

## **Supporting Information for:**

### **The study of hypoglycemic activity of 7-terpenylcoumarines**

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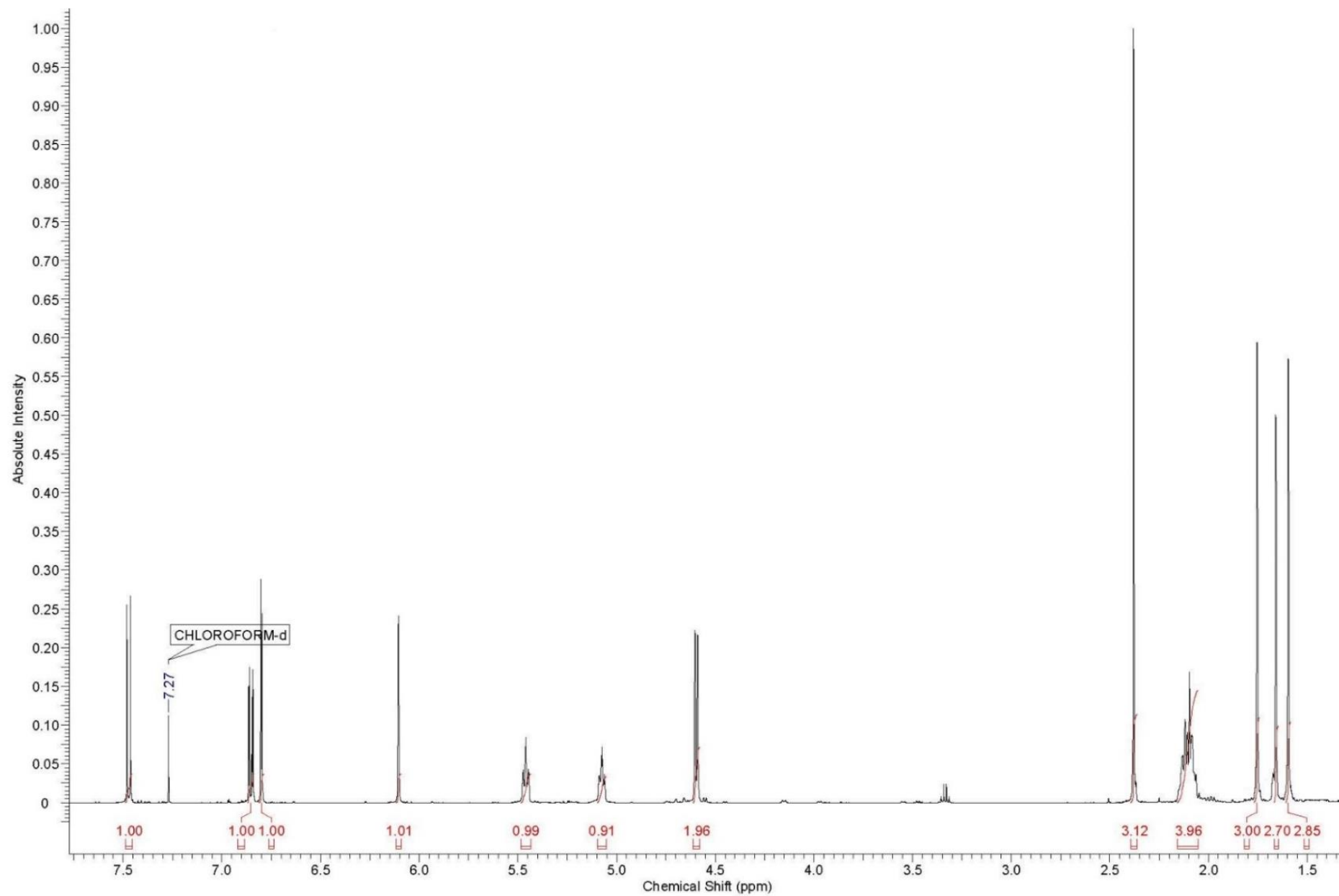
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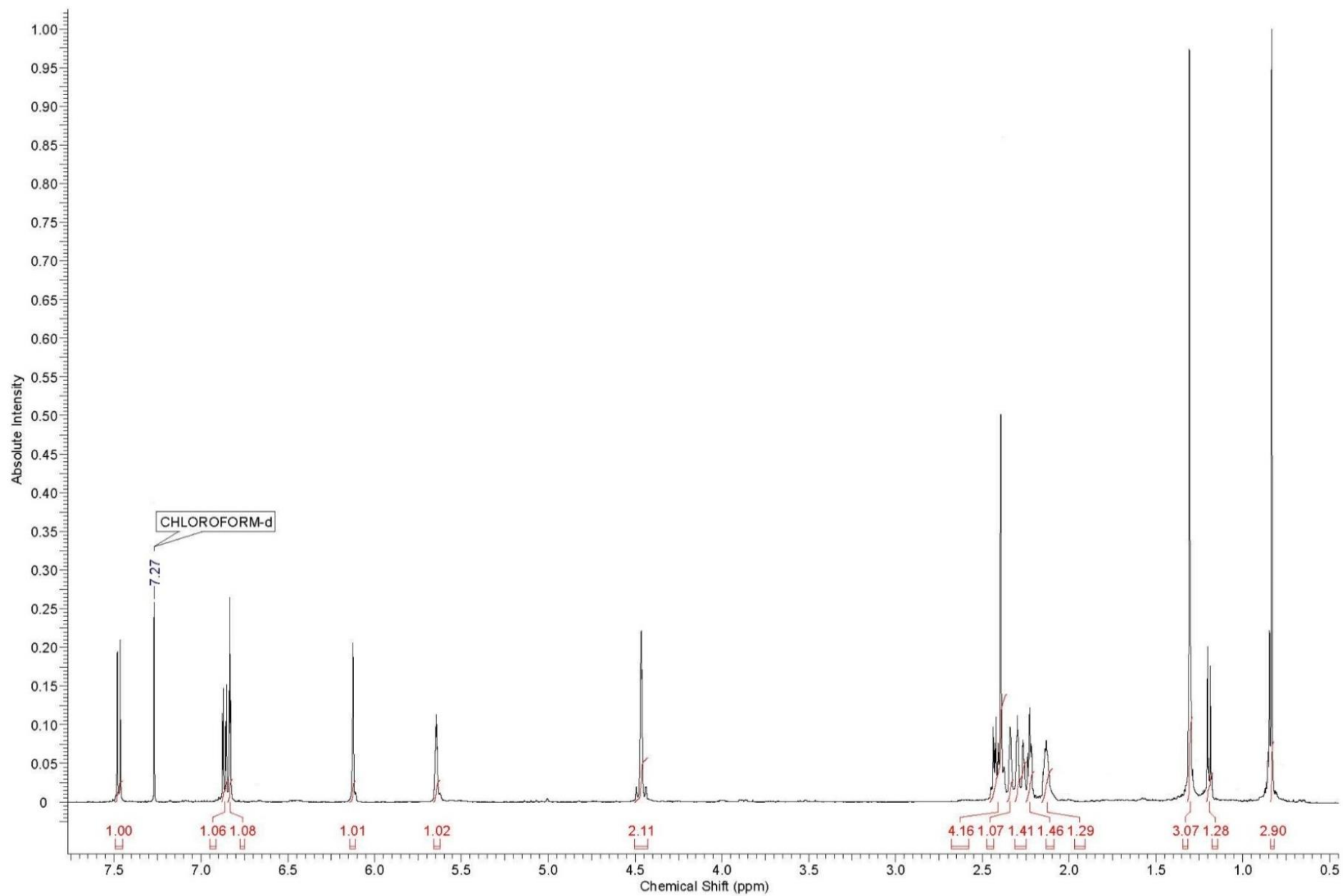
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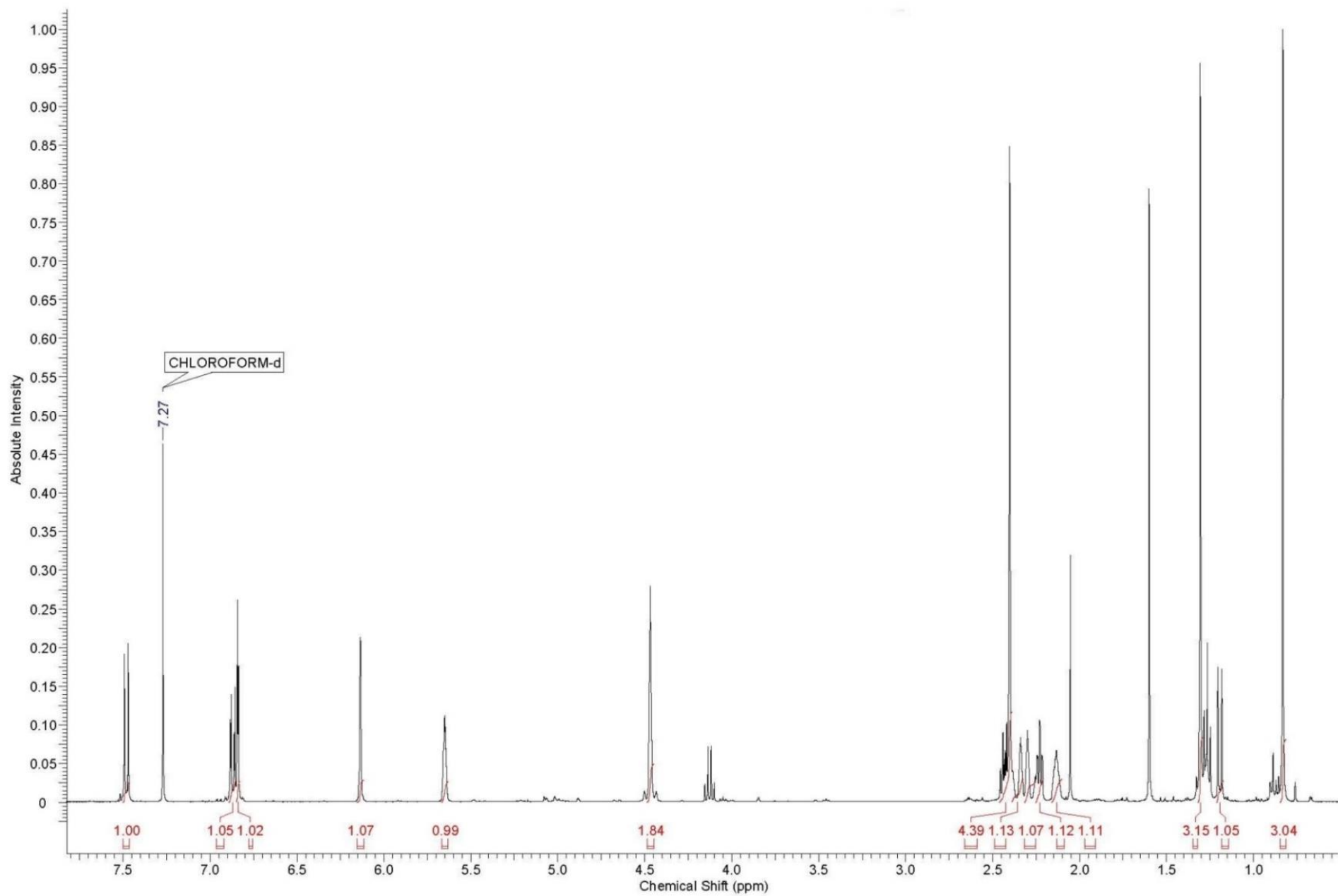
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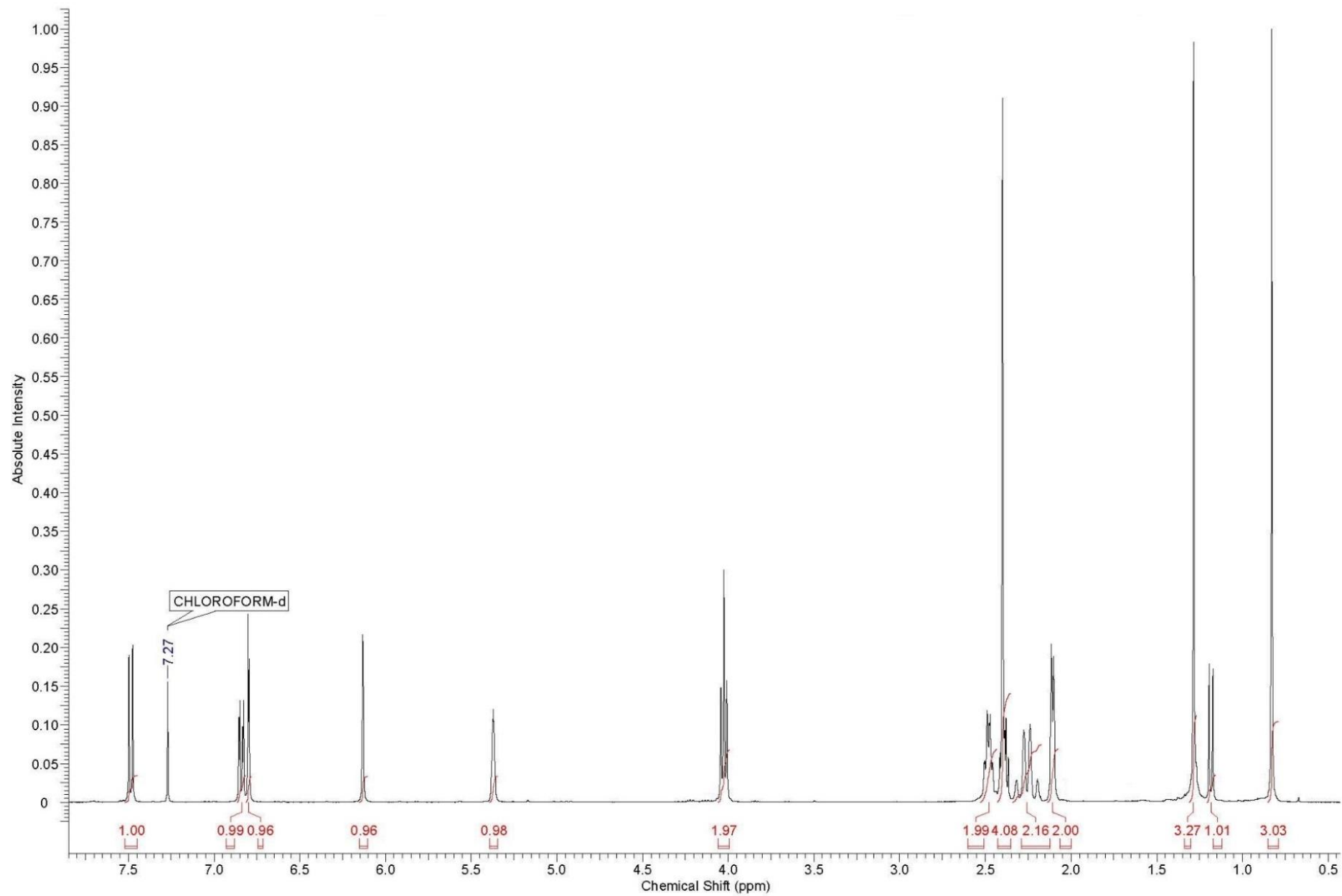
**Figure S1.** (E)-7-(3,7-Dimethylocta-2,6-dienyloxy)-4-methyl-2H-chromen-2-one  $^1\text{H}$  NMR spectrum (6a).



