**Anti-Adipogenic Activity of Secondary Metabolites Isolated from *Smilax sieboldii* Miq. on 3T3-L1 Adipocytes**

**Supplementary Material**

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**Figure S59.** 1H-NMR spectrum (CD3OD, 700 MHz) of the compound **19**

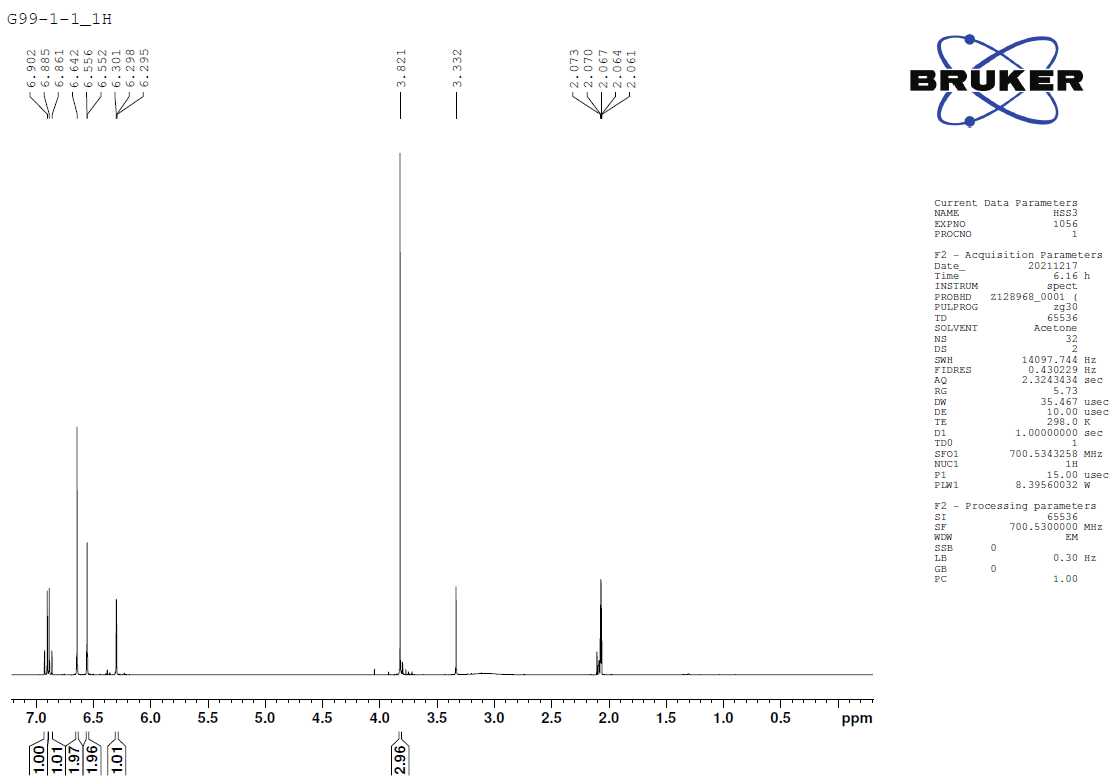
**Figure S60.** 13C-NMR spectrum (CD3OD, 175 MHz) of the compound **19**

*1. General Experimental Procedure*

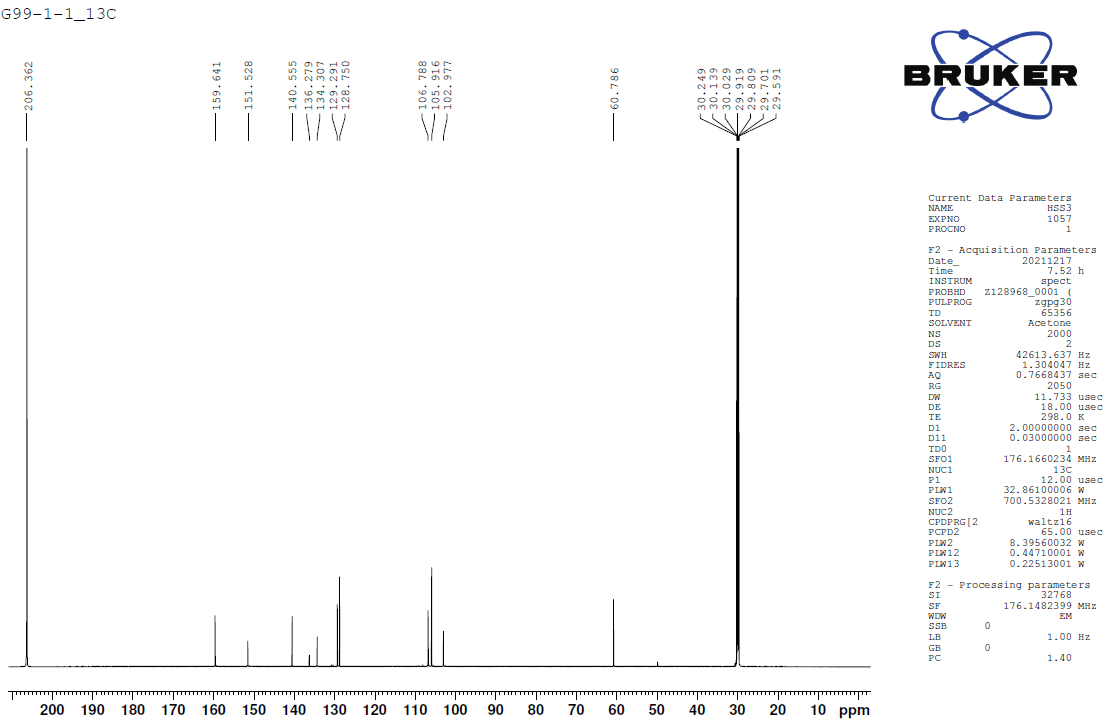
Optical rotations were measured using a JASCO P-2000 polarimeter (Tokyo, Japan). UV and FT-IR spectra were measured on a JASCO UV-550 and JASCO Model FT/IR-4100 spectrometer (Tokyo, Japan), respectively. Nuclear magnetic resonance (NMR) spectra were recorded on a Bruker Ascend III 700 spectrometer (Bruker BioSpin GmbH., Rheinstetten, Germany) in acetone-*d6*, CDCl3, and CD3OD at room temperature. Chemical shifts are in ppm (δ), relative to tetramethylsilane as an internal standard, and coupling constants are in hertz; 1H, 13C, DEPT, COSY, HSQC, and HMBC by using the standard pulse sequences. Electrospray ionization mass (ESI-MS) spectra were acquired on an Agilent 6130 series quadrupole LC/MS System (Agilent Technologies, CA, USA). HRESIMS spectra were recorded by a Triple TOF 5600+ mass spectrometer (AB SCIEX, MA, USA). Open column chromatography was performed using Diaion HP-20 adsorbent resin (Mitsubishi Chemical Corp, Tokyo, Japan). Medium-pressure liquid chromatography (MPLC) was conducted using a CombiFlash Rf flash chromatography system (Teledyne ISCO Inc., NE, USA), and the separations were performed on a Redi*Sep*® Rf C18 column with a flow rate of 40 mL/min. Preparative high-performance liquid chromatography (HPLC) was performed on a Thermo Scientifc Dionex Ultimate 3000 UHPLC system (Thermo Fisher Scientific Inc., MA, USA) equipped with an HPG-3200BX biocompatible binary semipreparative pump and a rapid separations PDA detector (Ultimate DAD-3000) controlled by Chromeleon 7.2 software. The separations were carried out on a Kromasil 100-5-C18 column (5 μm, 21.2 × 250 mm, Nouryon Chemicals Finance B.V., Amsterdam, Netherlands). Thin layer chromatography (TLC) was performed using DC-Fertigfolien ALUGRAM® SIL G/UV254+366 (0.2 mm, Macherey-Nagel GmbH & Co. KG, Düren, Germany) plates, and spots were visualized by a 10% vanillin−sulfuric acid reagent. All chemicals and solvents were of analytical grade and were used without further purification.

**Table S1.** *In vitro* cytotoxicity of compounds **1**–**19**.

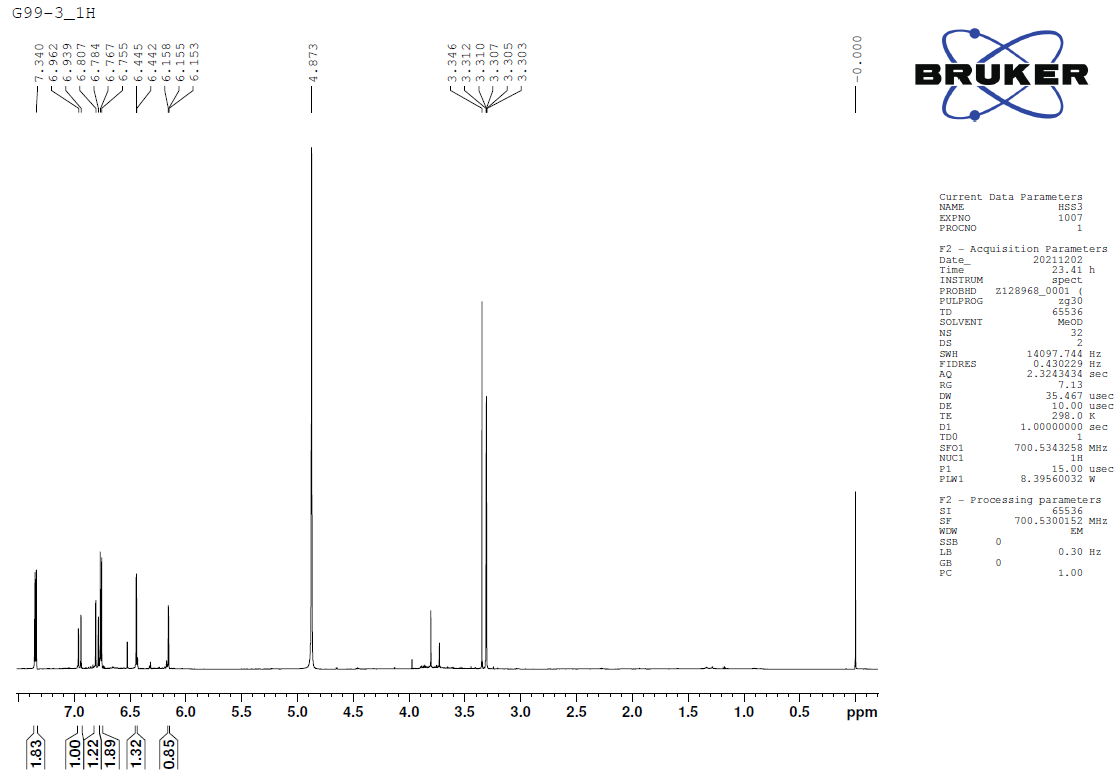
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Compounds | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** |
| IC50 (μM) | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC |
| IC50 values of tested compounds were measured. 3T3-L1 preadipocytes (40% confluence) were treated with different concentrations (25, 50, 100, 200 μM) of tested compounds for 48 h. Statistical analysis was performed by Student’s *t*-test.  NC, no cytotoxicity. | | | | | | | | | | | | | | | | | | | | |



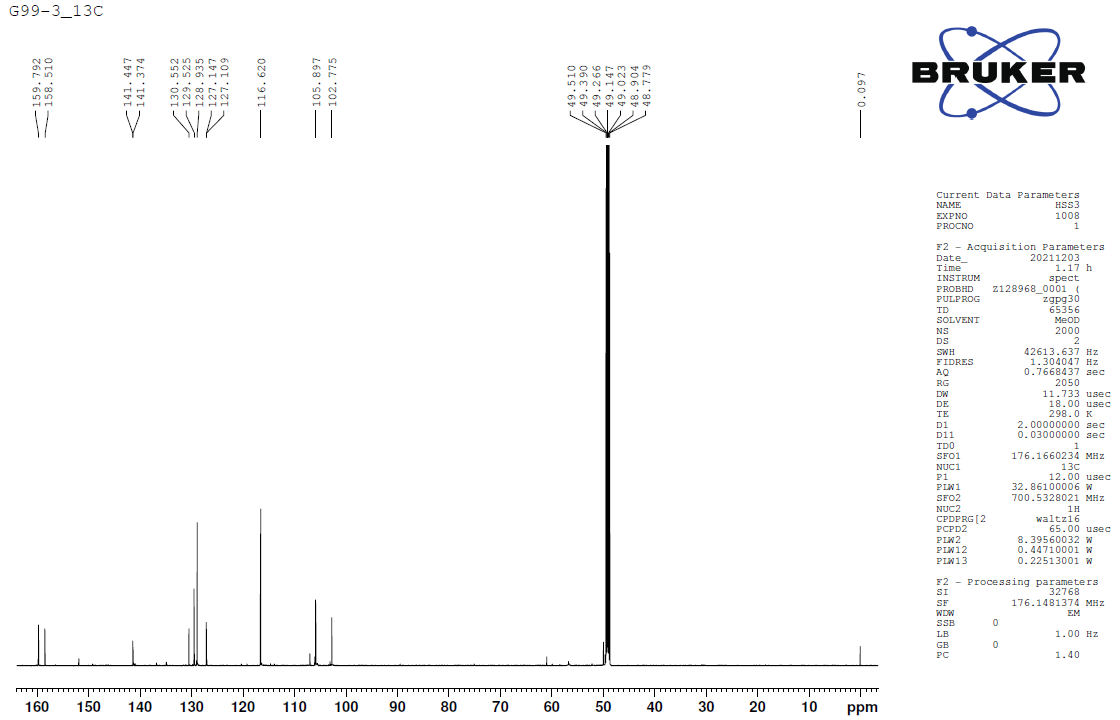
**Figure S1.** 1H-NMR spectrum (acetone-*d6*, 700 MHz) of compound **1**



