**Synthesis of new benzimidazole derivatives containing 1,3,4-thiadiazole: Their in vitro antimicrobial, in silico molecular docking and molecular dynamic simulations studies**

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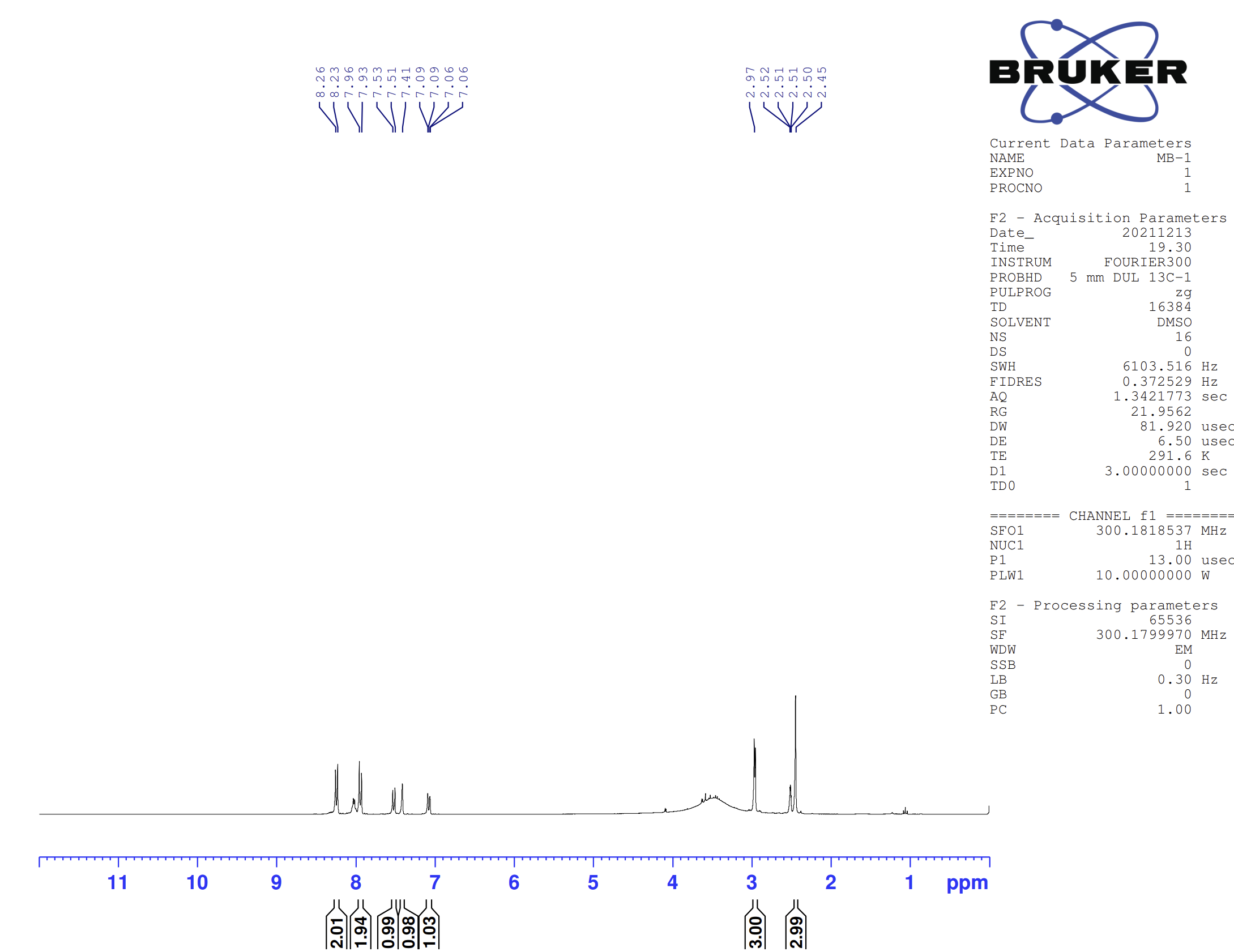
3 Department of Pharmacy Services, Bilecik Şeyh Edebali University, Vocational School of Health Services, 11000, Bilecik, Turkey.

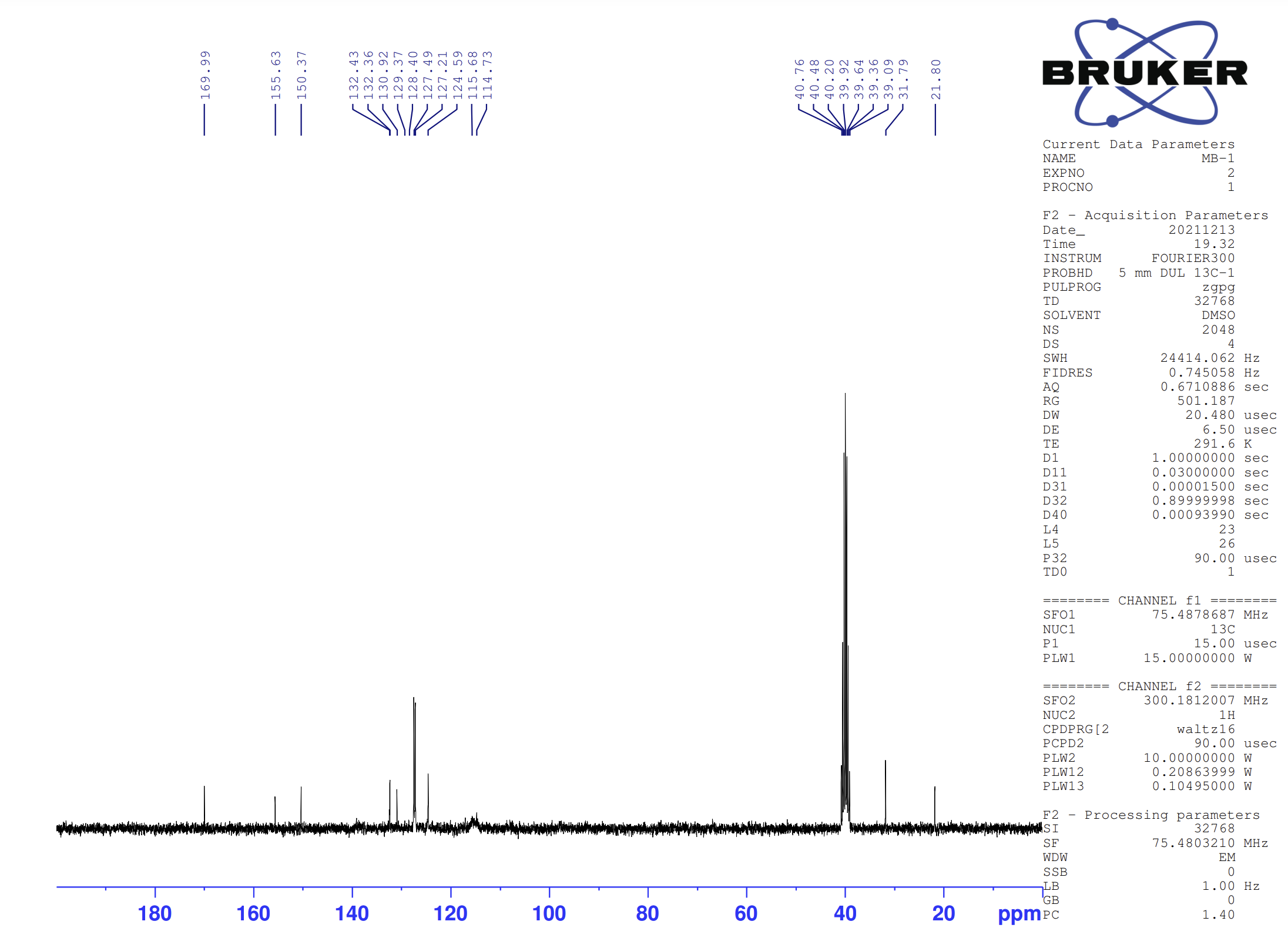
4 Bilecik Şeyh Edebali University, Graduate School of Educational Sciences, Bioengineering, Bilecik, Turkey.

5 Department of Bioengineering, Faculty of Engineering, Bilecik Seyh Edebali University, Bilecik, Turkey

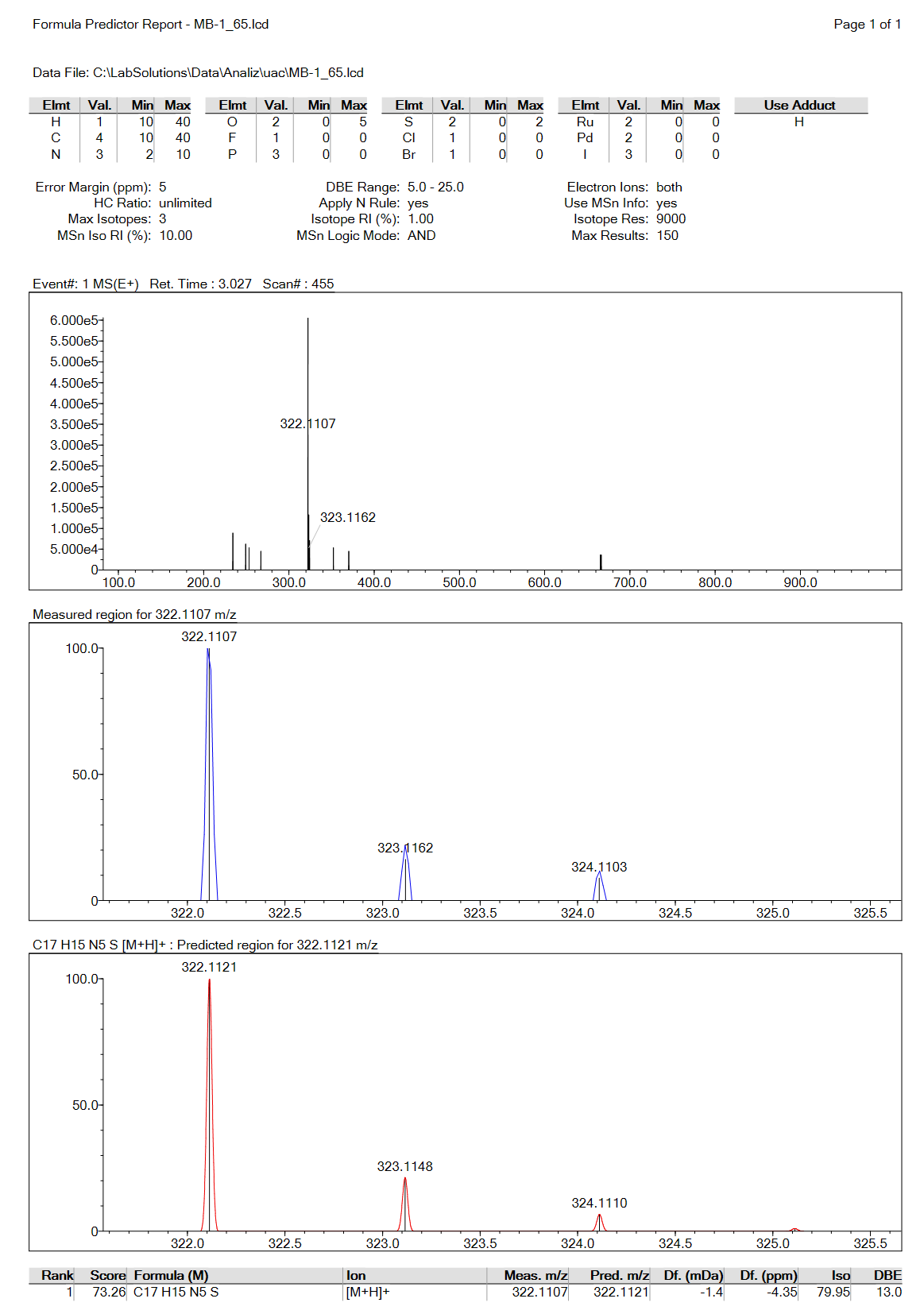
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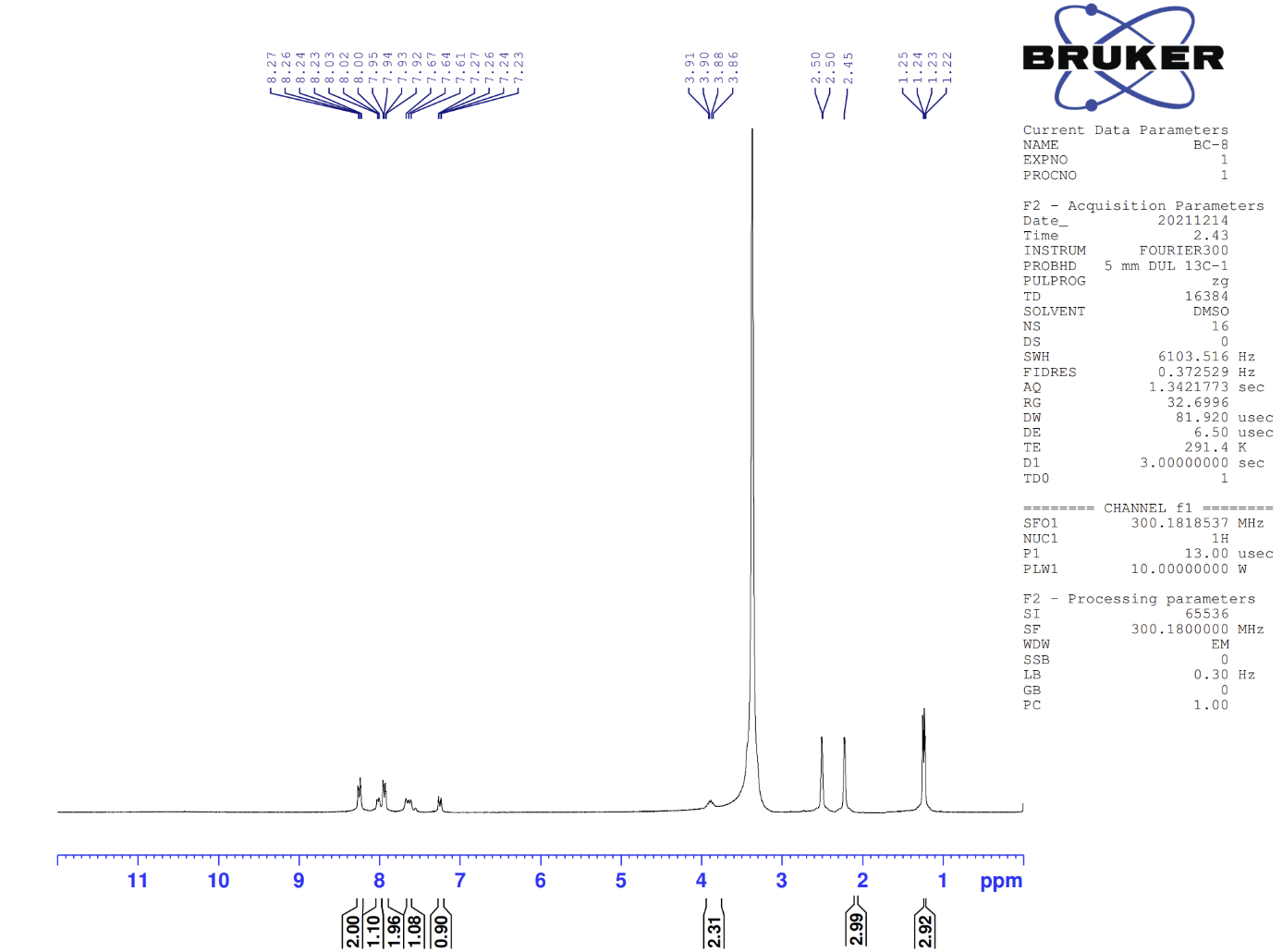
Address: Anadolu University, Faculty of Pharmacy, Department of Pharmaceutical Chemistry, 26470, Eskişehir, Turkey.