**Figure S2.** 7-(((1R,5S)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)methoxy)-4-methyl-2H-chromen-2-one <sup>1</sup>H NMR spectrum (6b).



**Figure S3.** 7-(((1S,5R)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)methoxy)-4-methyl-2H-chromen-2-one <sup>1</sup>H NMR spectrum (6c).



**Figure S4.** 7-(2-((1R,5S)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethoxy)-4-methyl-2H-chromen-2-one <sup>1</sup>H NMR spectrum (6d).

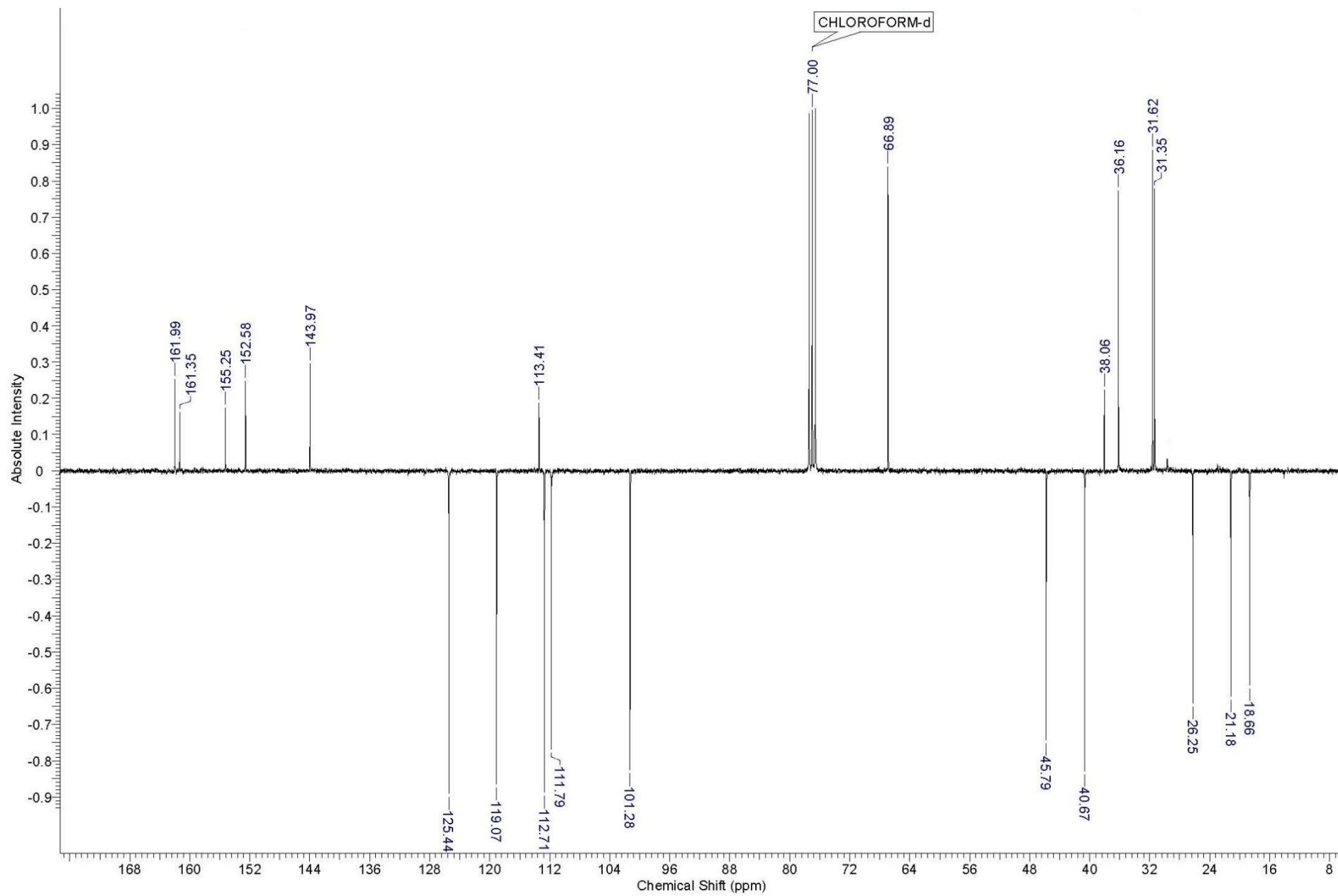
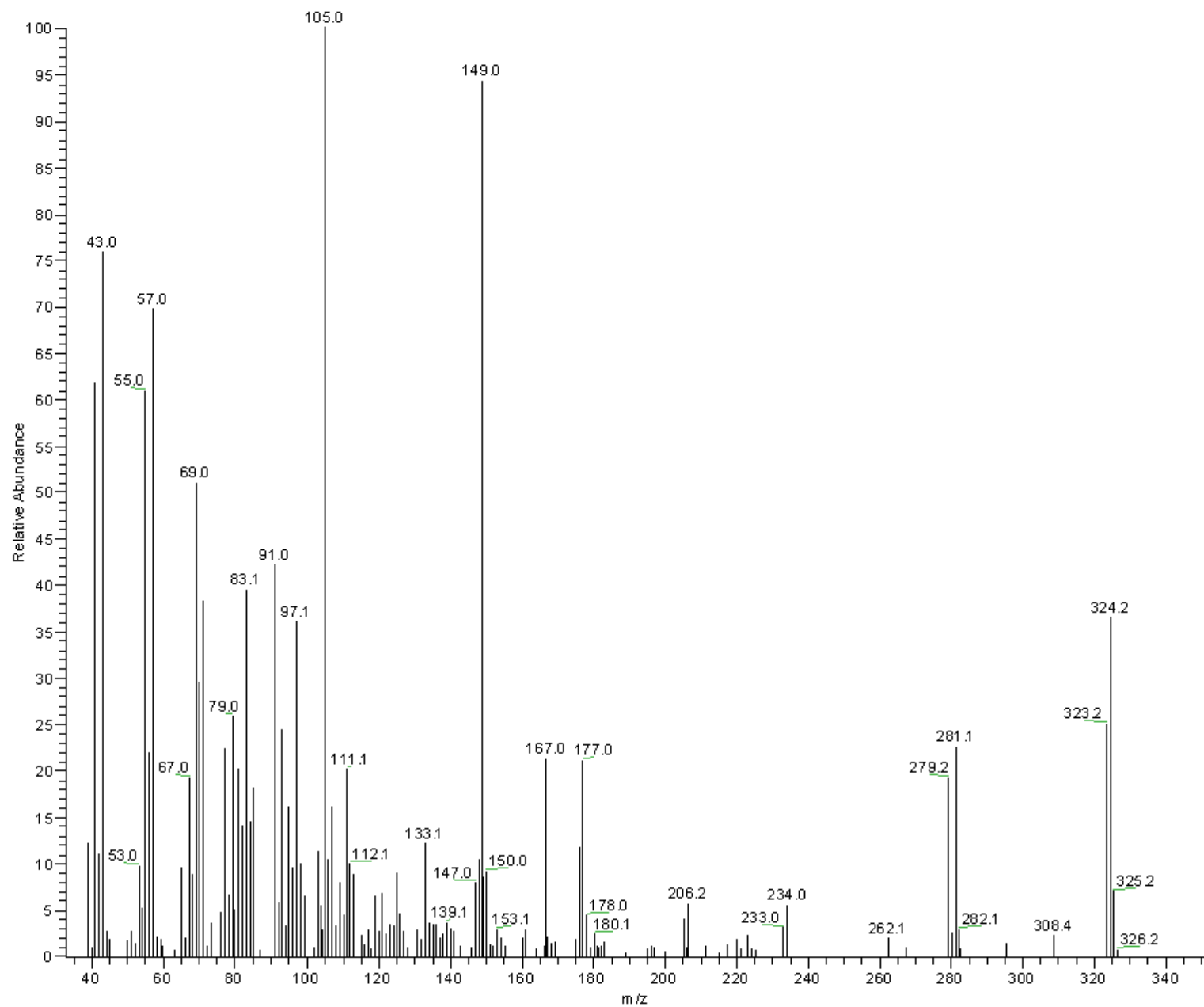
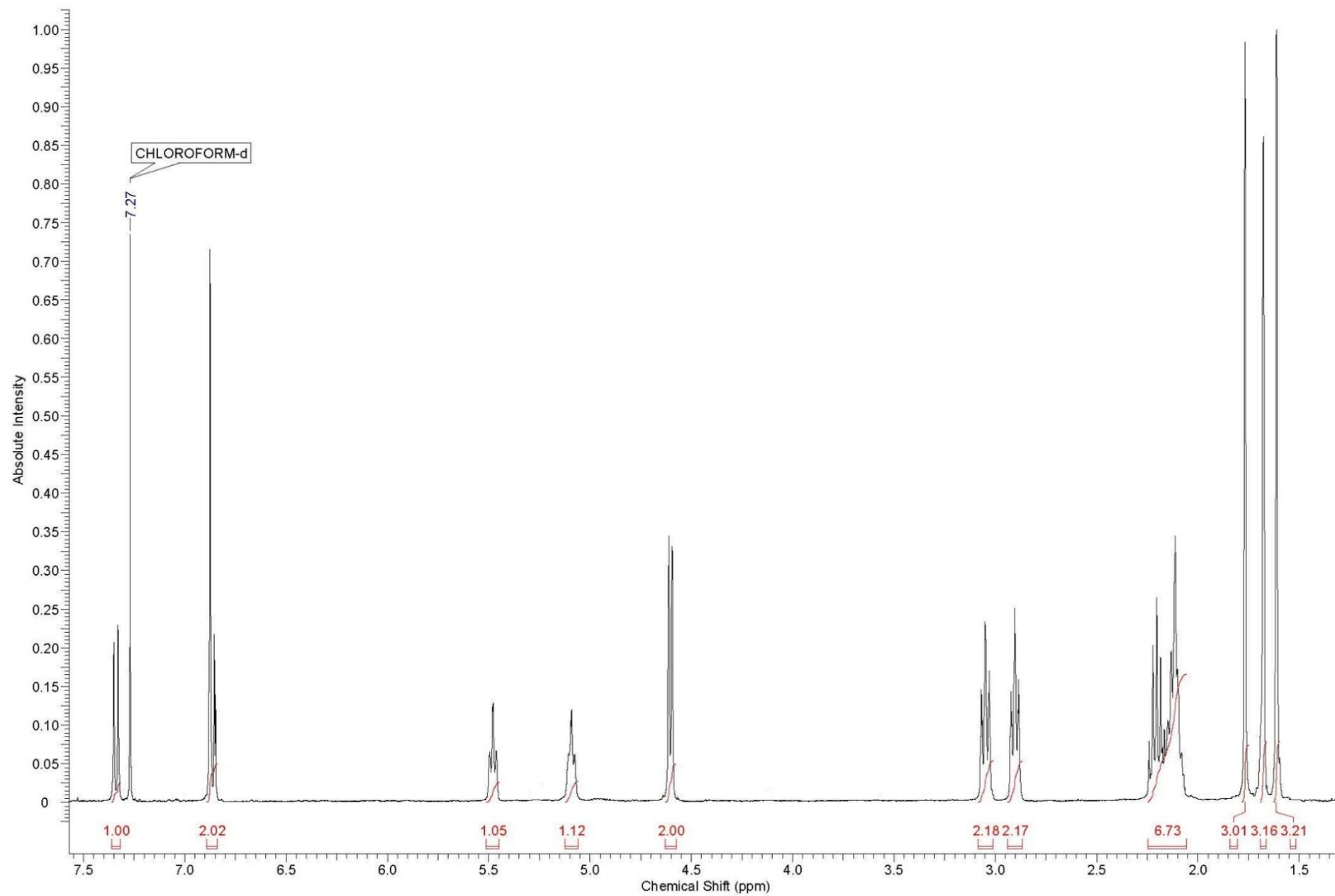