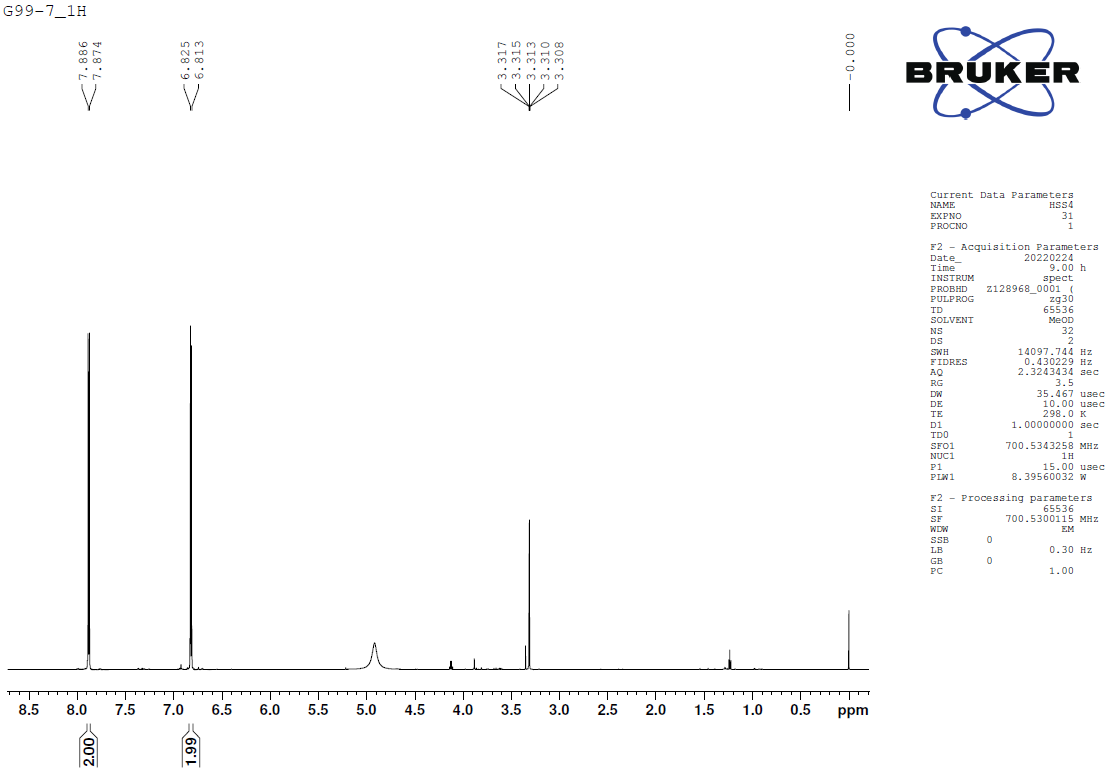
**Figure S2.** 13C-NMR spectrum (acetone-*d6*, 175 MHz) of compound **1**



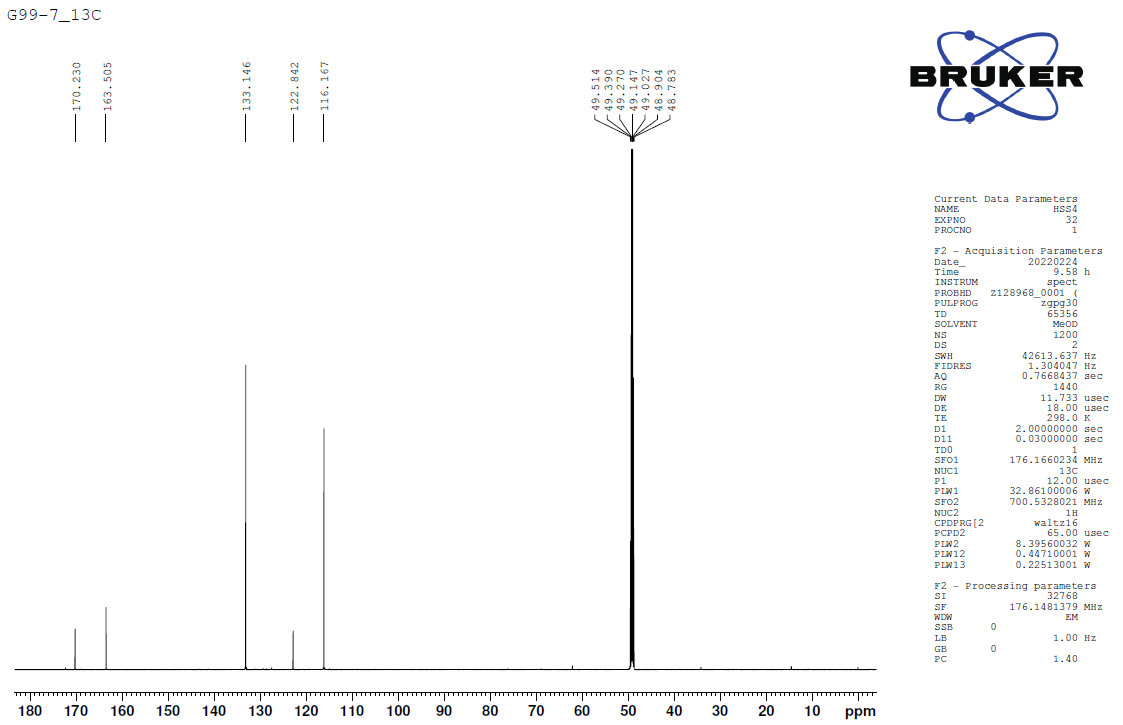
**Figure S3.** 1H-NMR spectrum (acetone-*d6*, 700 MHz) of compound **2**



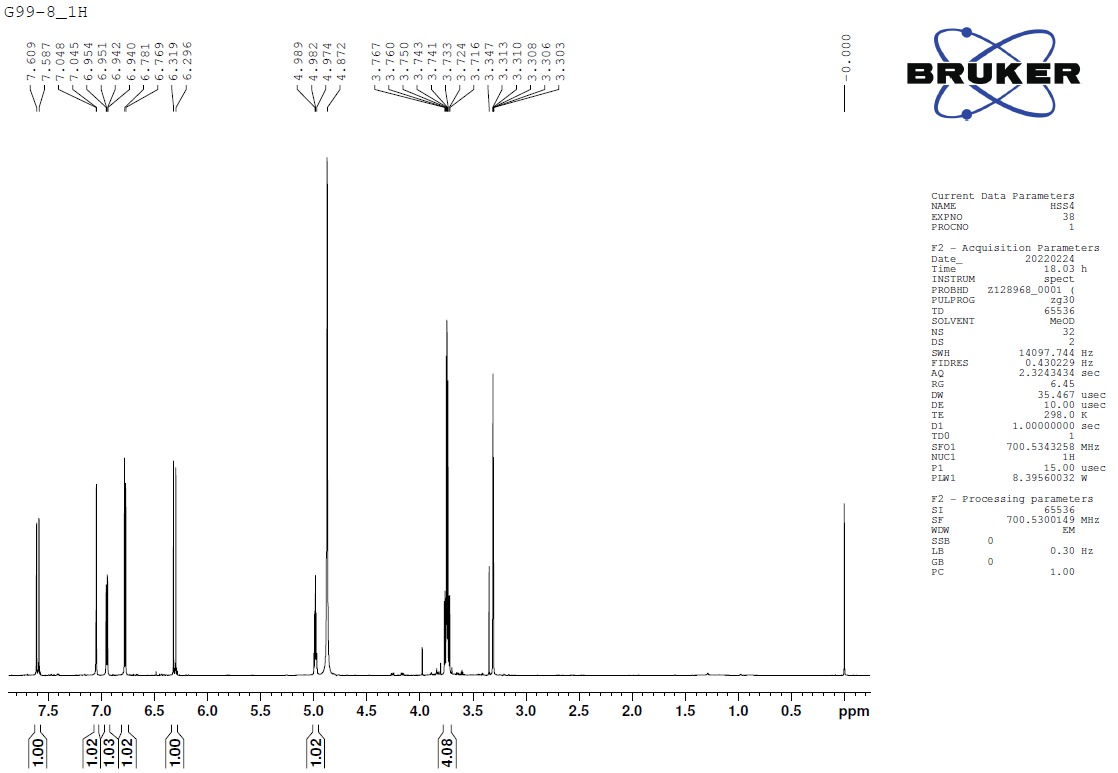
**Figure S4.** 13C-NMR spectrum (acetone-*d6*, 175 MHz) of compound **2**



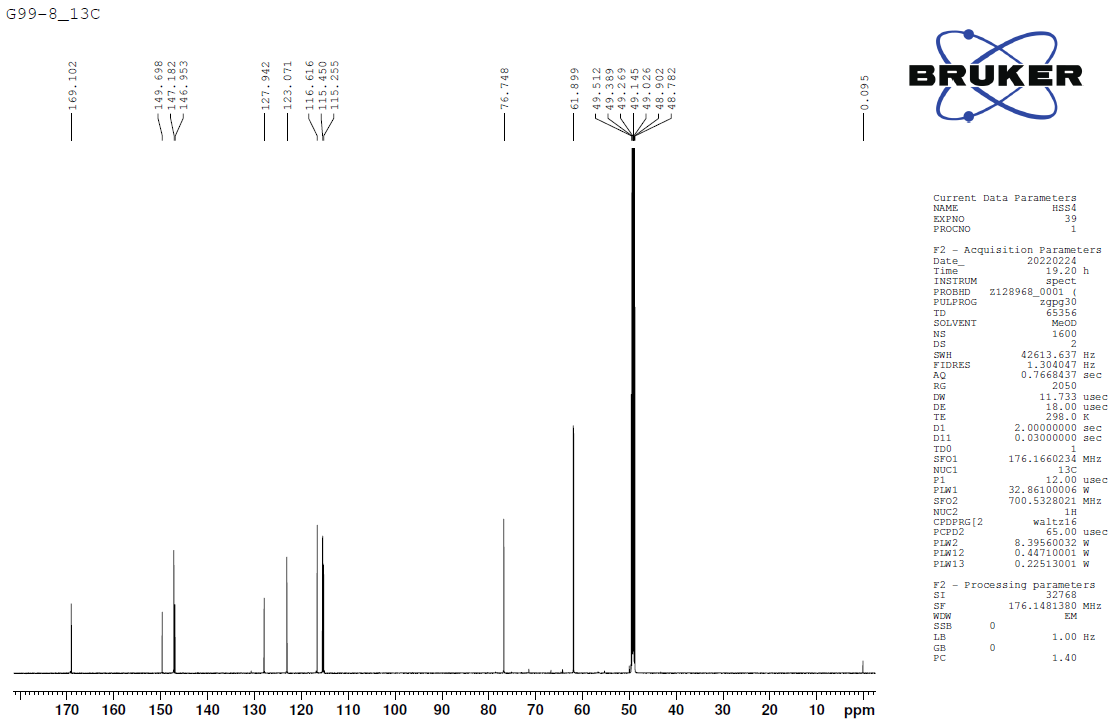
**Figure S5.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **3**



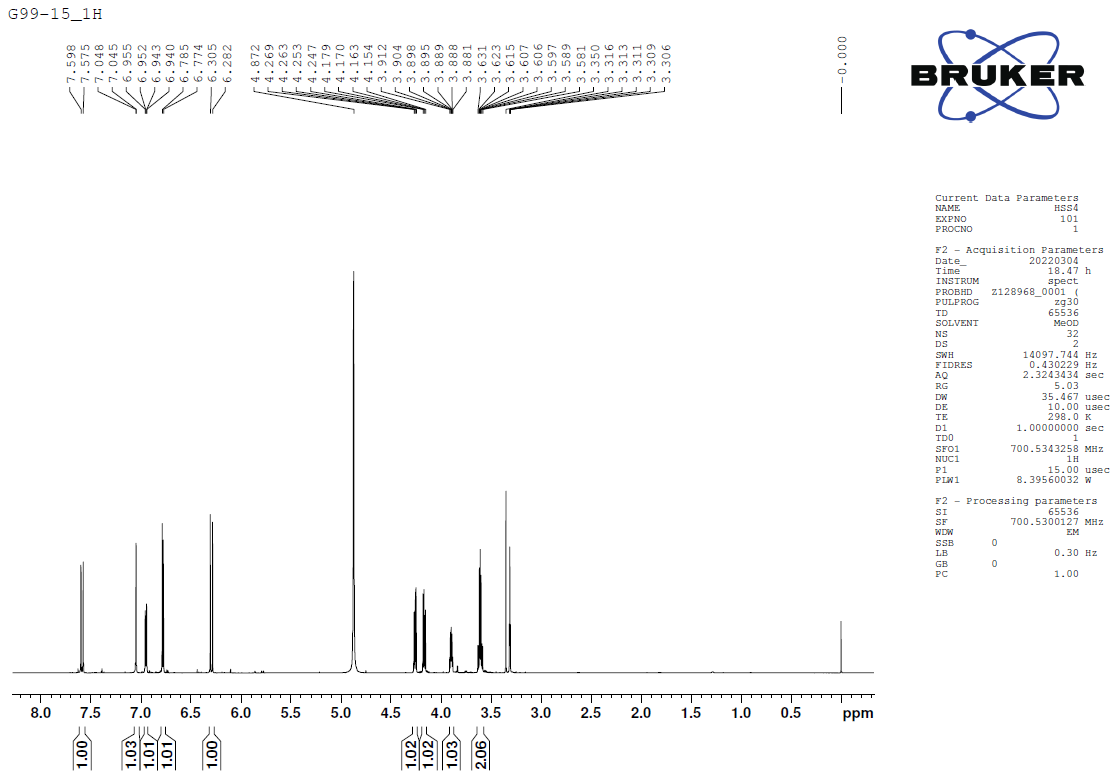
**Figure S6.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **3**



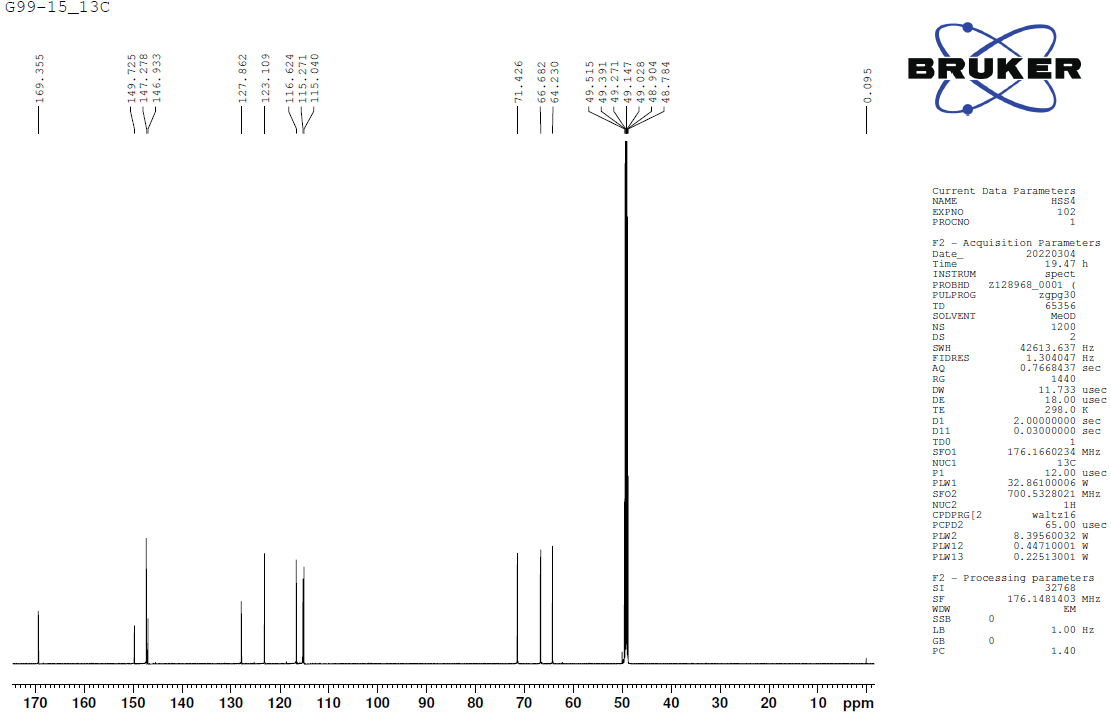
**Figure S7.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **4**