**Figure 1.** 1H-NMR spectrum of compound **4a**

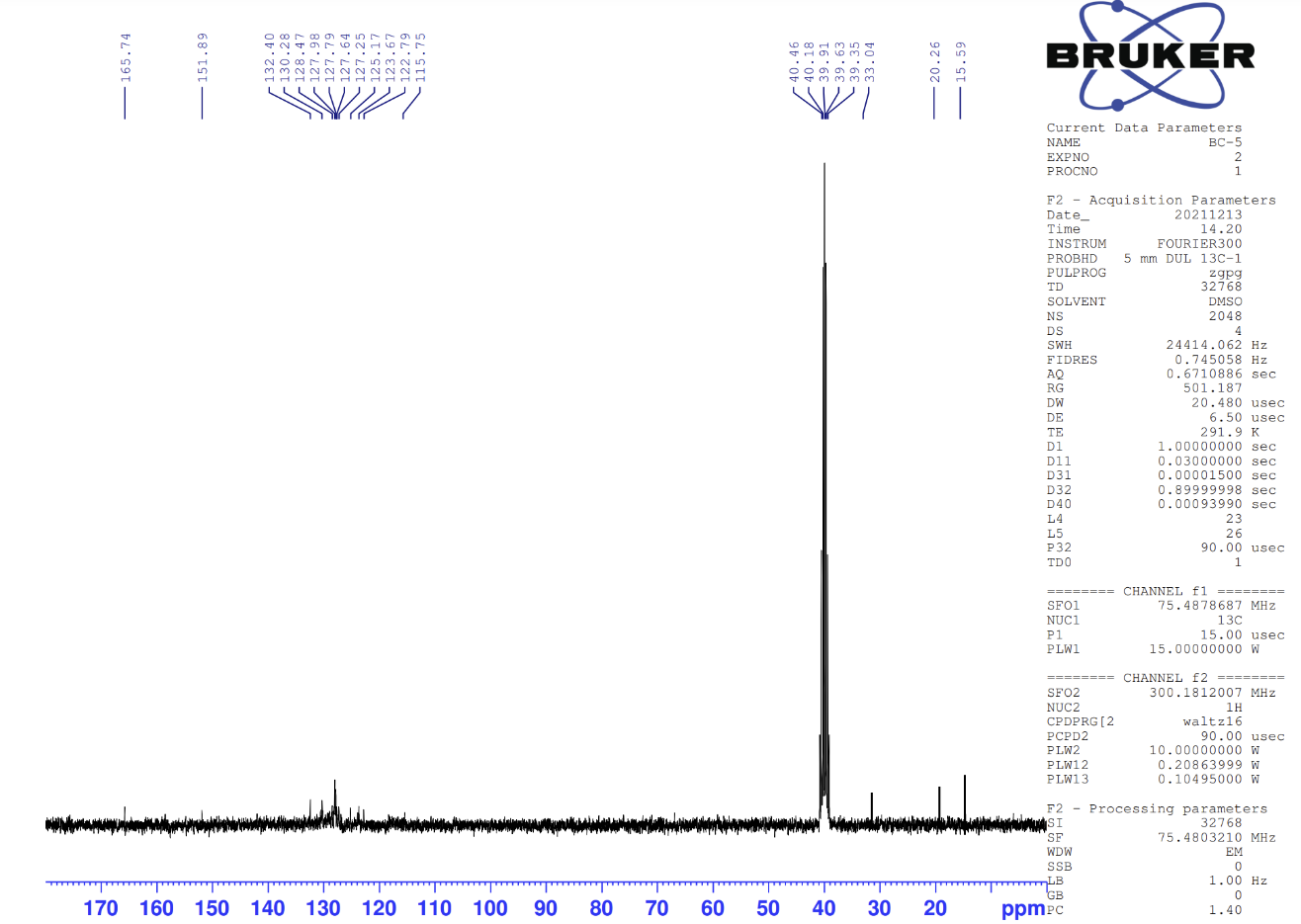


**Figure 2.** 13C-NMR spectrum of compound **4a**

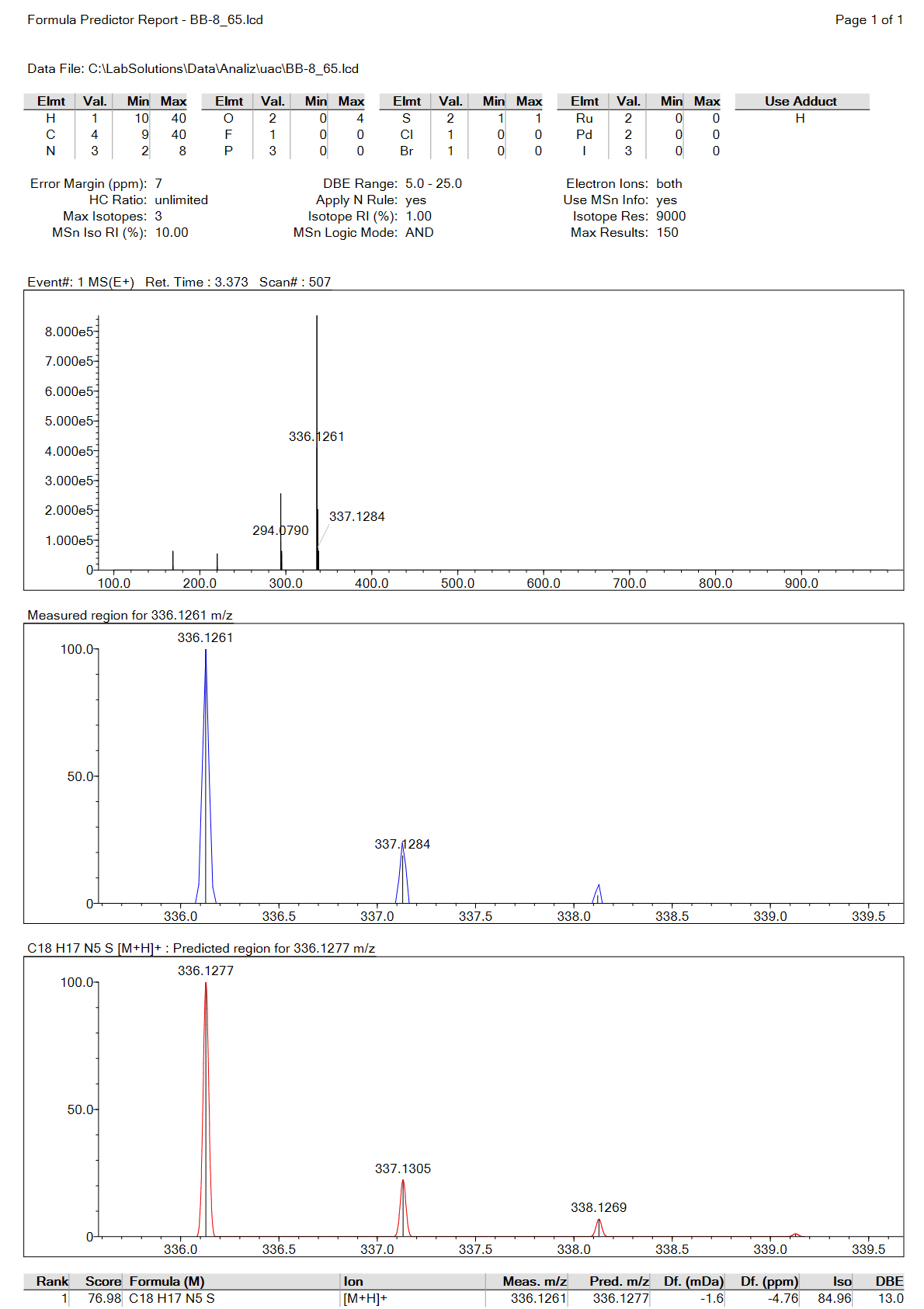
**Figure 3.** Mass spectrum of compound **4a**