Figure S5. 7-((1R,5S)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethoxy)-4-methyl-2H-chromen-2-one <sup>13</sup>C NMR spectrum (6d).





**Figure S6.** 7-(2-((1R,5S)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethoxy)-4-methyl-2H-chromen-2-one HRMS spectra (6d).



**Figure S7.** (E)-7-(3,7-Dimethylocta-2,6-dienyloxy)-2,3-dihydrocyclopenta[c]chromen-4(1H)-one <sup>1</sup>H NMR spectrum (7a).

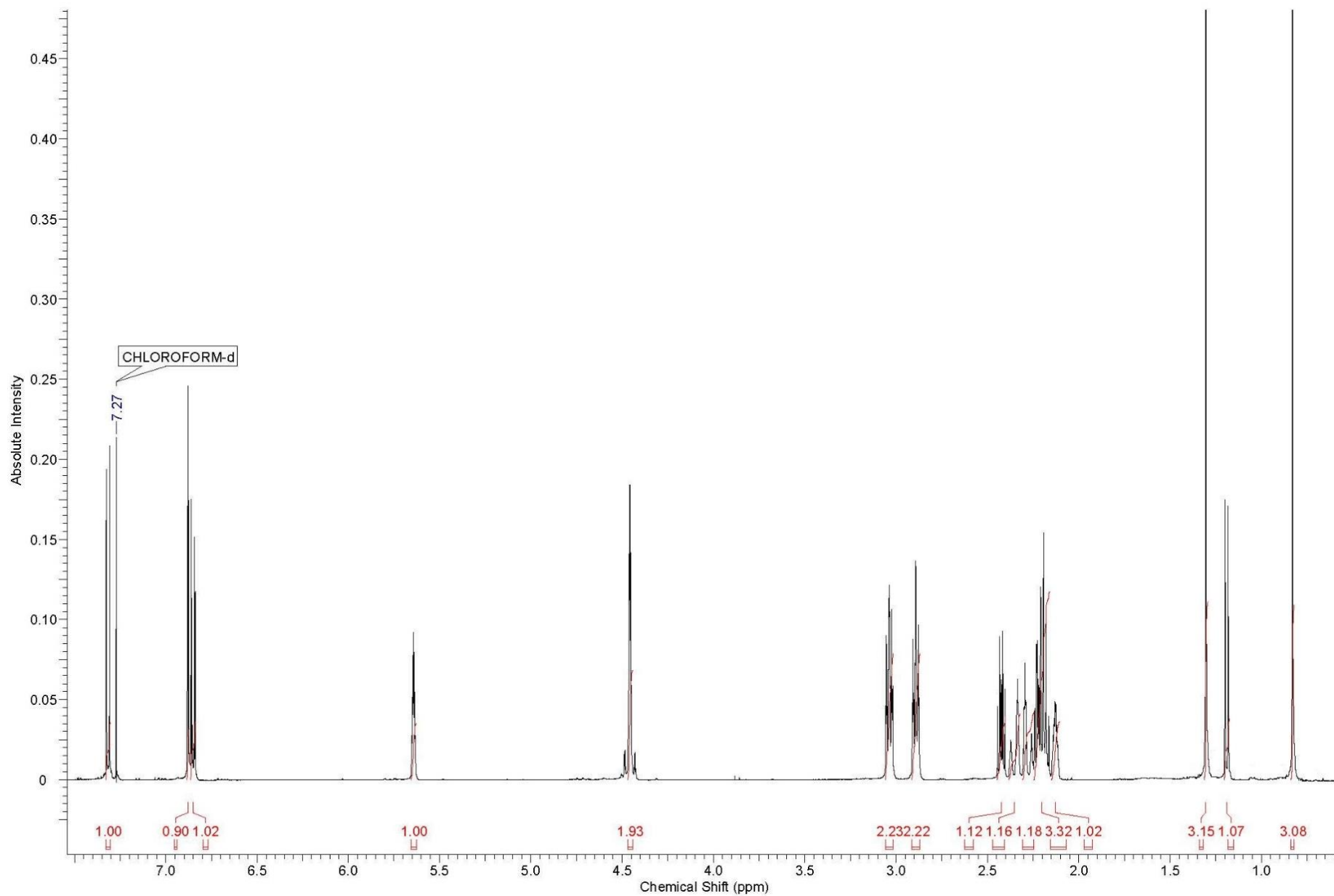
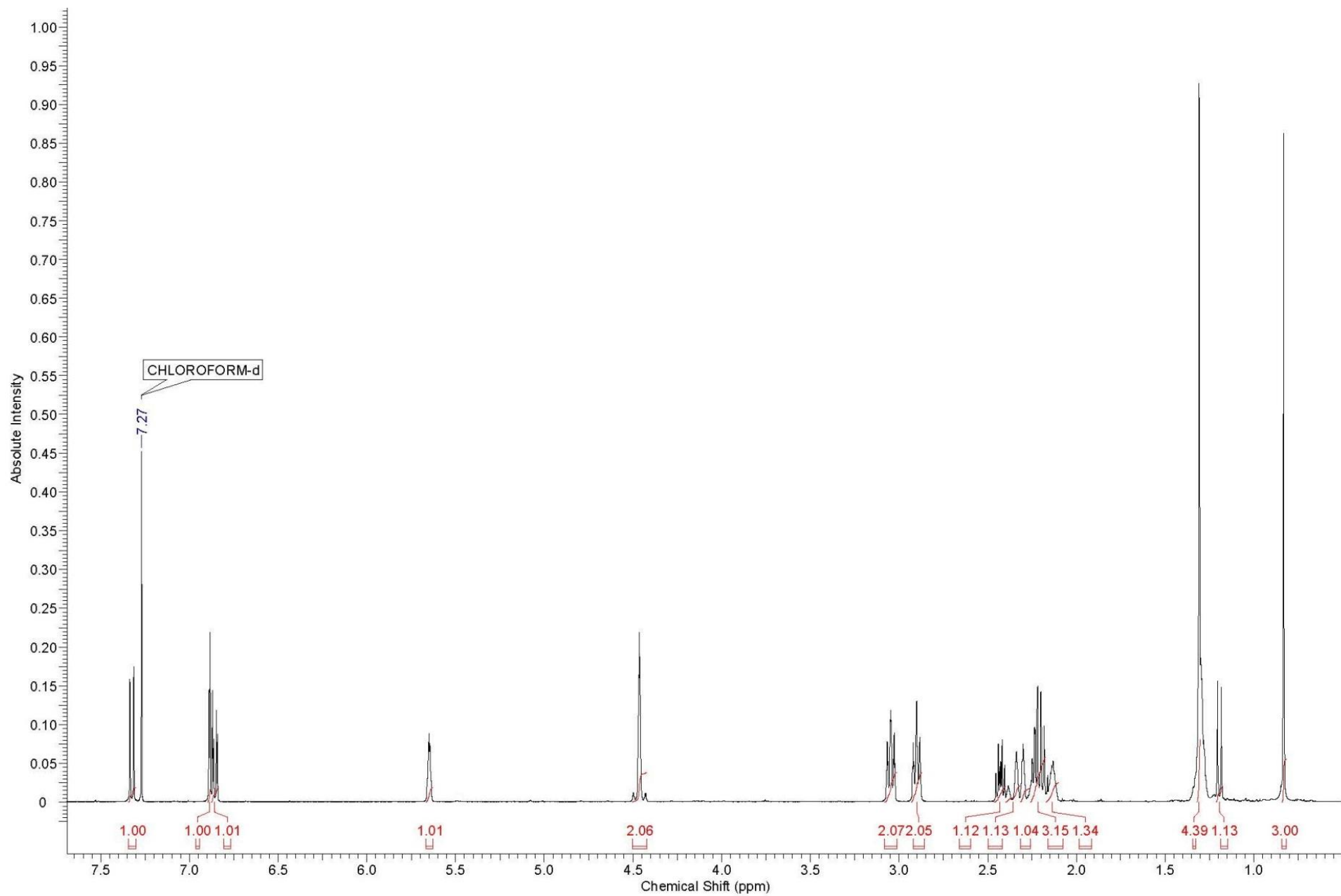
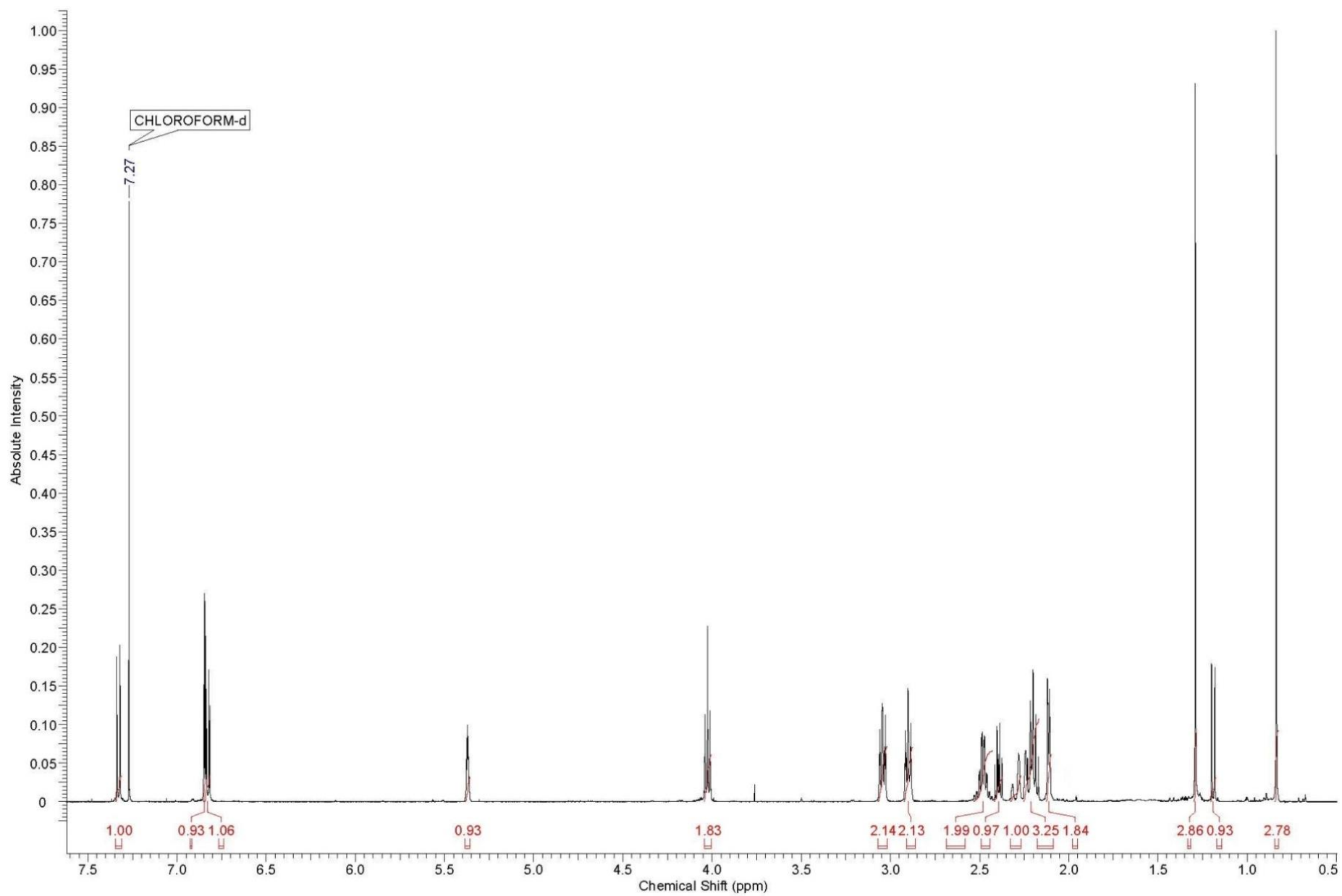