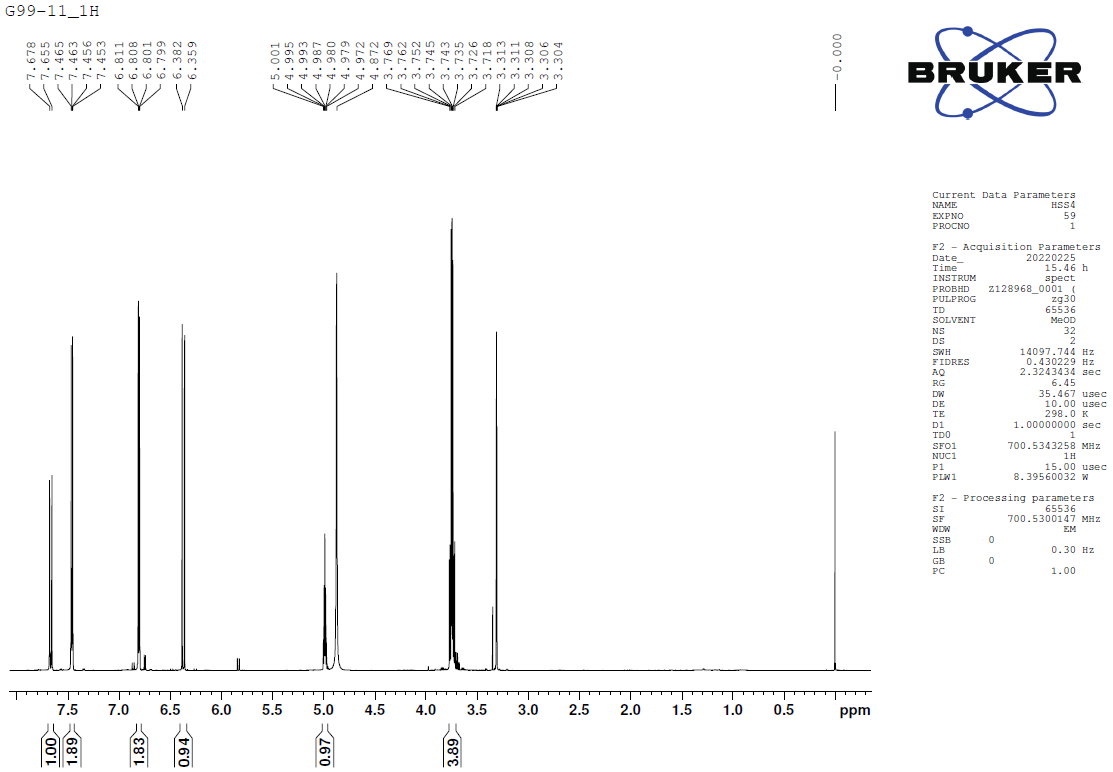
**Figure S8.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **4**



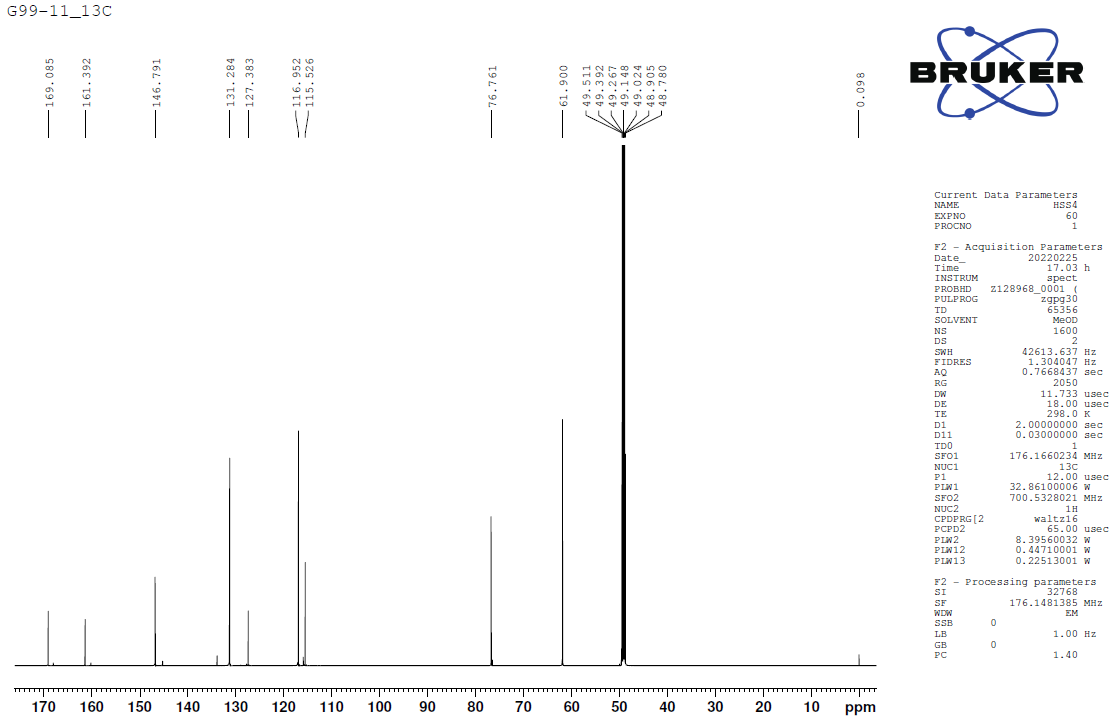
**Figure S9.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **5**



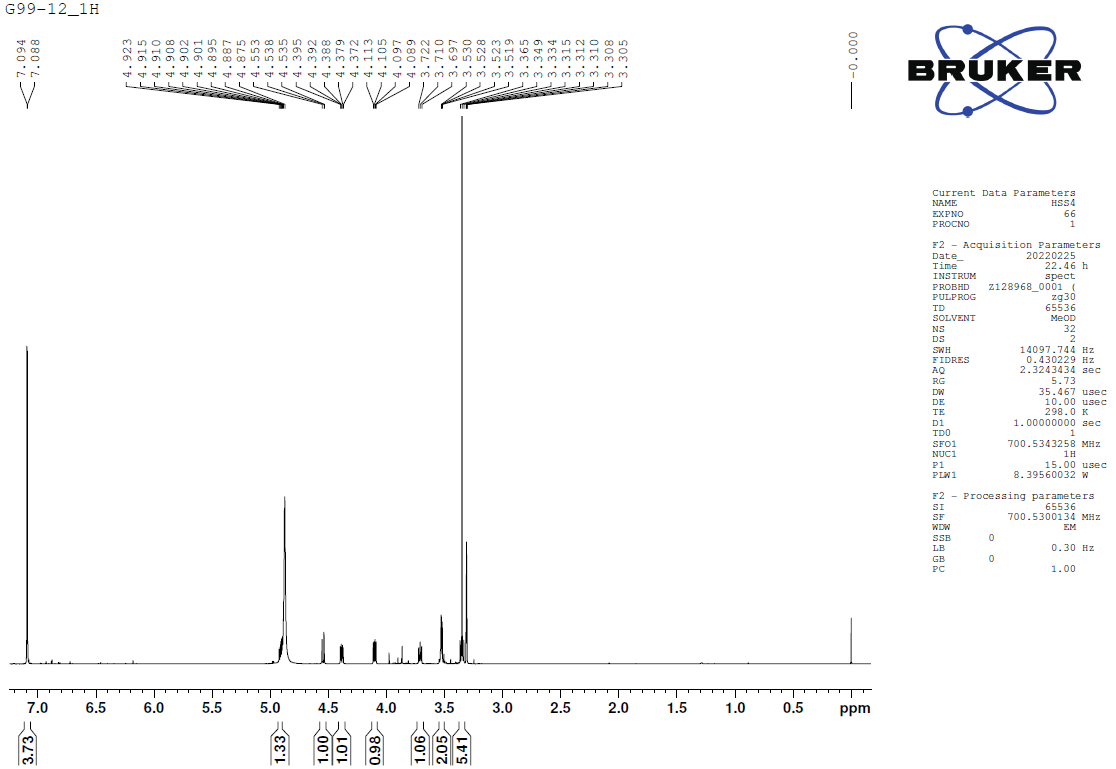
**Figure S10.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **5**



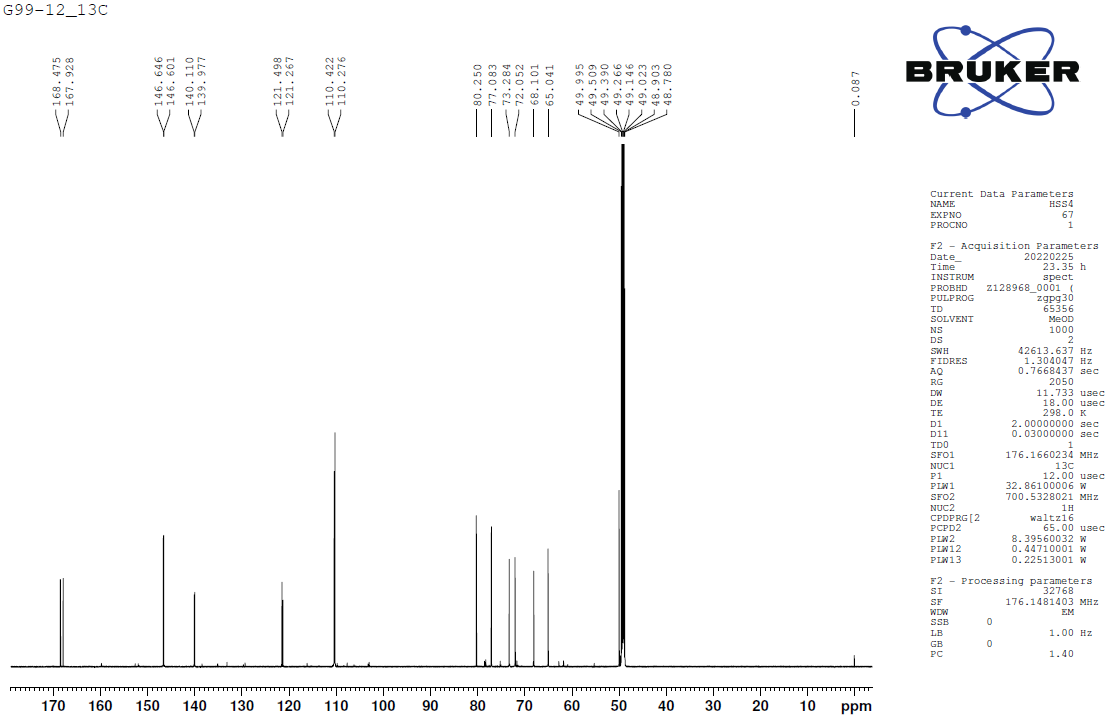
**Figure S11.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **6**



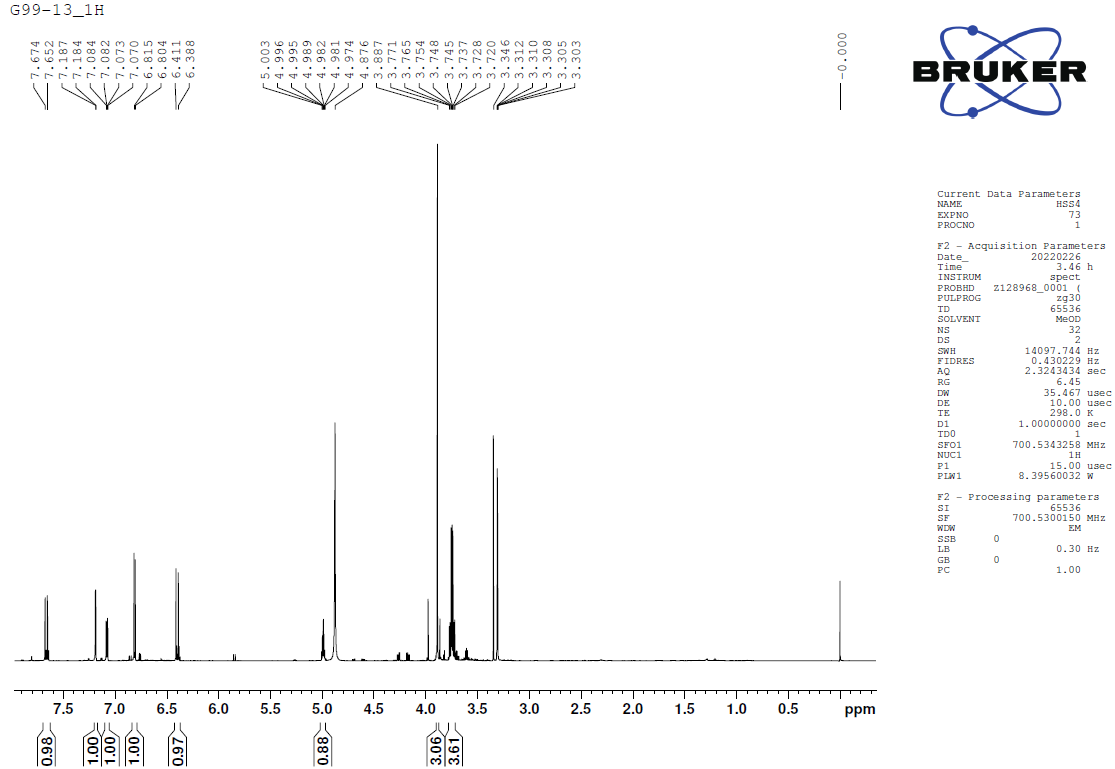
**Figure S12.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **6**



