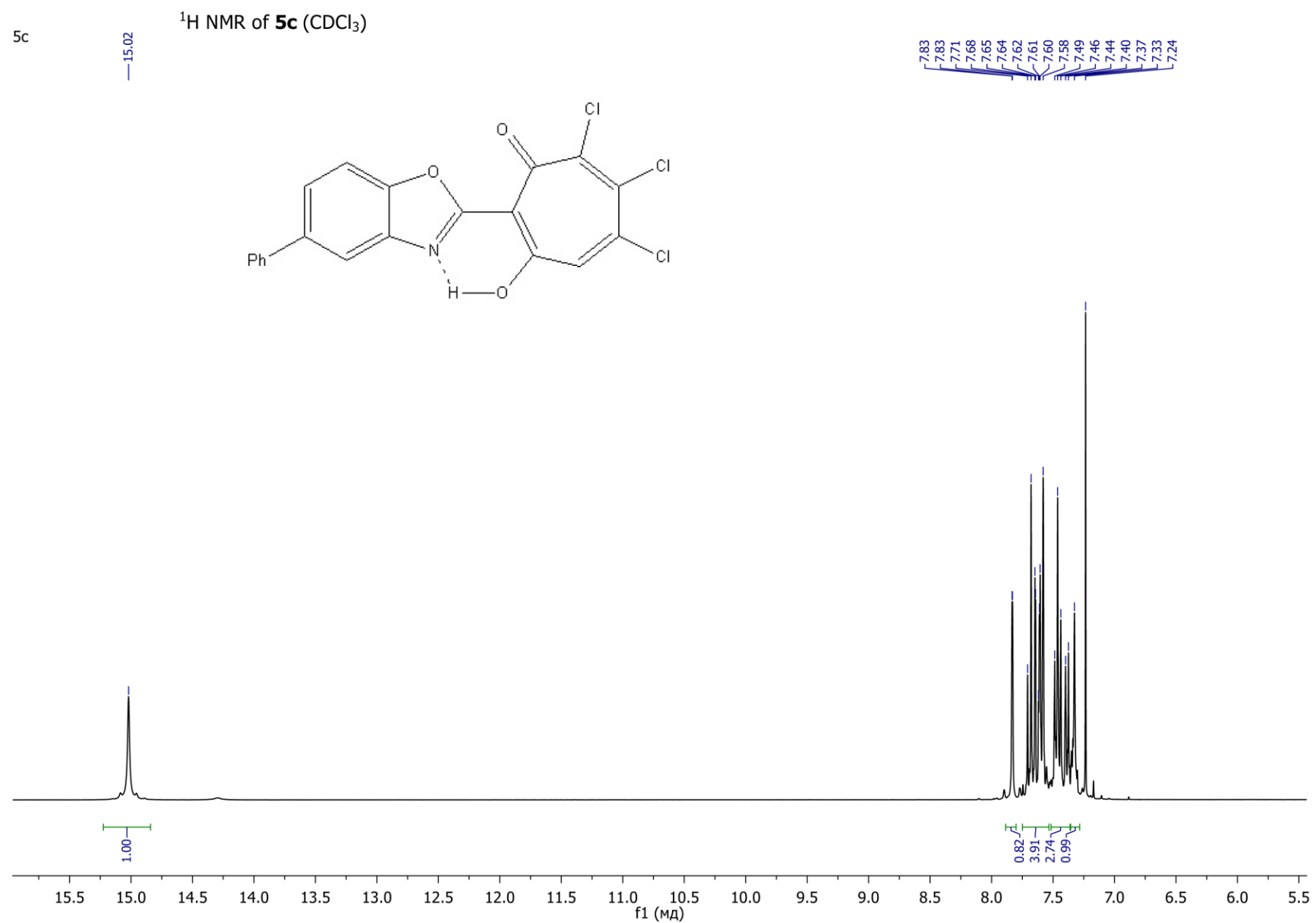


5b

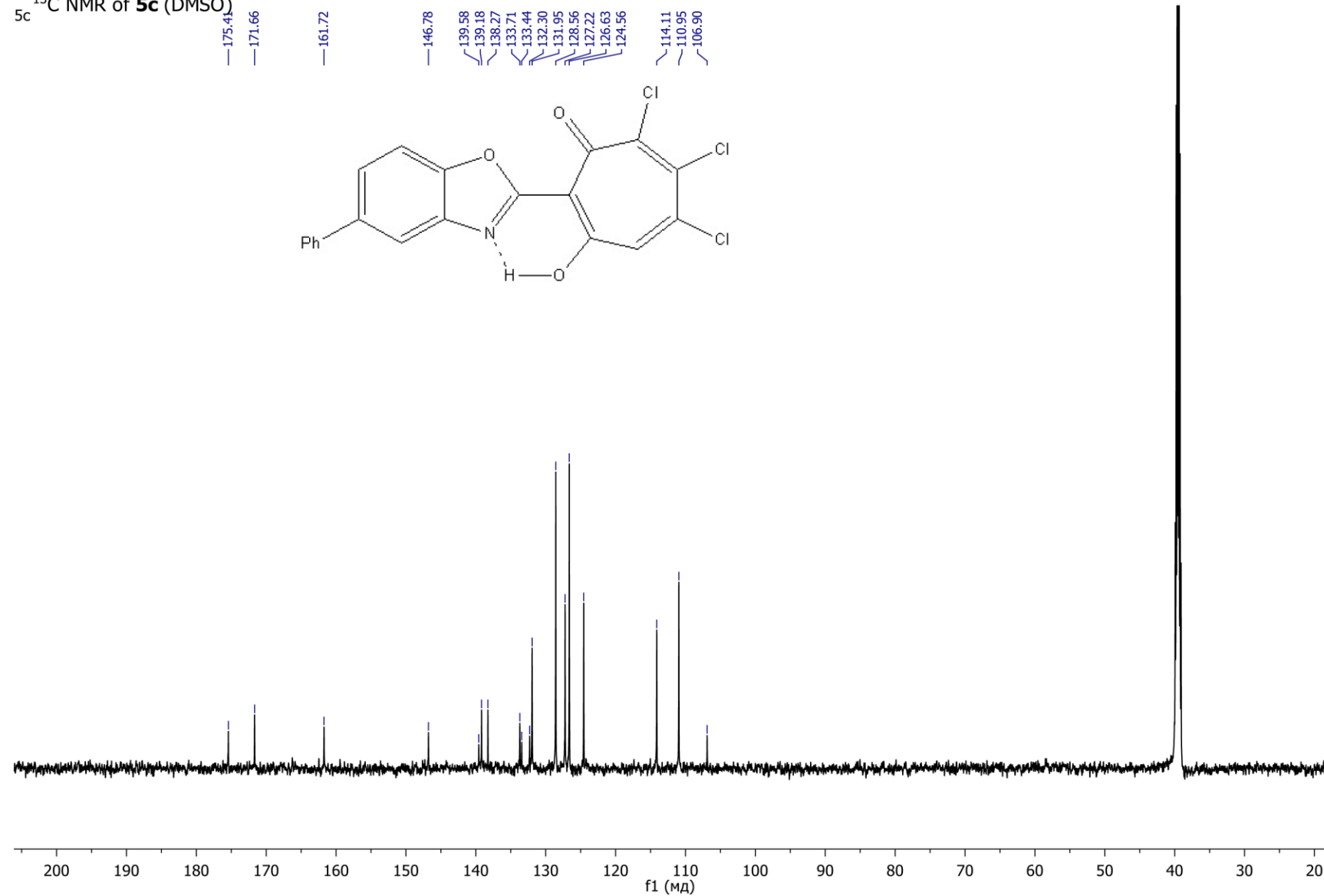
 $^1\text{H}$  NMR of **5b** ( $\text{CDCl}_3$ )

5b  $^{13}\text{C}$  NMR of **5b** (DMSO- $\text{d}_6$ )

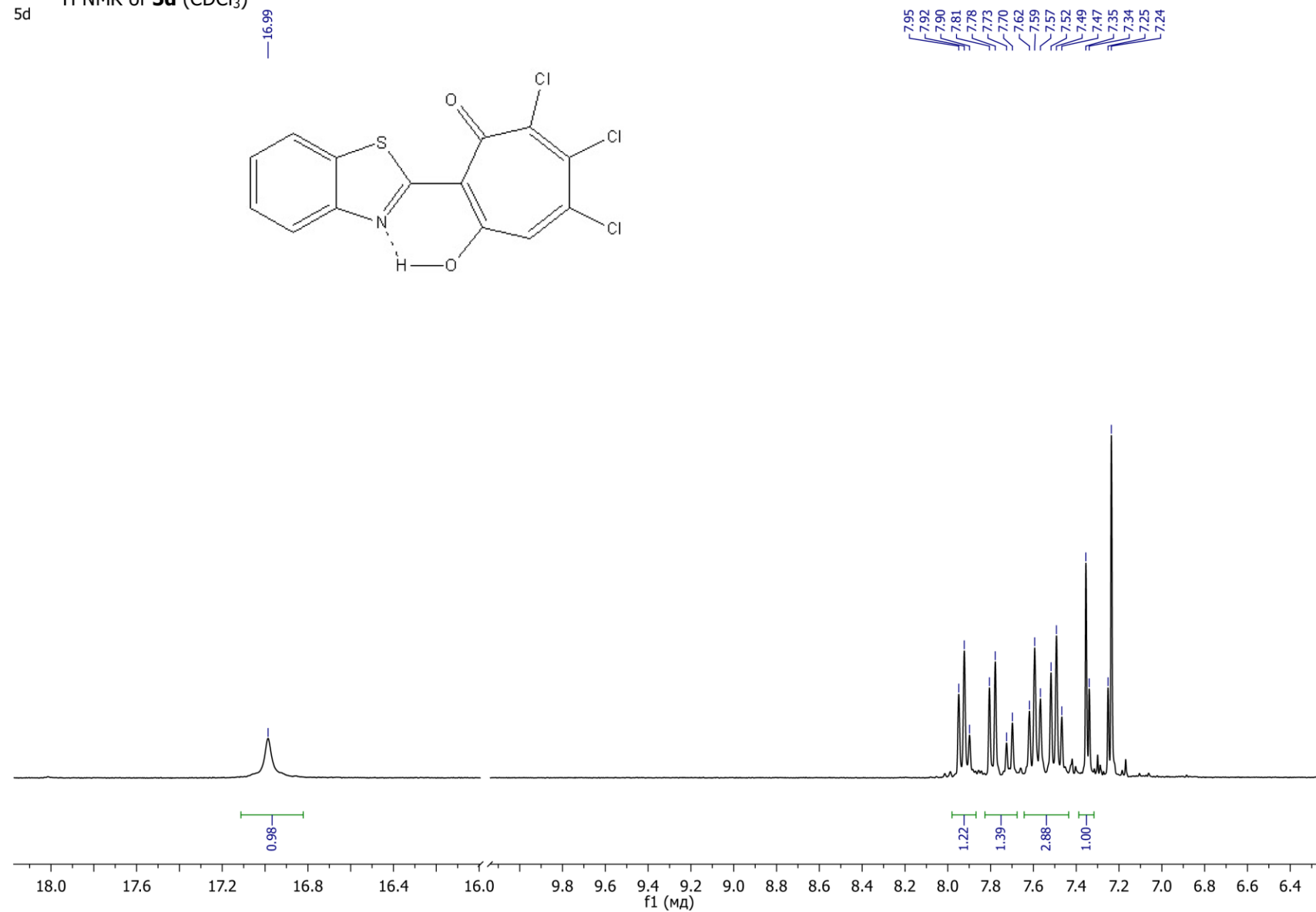




<sup>13</sup>C NMR of **5c** (DMSO)

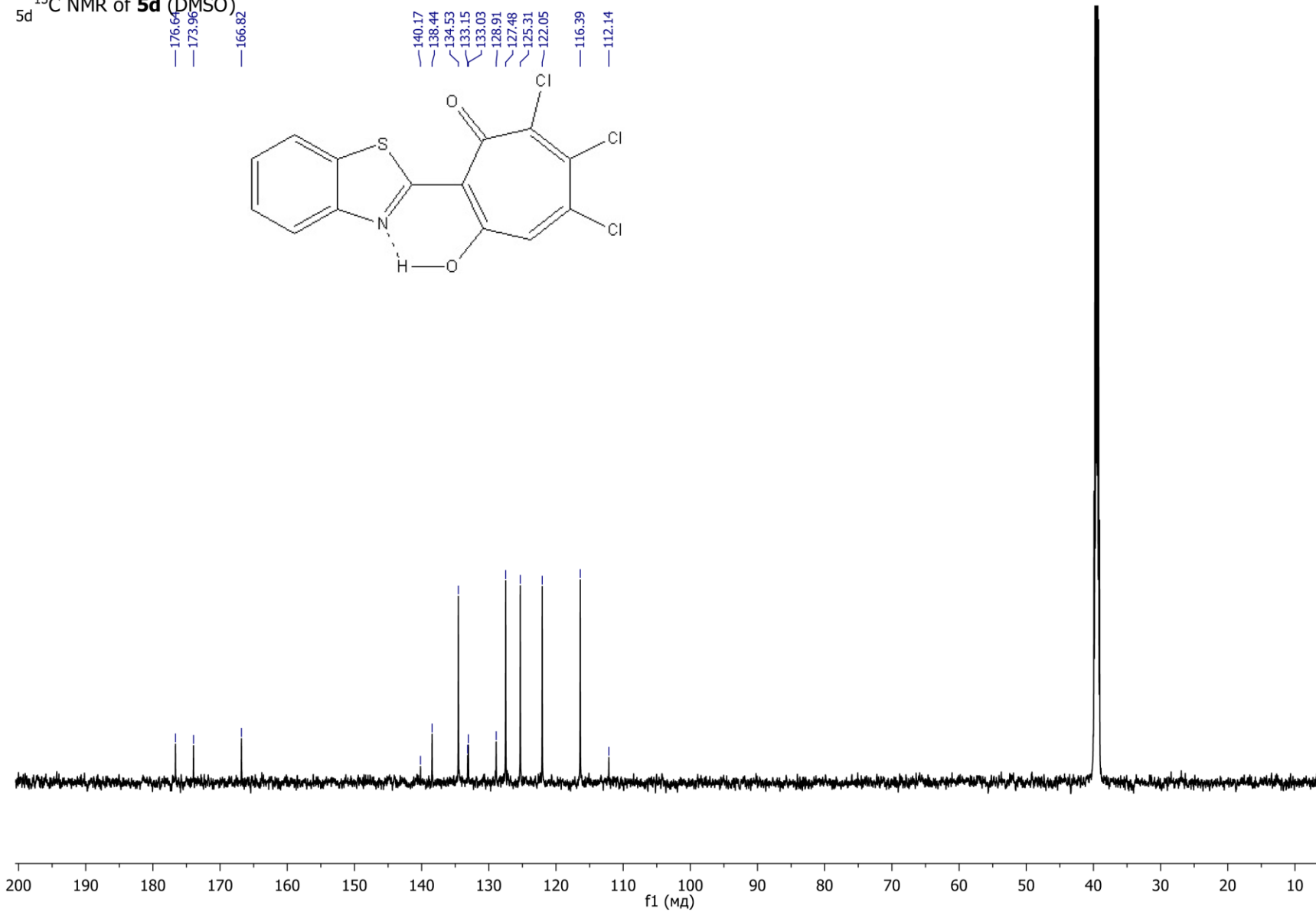


5d  $^1\text{H}$  NMR of **5d** ( $\text{CDCl}_3$ )



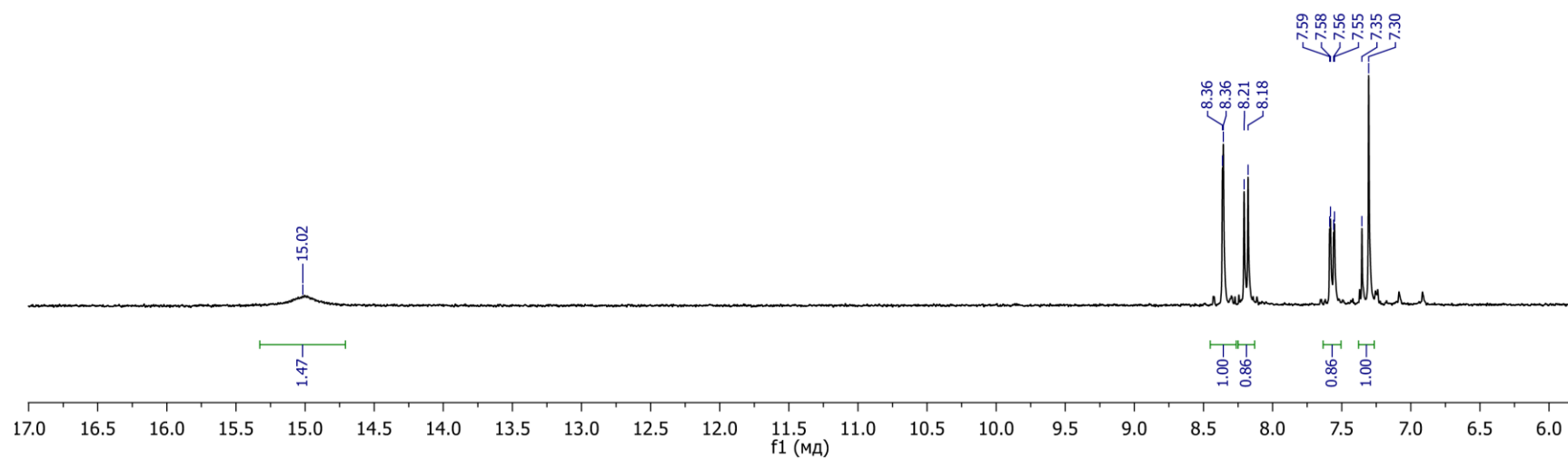
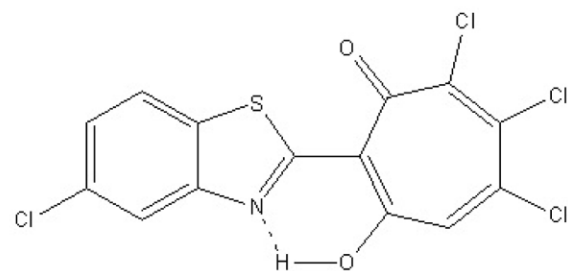