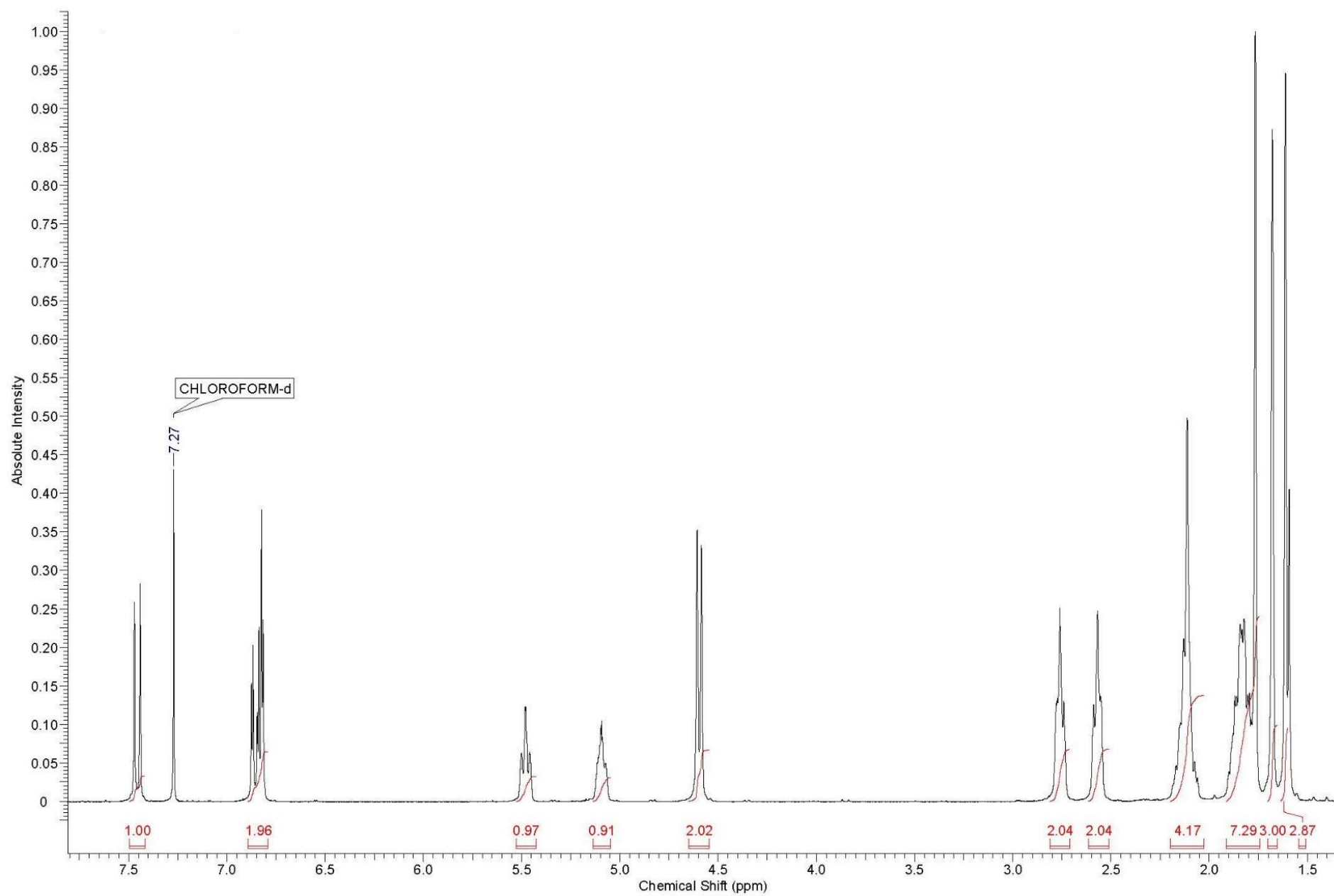
Figure S8. 7-(((1R,5S)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)methoxy)-2,3-dihydrocyclopenta[c]chromen-4(1H)-one 1H NMR spectrum (7b).



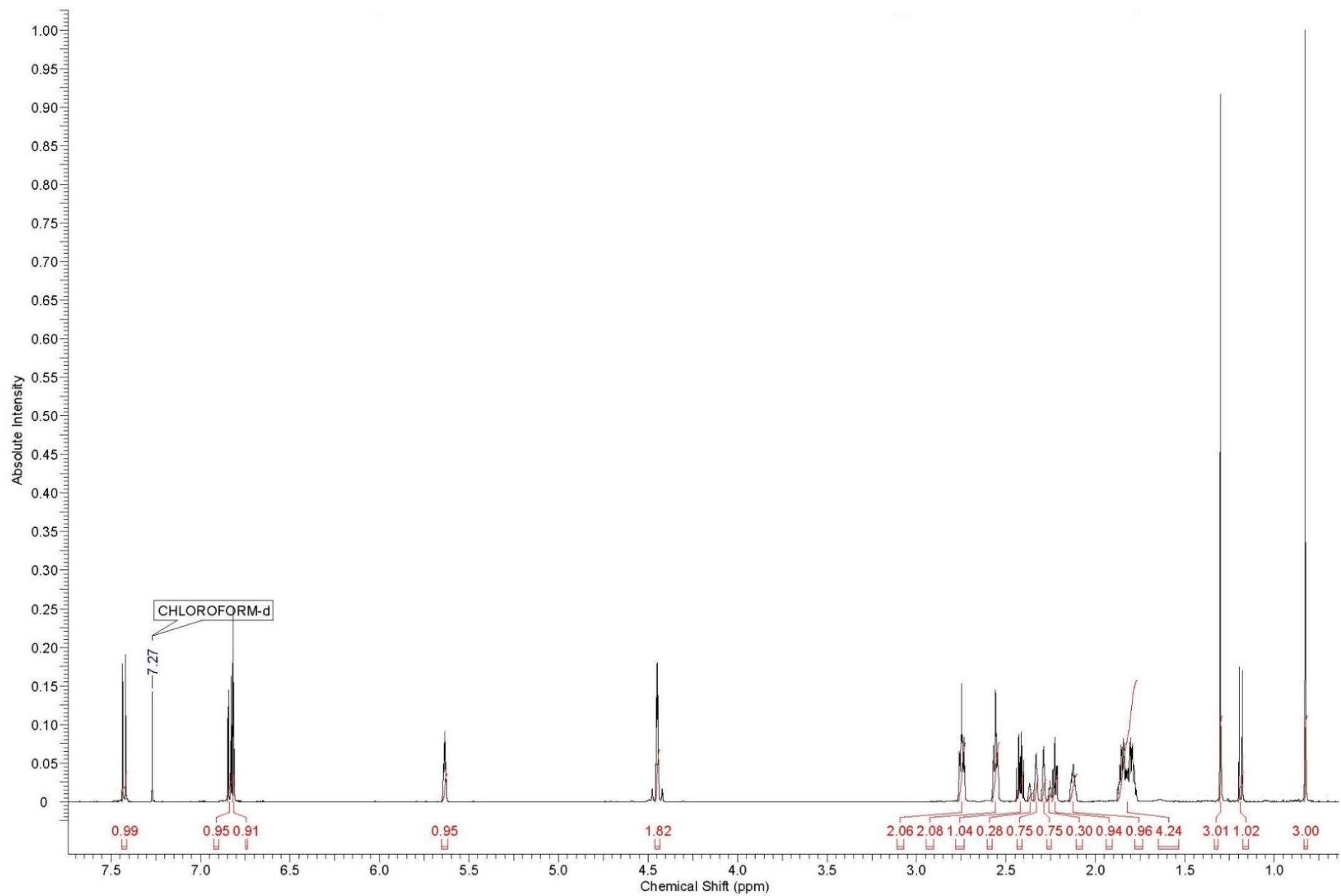
**Figure S9.** 7-(((1S,5R)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)methoxy)-2,3-dihydrocyclopenta[c]chromen-4(1H)-one <sup>1</sup>H NMR spectrum (7c).