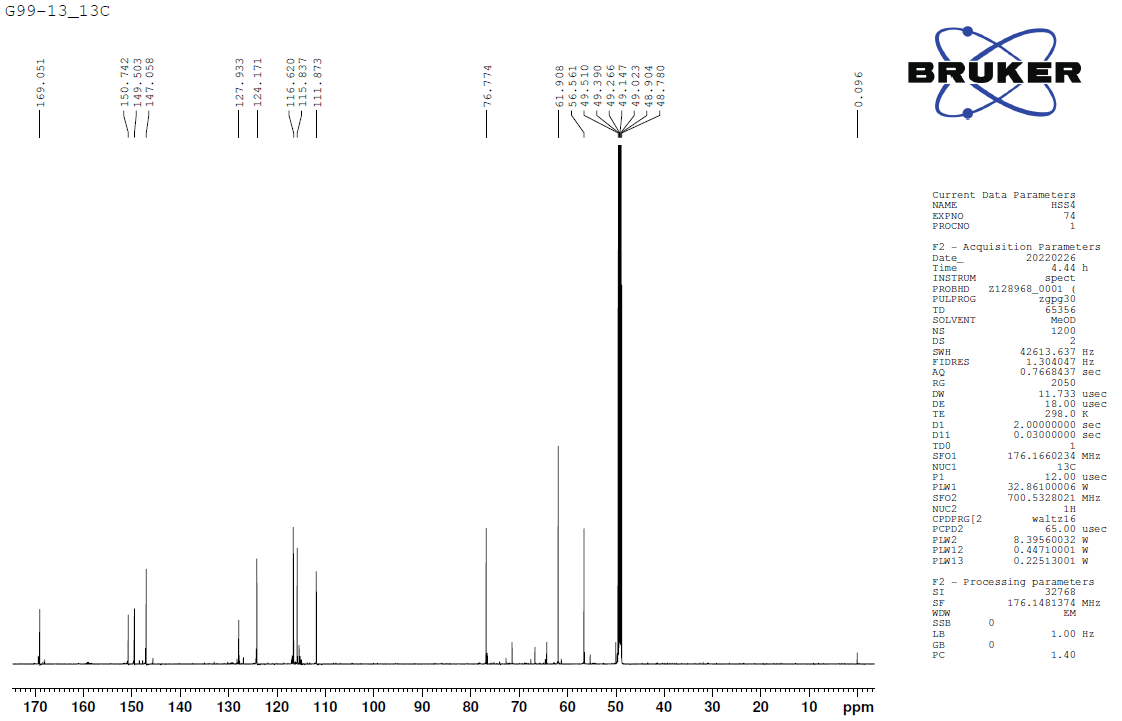
**Figure S13.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **7**



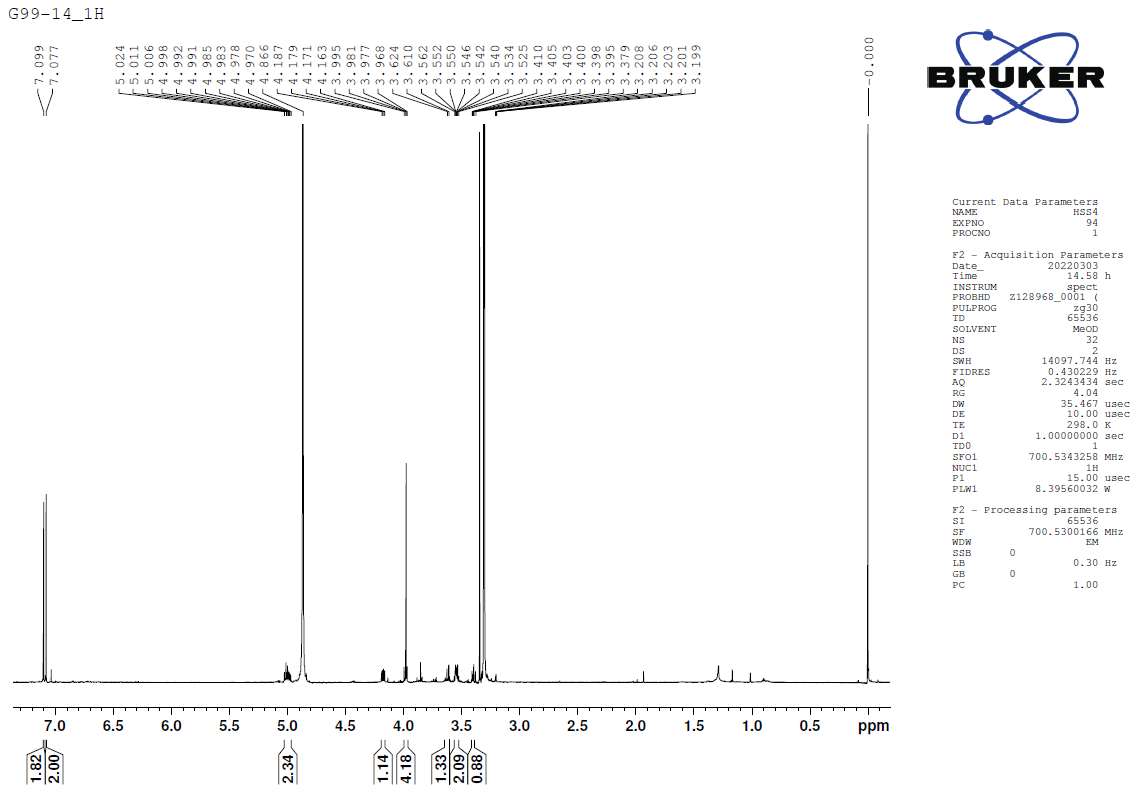
**Figure S14.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **7**



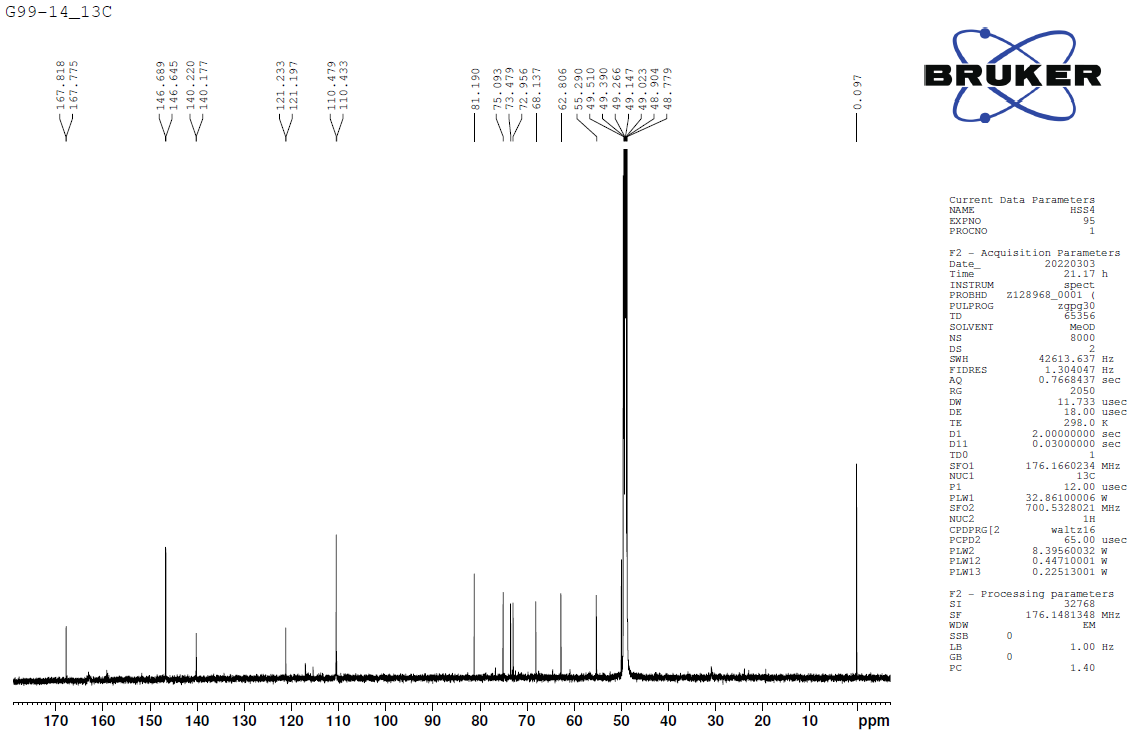
**Figure S15.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **8**



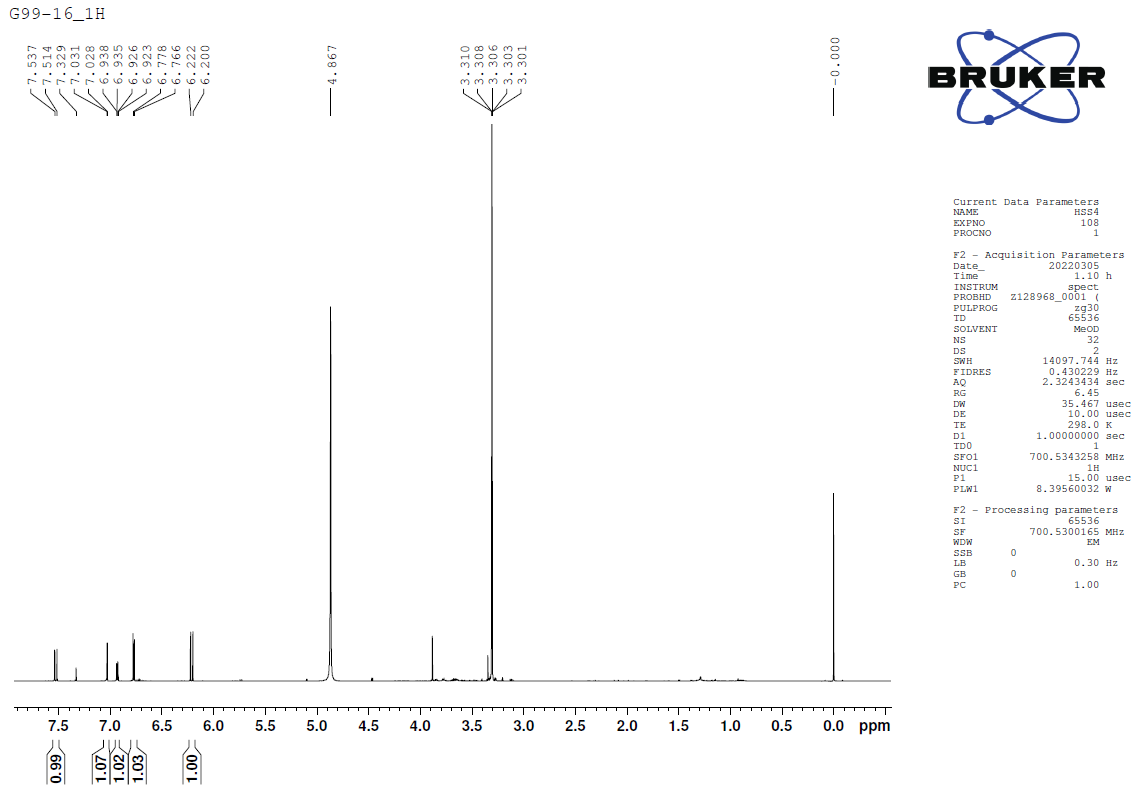
**Figure S16.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **8**



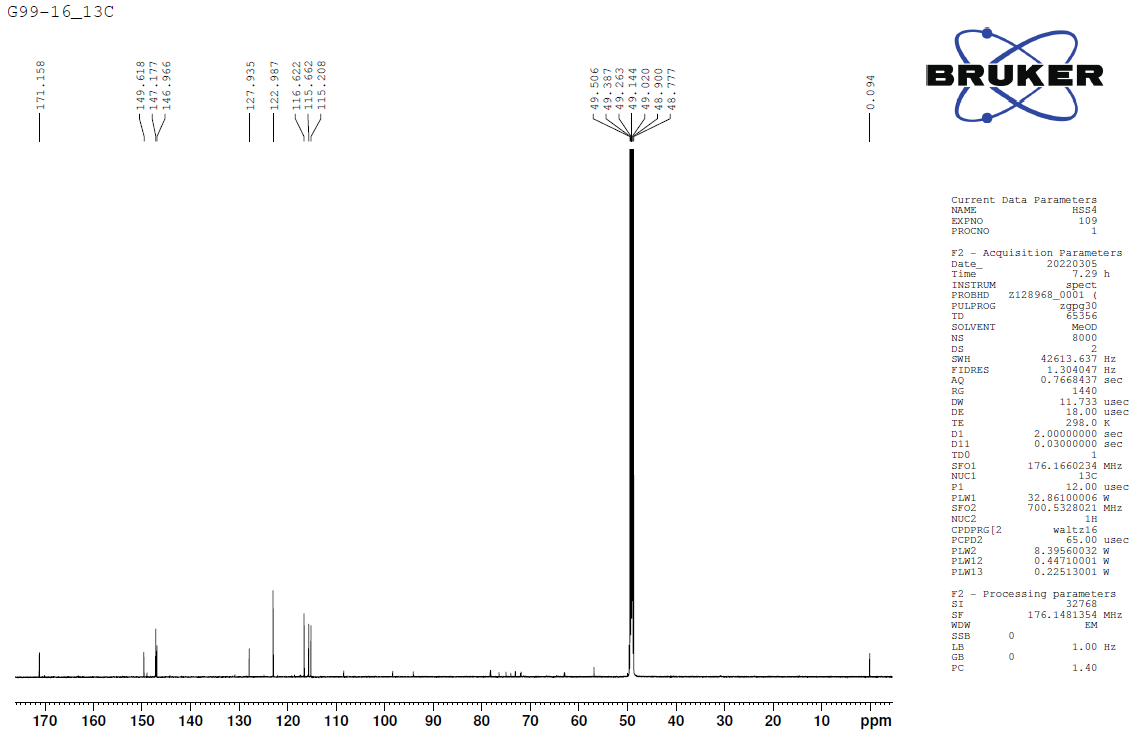
**Figure S17.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **9**