<sup>13</sup>C NMR of **5d** (DMSO)

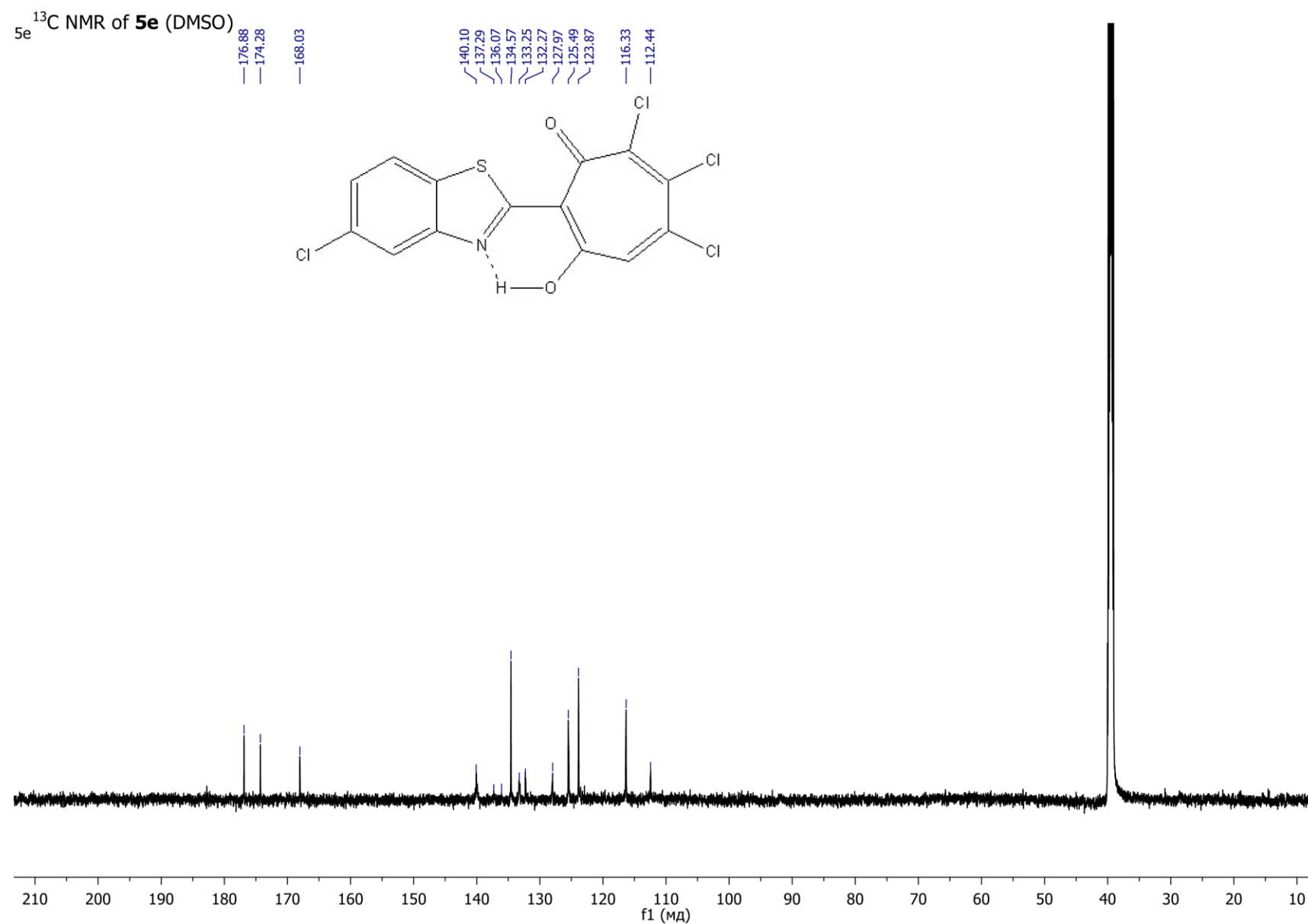


5e

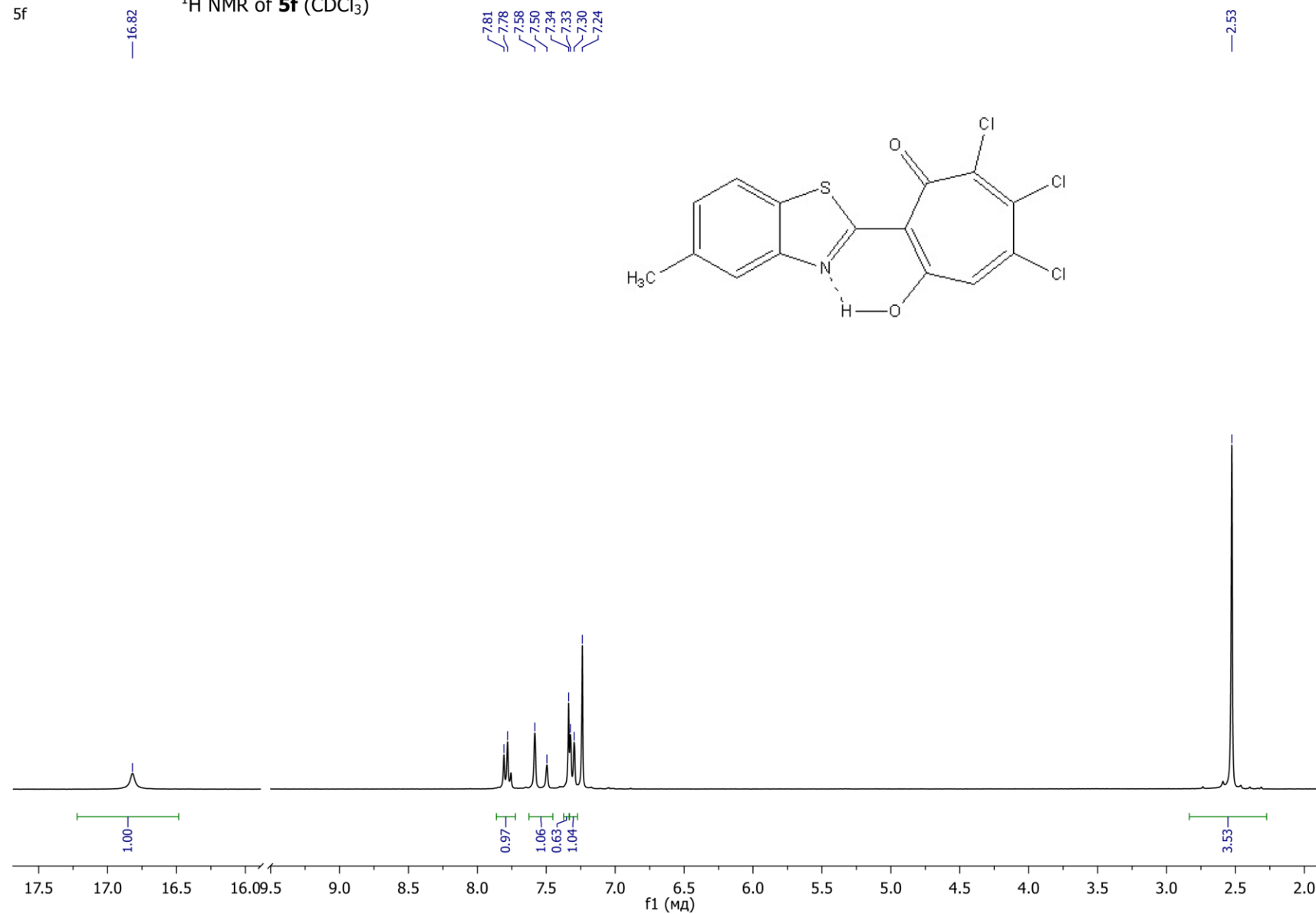
$^1\text{H}$  NMR of **5e** (DMSO- $\text{d}_6$ )



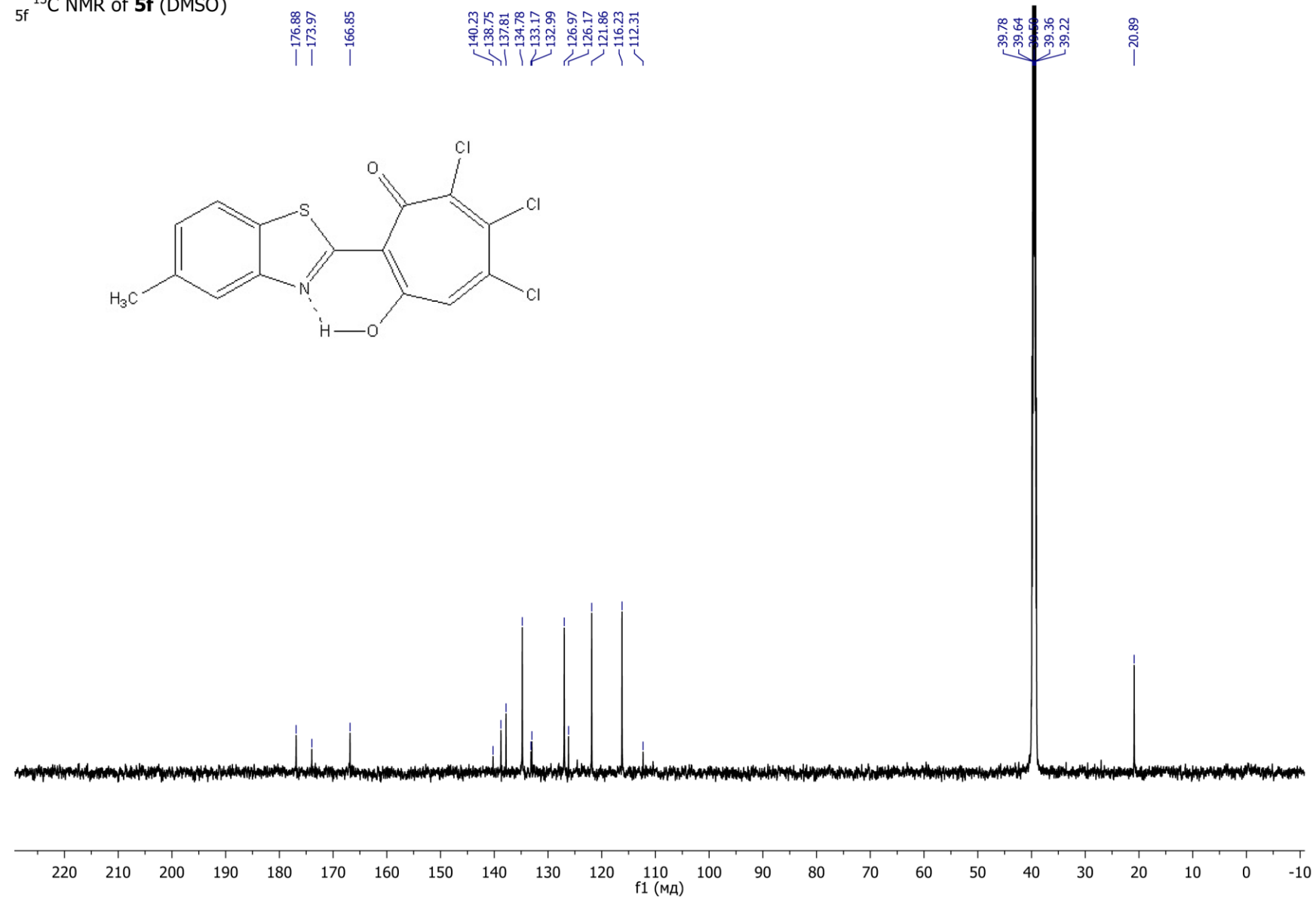
<sup>13</sup>C NMR of **5e** (DMSO)



5f

 $^1\text{H}$  NMR of **5f** ( $\text{CDCl}_3$ )

<sup>5f</sup> <sup>13</sup>C NMR of **5f** (DMSO)

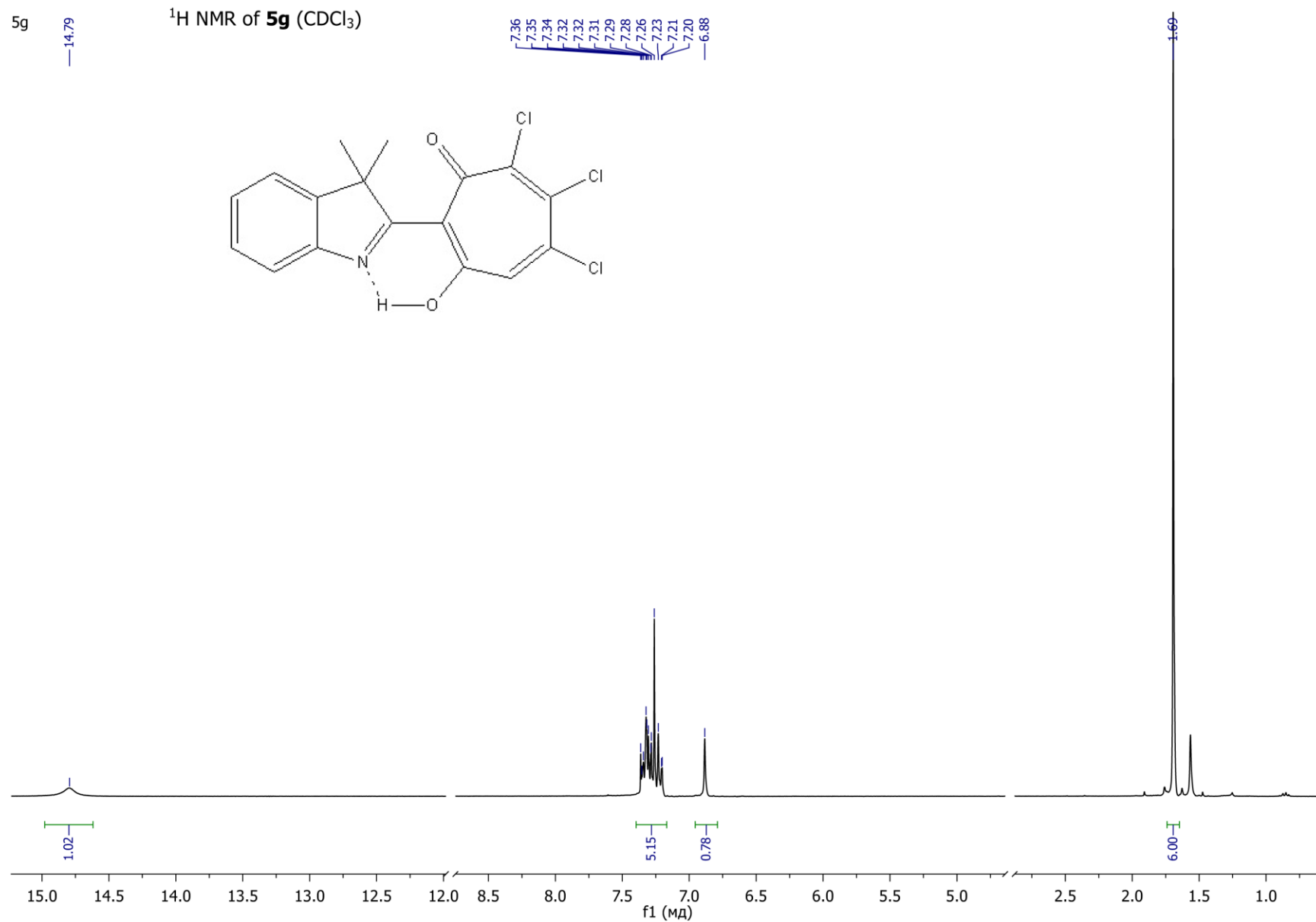
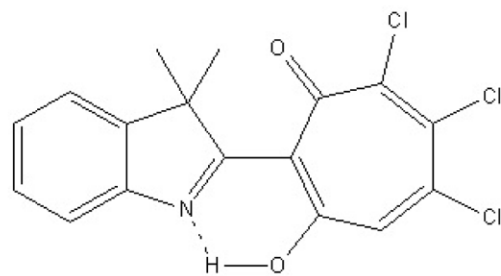


5g

—14.79

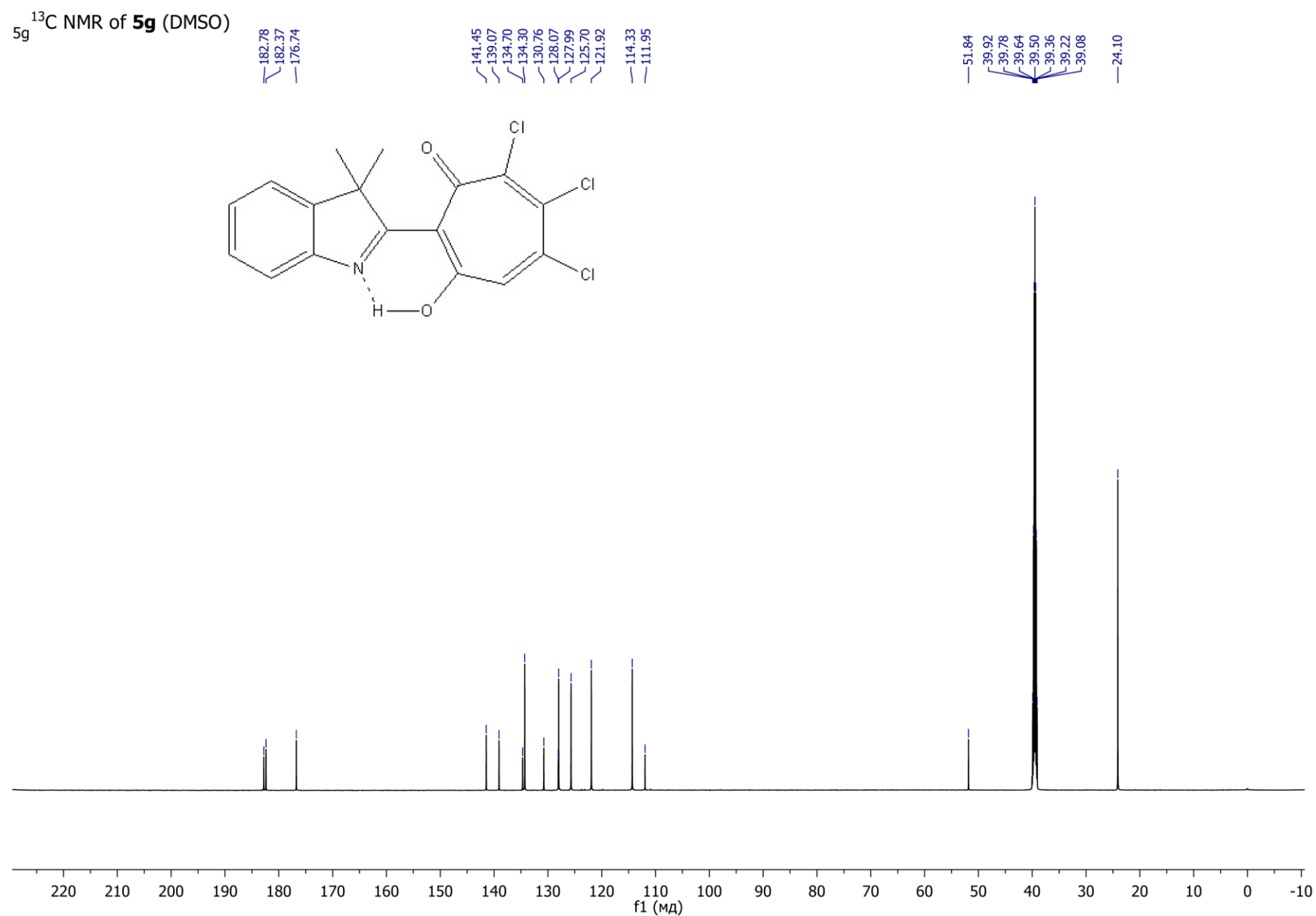
 $^1\text{H}$  NMR of **5g** ( $\text{CDCl}_3$ )