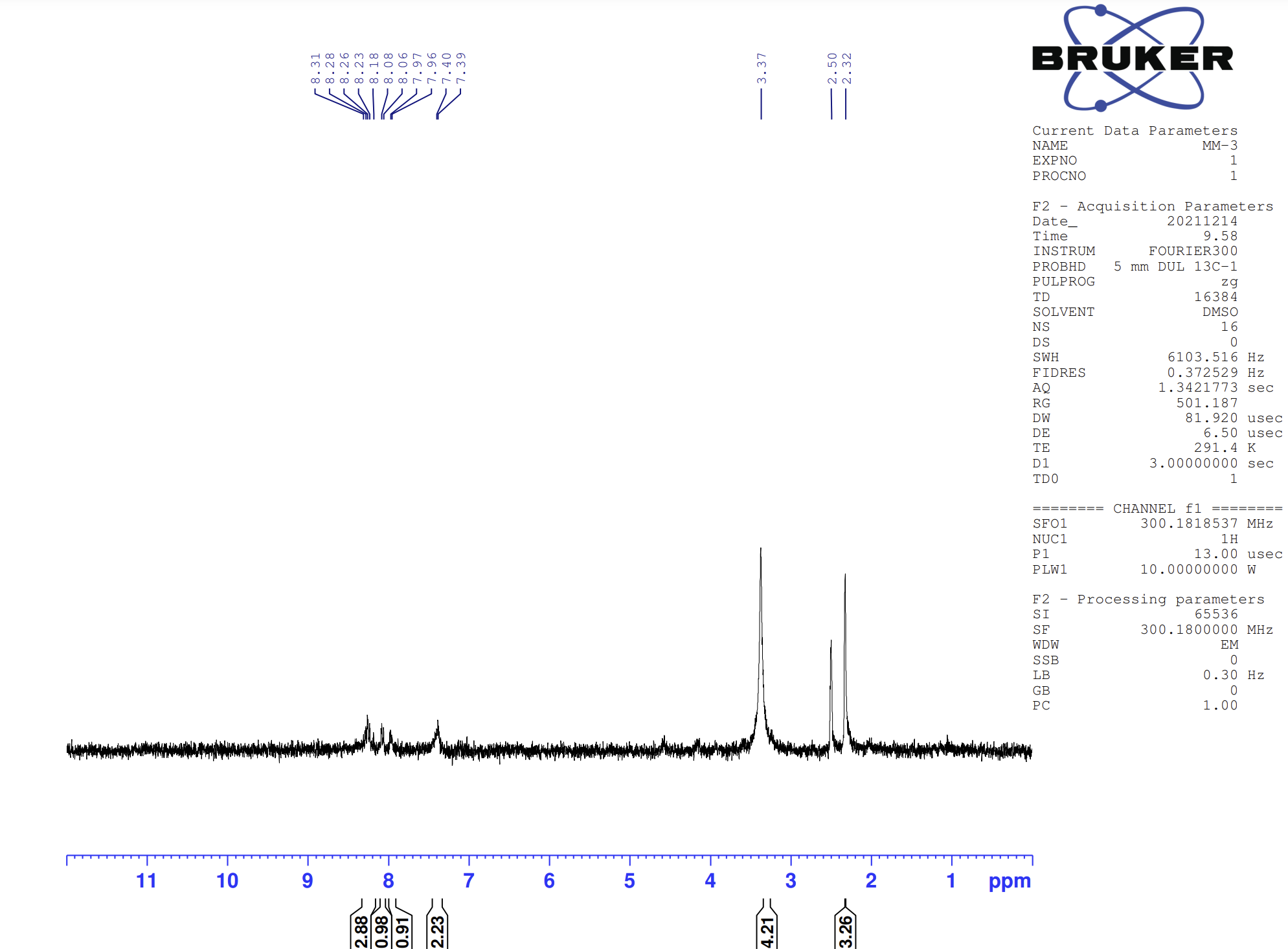


**Figure 4.** 1H-NMR spectrum of compound **4b**

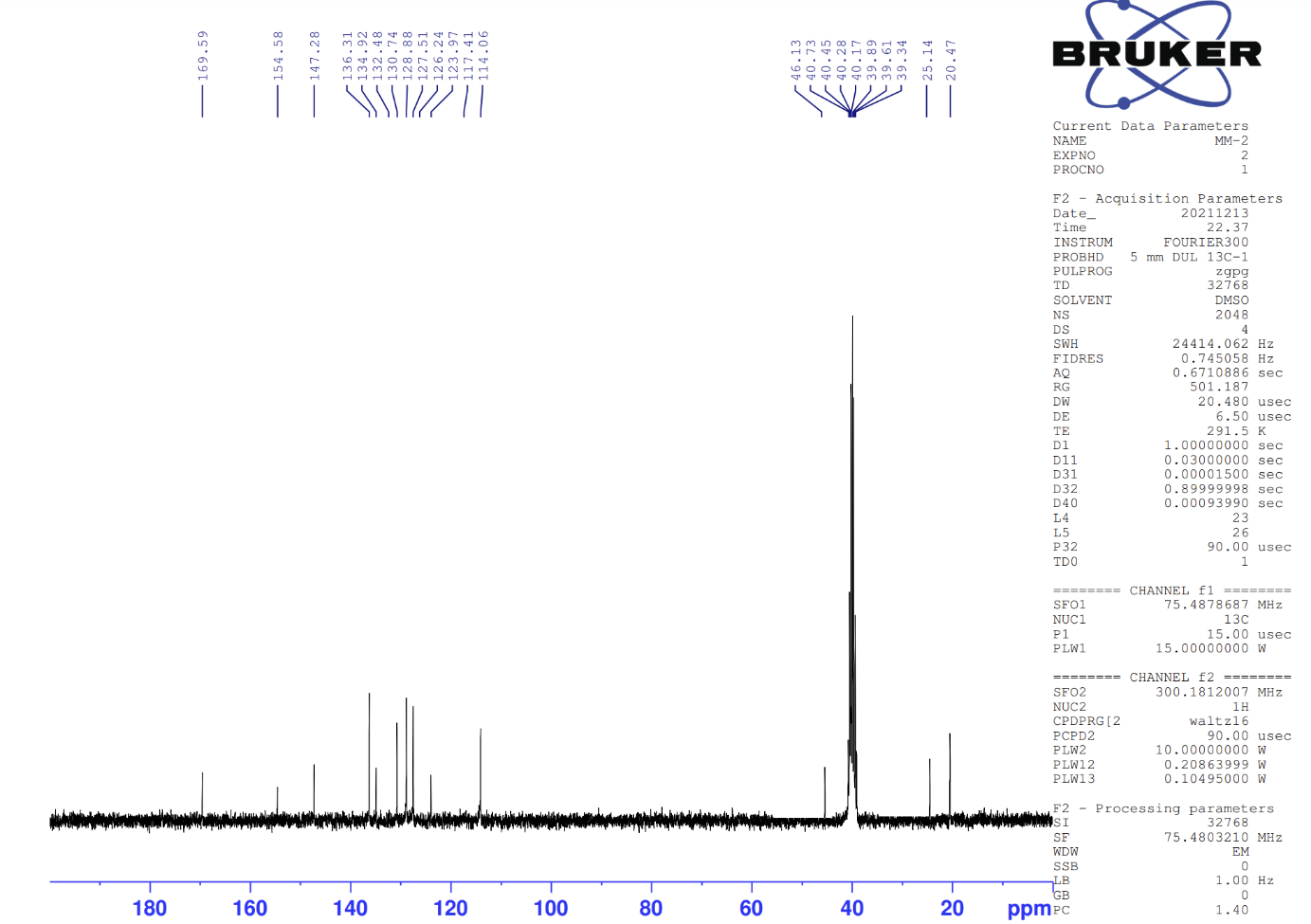
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**Figure 5.** 13C-NMR spectrum of compound **4b**

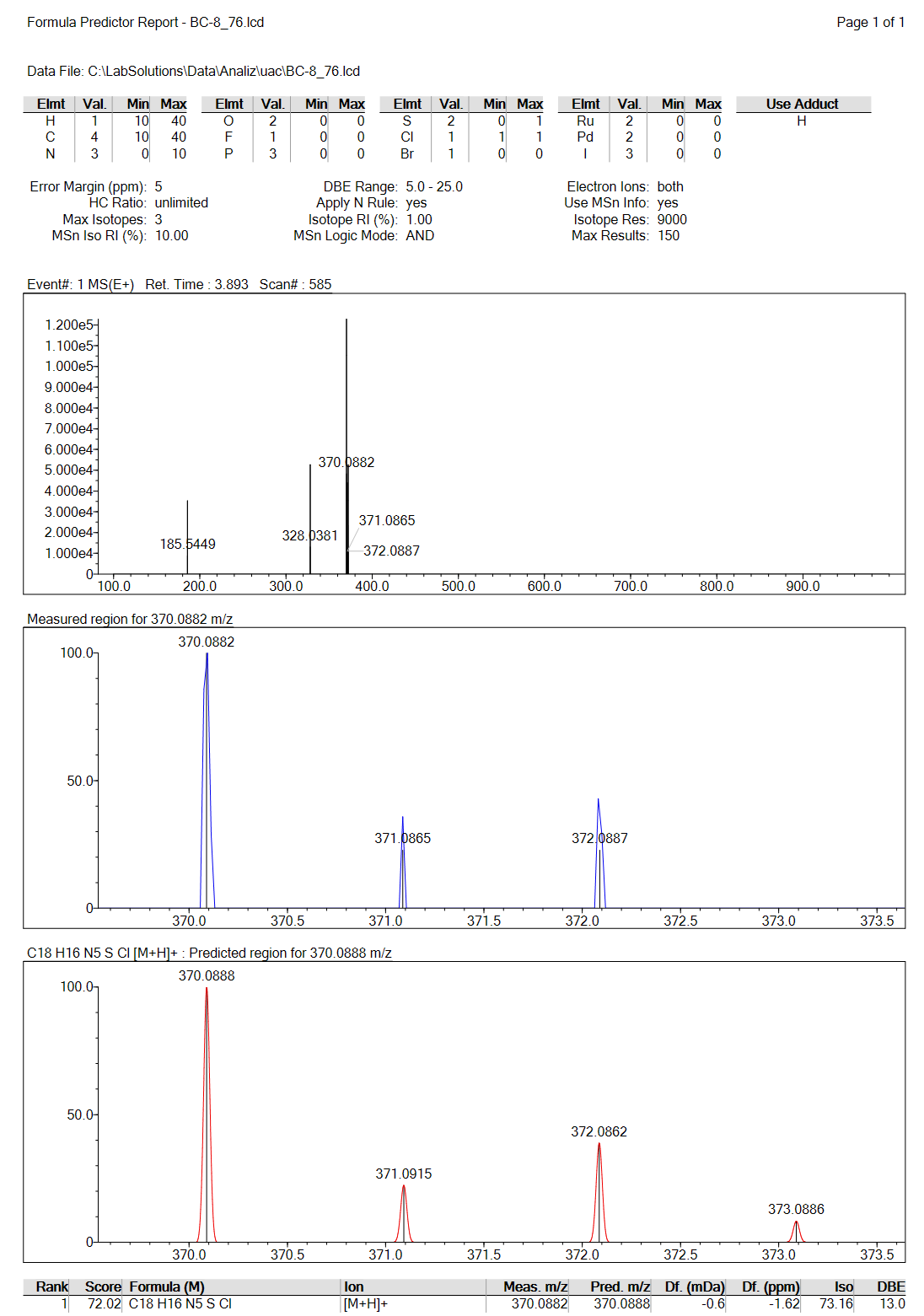
**Figure 6.** Mass spectrum of compound **4b**



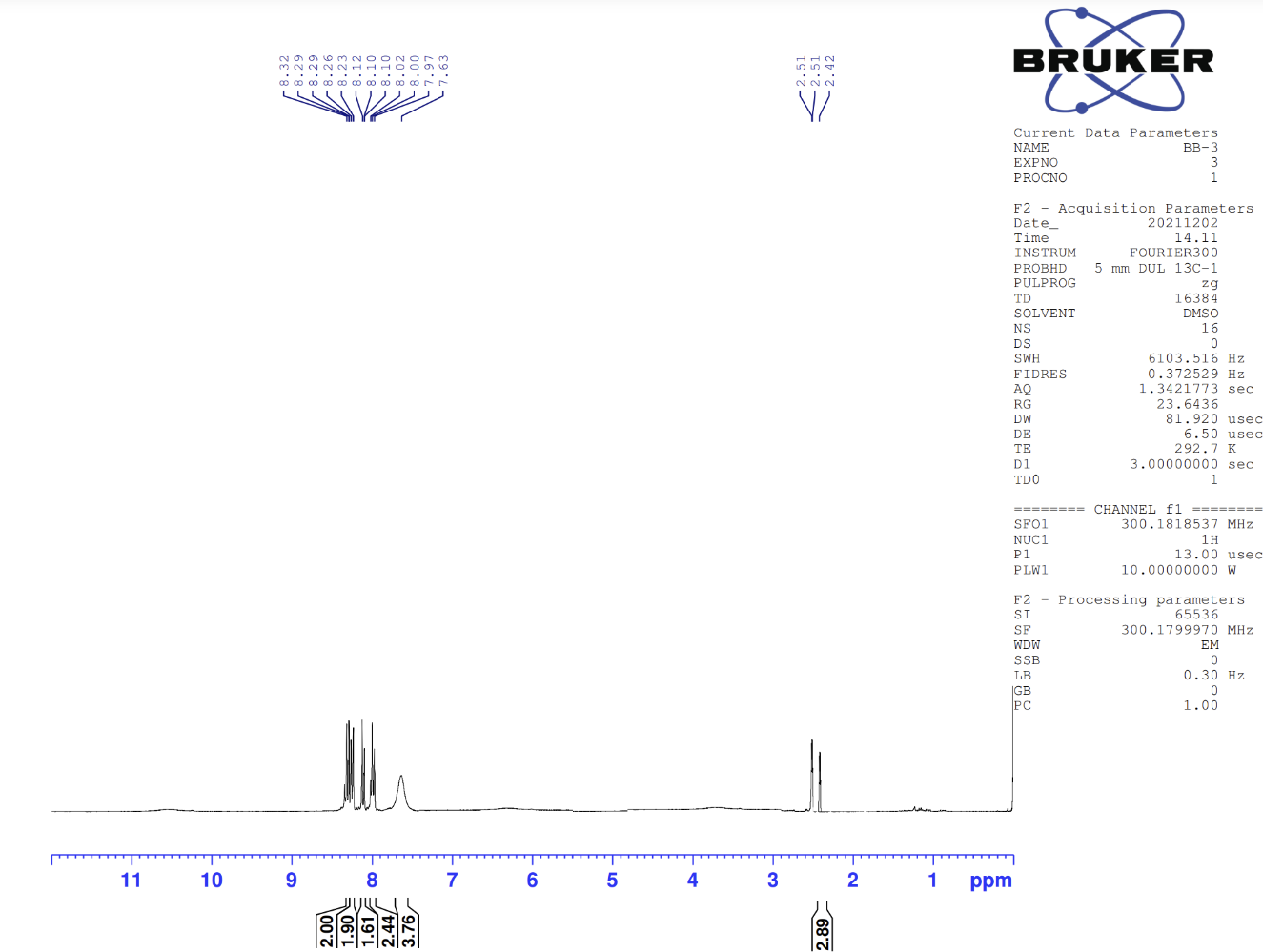
**Figure 7.** 1H-NMR spectrum of compound **4c**

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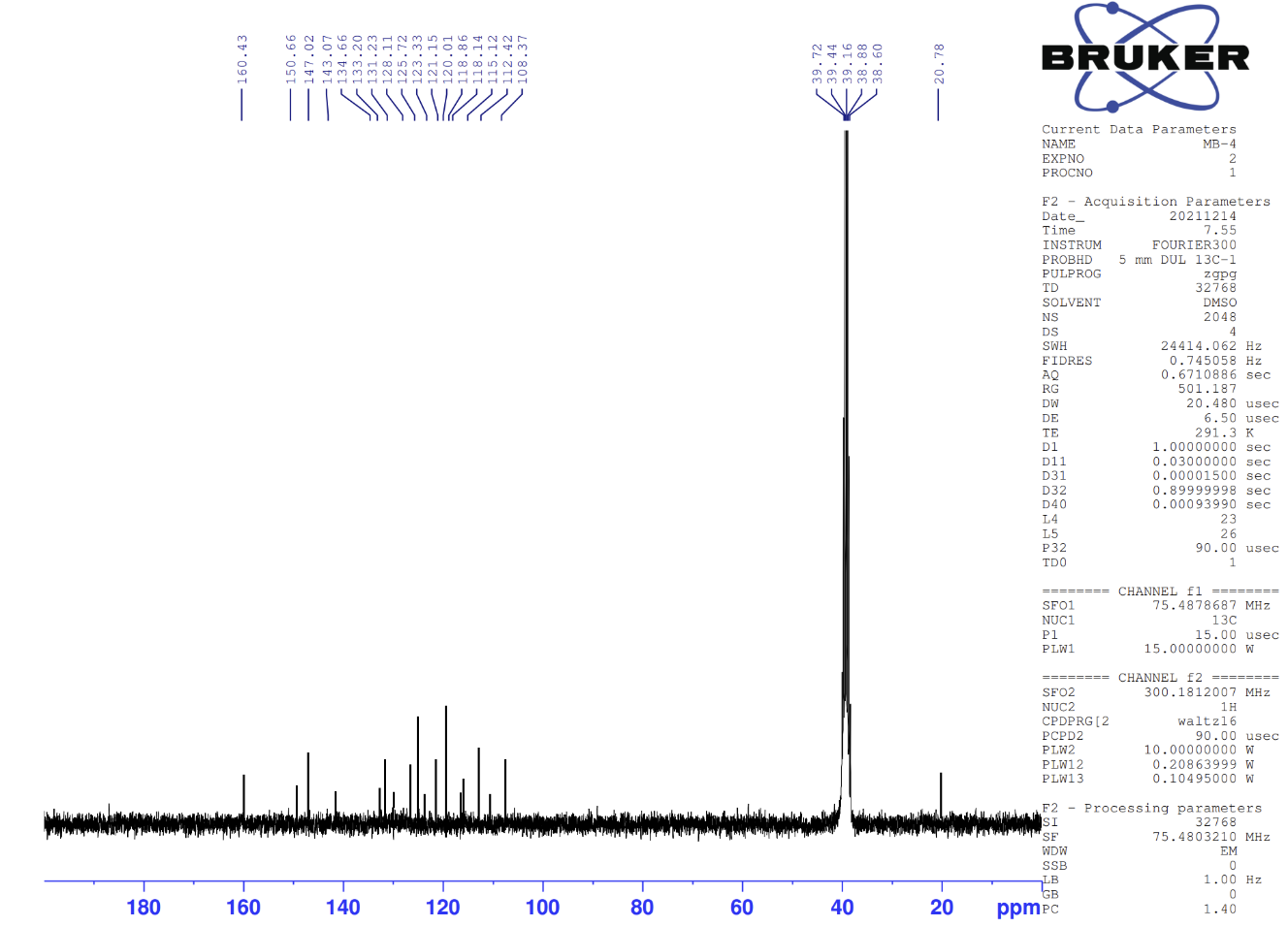
**Figure 8.** 13C-NMR spectrum of compound **4c**