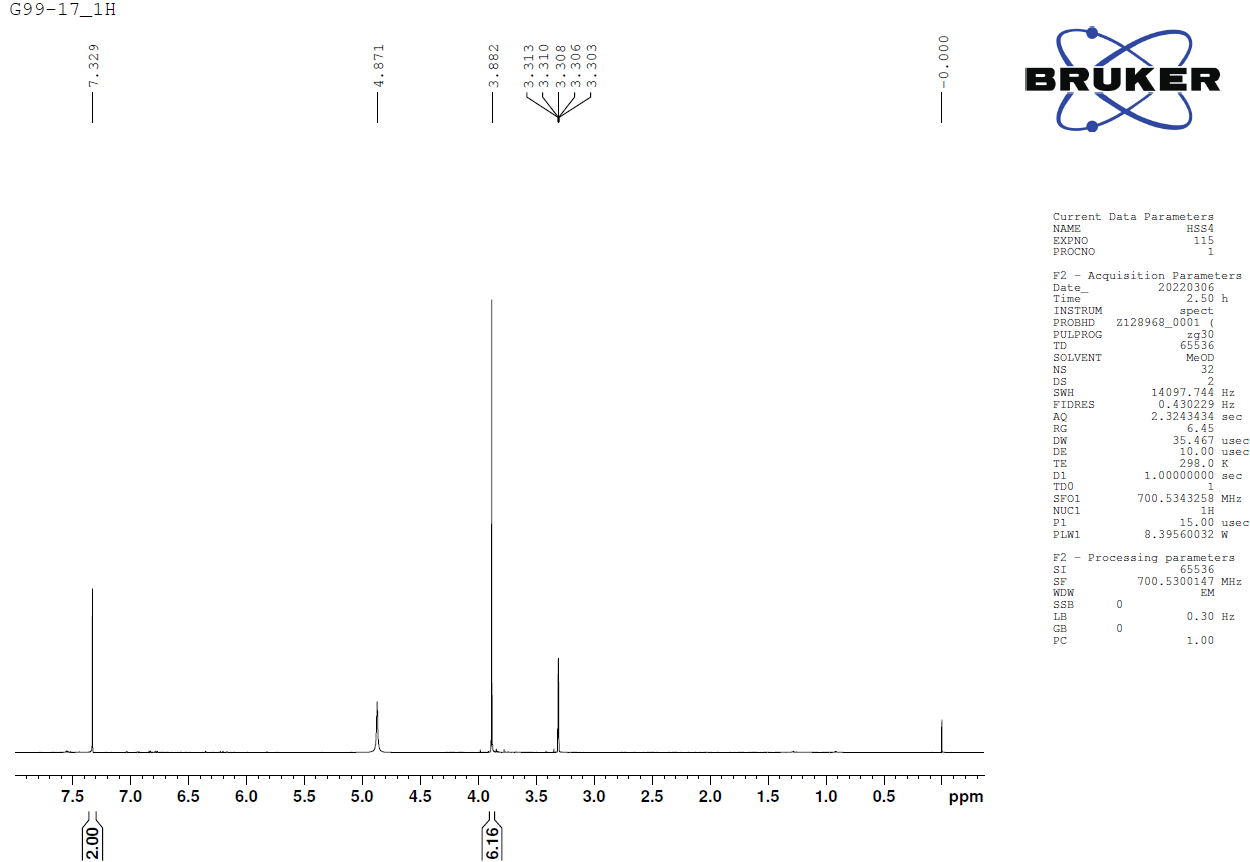
**Figure S18.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **9**



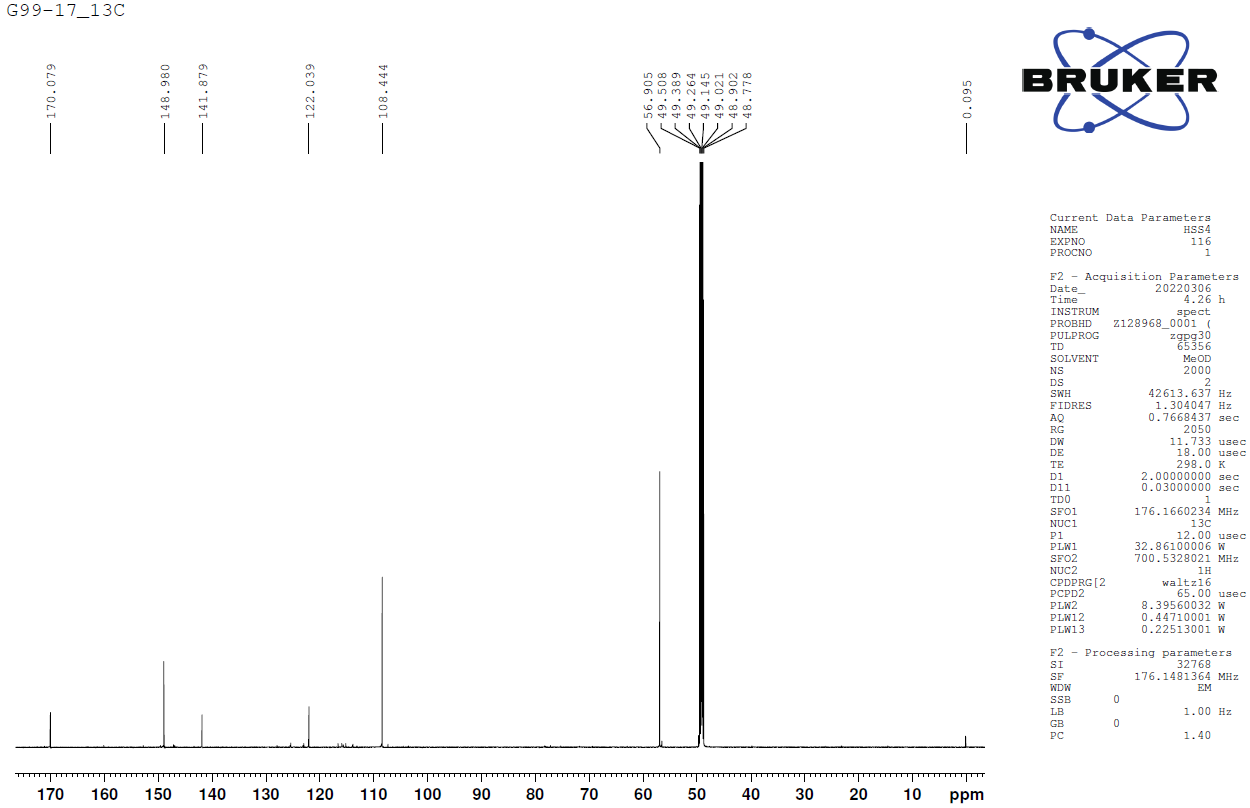
**Figure S19.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **10**



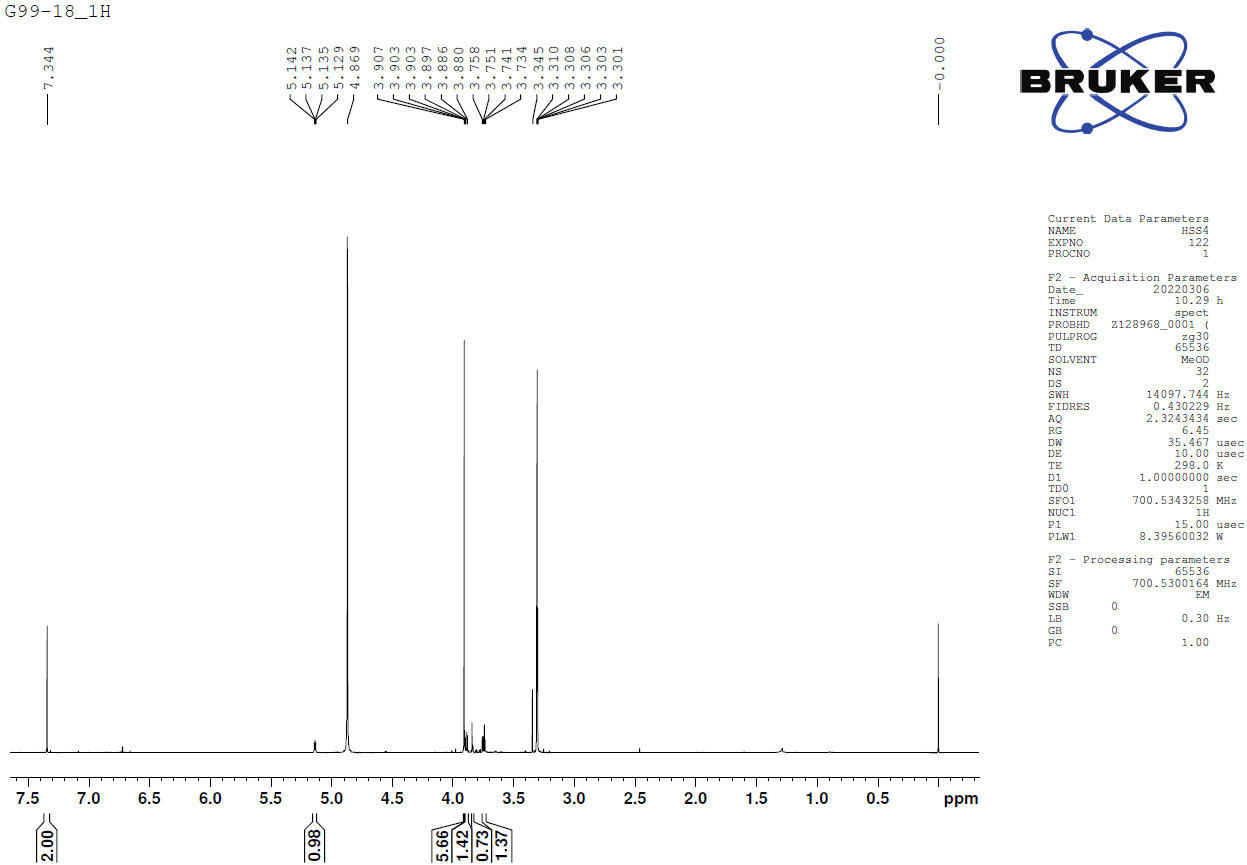
**Figure S20.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **10**



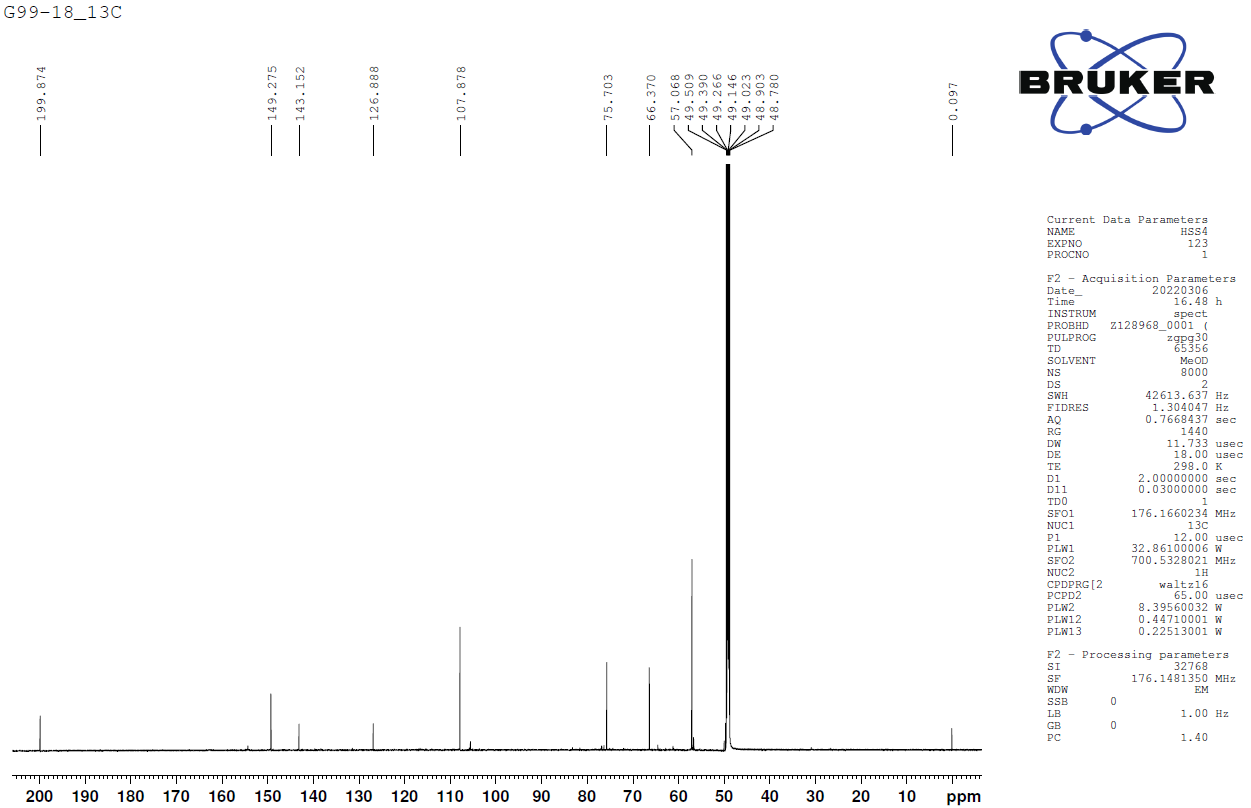
**Figure S21.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **11**



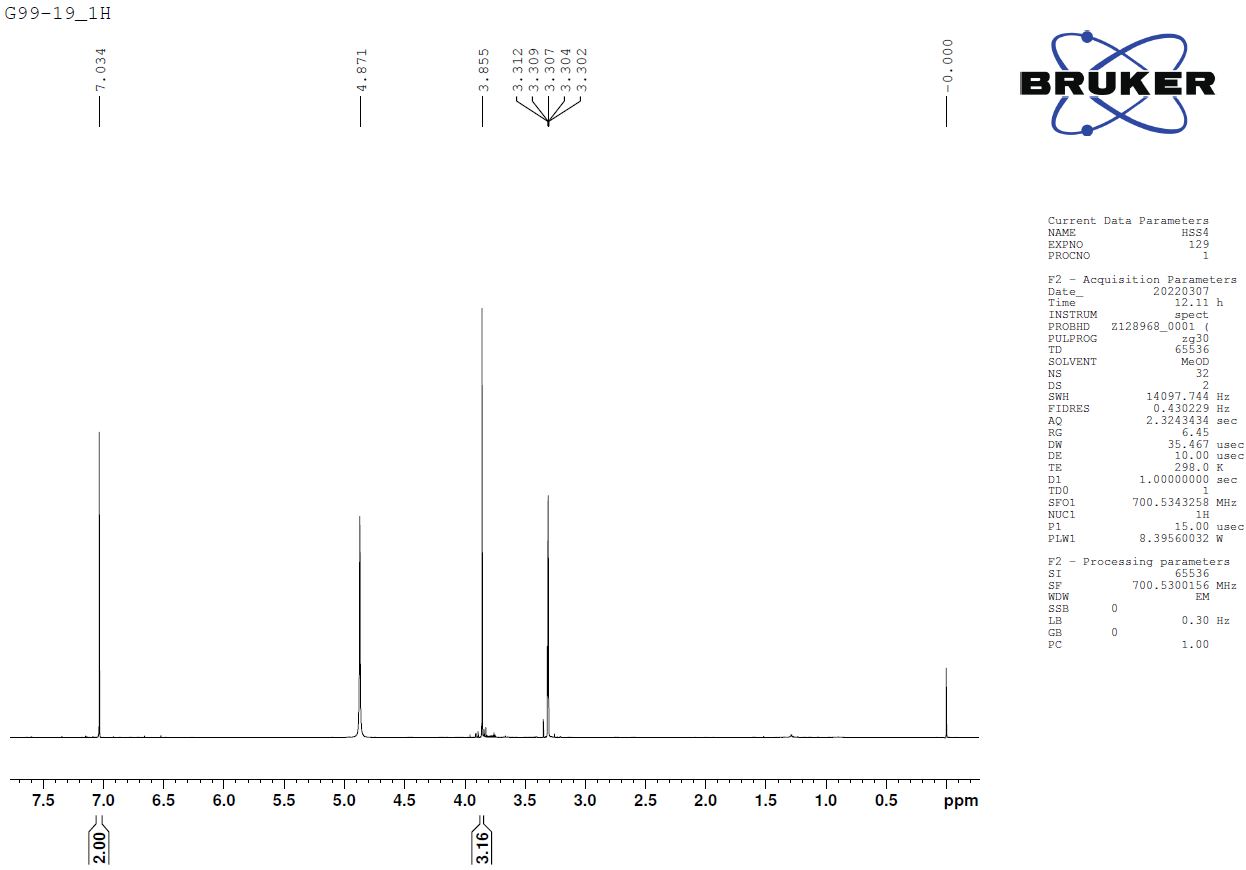
**Figure S22.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **11**