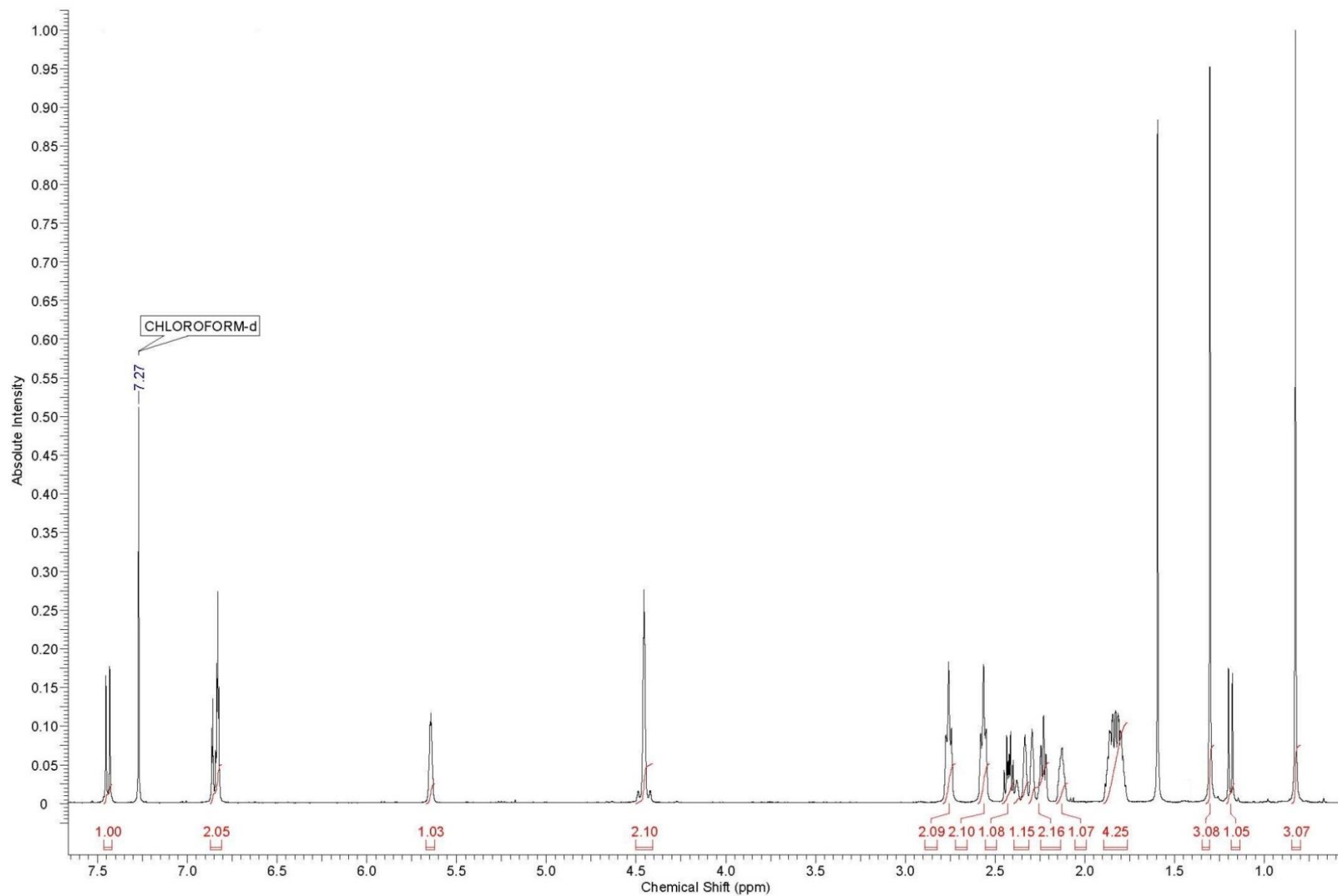
**Figure S10.** 7-(2-((1R,5S)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethoxy)-2,3-dihydrocyclopenta[c]chromen-4(1H)-one <sup>1</sup>H NMR spectrum (7d).



**Figure S11.** (E)-3-(3,7-Dimethylocta-2,6-dienyloxy)-7,8,9,10-tetrahydro-6H-benzo[c]chromen-6-one  $^1\text{H}$  NMR spectrum (8a).

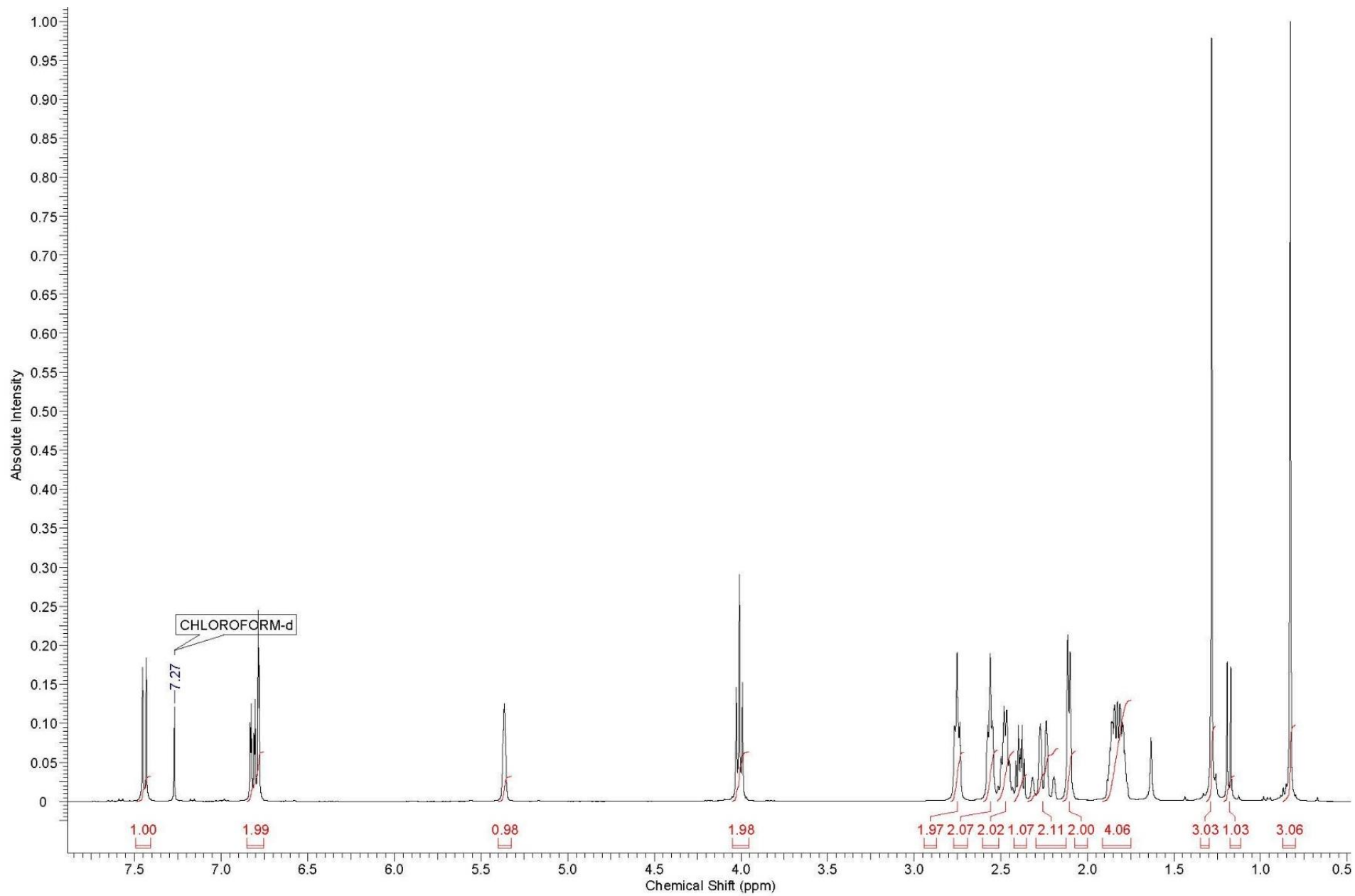


**Figure S12.** 3-(((1R,5S)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)methoxy)-7,8,9,10-tetrahydro-6H-benzo[c]chromen-6-one  $^1\text{H}$  NMR spectrum (8b).



**Figure S13.** 3-(((1S,5R)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)methoxy)-7,8,9,10-tetrahydro-6H-benzo[c]chromen-6-one <sup>1</sup>H NMR spectrum (8c).





**Figure S14.** 3-(2-((1R,5S)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethoxy)-7,8,9,10-tetrahydro-6H-benzo[c]chromen-6-one <sup>1</sup>H NMR spectrum (8d).

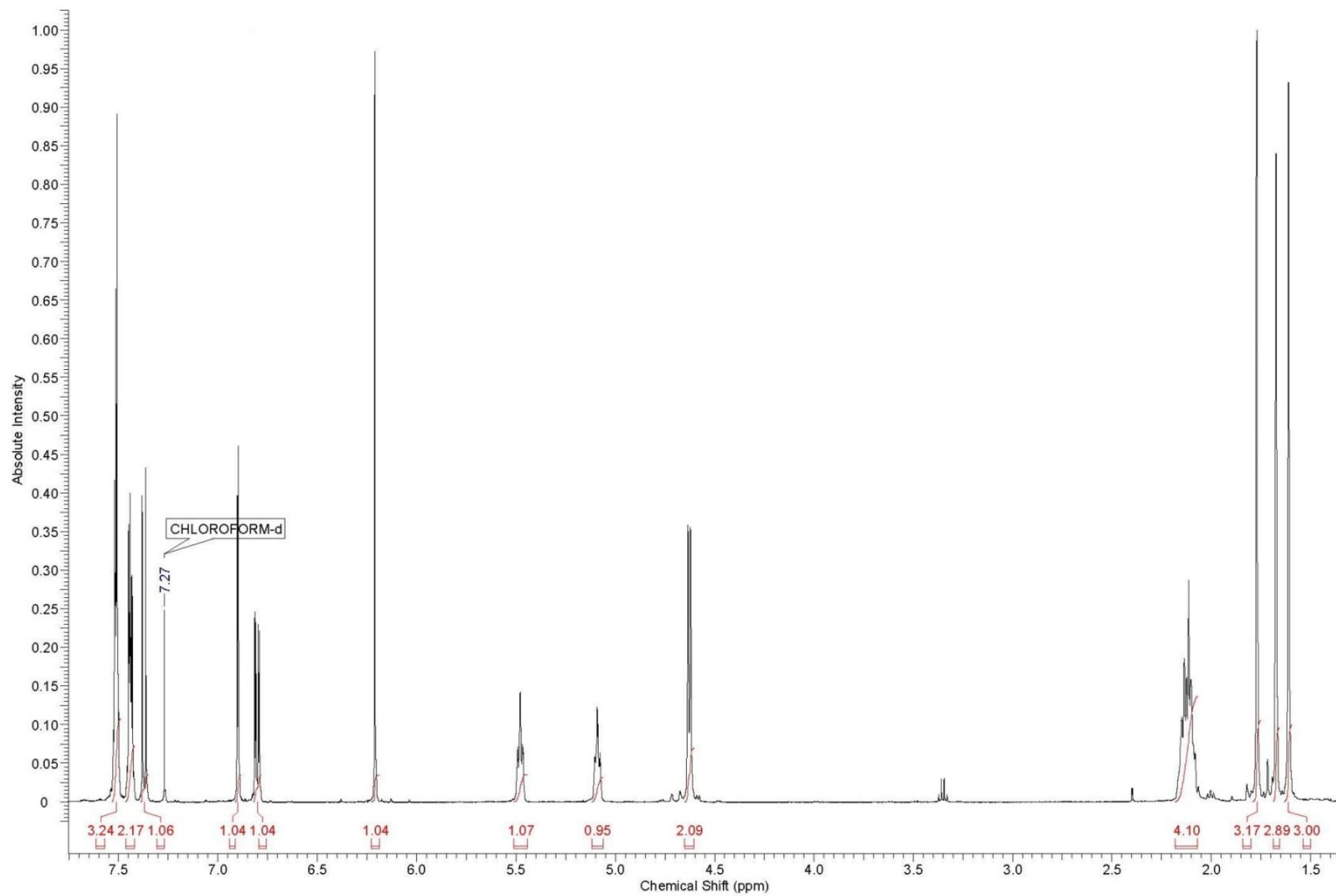


Figure S15. (E)-7-(3,7-Dimethylocta-2,6-dienyloxy)-4-phenyl-2H-chromen-2-one  $^1\text{H}$  NMR spectrum (9a).