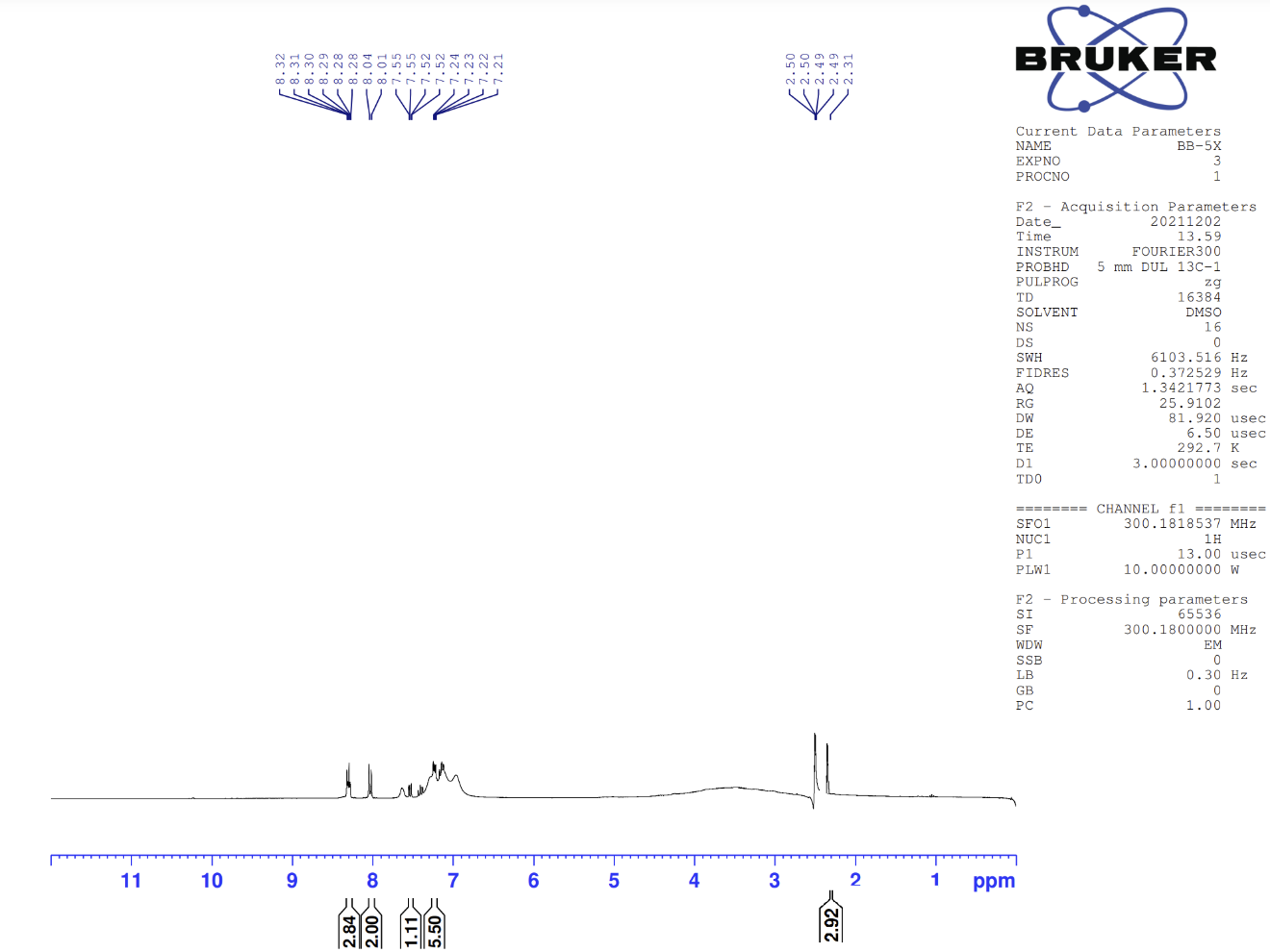
**Figure 9.** Mass spectrum of compound **4c**



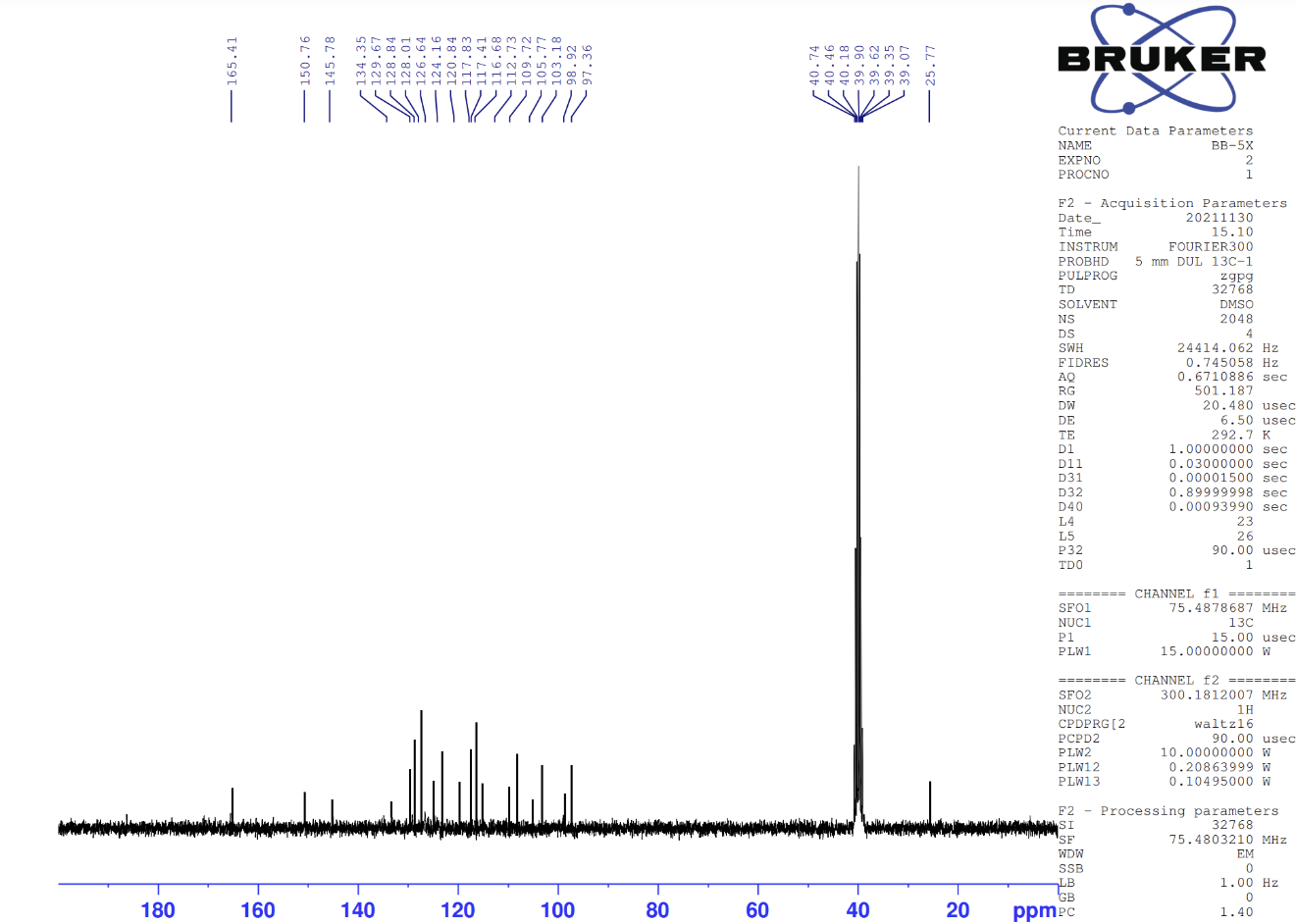
**Figure 10.** 1H-NMR spectrum of compound **4d**

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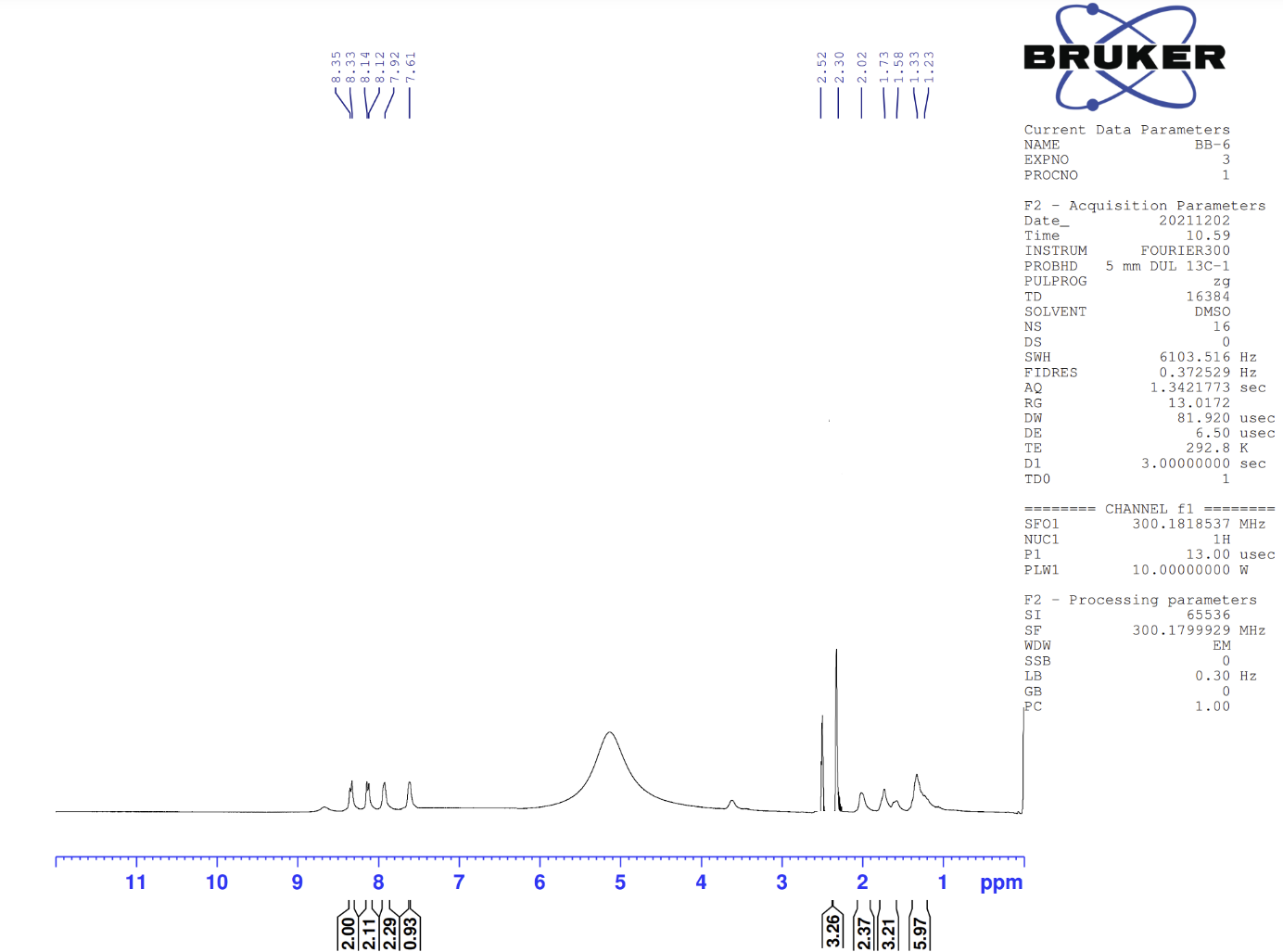
**Figure 11.** 13C-NMR spectrum of compound **4d**