7.36  
7.35  
7.34  
7.32  
7.31  
7.29  
7.28  
7.26  
7.23  
7.21  
7.20  
6.88

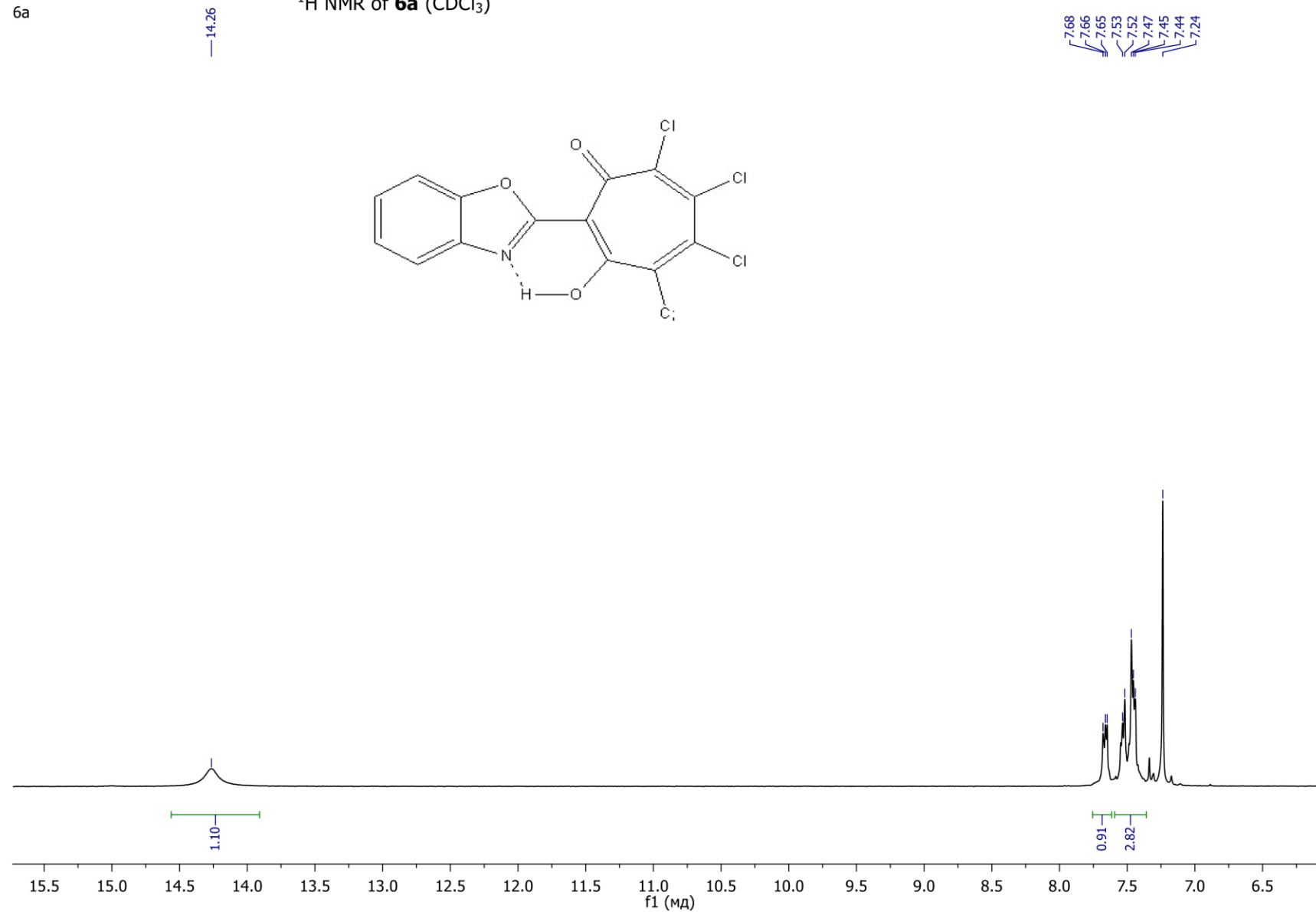


S14

<sup>13</sup>C NMR of **5g** (DMSO)

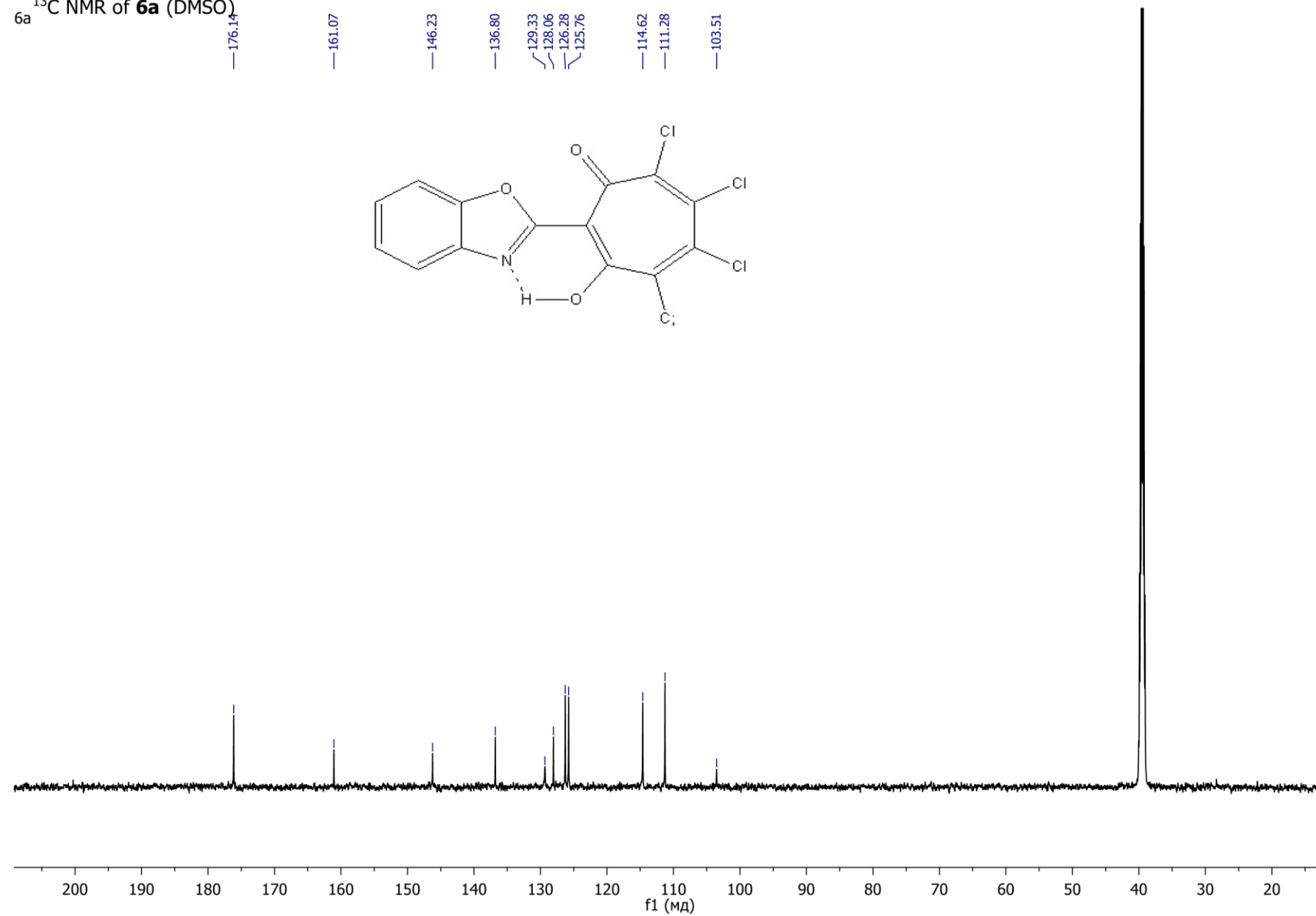


6a

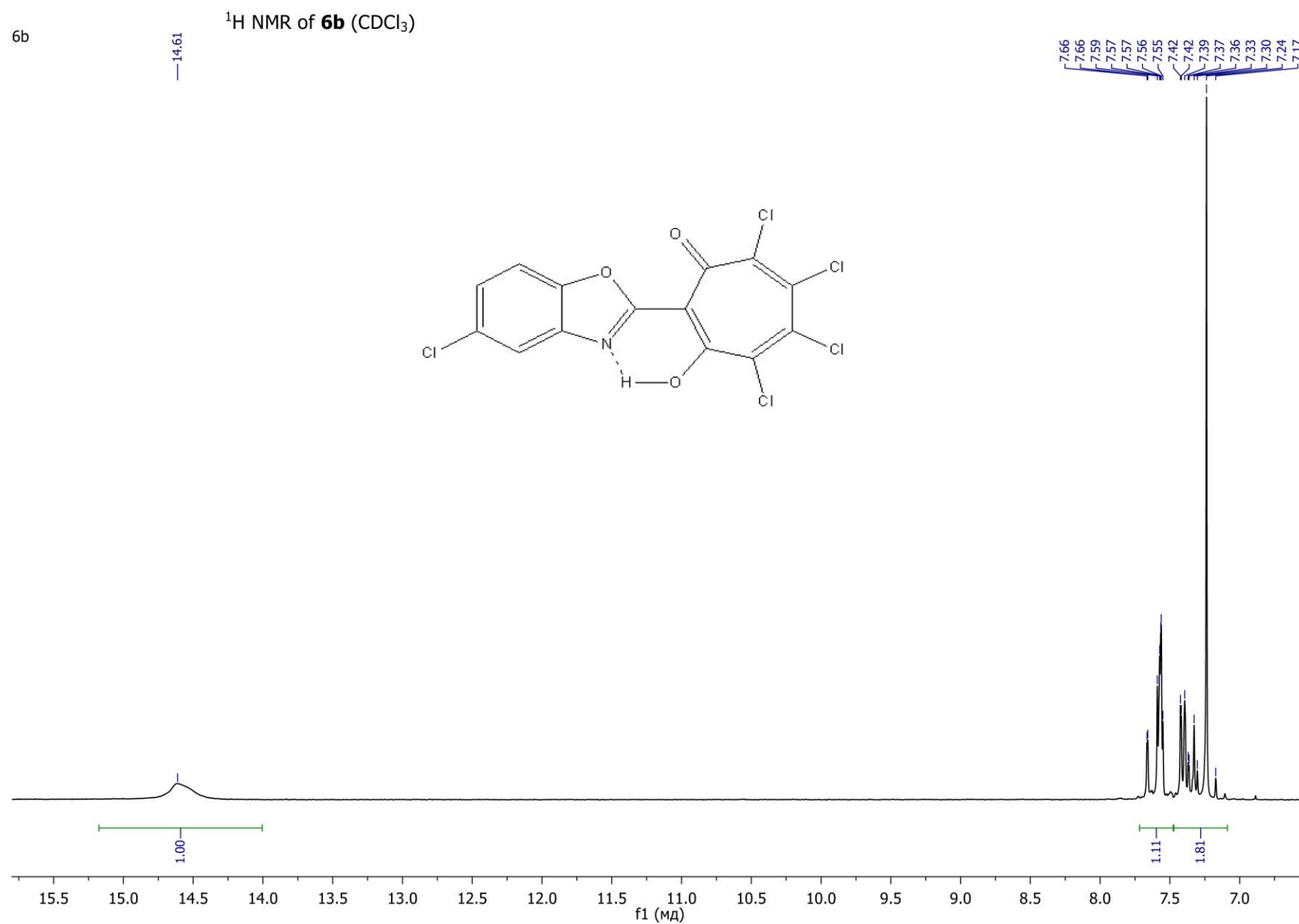
 $^1\text{H}$  NMR of **6a** ( $\text{CDCl}_3$ )



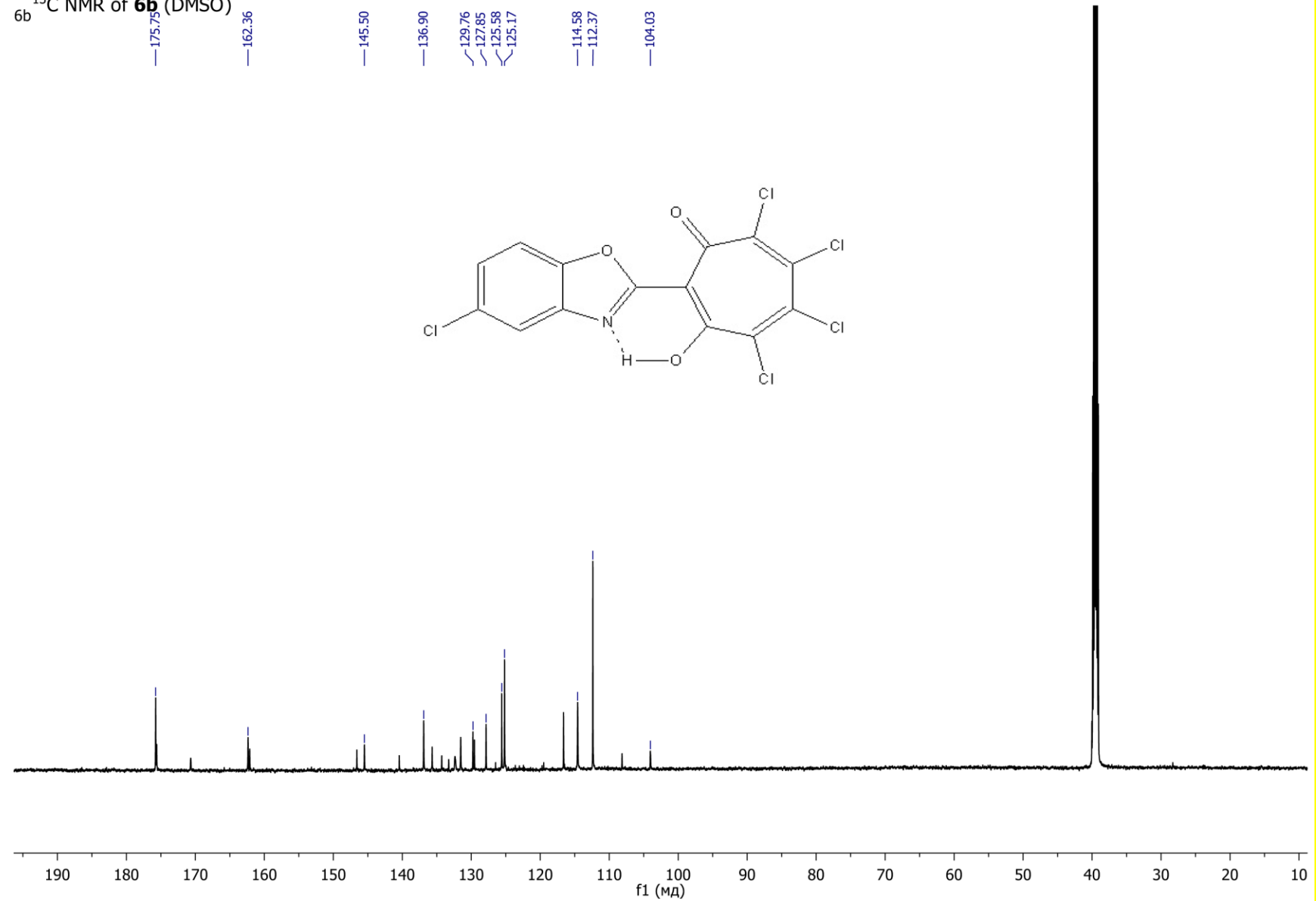
<sup>13</sup>C NMR of **6a** (DMSO)