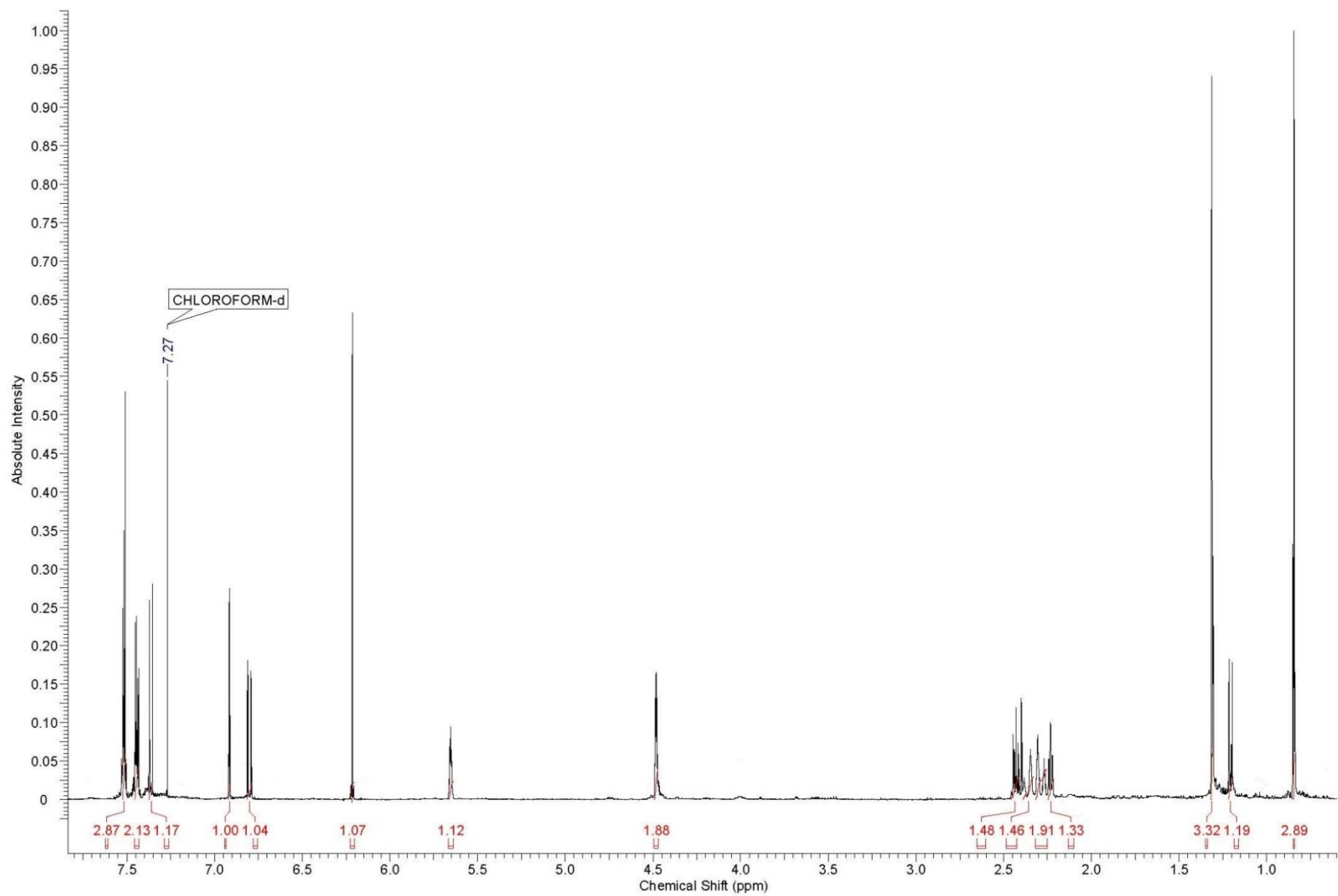
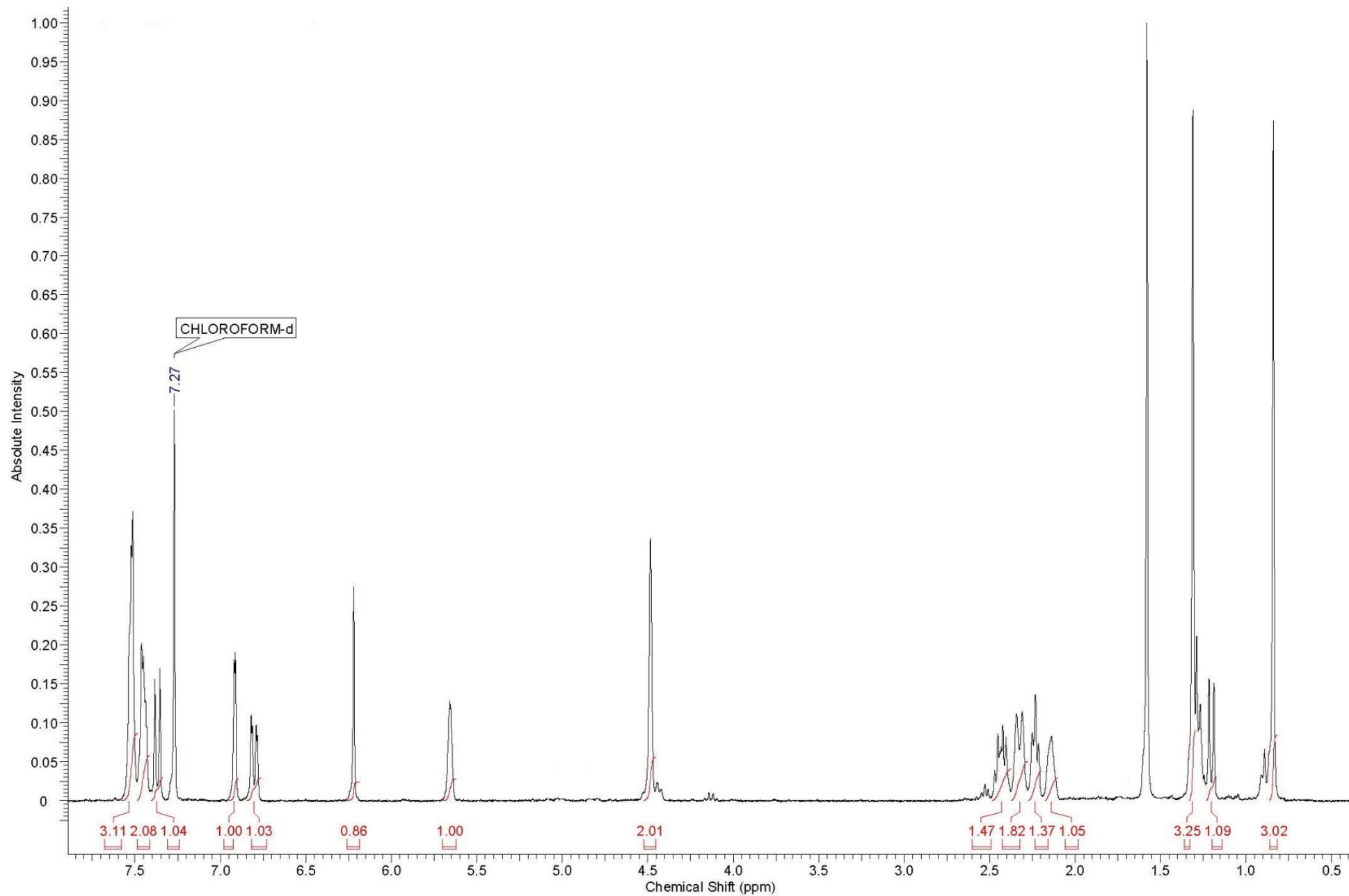
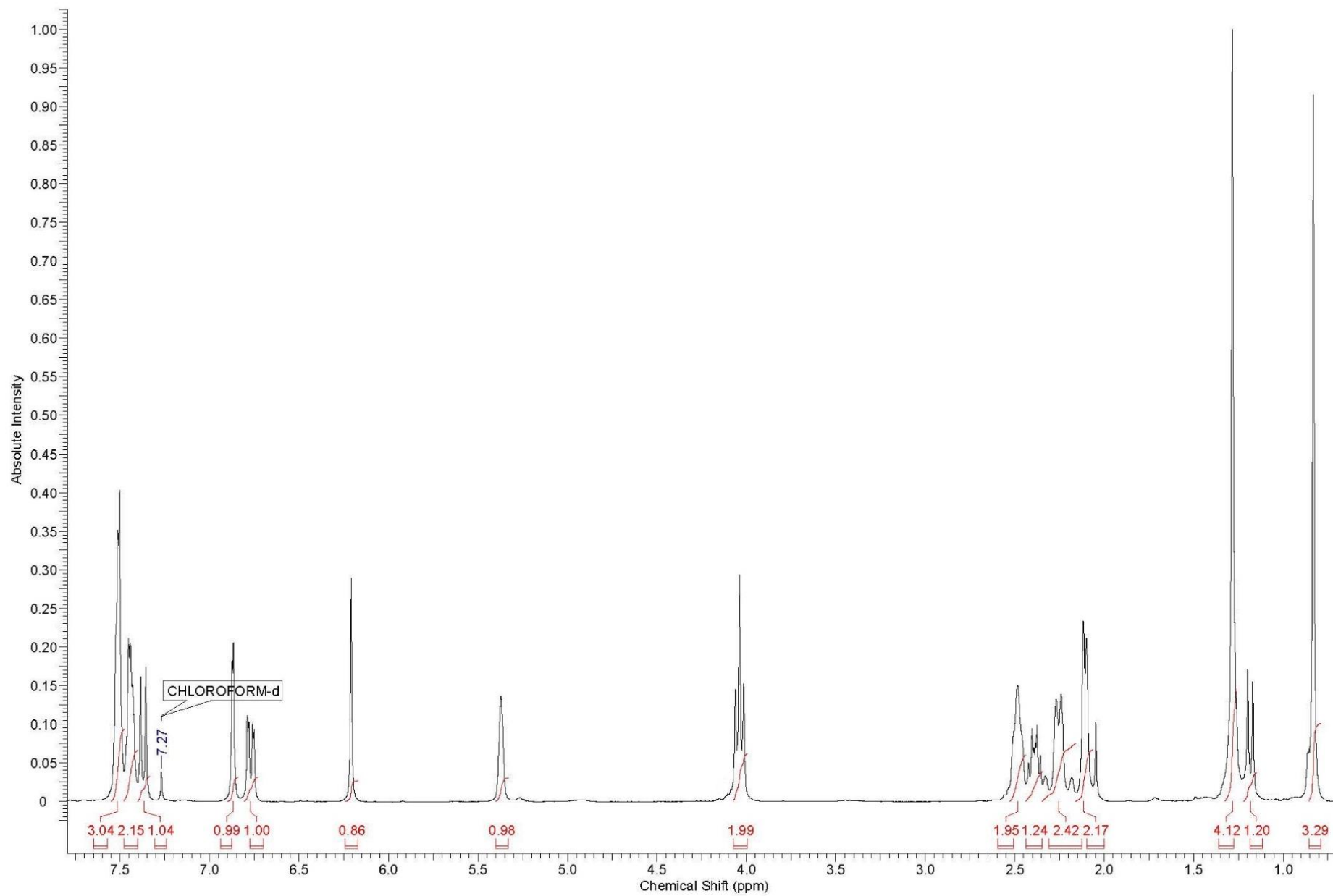