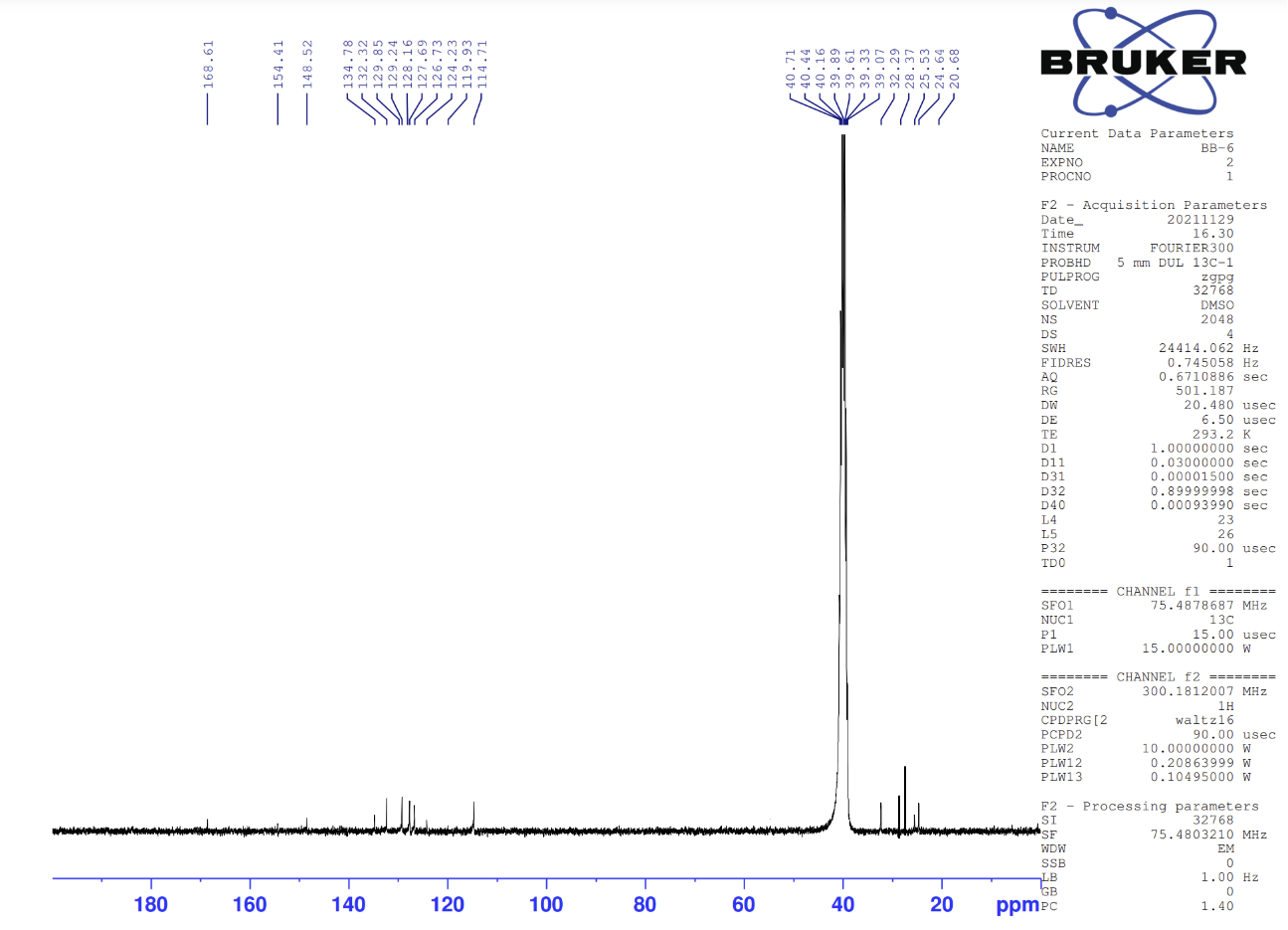
**Figure 13.** 1H-NMR spectrum of compound **4e**

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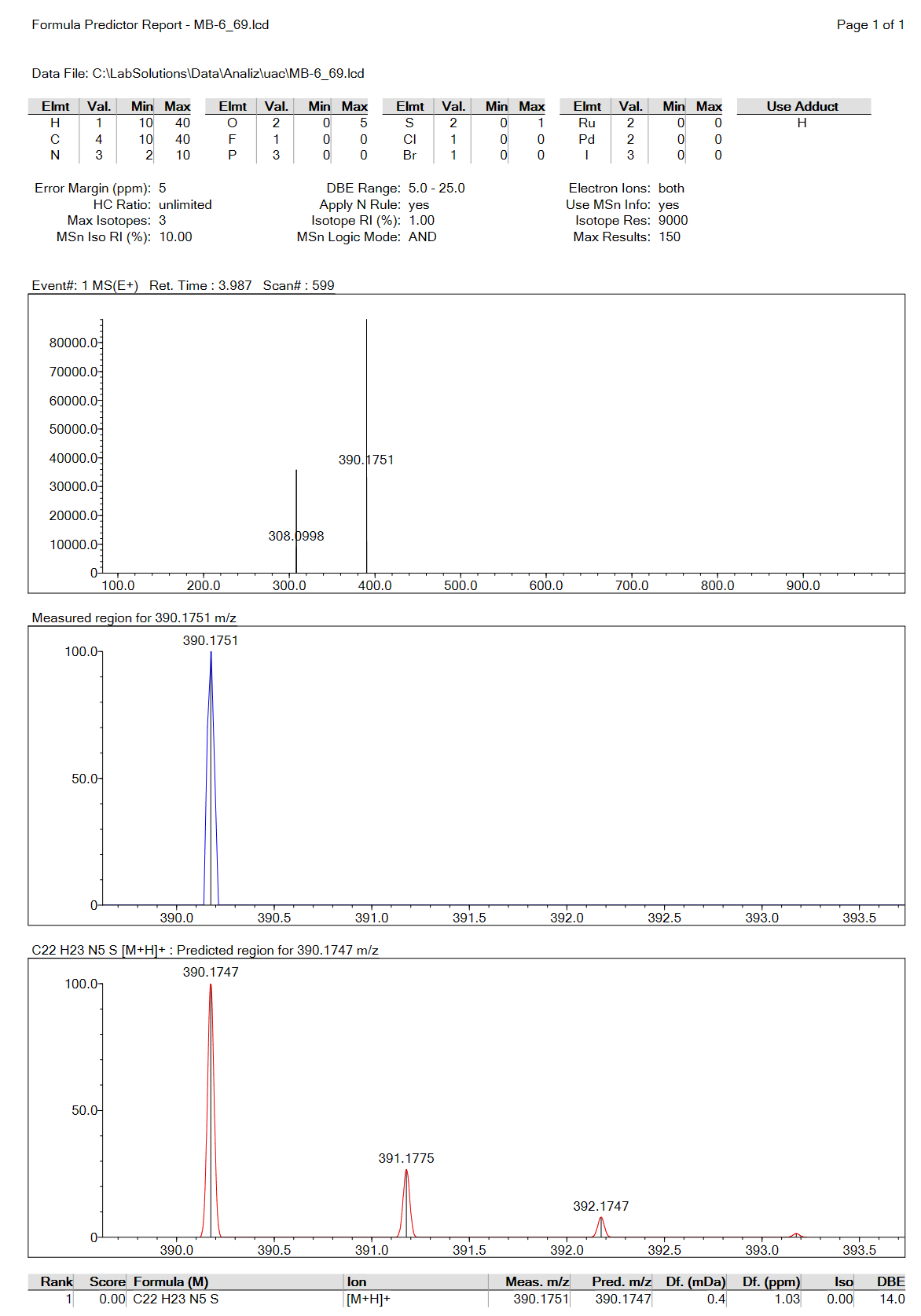
**Figure 14.** 13C-NMR spectrum of compound **4e**



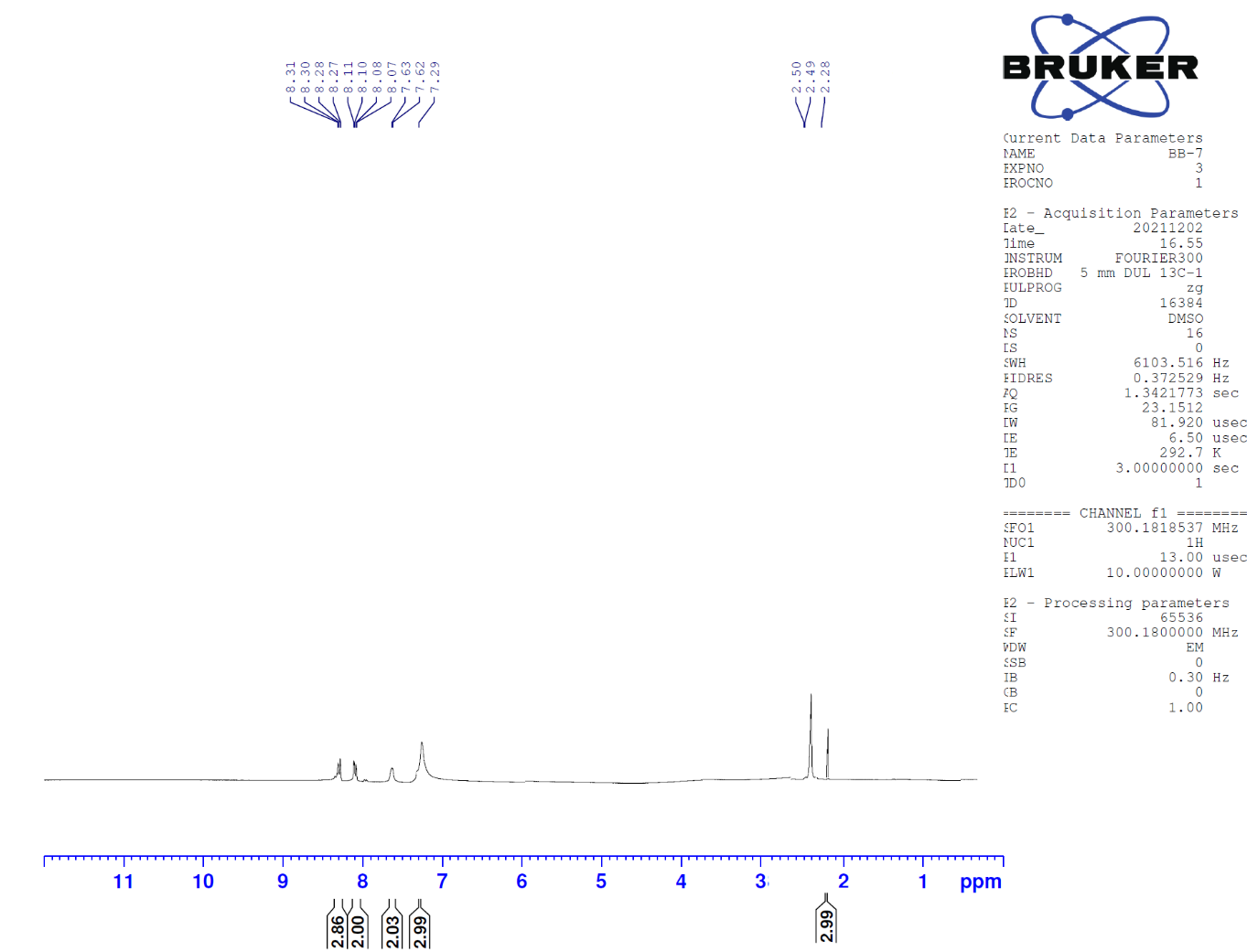
**Figure 15.** 1H-NMR spectrum of compound **4f**

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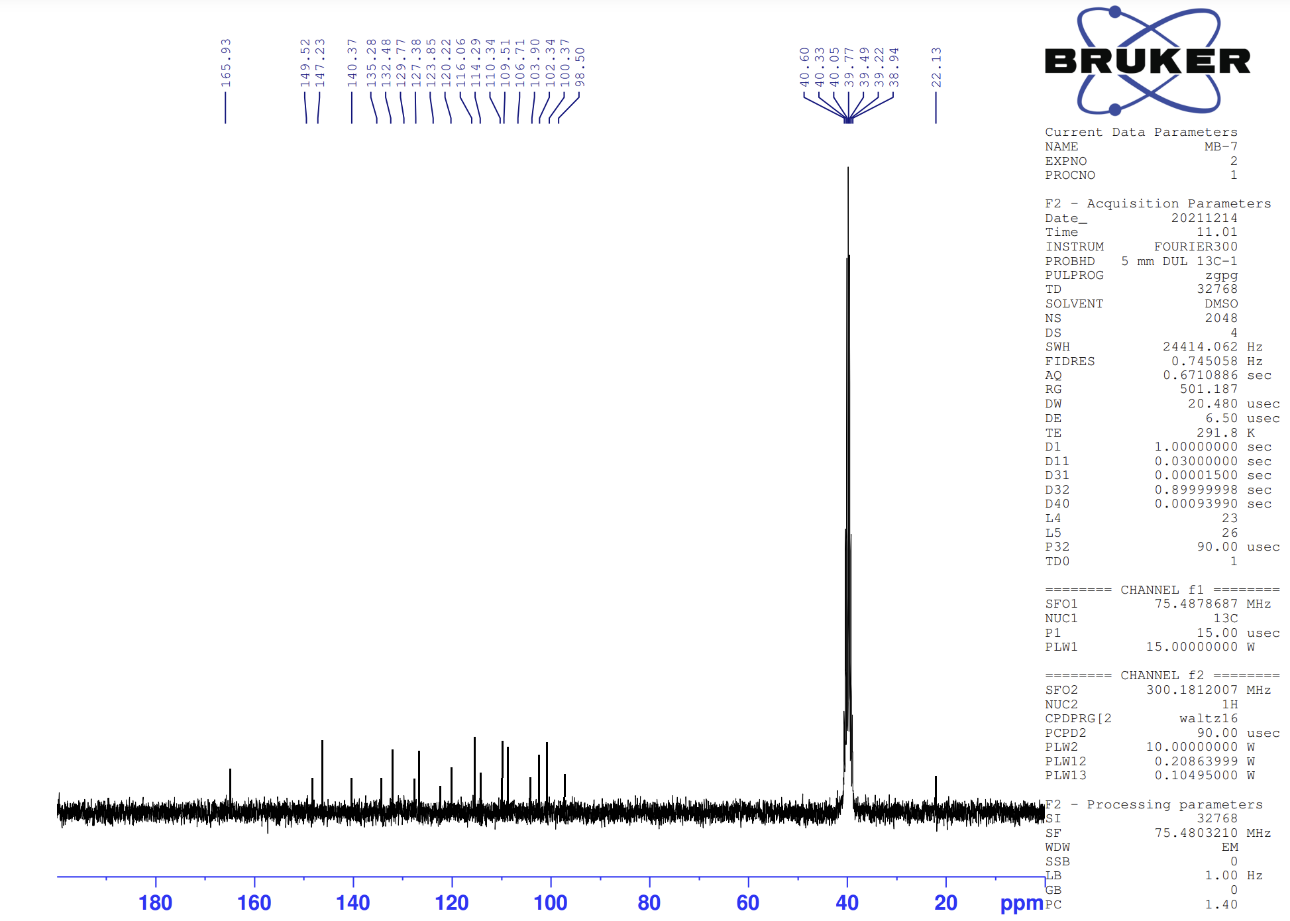
**Figure 17.** 13C-NMR spectrum of compound **4f**