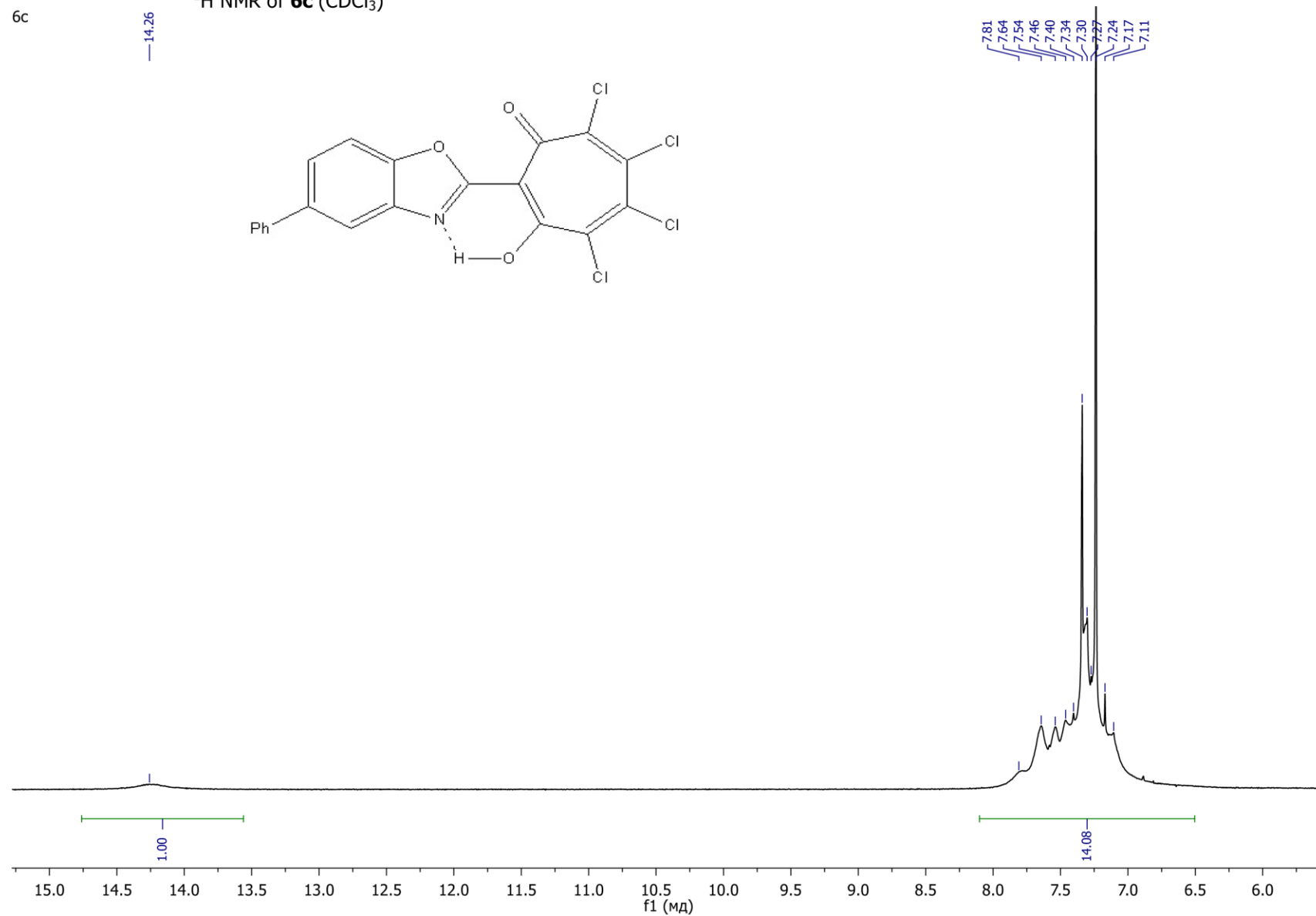
6b

 $^1\text{H}$  NMR of **6b** ( $\text{CDCl}_3$ )

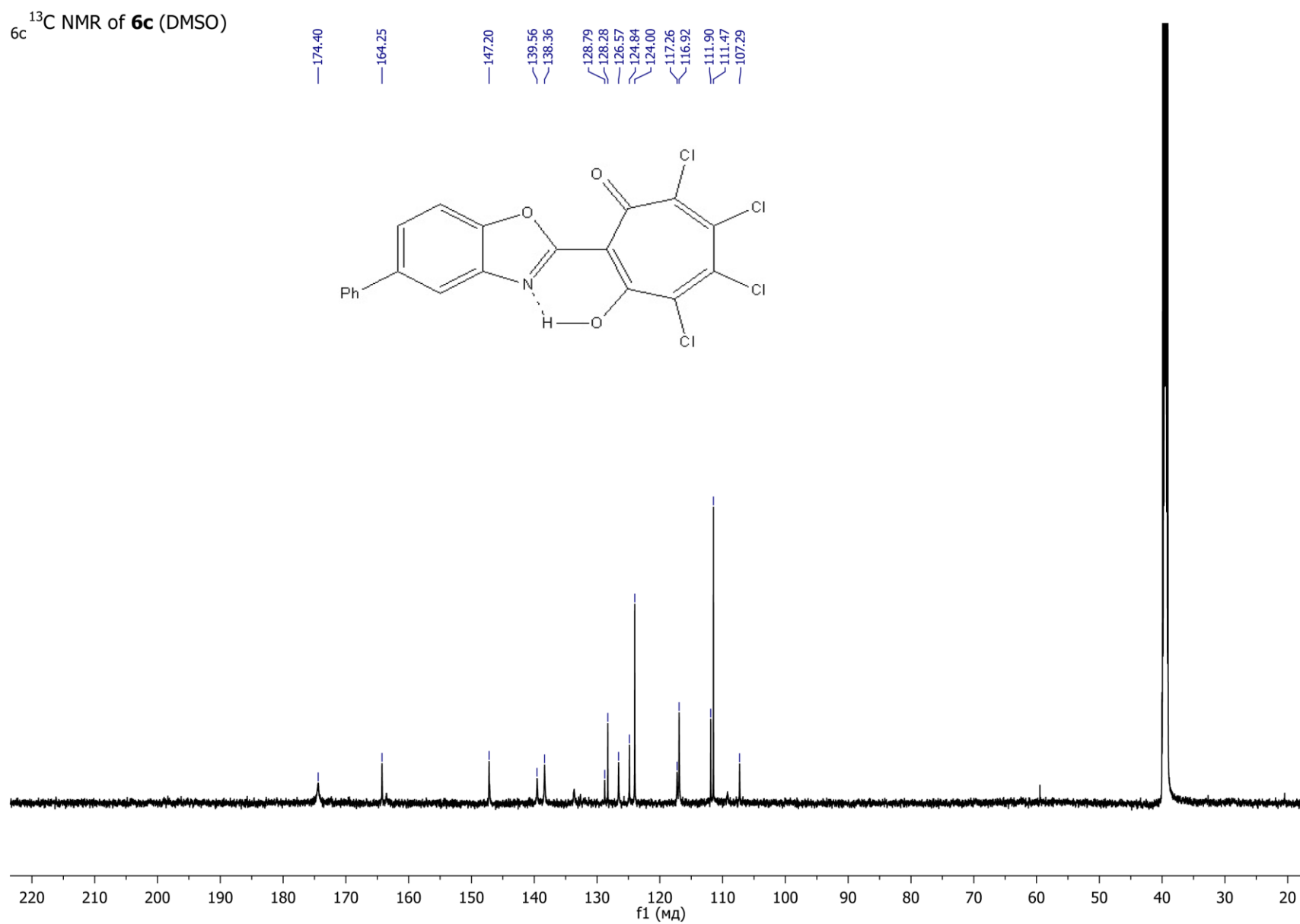
<sup>13</sup>C NMR of **6b** (DMSO)



6c

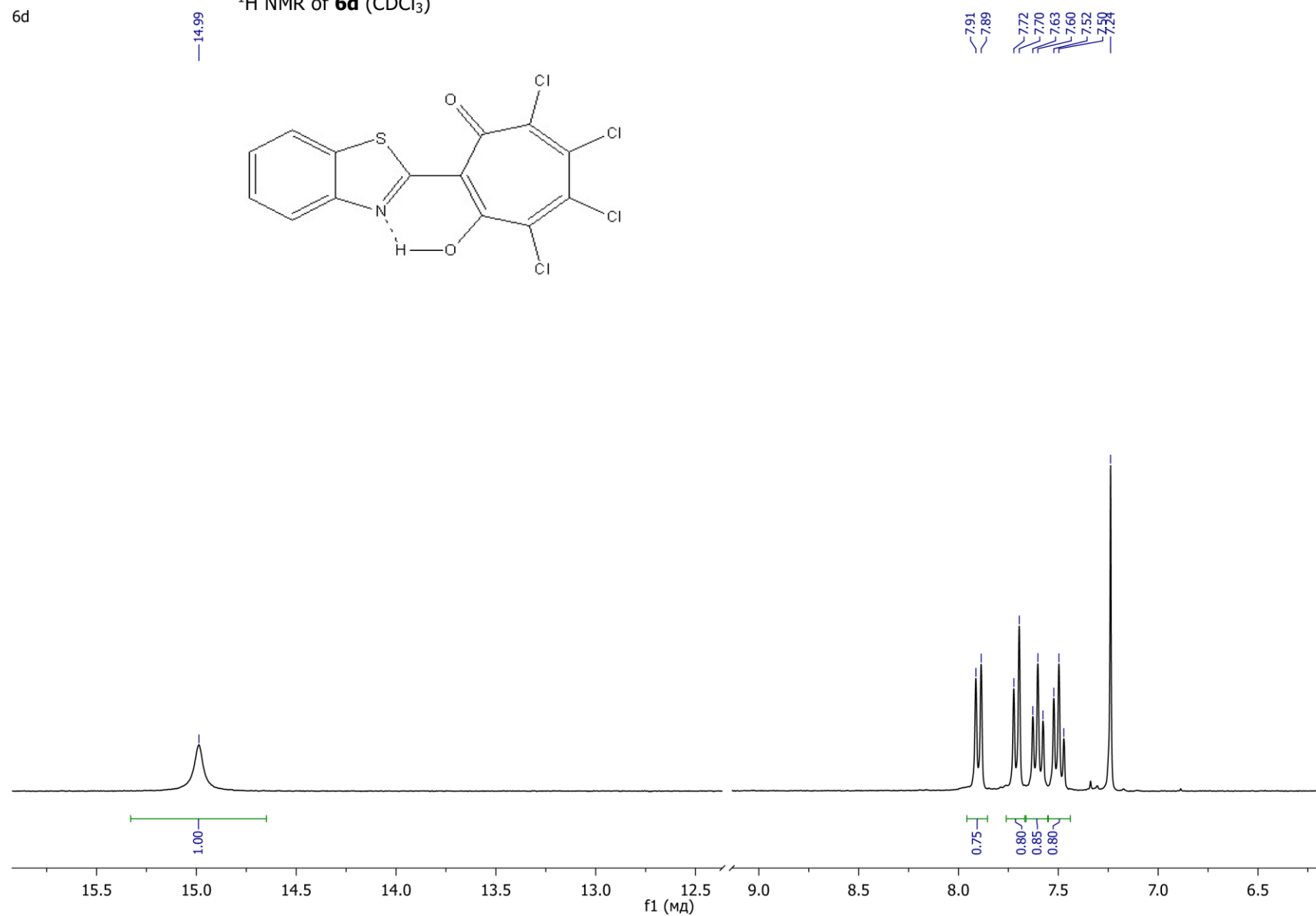
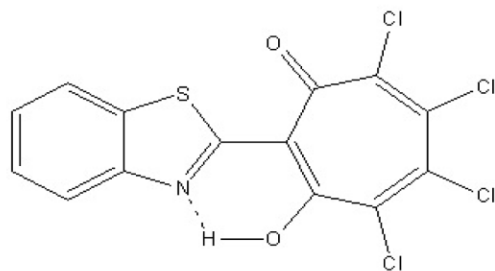
 $^1\text{H}$  NMR of **6c** ( $\text{CDCl}_3$ )

<sup>13</sup>C NMR of **6c** (DMSO)



6d

$^1\text{H}$  NMR of **6d** ( $\text{CDCl}_3$ )



<sup>13</sup>C NMR of **6d** (DMSO)

— 175.30

— 165.78

— 138.54

— 137.27

— 129.71

— 128.19

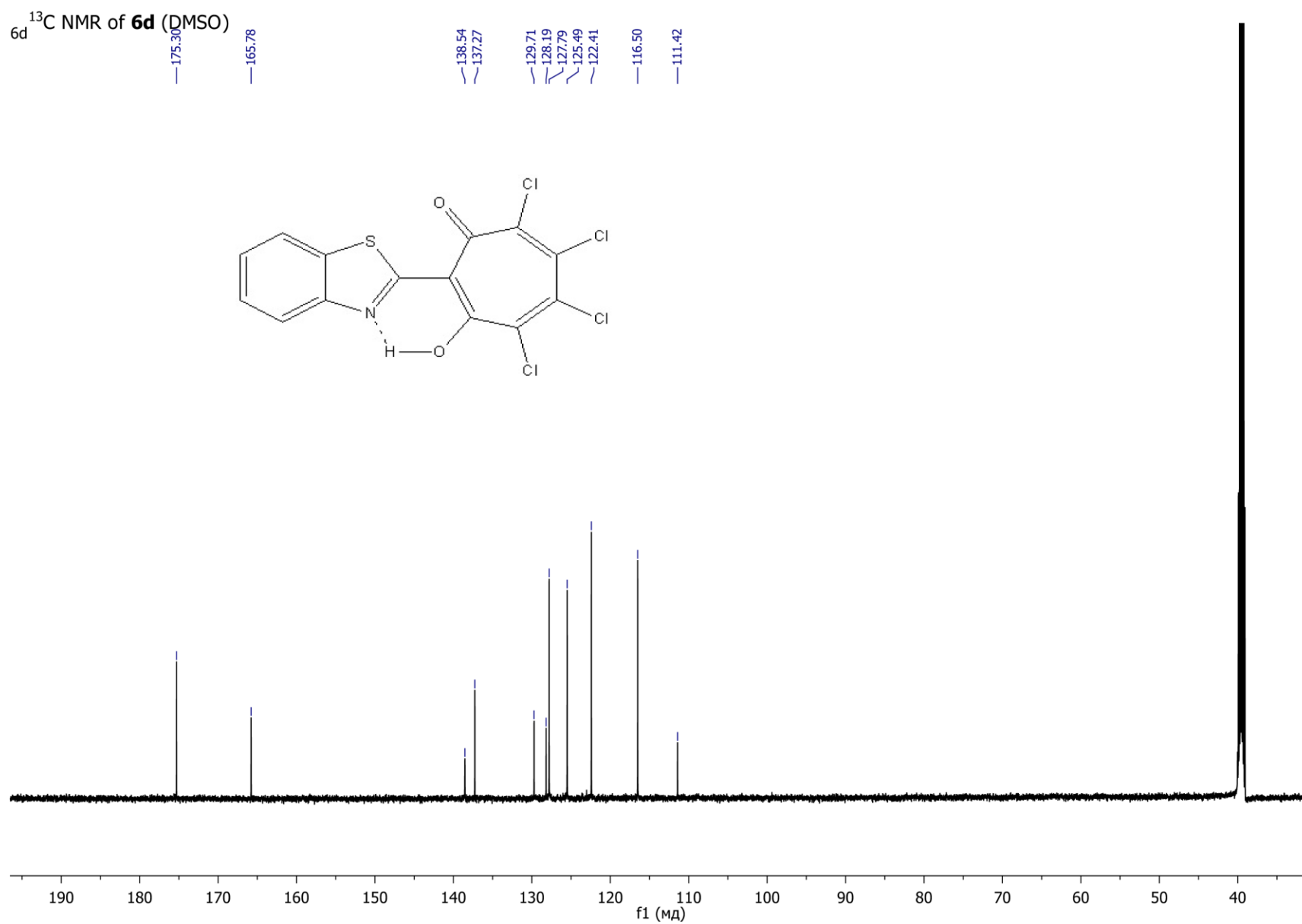
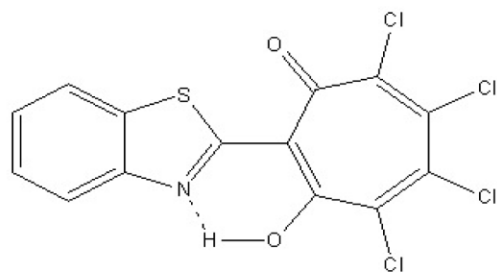
— 127.79

— 125.49

— 122.41

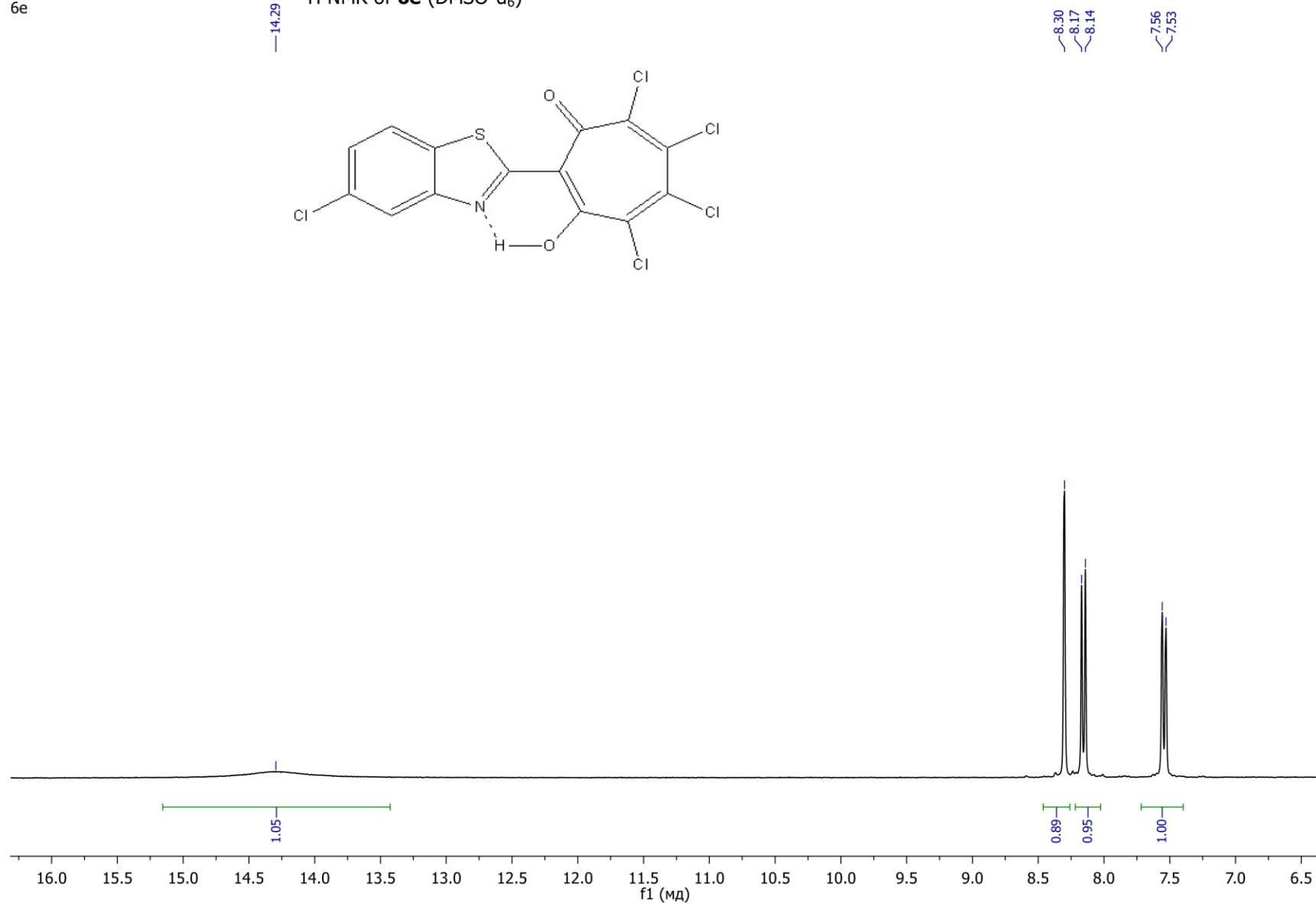
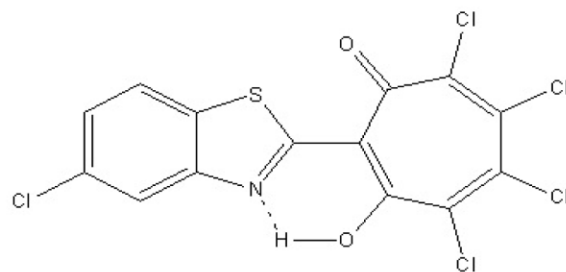
— 116.50