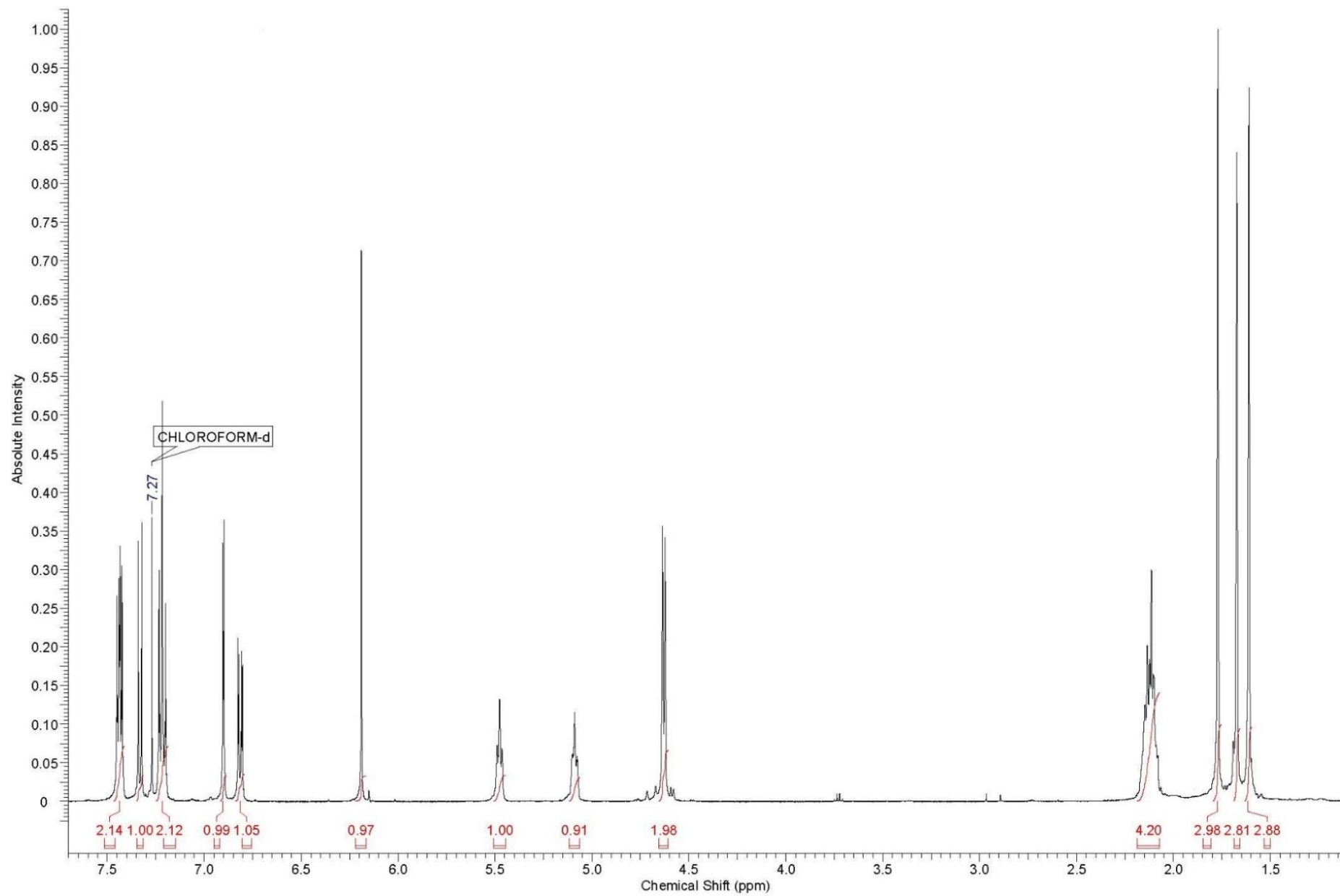
Figure S16. 7-(((1R,5S)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)methoxy)-4-phenyl-2H-chromen-2-one  $^1\text{H}$  NMR spectrum (9b).



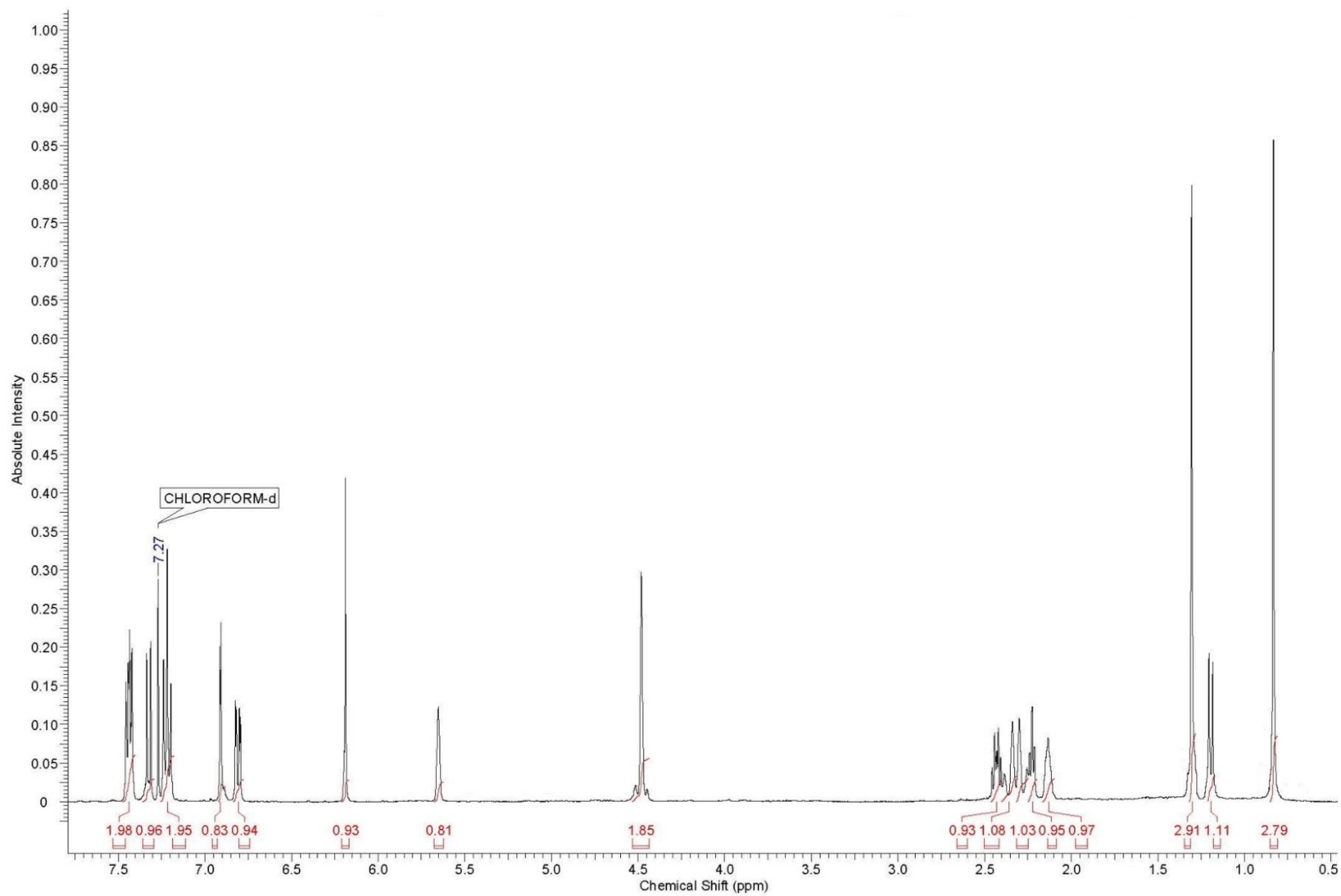
**Figure S17.** 7-(((1S,5R)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)methoxy)-4-phenyl-2H-chromen-2-one <sup>1</sup>H NMR spectrum (9c).



**Figure S18.** 7-(2-((1R,5S)-6,6-dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethoxy)-4-phenyl-2H-chromen-2-one <sup>1</sup>H NMR spectrum (9d).



**Figure S19.** (E)-7-(3,7-Dimethylocta-2,6-dienyloxy)-4-(4-fluorophenyl)-2H-chromen-2-one  $^1\text{H}$  NMR spectrum (10a).



**Figure S20.** 7-(((1R,5S)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)methoxy)-4-(4-fluorophenyl)-2H-chromen-2-one <sup>1</sup>H NMR spectrum (10b).