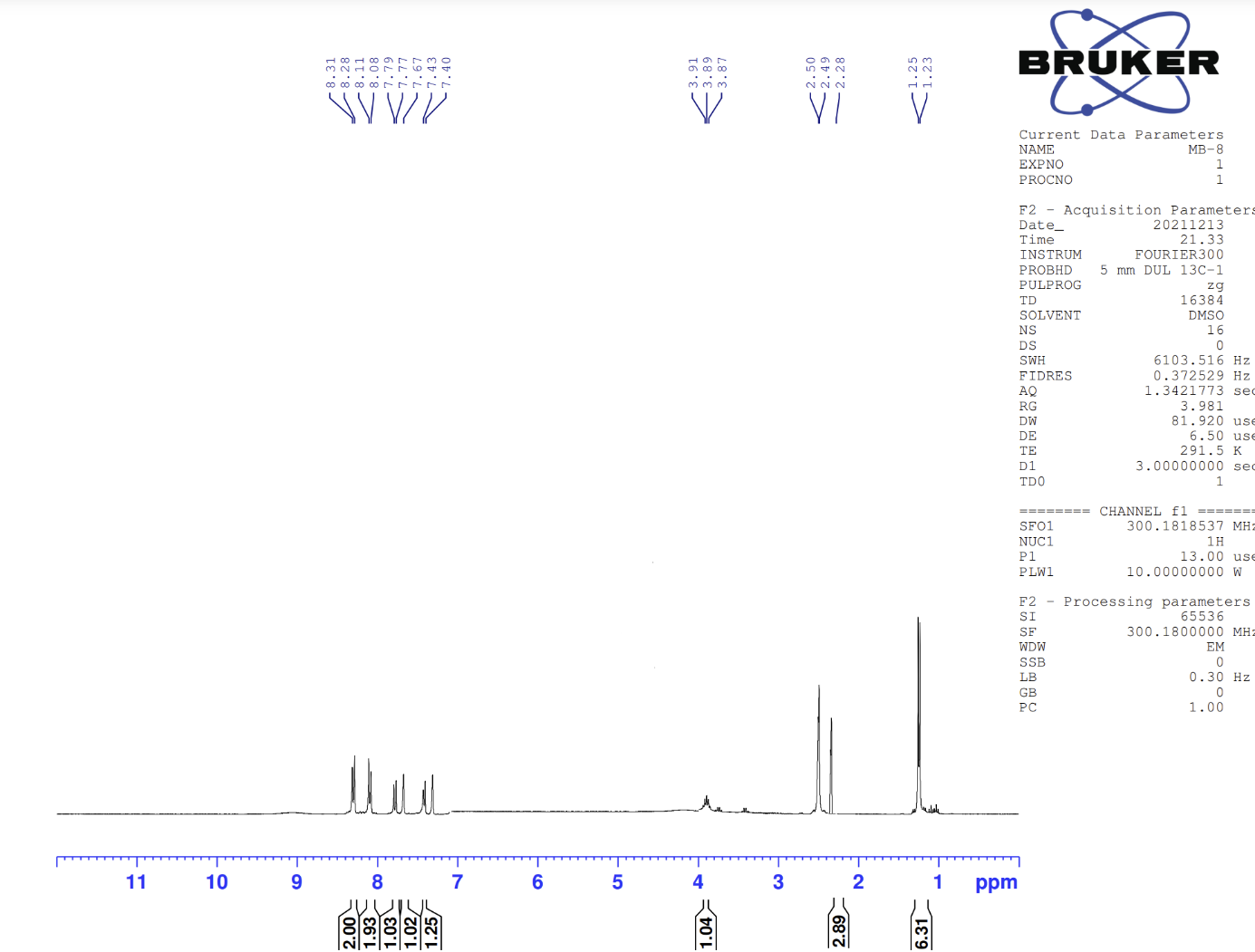
**Figure 18.** Mass spectrum of compound **4f**



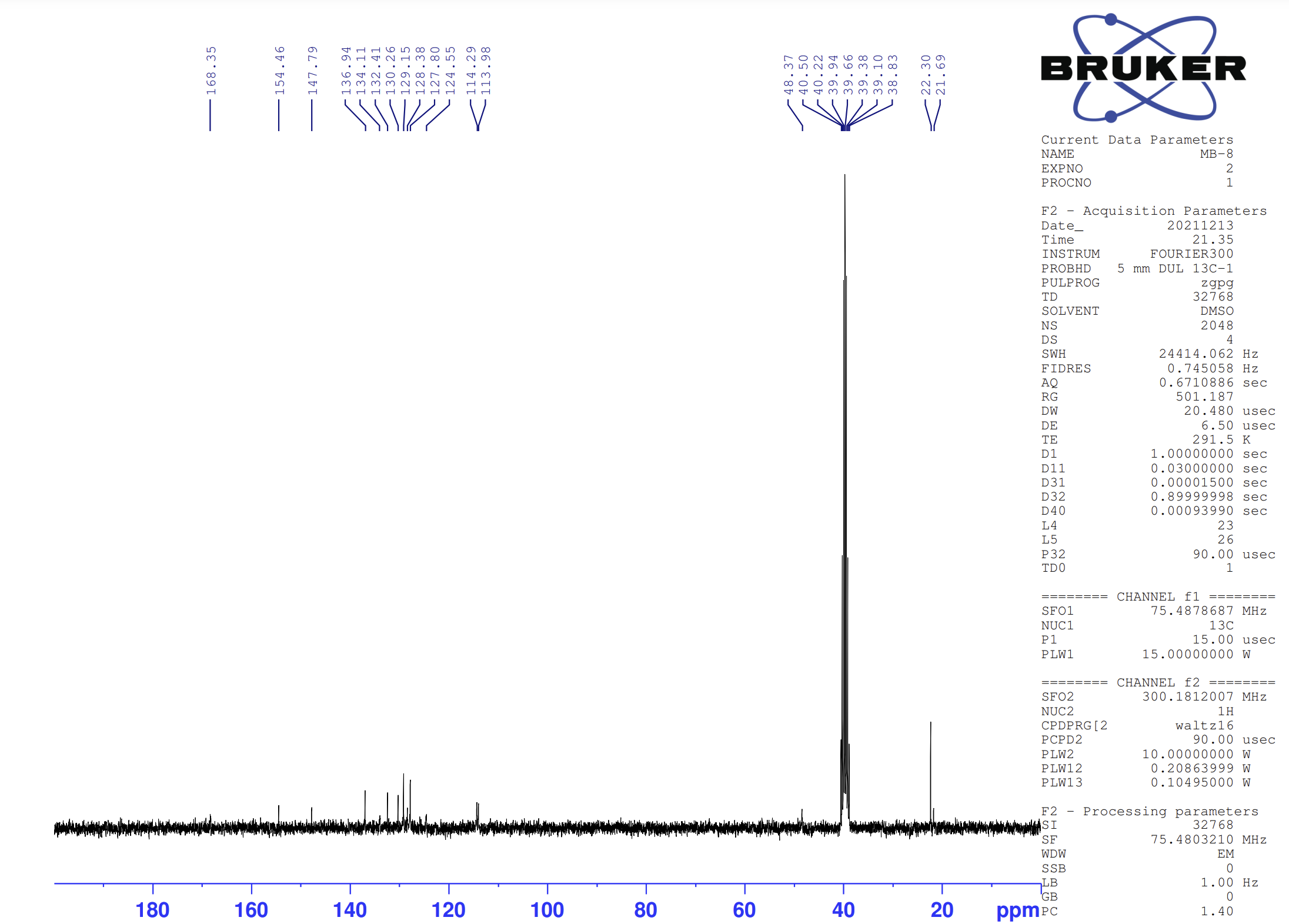
**Figure 19.** 1H-NMR spectrum of compound **4g**

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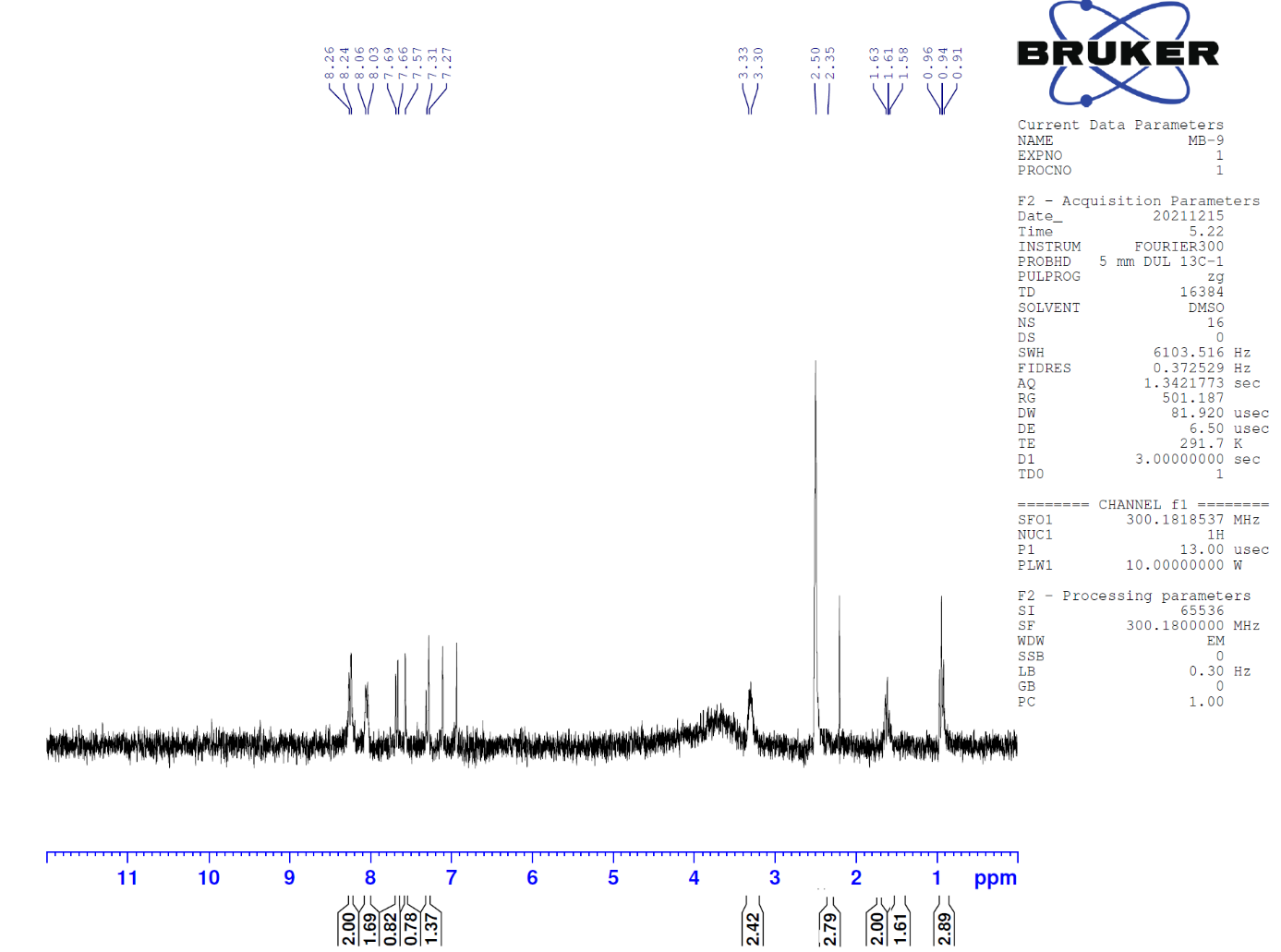
**Figure 20.** 13C-NMR spectrum of compound **4g**



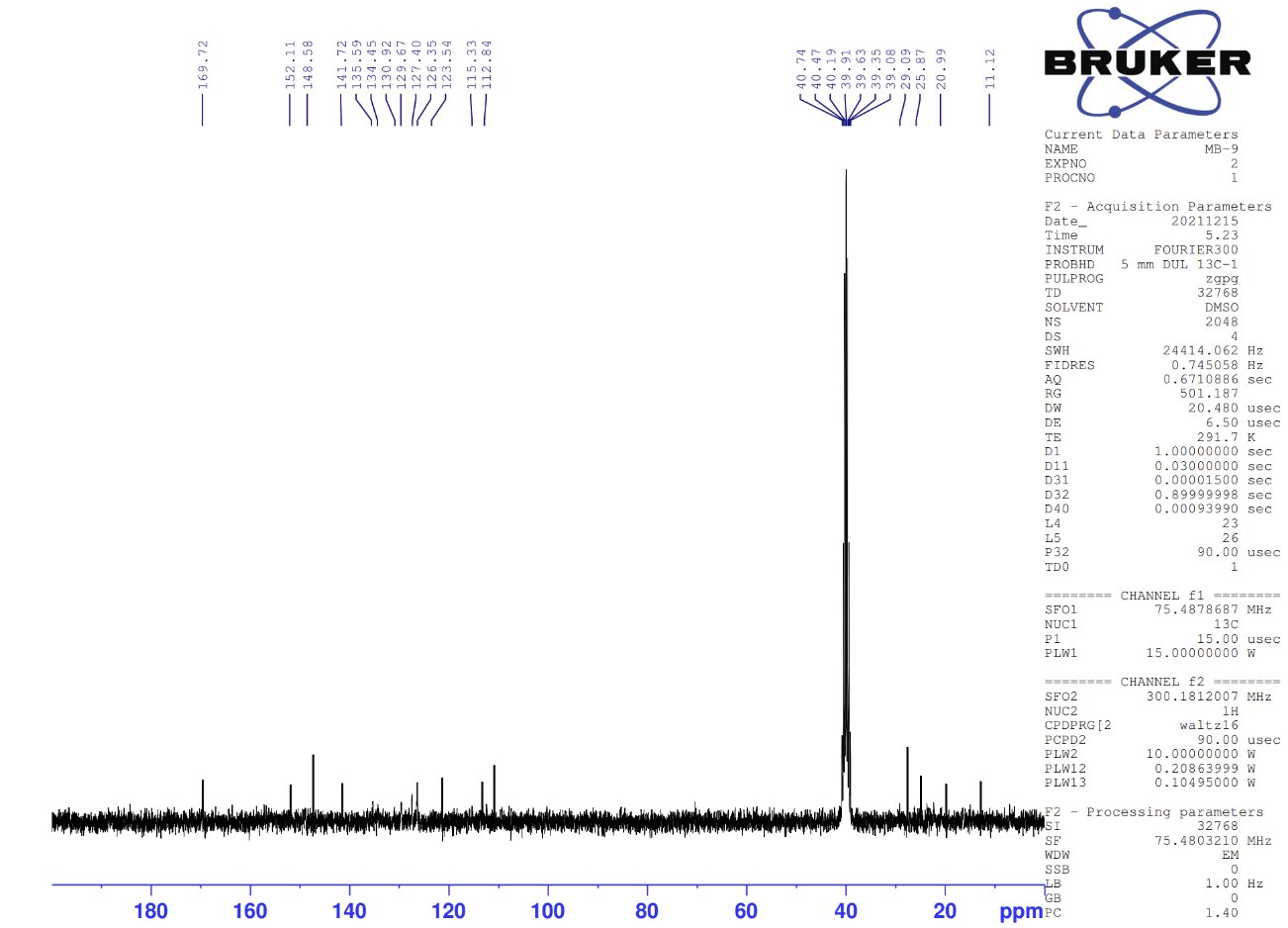
**Figure 22.** 1H-NMR spectrum of compound **4h**