— 111.42



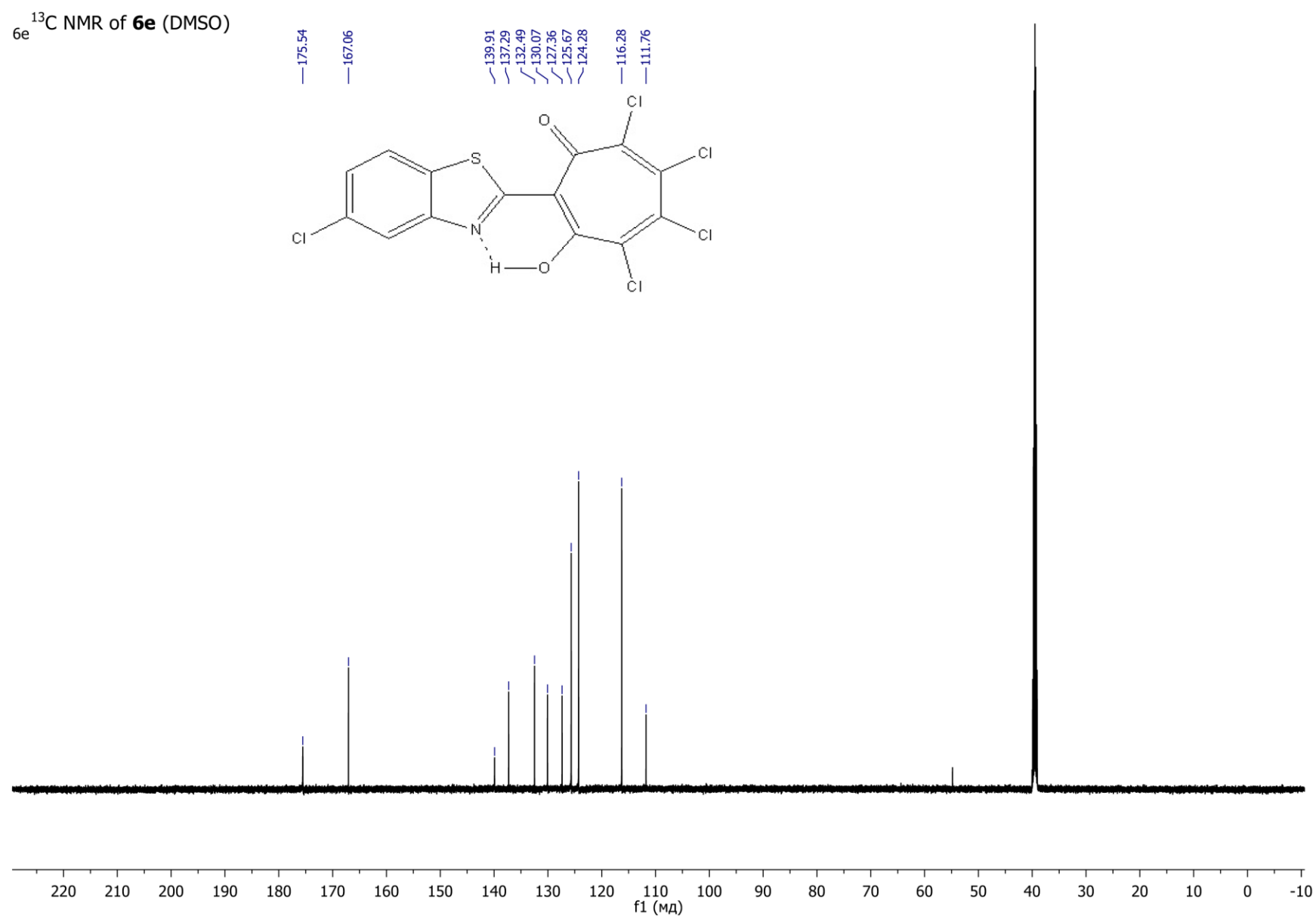
6e

$^1\text{H}$  NMR of **6e** (DMSO- $\text{d}_6$ )



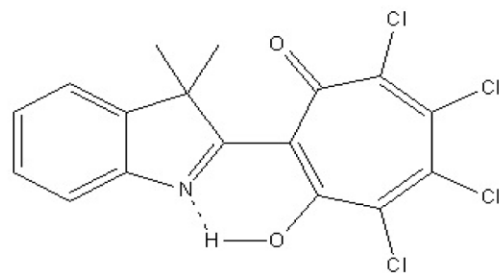


$^{13}\text{C}$  NMR of **6e** (DMSO)

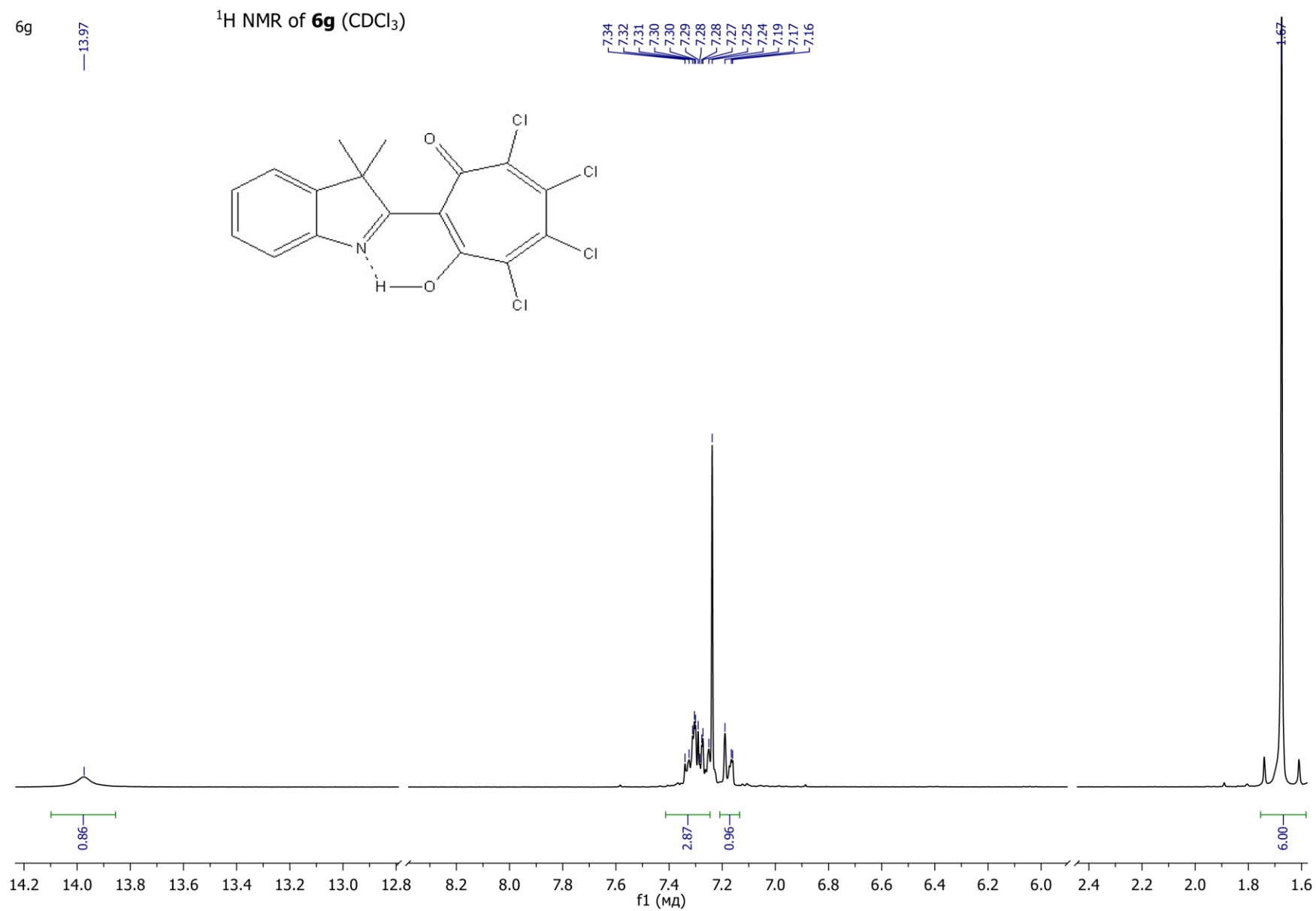


6g

—13.97

 $^1\text{H}$  NMR of **6g** ( $\text{CDCl}_3$ )

7.34  
7.32  
7.31  
7.30  
7.29  
7.28  
7.28  
7.27  
7.25  
7.24  
7.19  
7.17  
7.16



<sup>13</sup>C NMR of **6g** (DMSO)

—181.16

—175.64

—141.31

—139.02

—134.71

—128.03

—126.65

—125.87

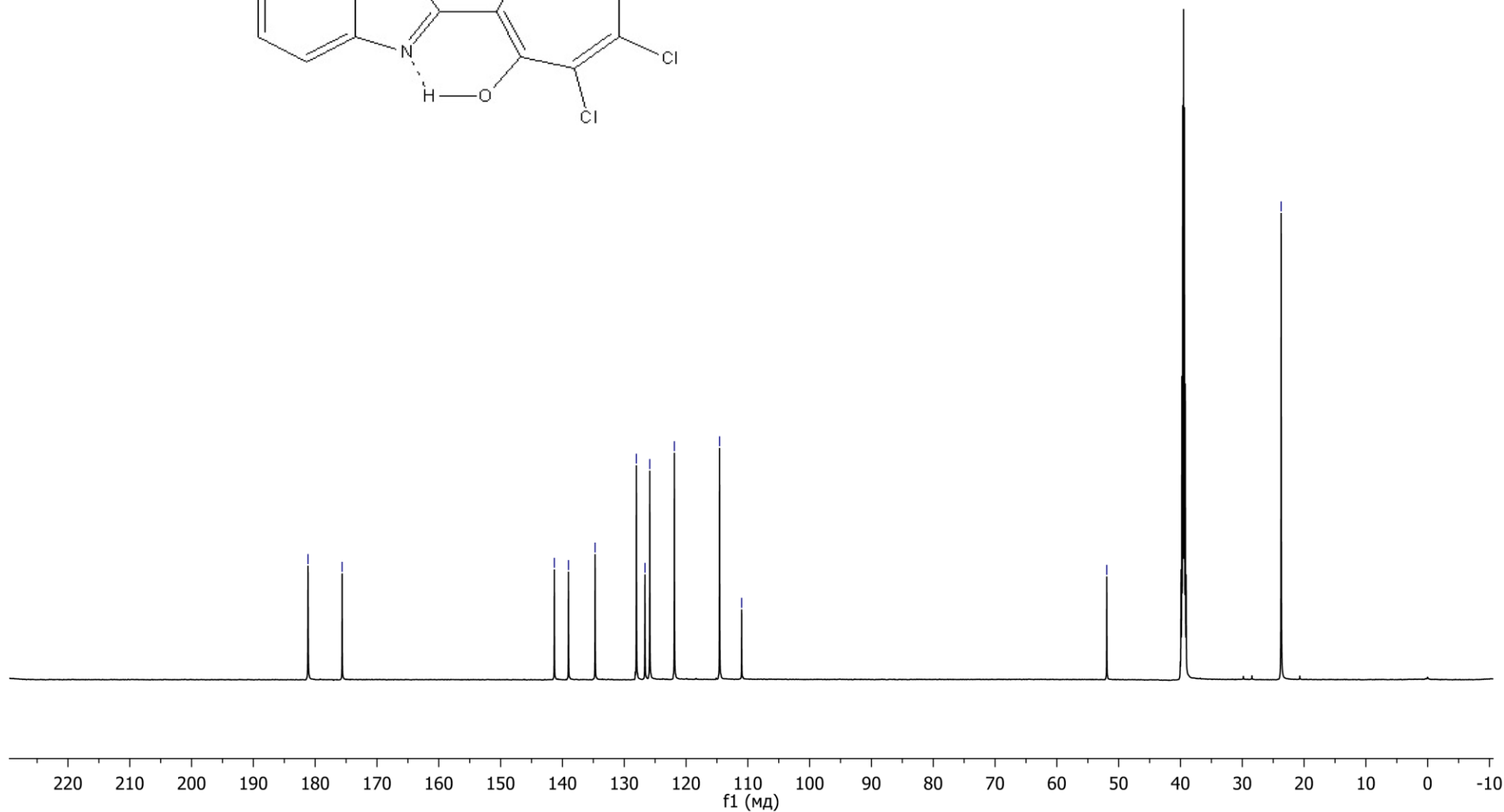
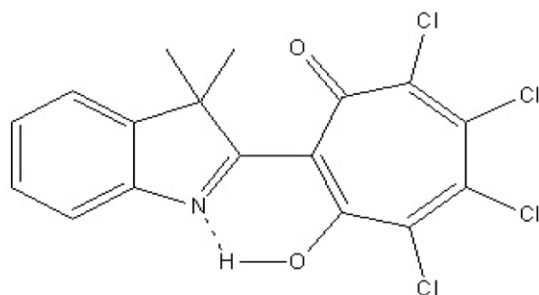
—121.89

—114.57

—111.00

—51.93

—23.71



11a

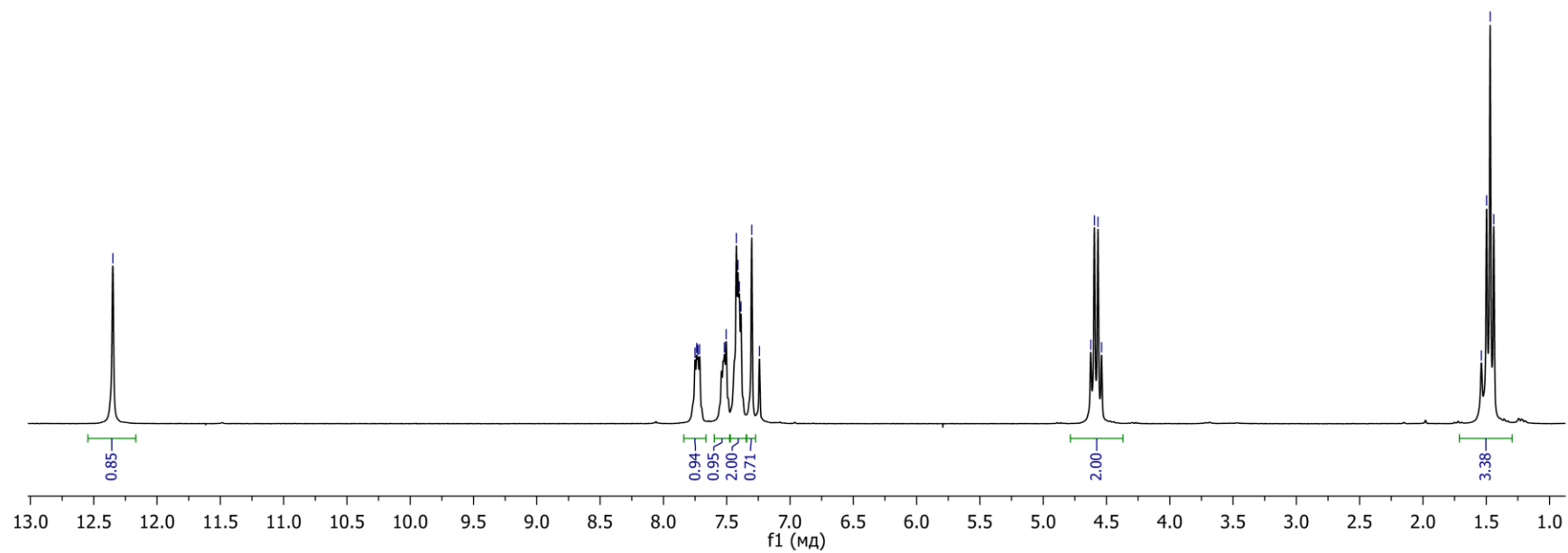
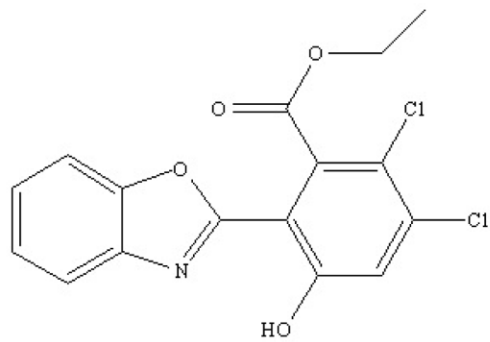
—12.35