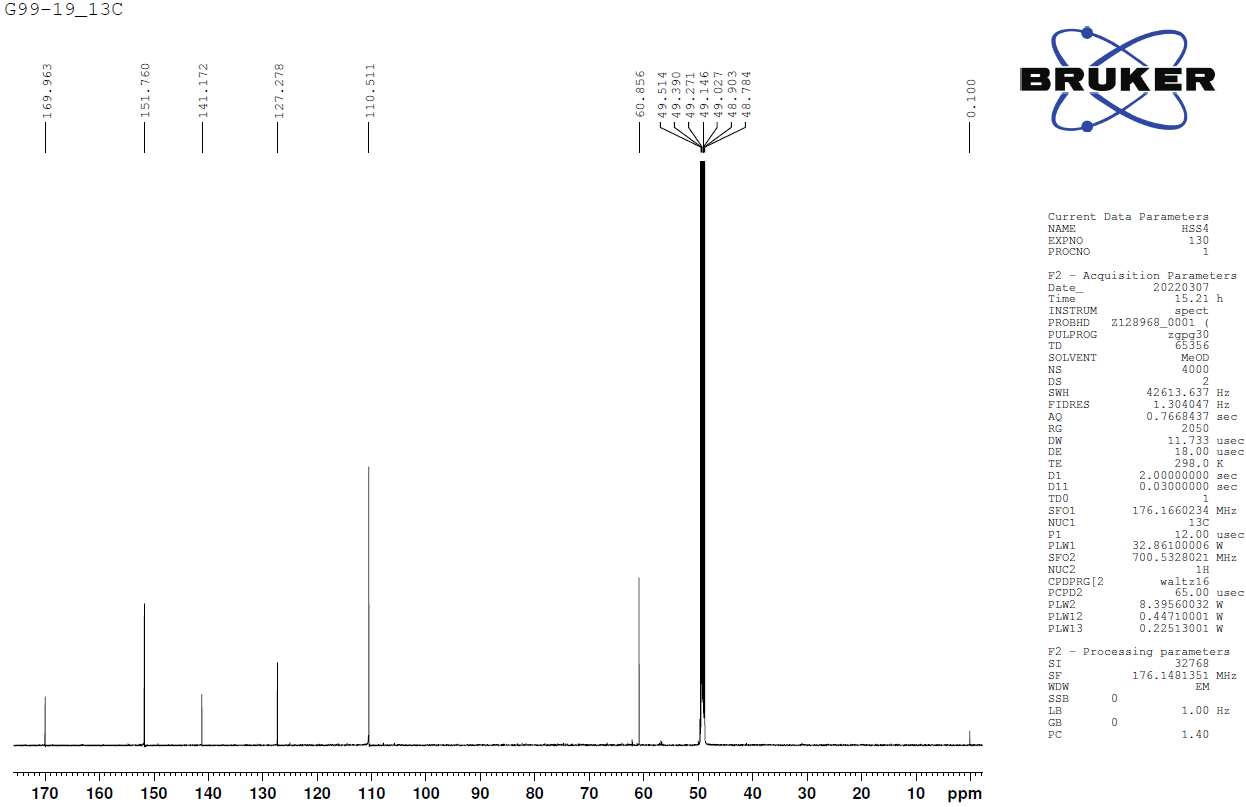
**Figure S23.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **12**



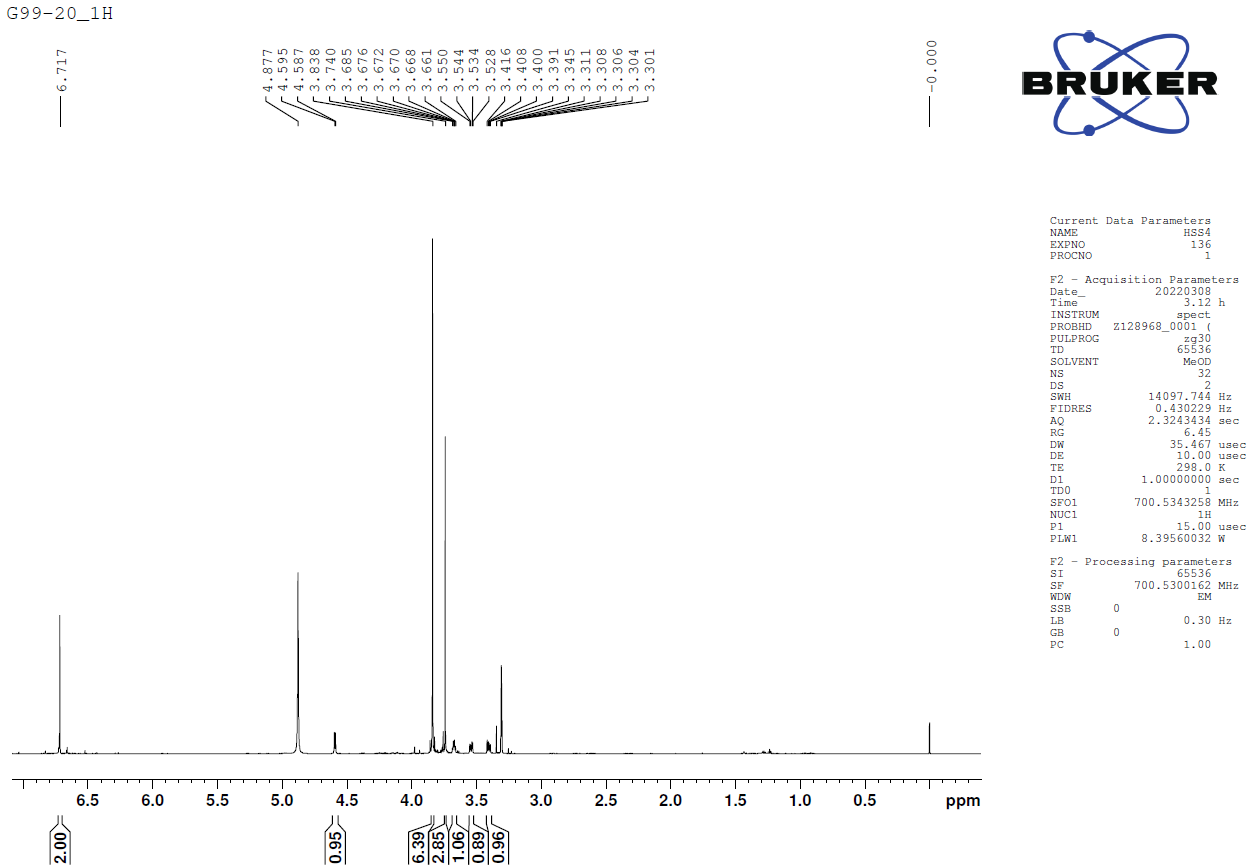
**Figure S24.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **12**



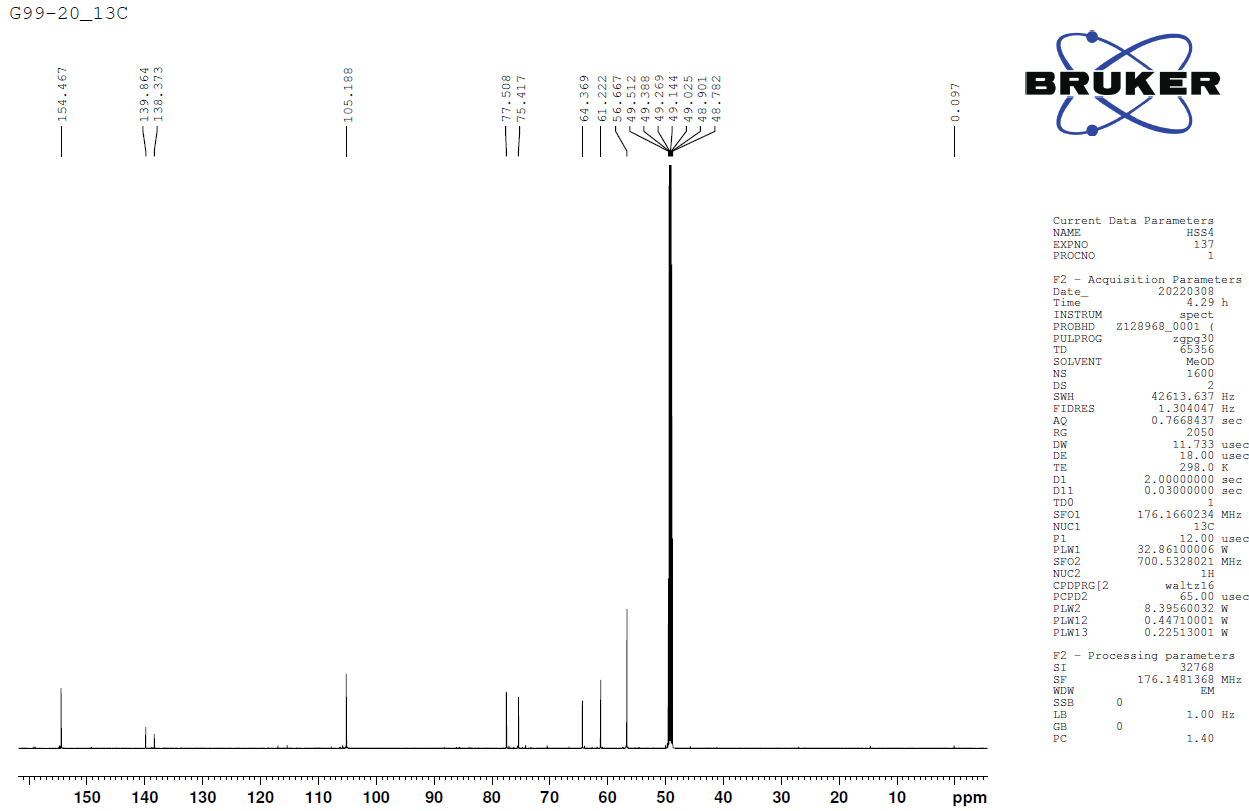
**Figure S25.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **13**



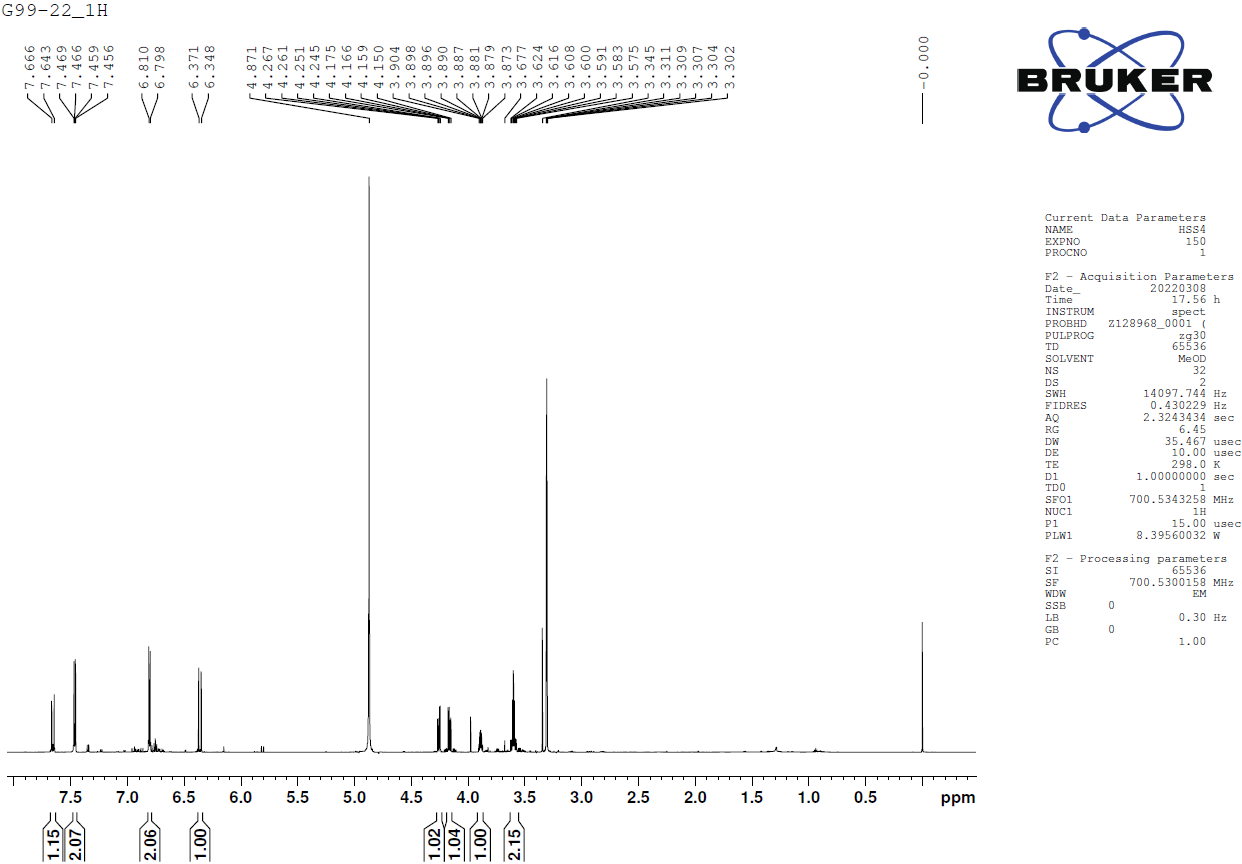
**Figure S26.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **13**