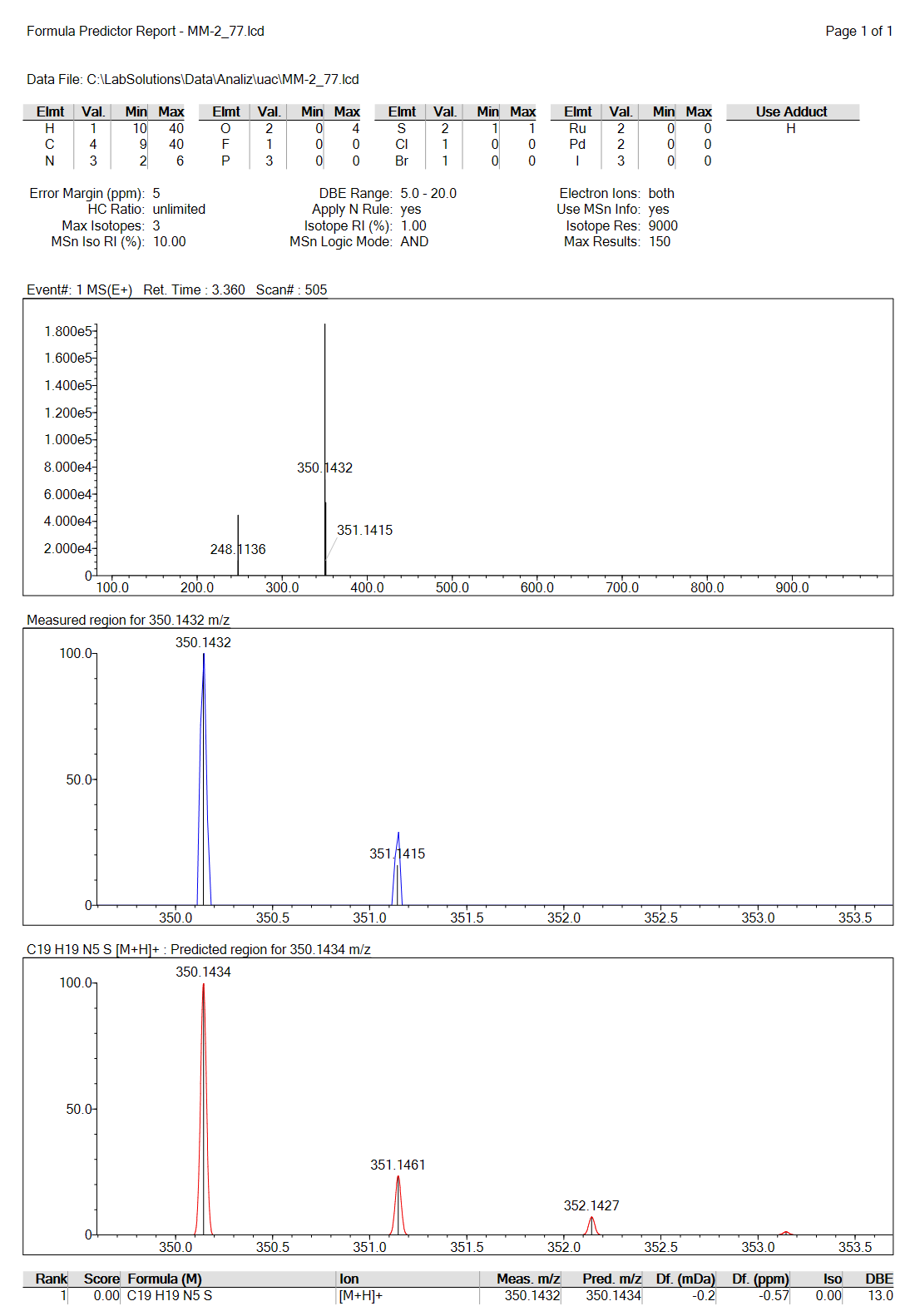
**Figure 23.** 13C-NMR spectrum of compound **4h**



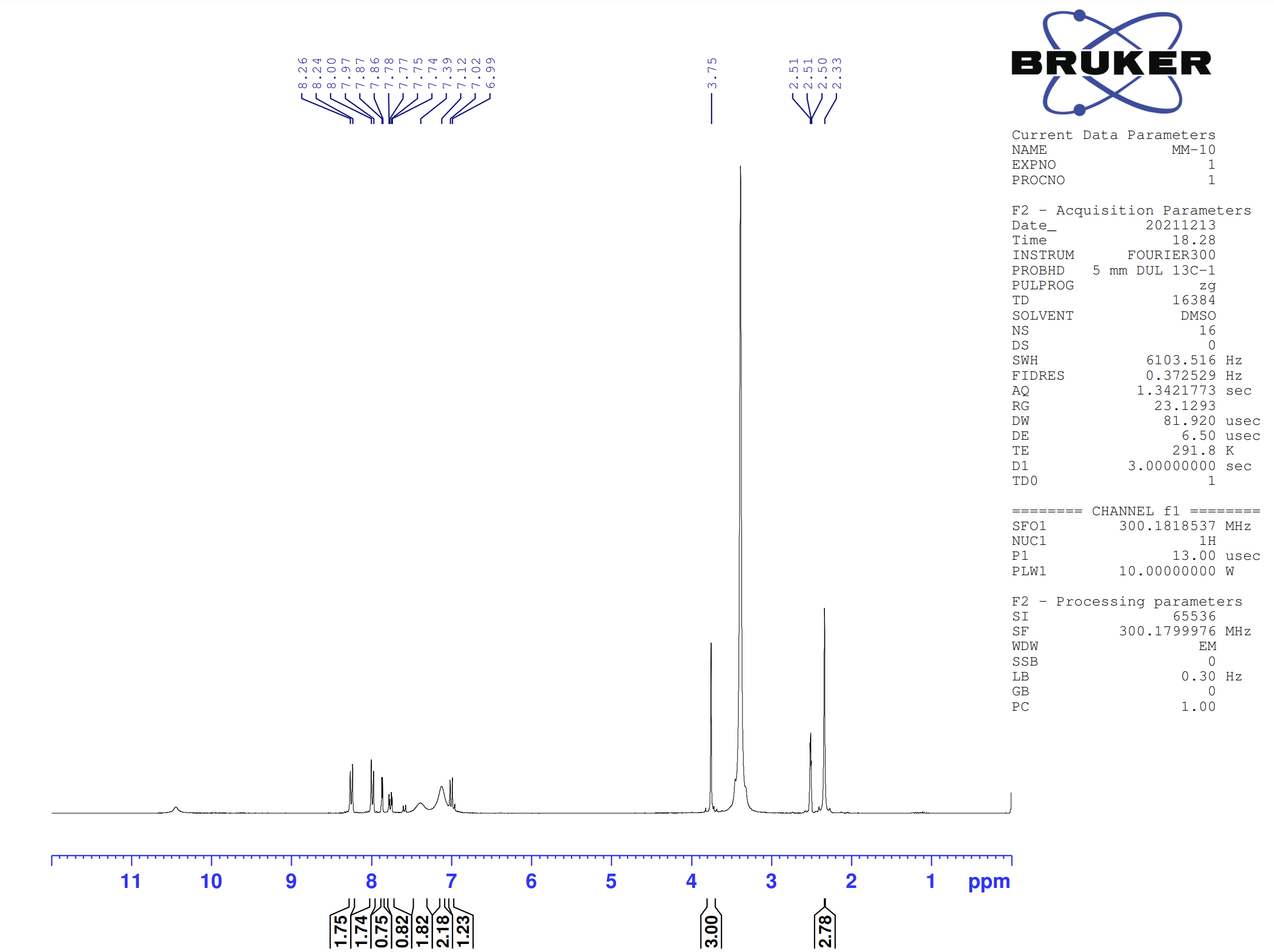
**Figure 25.** 1H-NMR spectrum of compound **4i**

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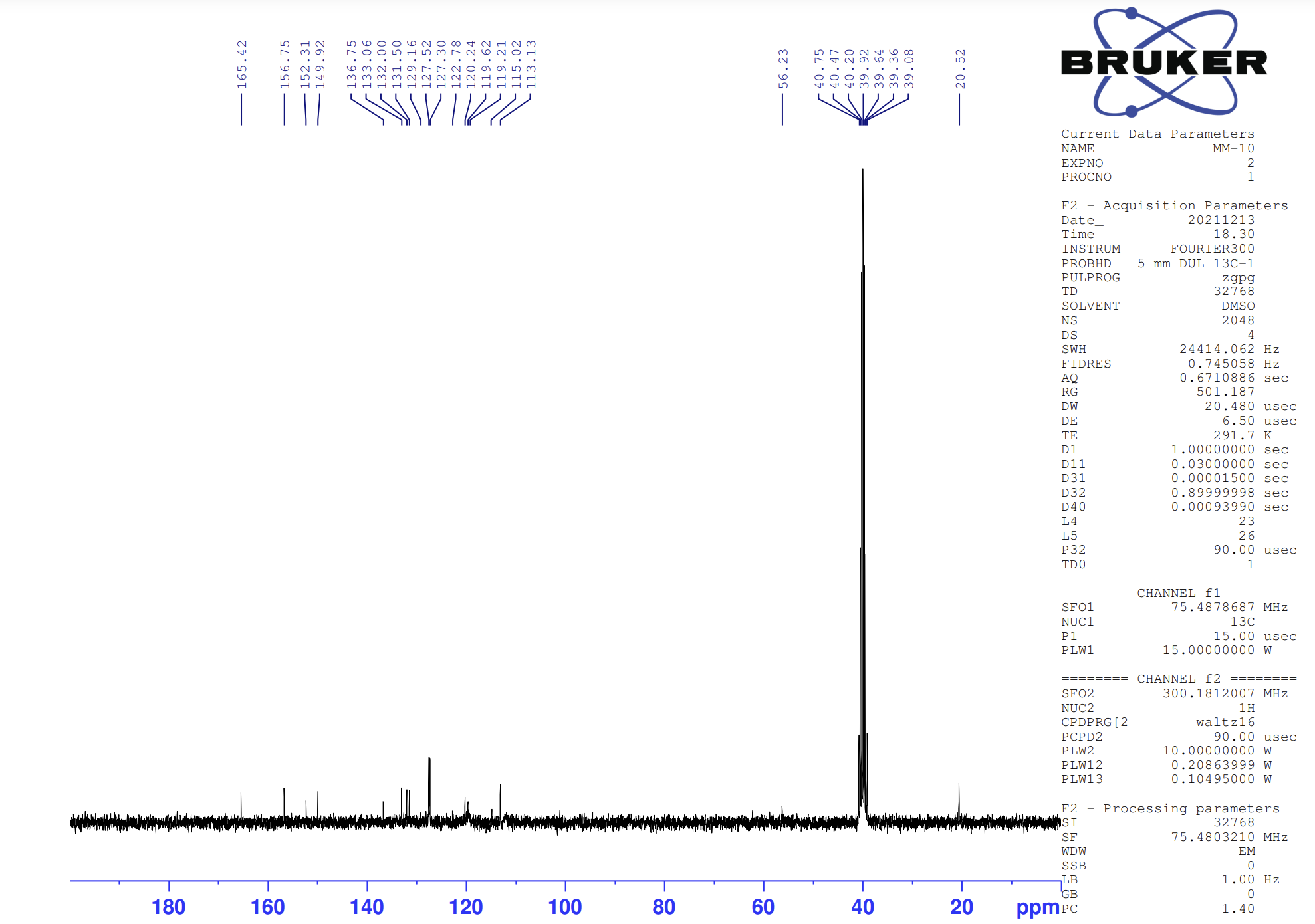
**Figure 26.** 13C-NMR spectrum of compound **4i**