$^1\text{H}$  NMR of **11a** ( $\text{CDCl}_3$ )

7.75  
7.74  
7.73  
7.71  
7.52  
7.50  
7.42  
7.41  
7.40  
7.39  
7.30  
7.24

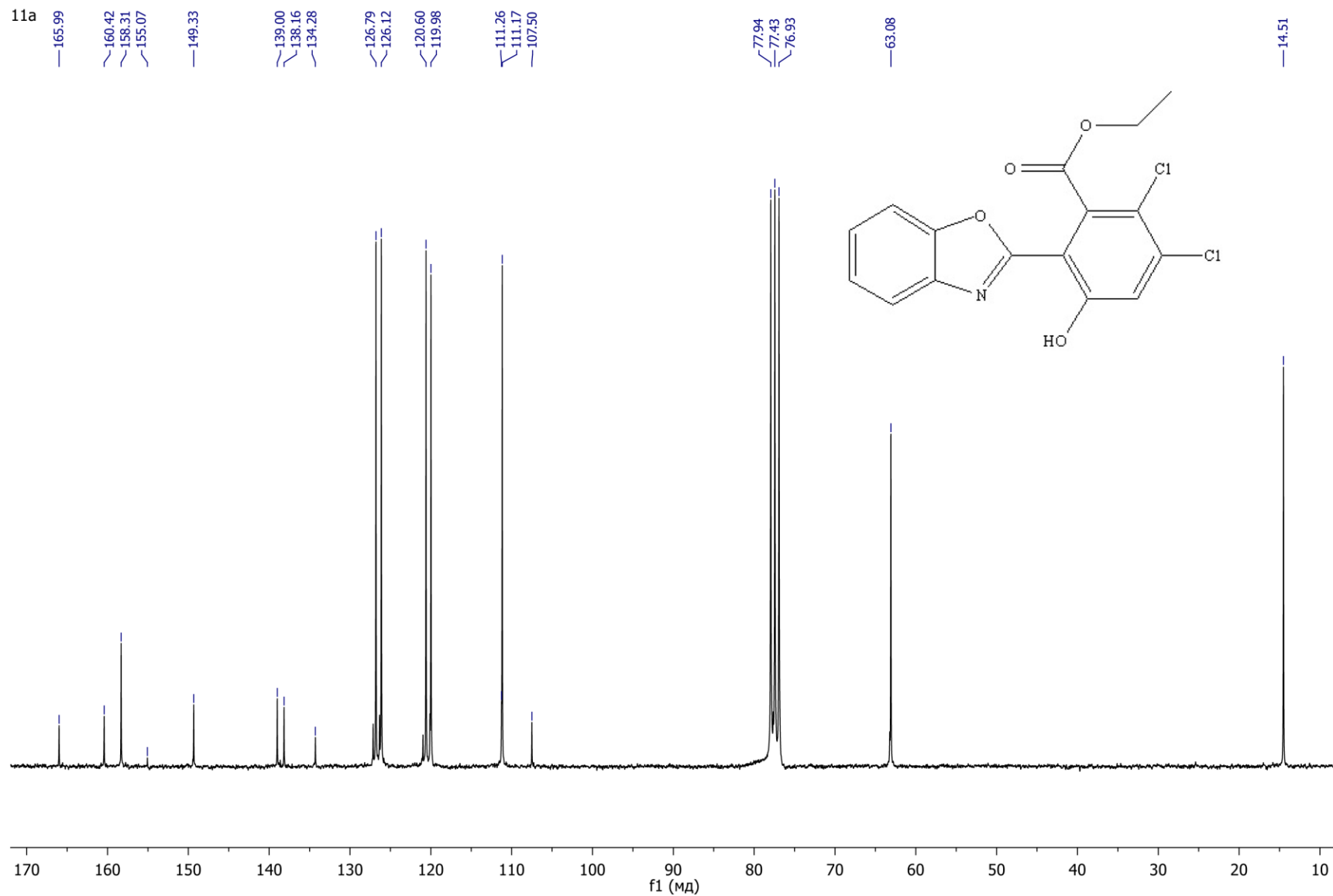
4.62  
4.60  
4.57  
4.54

1.54  
1.50  
1.47  
1.44



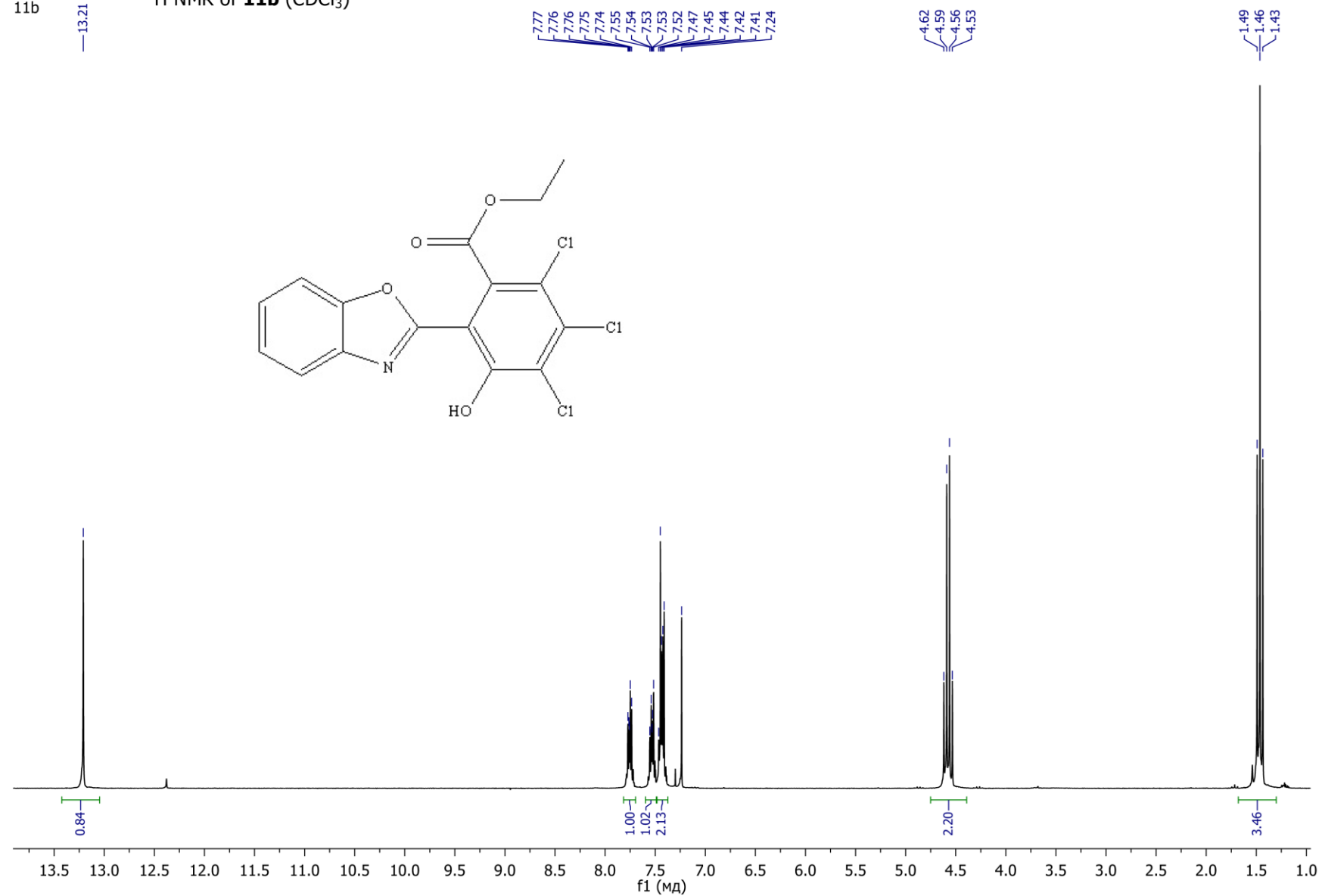
<sup>13</sup>C NMR of **11a** (CDCl<sub>3</sub>)

**11a**

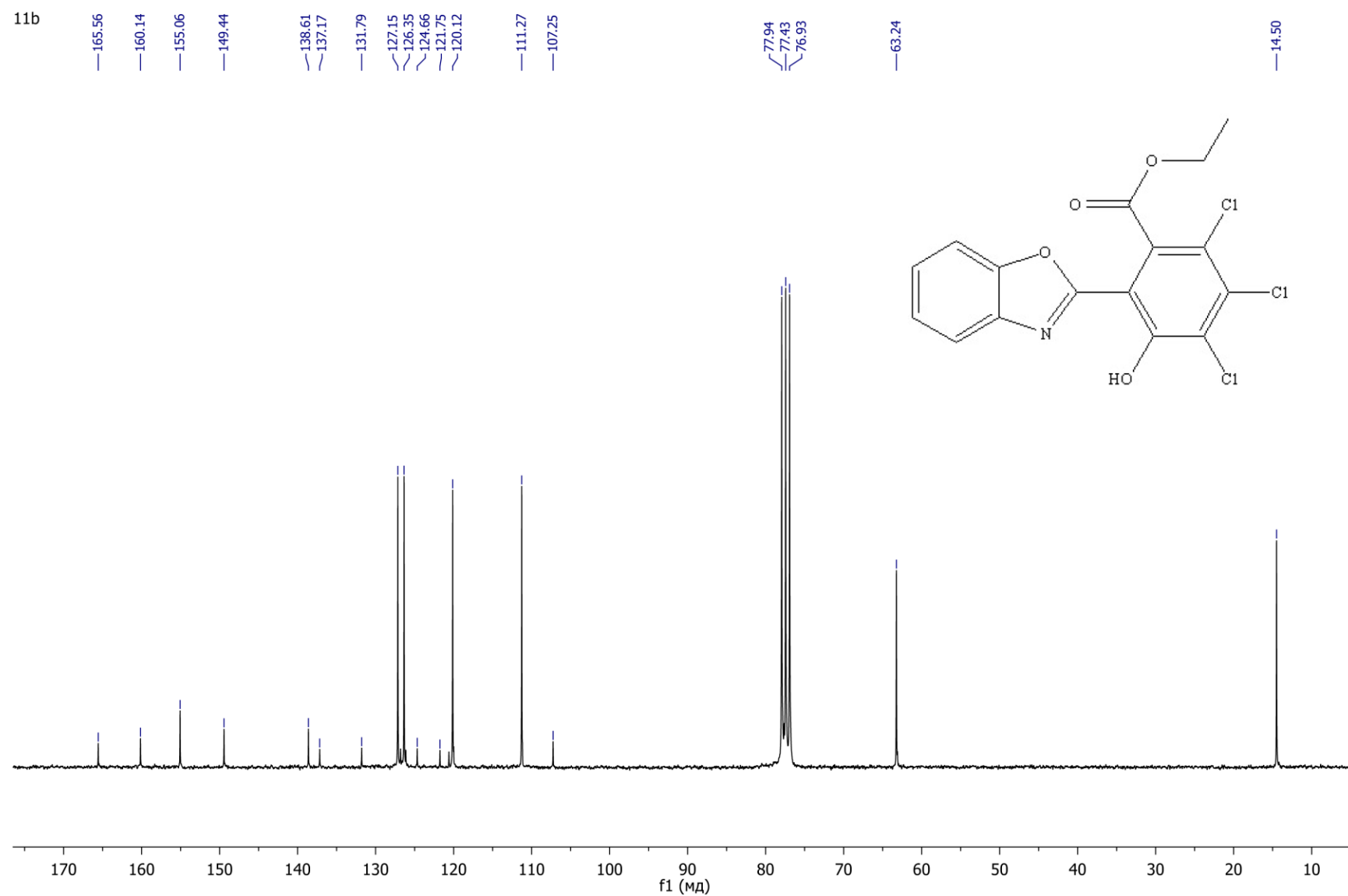


11b

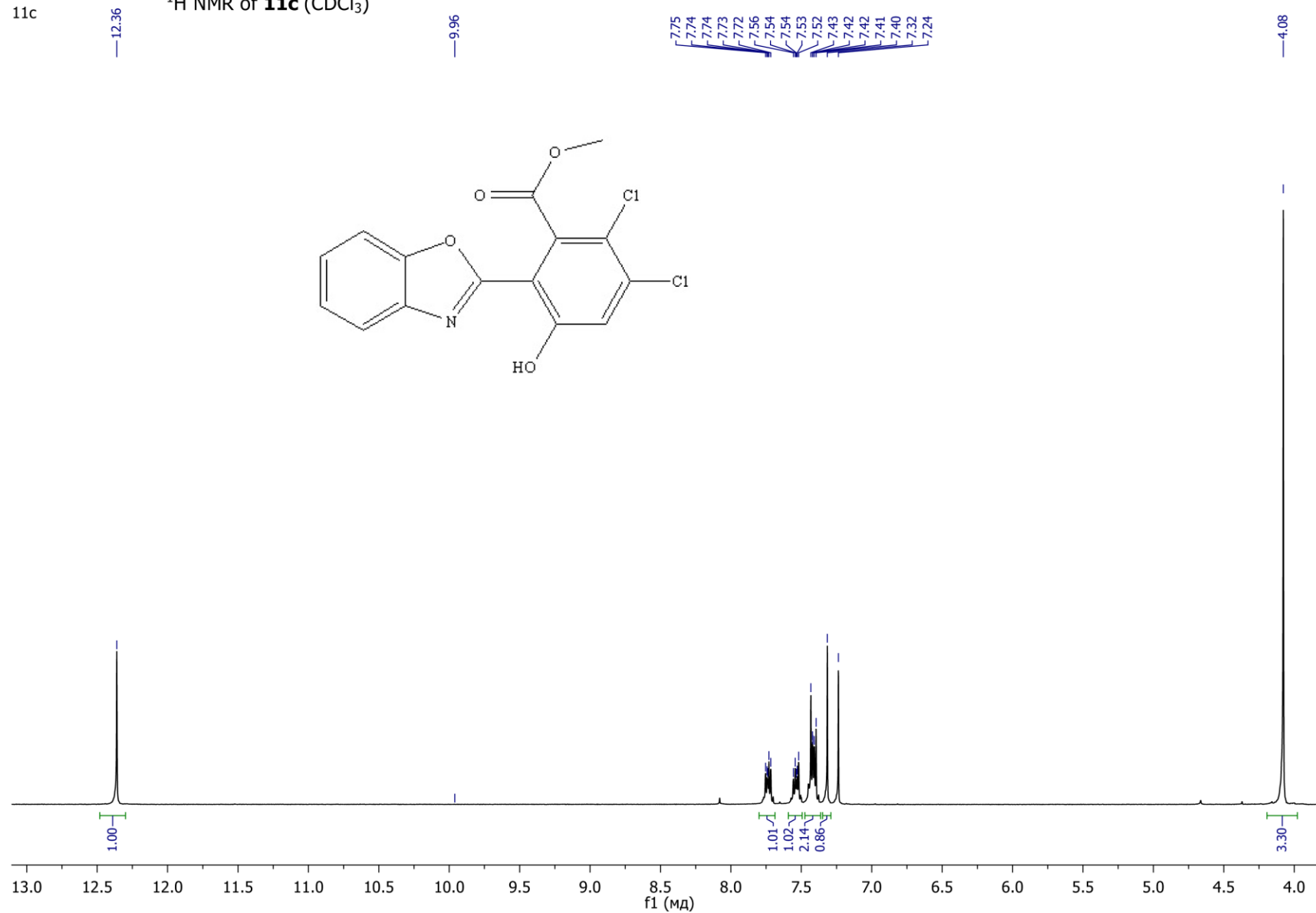
—13.21

 $^1\text{H}$  NMR of **11b** ( $\text{CDCl}_3$ )

$^{13}\text{C}$  NMR of **11b** ( $\text{CDCl}_3$ )