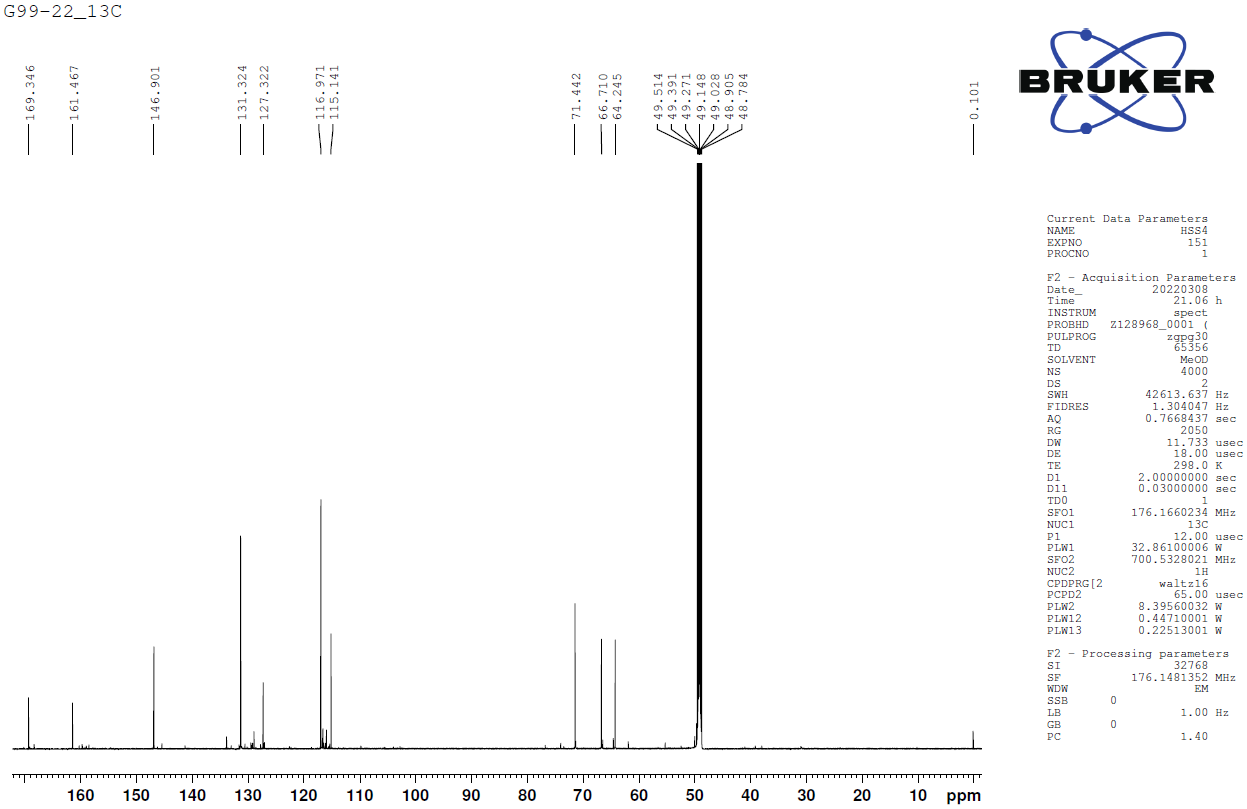
**Figure S27.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **14**



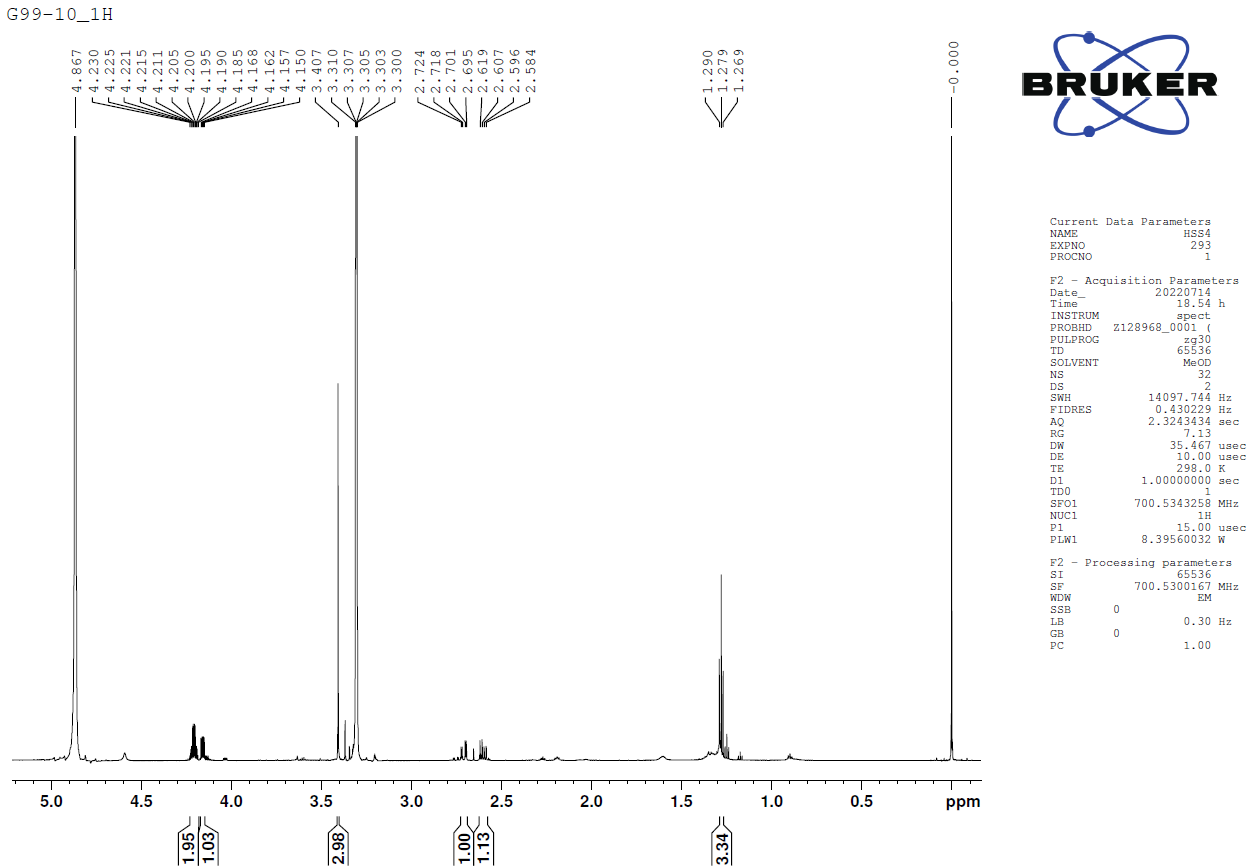
**Figure S28.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **14**



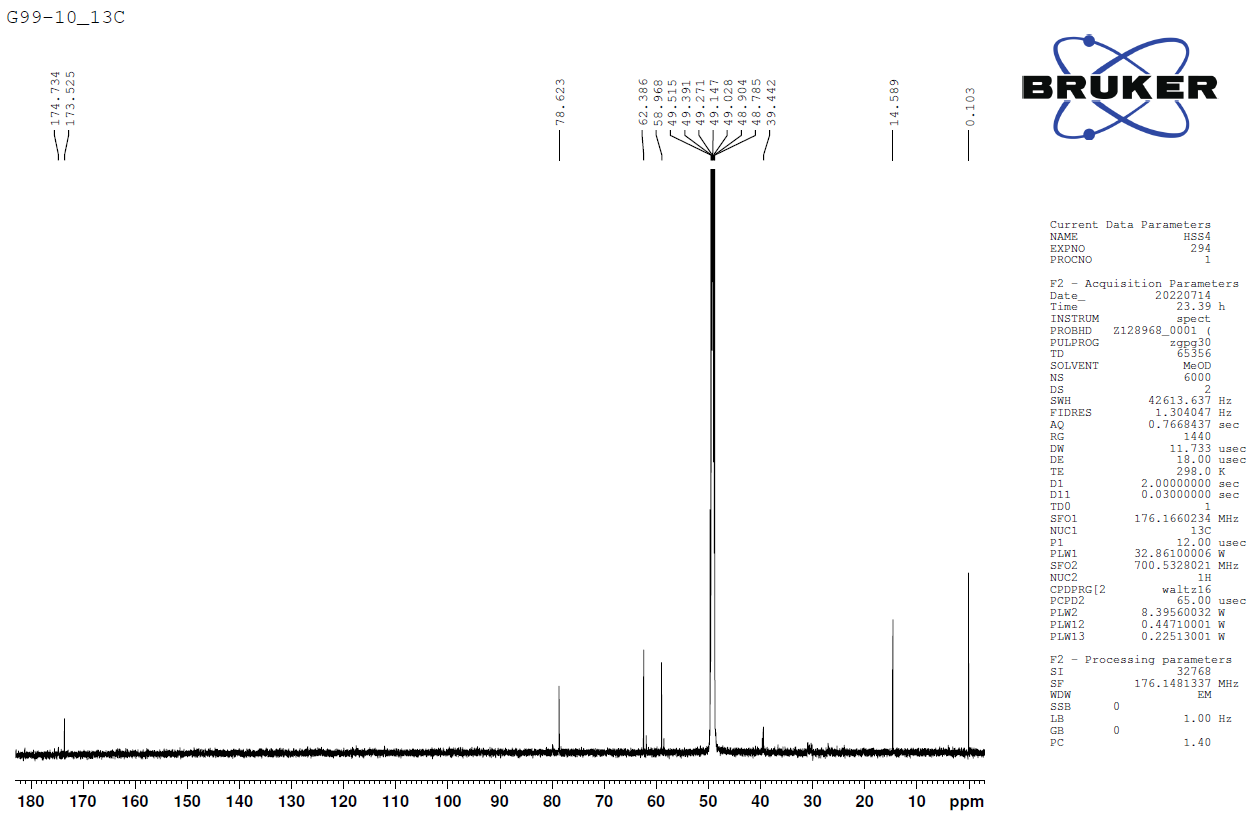
**Figure S29.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **15**



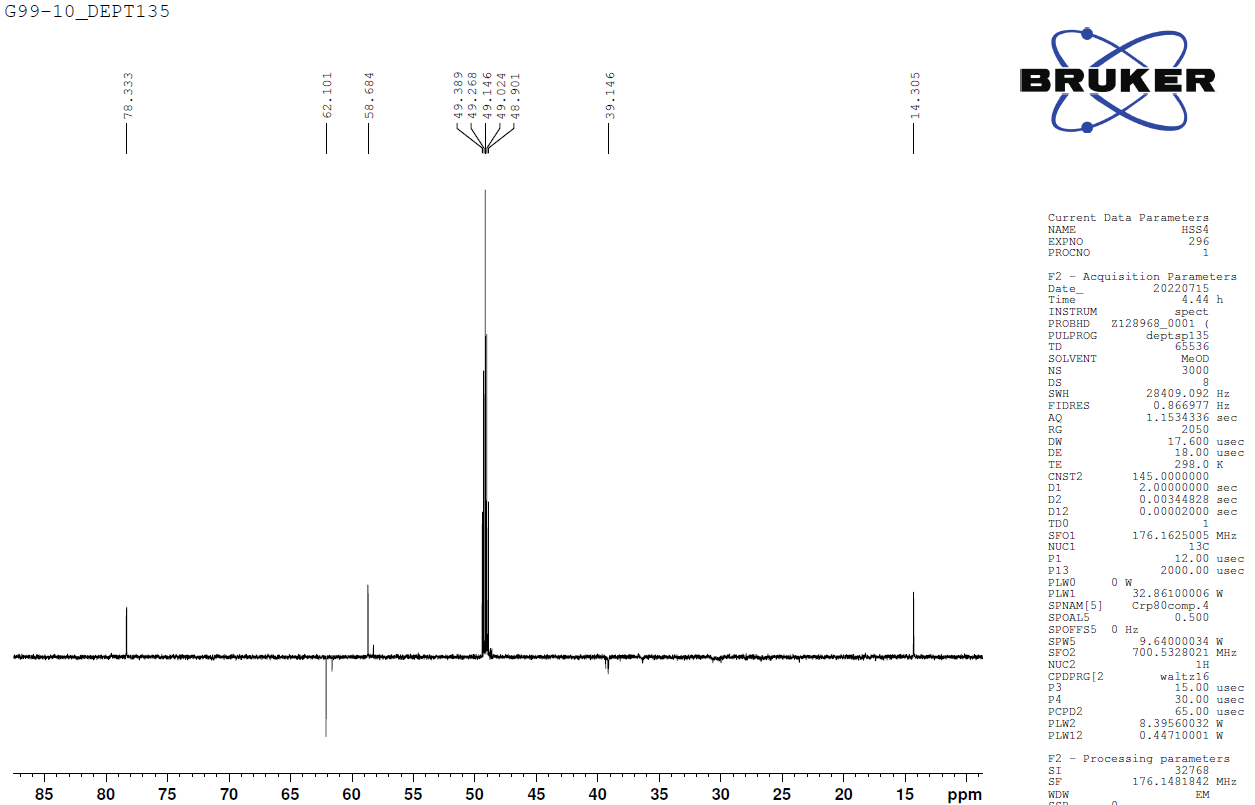
**Figure S30.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **15**



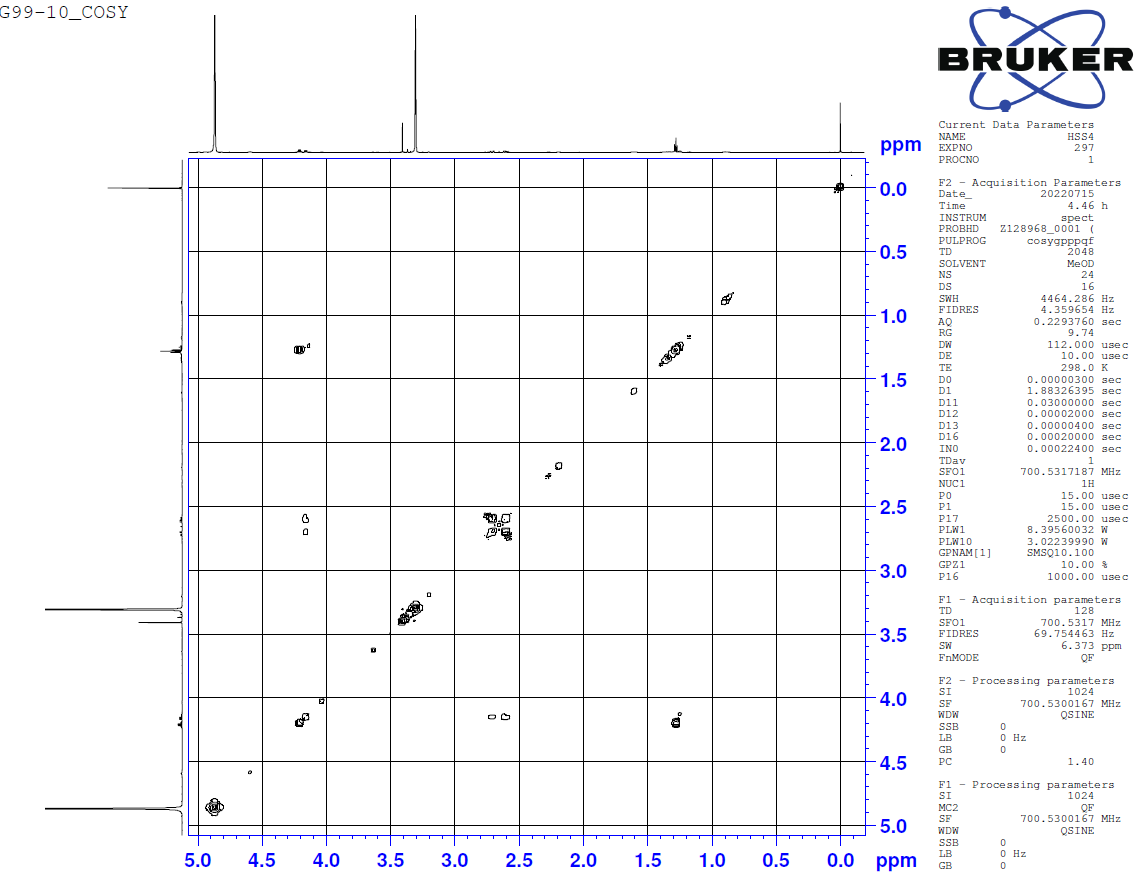
**Figure S31.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **16**