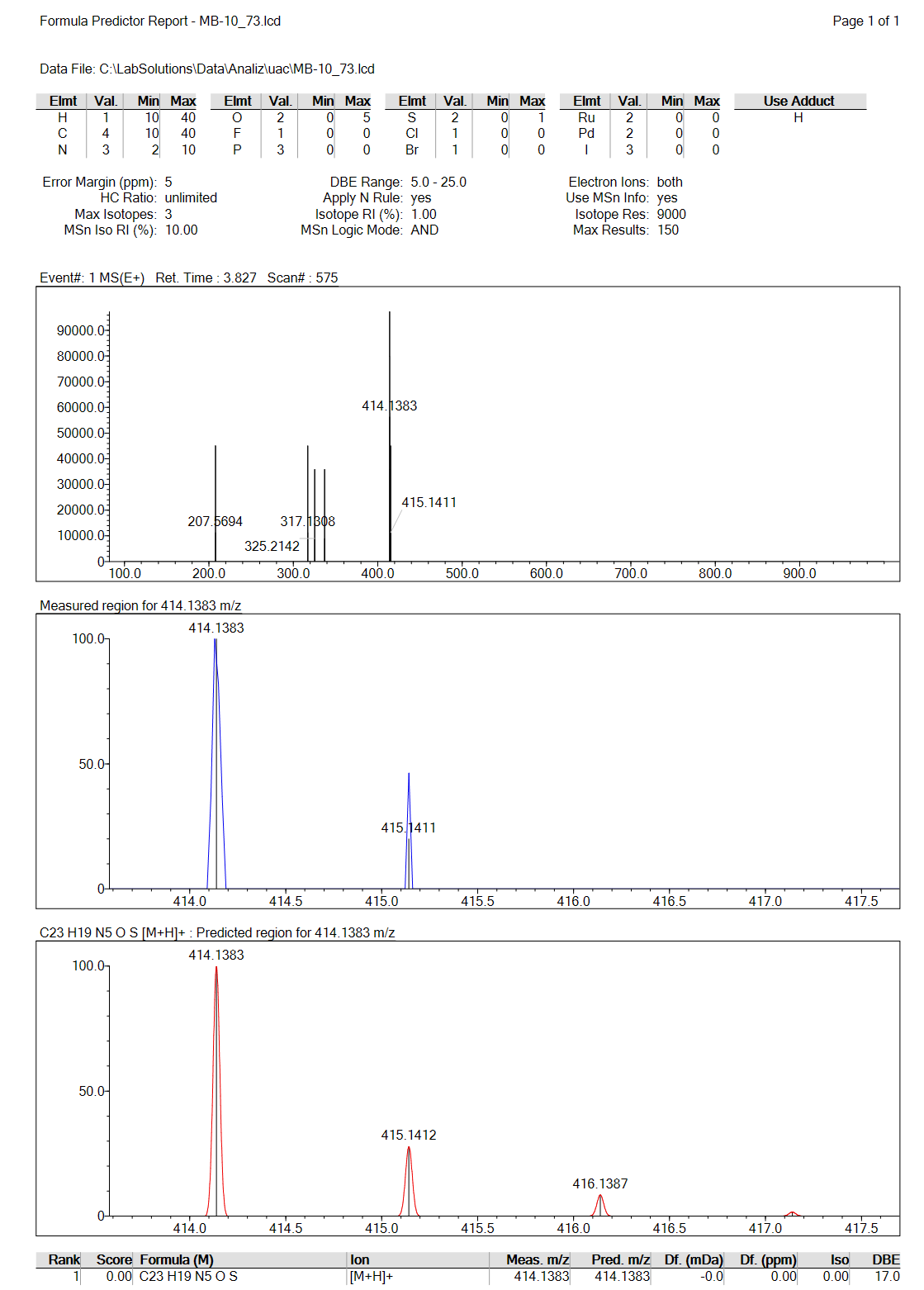
**Figure 27.** Mass spectrum of compound **4i**



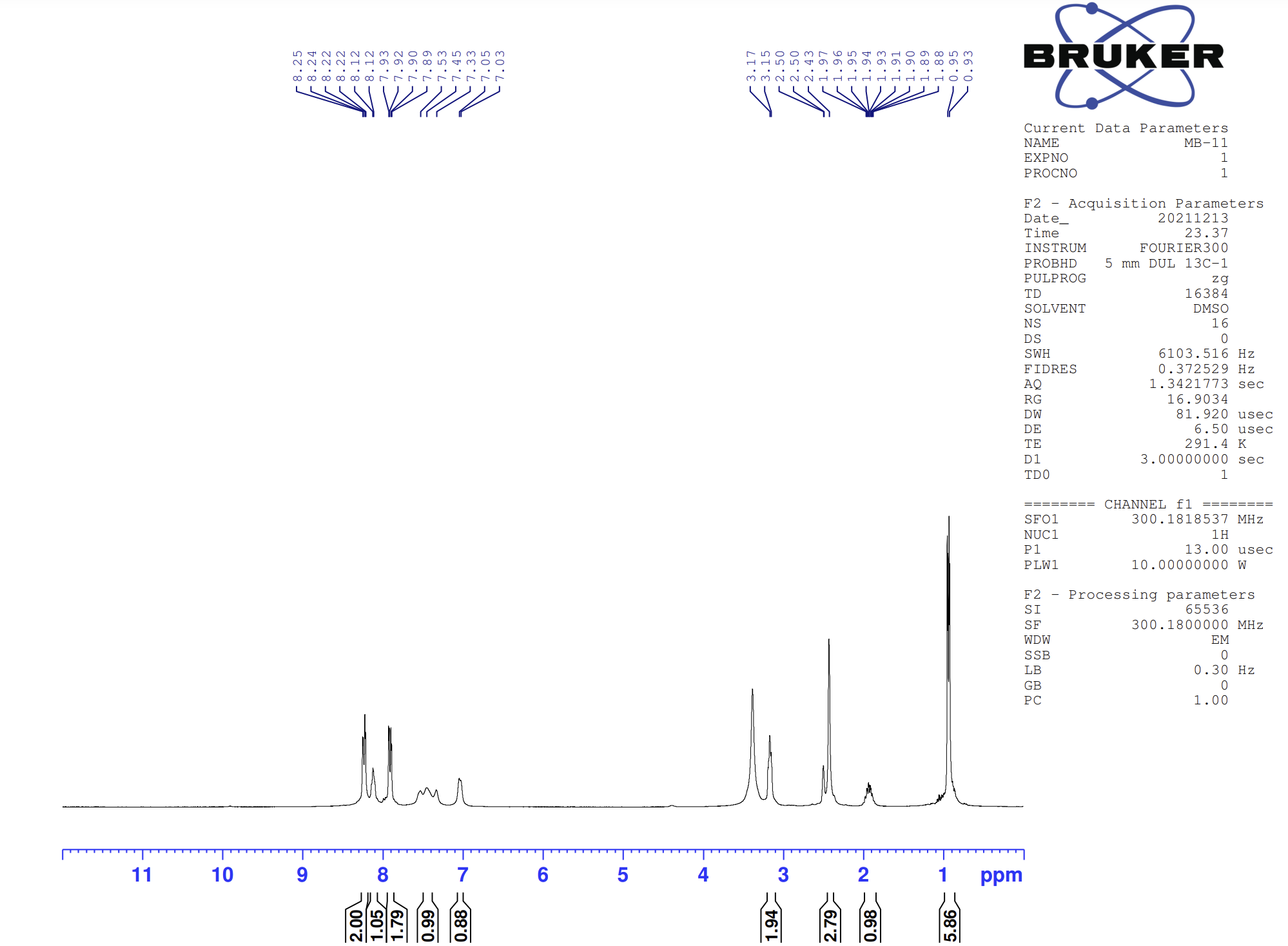
**Figure 28.** 1H-NMR spectrum of compound **4j**

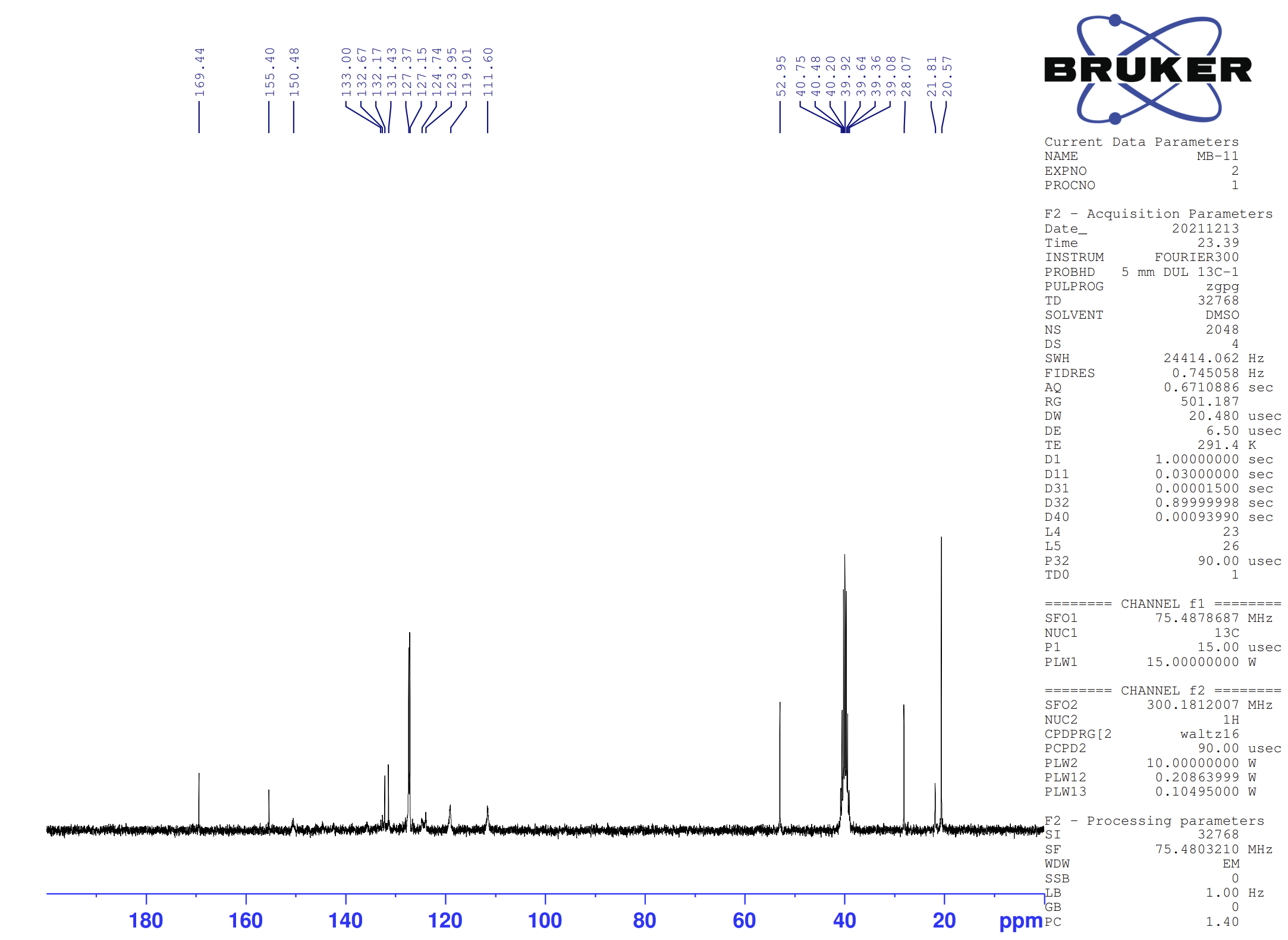


**Figure 29.** 13C-NMR spectrum of compound **4j**

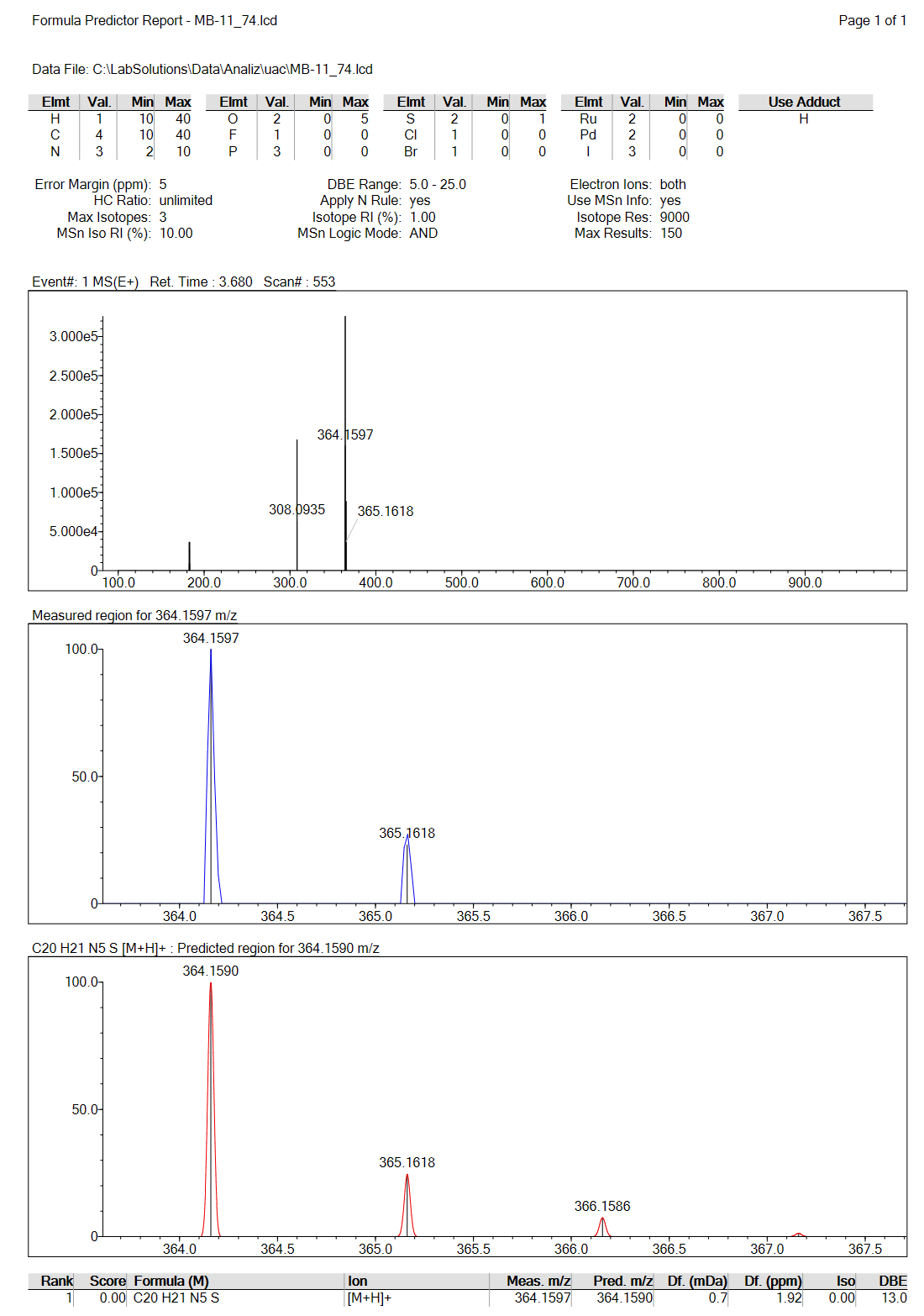


**Figure 30.** Mass spectrum of compound **4j**

**Figure 31.** 1H-NMR spectrum of compound **4k**



**Figure 32.** 13C-NMR spectrum of compound **4k**



**Figure 33.** Mass spectrum of compound **4k**