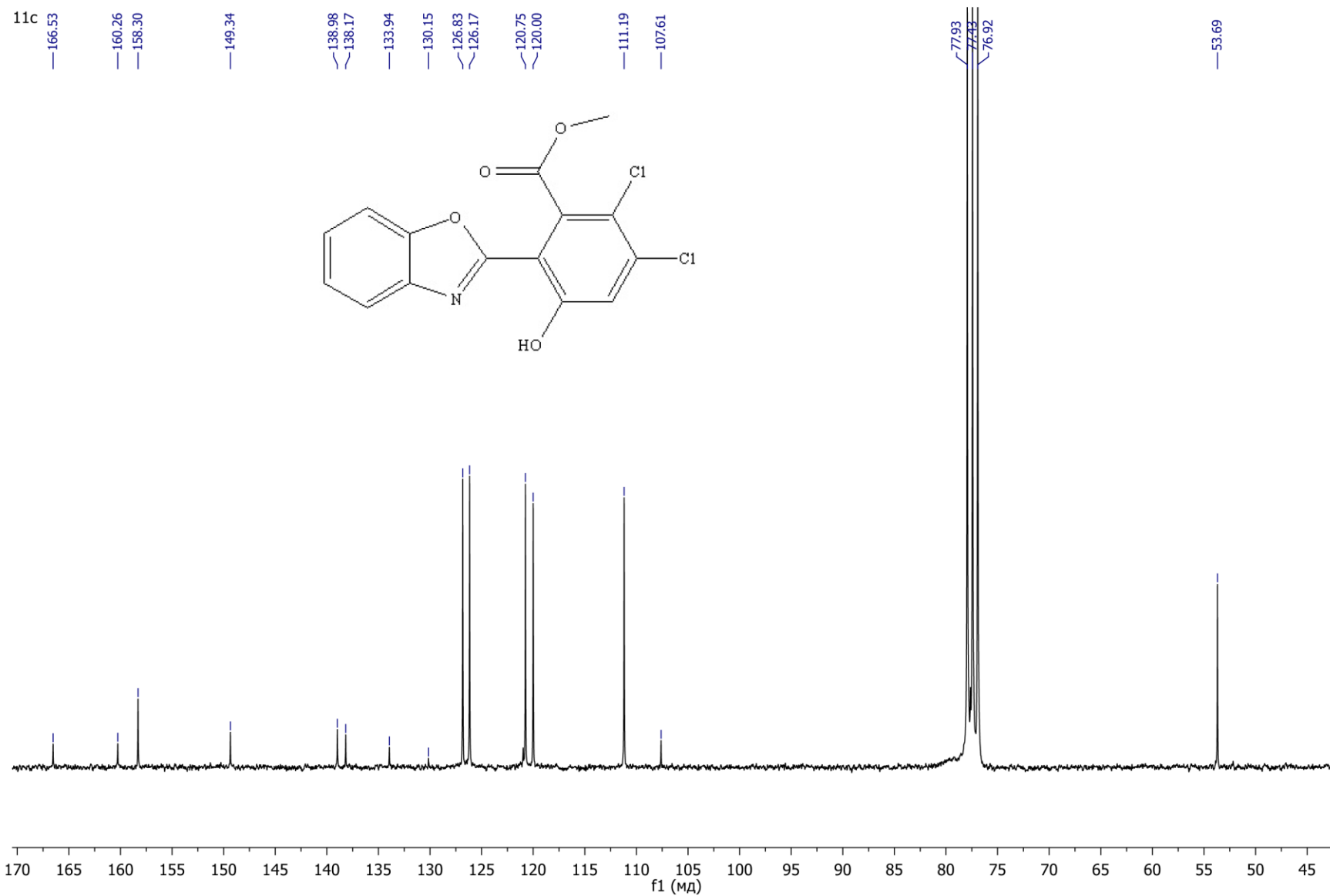


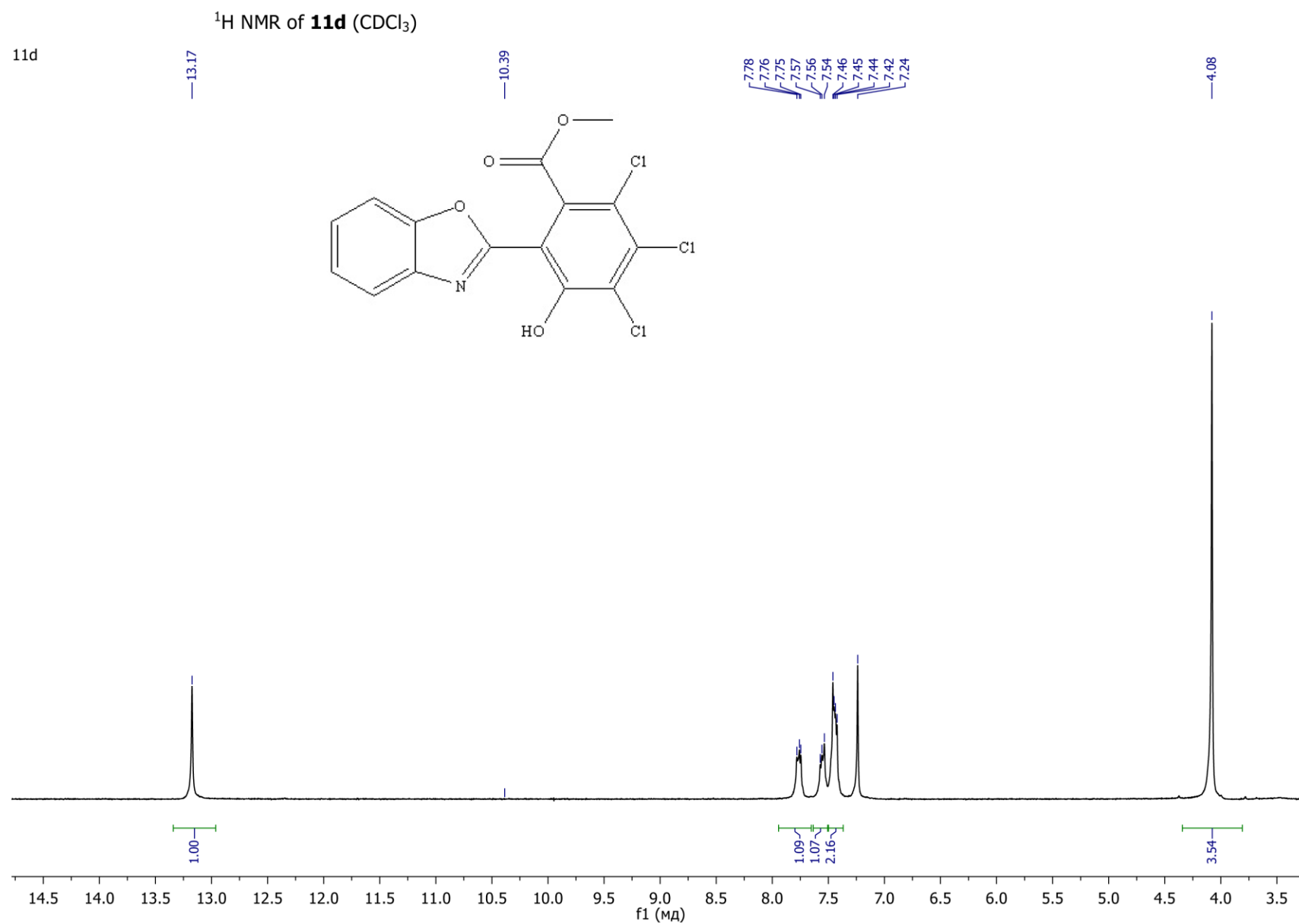
11c

 $^1\text{H}$  NMR of **11c** ( $\text{CDCl}_3$ )

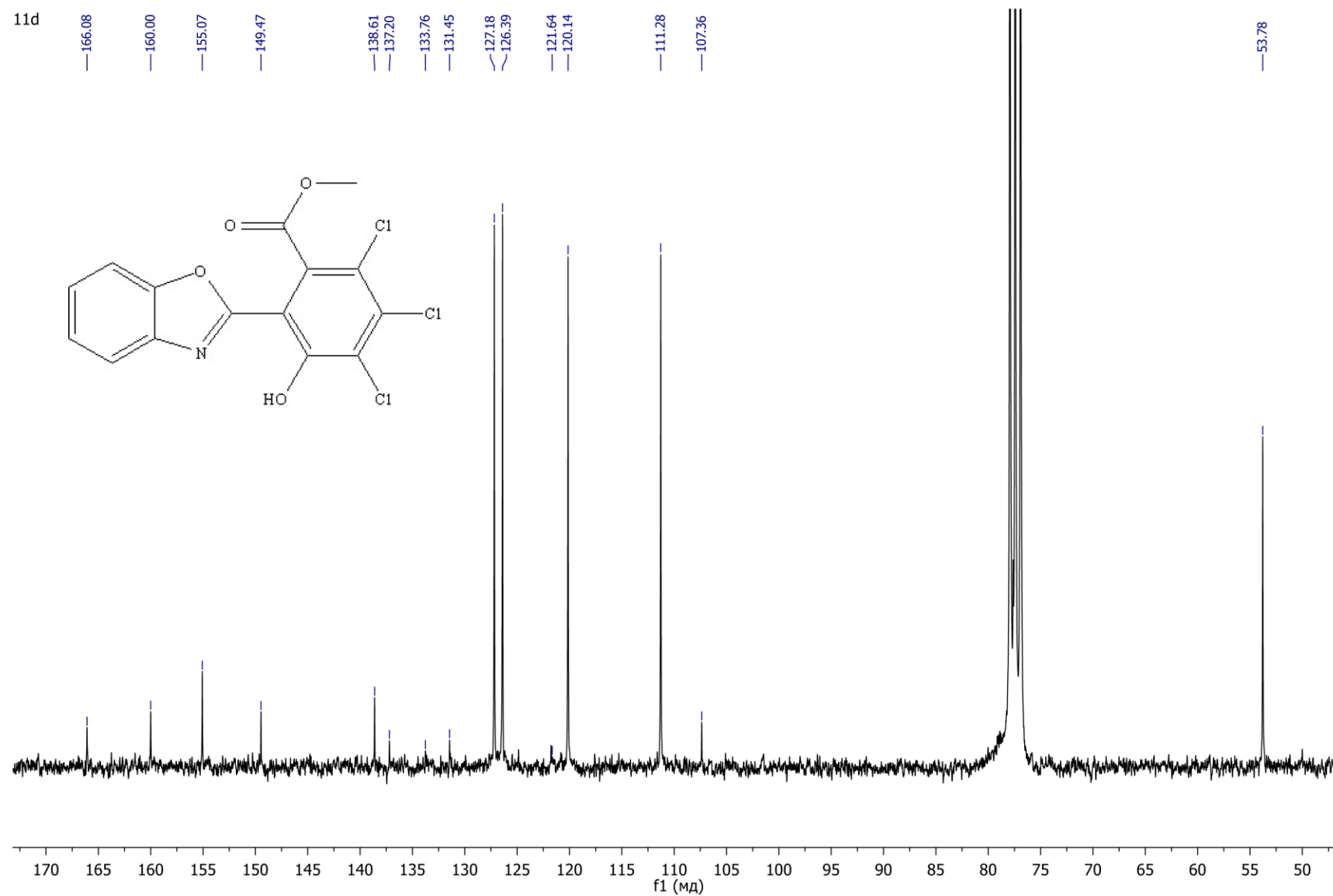


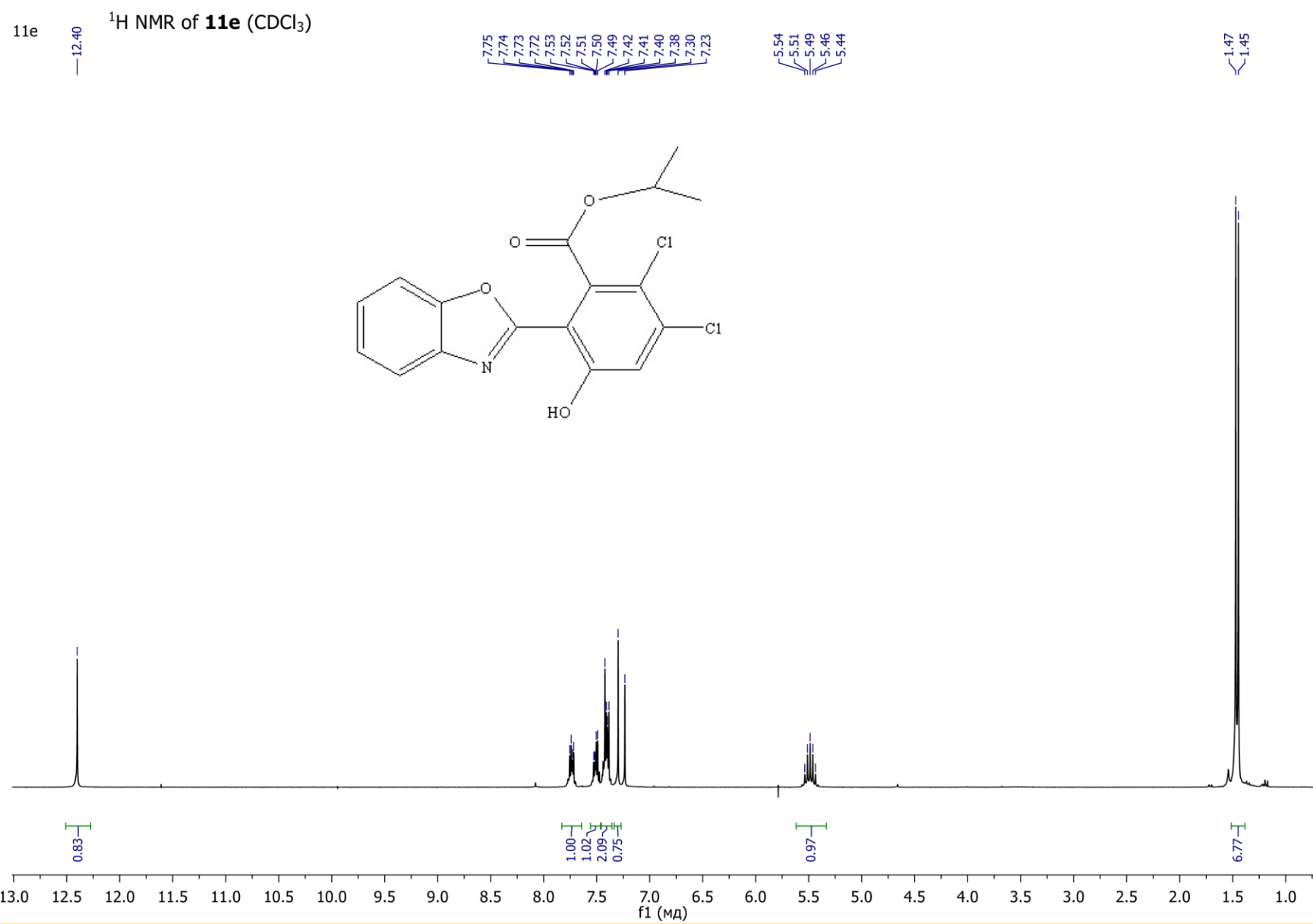
$^{13}\text{C}$  NMR of **11c** ( $\text{CDCl}_3$ )



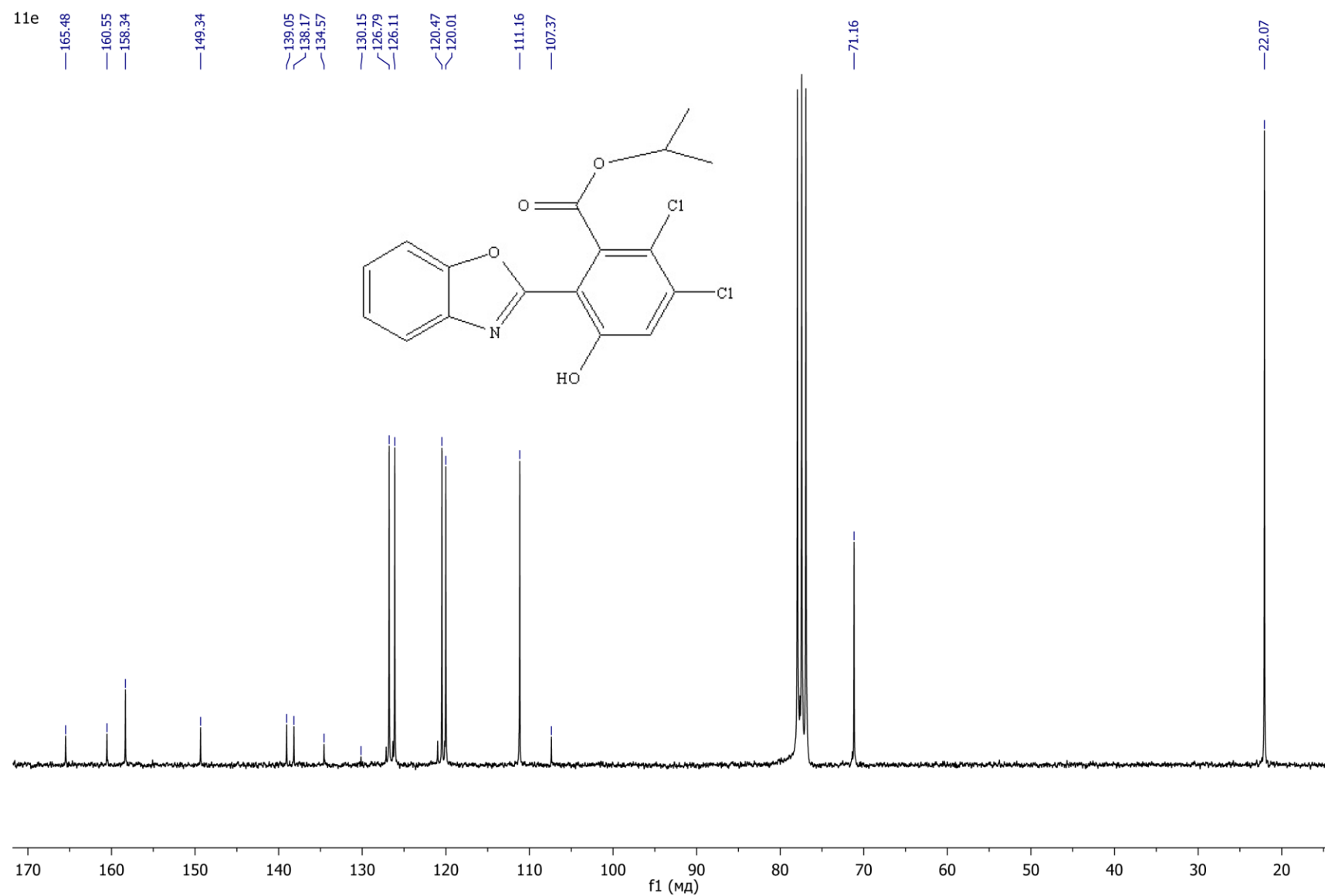


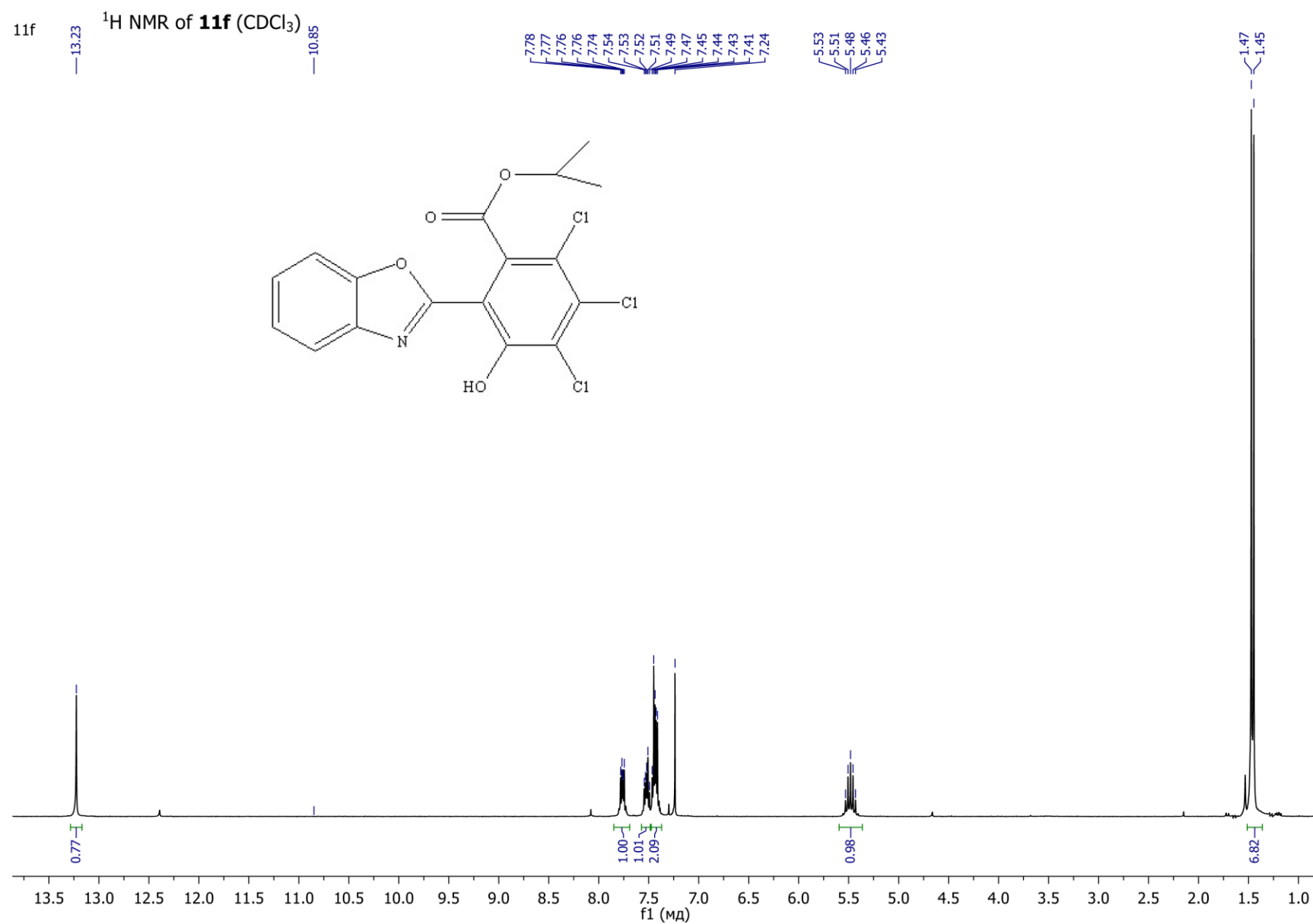
<sup>13</sup>C NMR of **11d** (CDCl<sub>3</sub>)