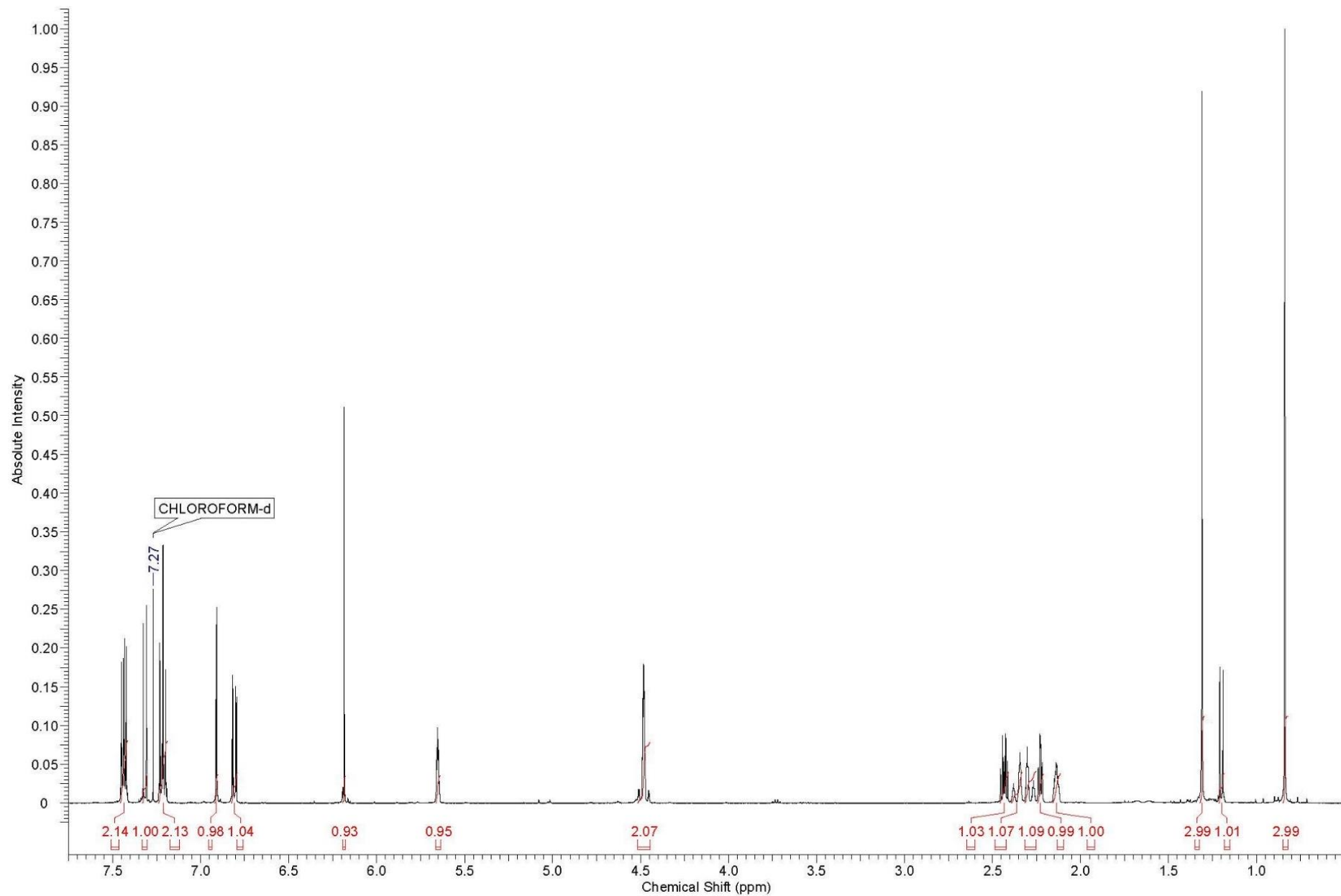
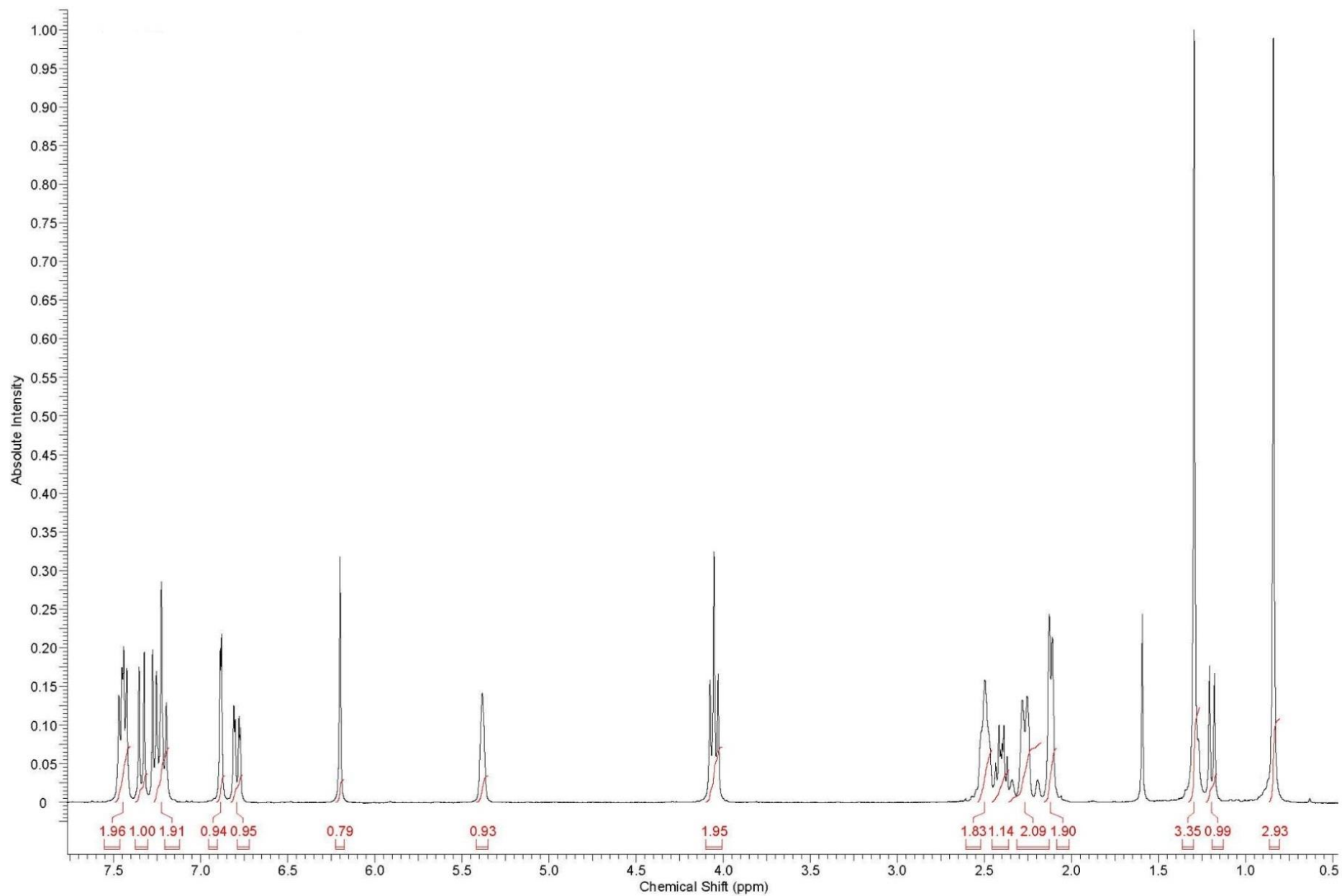


Figure S21. 7-(((1S,5R)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)methoxy)-4-(4-fluorophenyl)-2H-chromen-2-one <sup>1</sup>H NMR spectrum (10c).





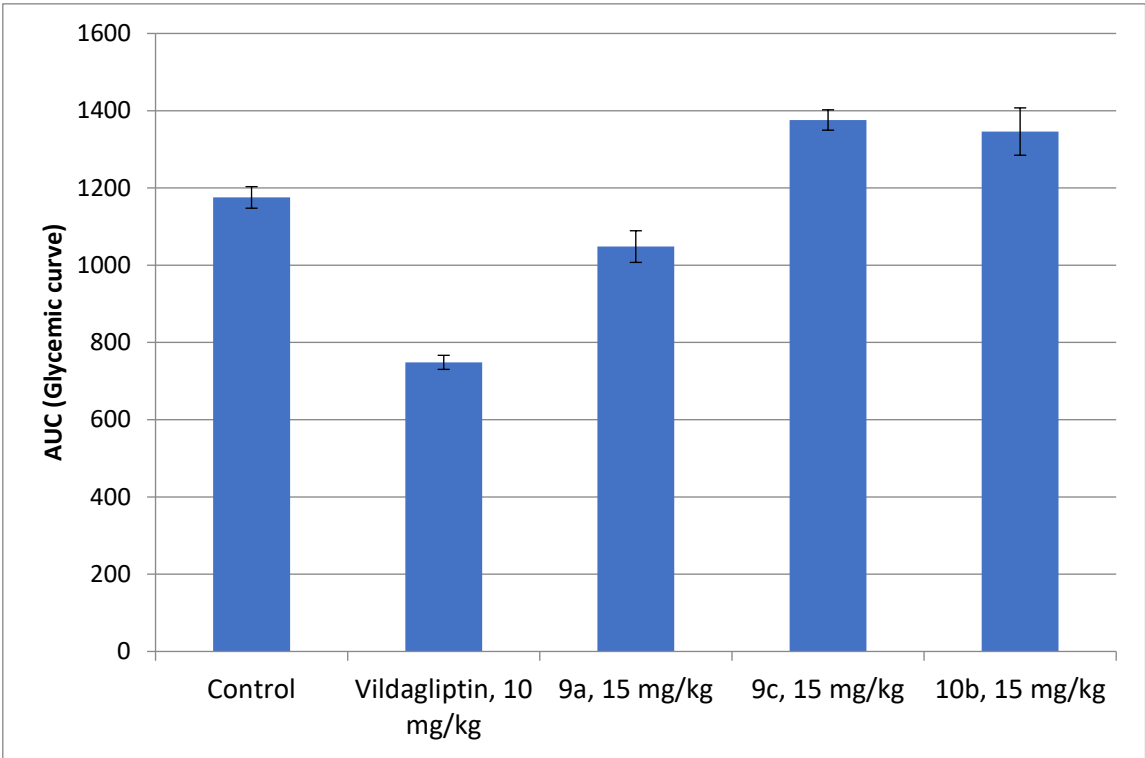
**Figure S22.** 7-(2-((1R,5S)-6,6-Dimethylbicyclo[3.1.1]hept-2-en-2-yl)ethoxy)-4-(4-fluorophenyl)-2H-chromen-2-one <sup>1</sup>H NMR spectrum (10d).

Results of the OGTT-1.

1

	AUC (Glycemic curve)	SEM
Control	1175,5	27,90
Vildagliptin, 10 mg/kg	748,5	18,22
9a, 15 mg/kg	1048,3	40,96
9c, 15 mg/kg	1376,0	26,29
10b, 15 mg/kg	1346,0	61,21

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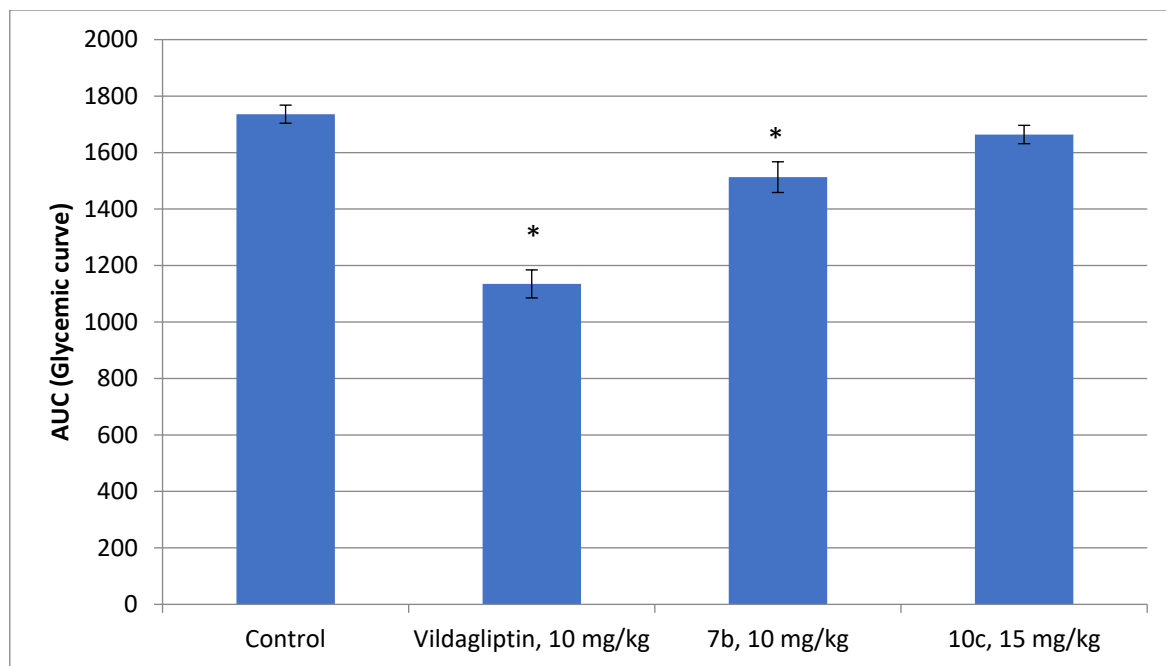
Figure S23. Data is presented as the area under the glycemic curve (AUC). \*p≤0,05 lower compared to the control group; #p≤0,05 higher compared to the control group (higher).

4

5

Results of the OGTT-2.

	AUC (Glycemic curve)	SEM
Control	1736,0	32,08
Vildagliptin, 10 mg/kg	1134,8	49,61
7b, 10 mg/kg	1513,0	54,37
10c, 15 mg/kg	1664,0	32,48



**Figure S24.** lower compared to the control group; # $p \leq 0,05$  higher compared to the control group (higher).

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7  
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