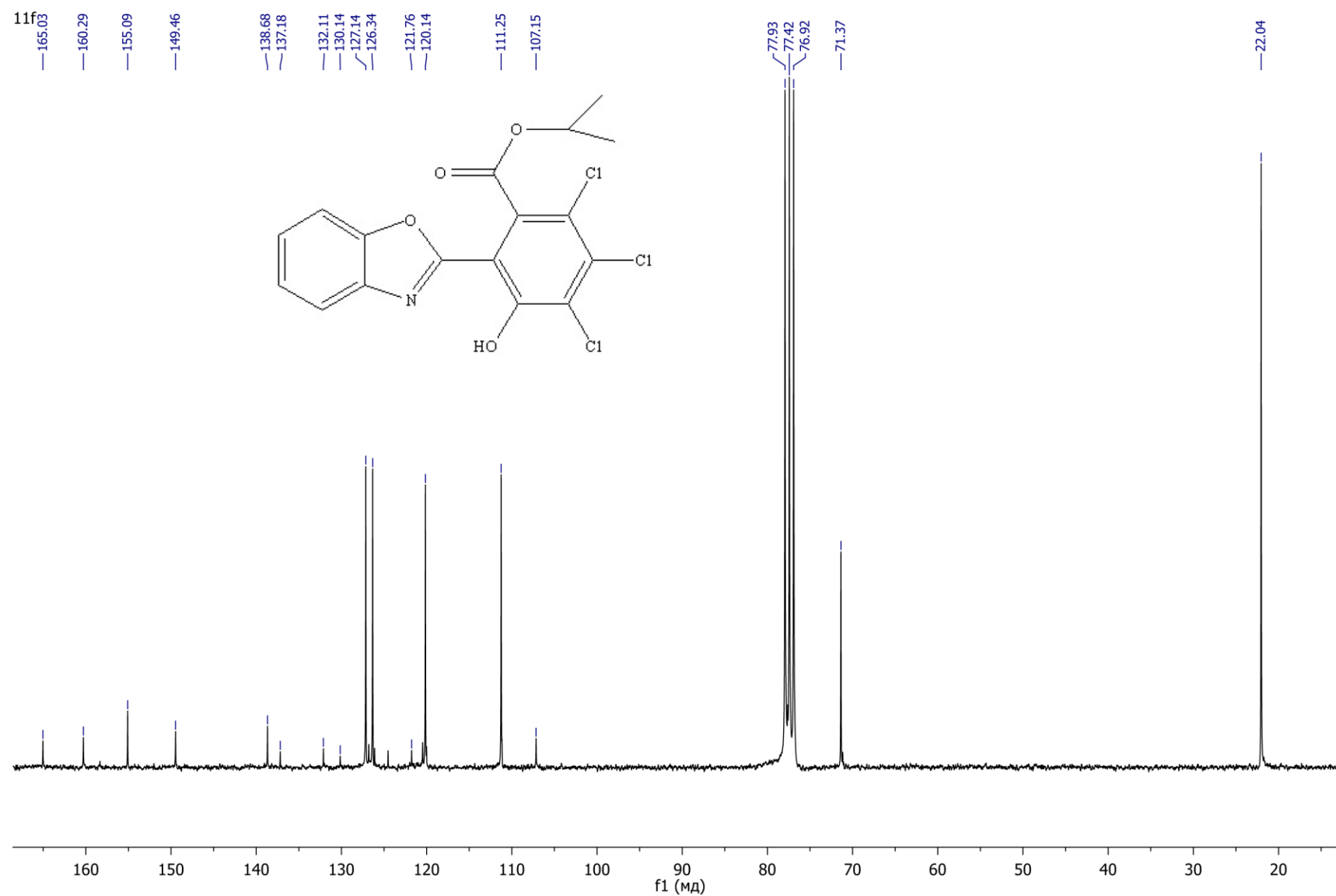


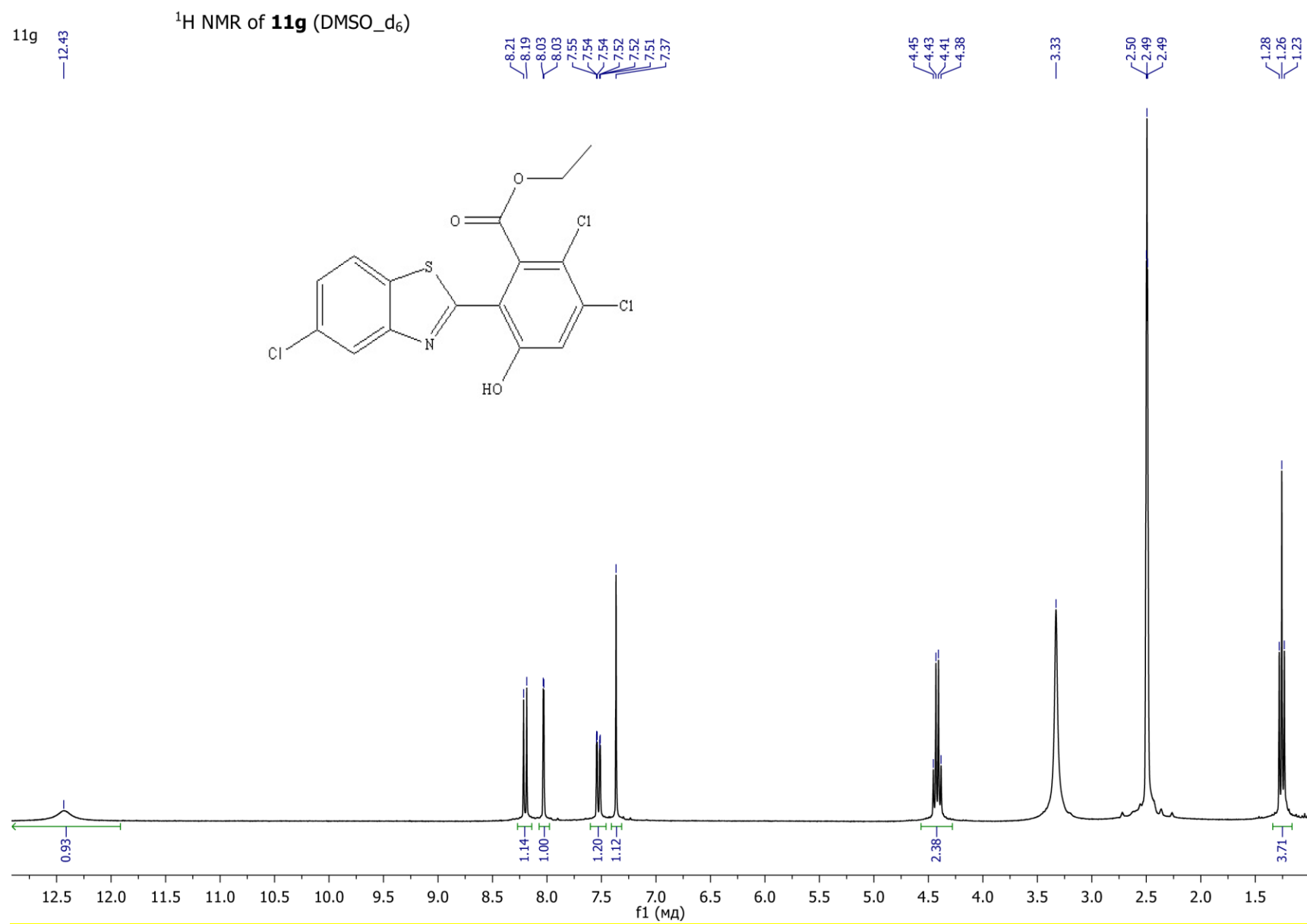
$^{13}\text{C}$  NMR of **11e** ( $\text{CDCl}_3$ )





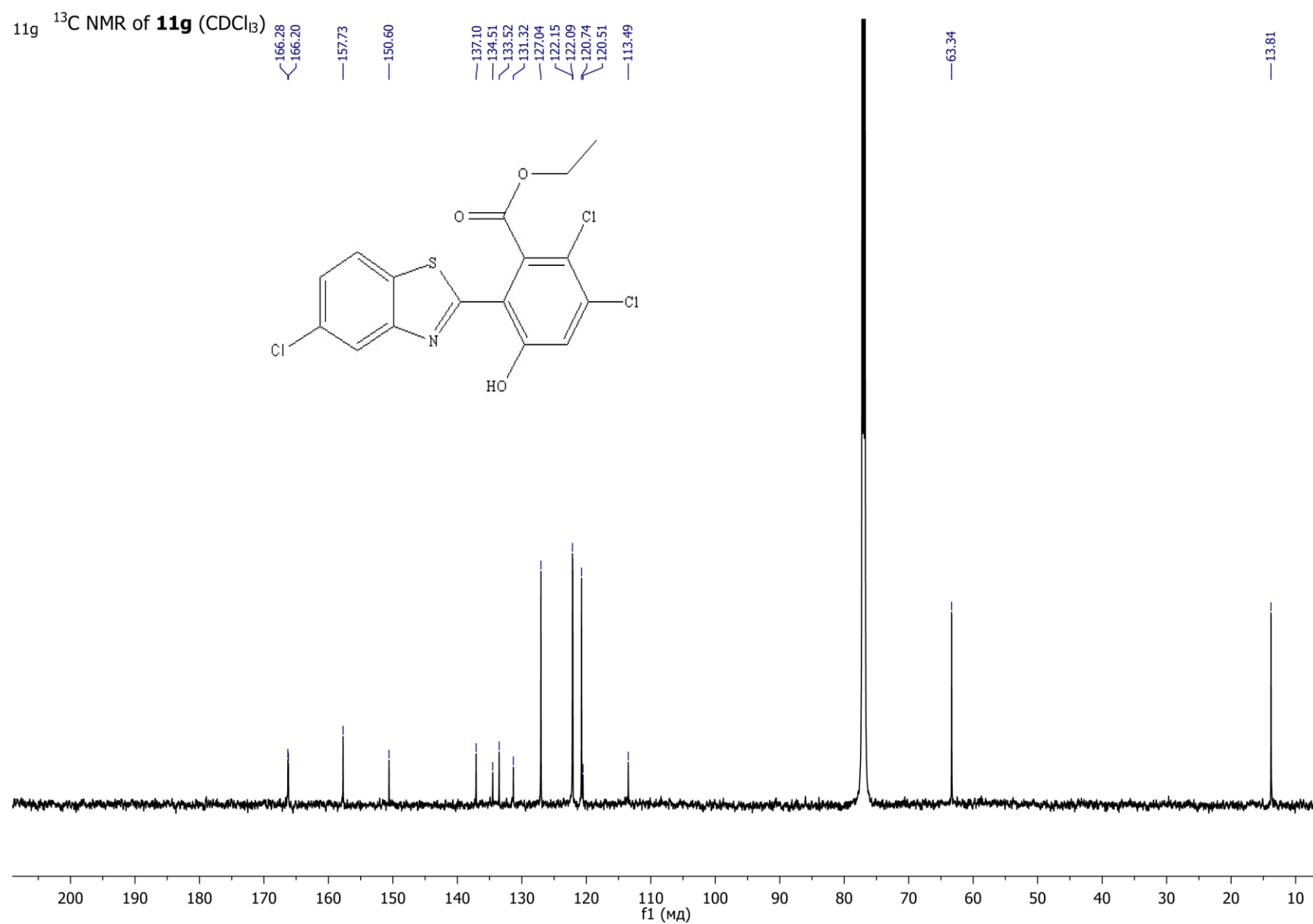
<sup>13</sup>C NMR of **11f** (CDCl<sub>3</sub>)





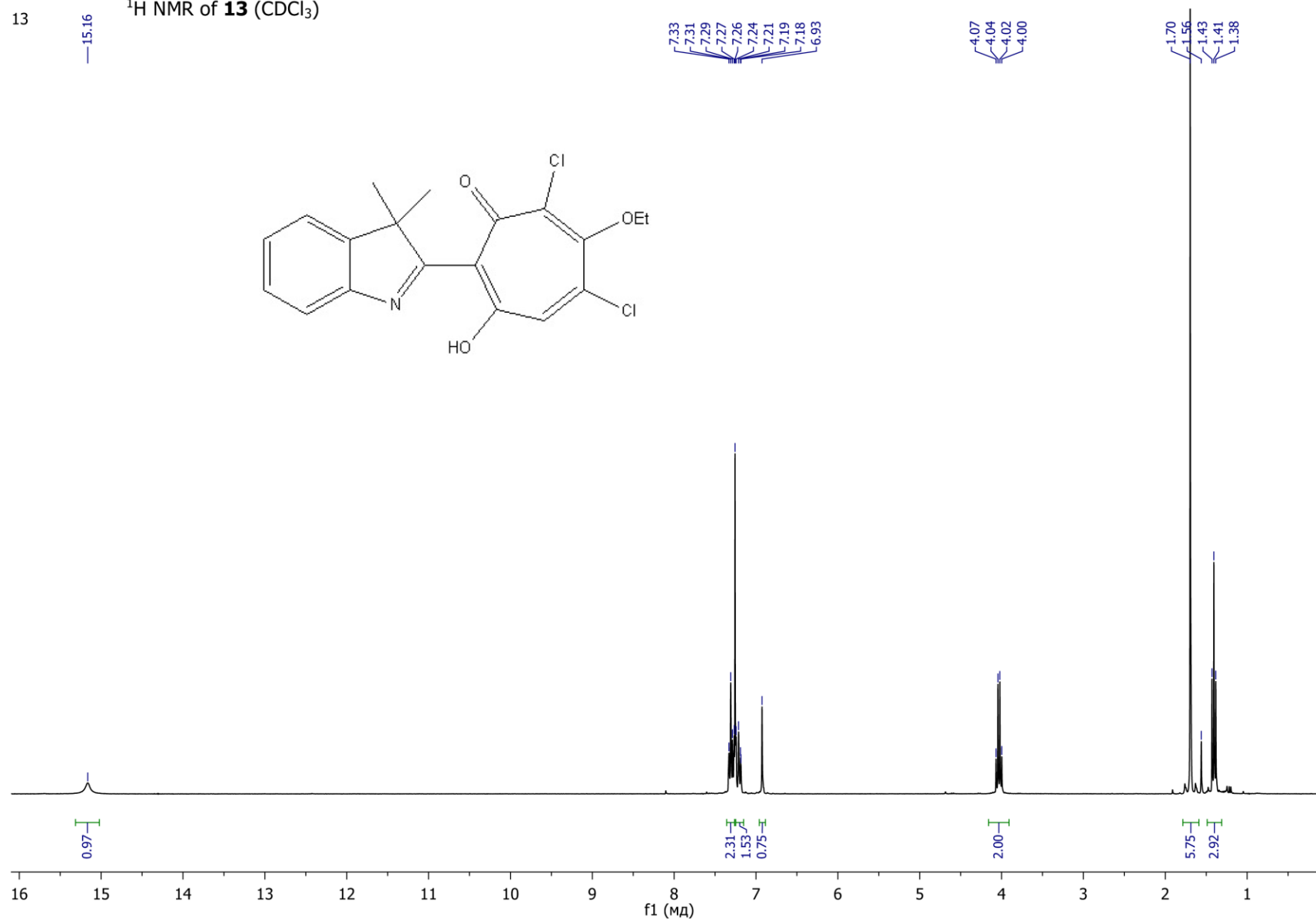


11g  $^{13}\text{C}$  NMR of **11g** ( $\text{CDCl}_3$ )



13

—15.16

 $^1\text{H}$  NMR of **13** ( $\text{CDCl}_3$ )

<sup>13</sup>C NMR of **13** (DMSO-d<sub>6</sub>)

13