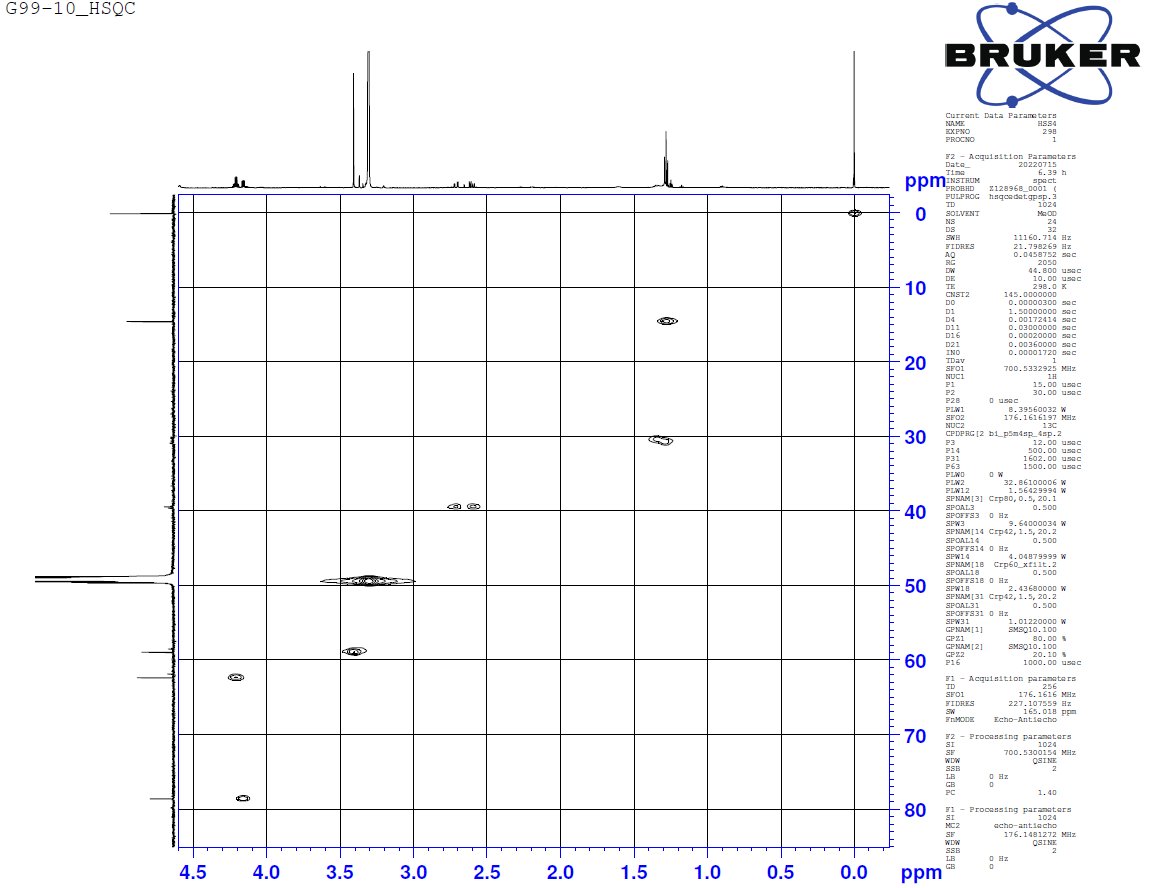
**Figure S32.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **16**



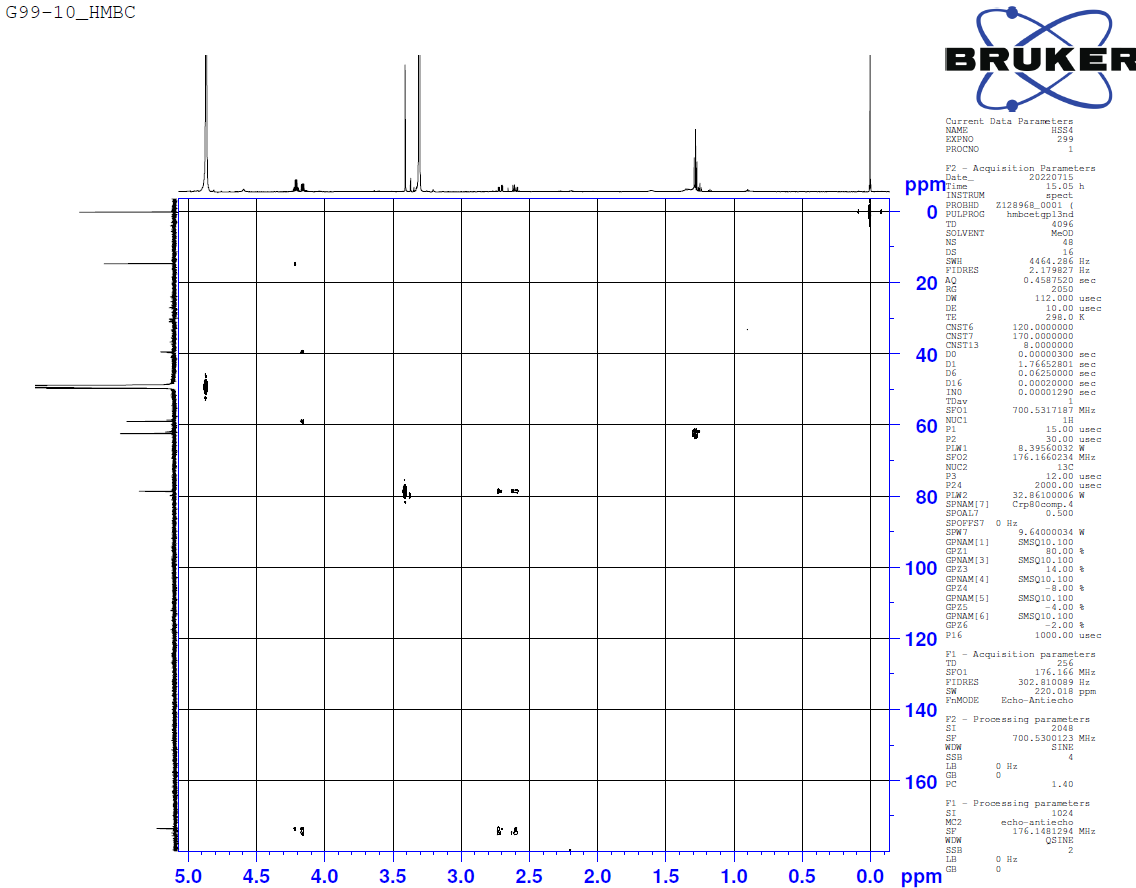
**Figure S33.** DEPT135 spectrum of compound **16**



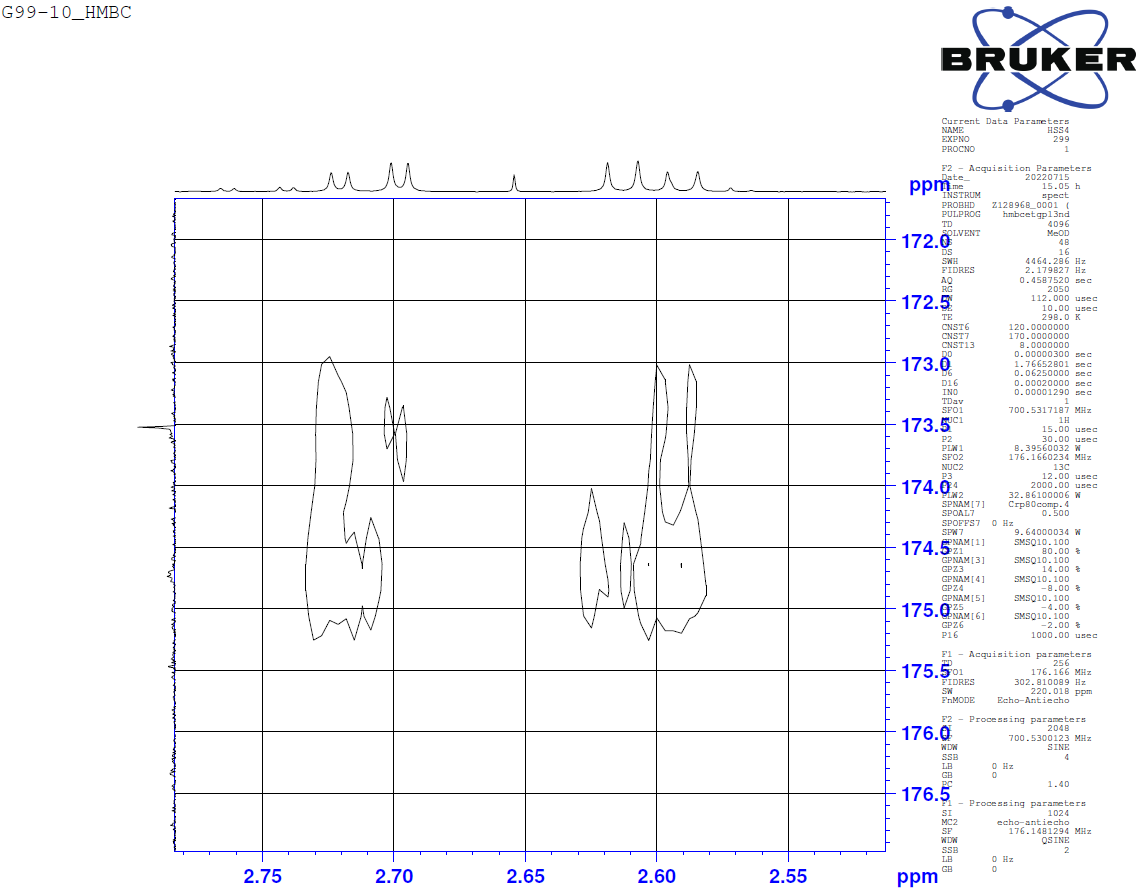
**Figure S34.** 1H-1H COSY spectrum of compound **16**



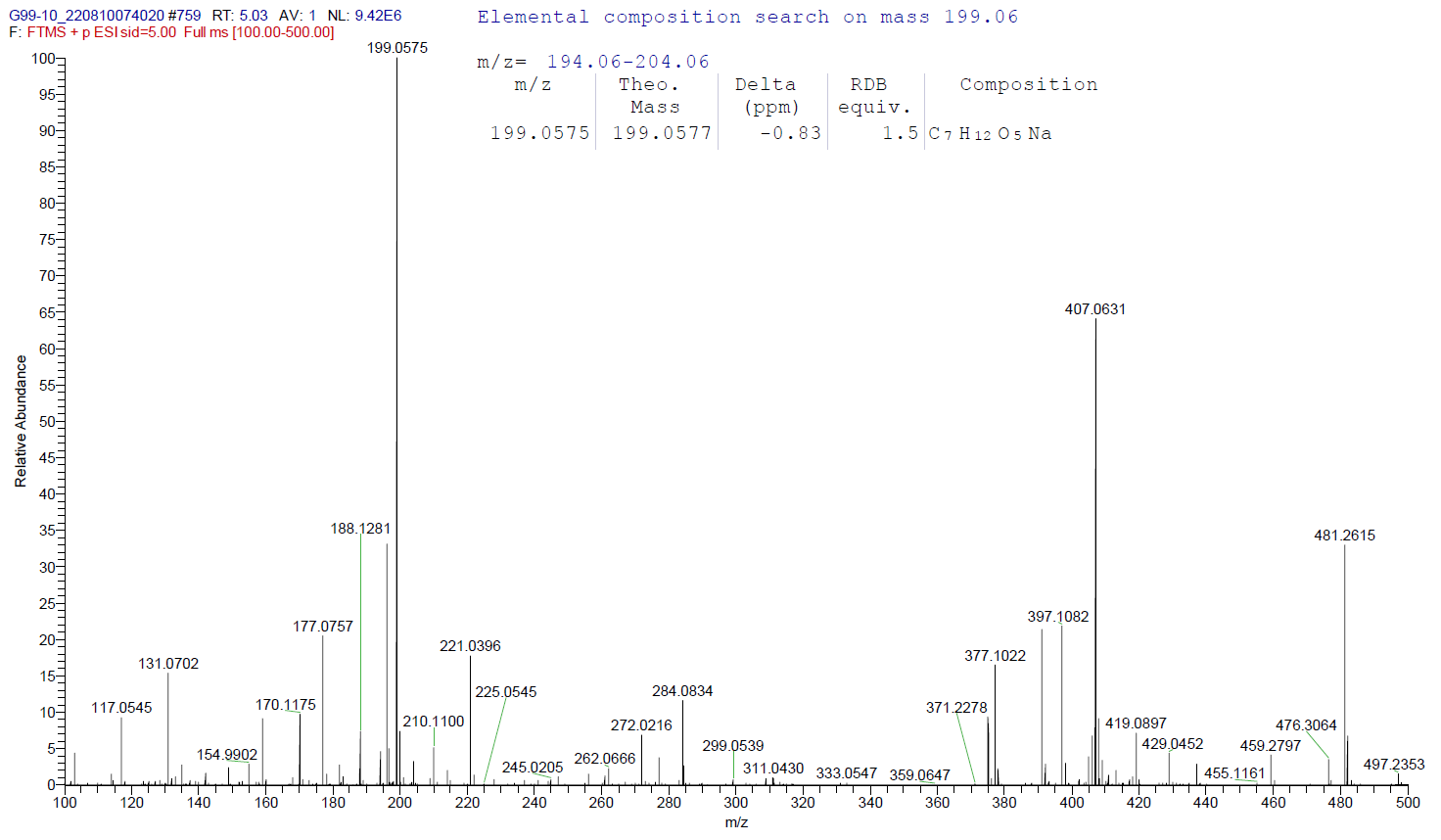
**Figure S35.** HSQC spectrum of compound **16**



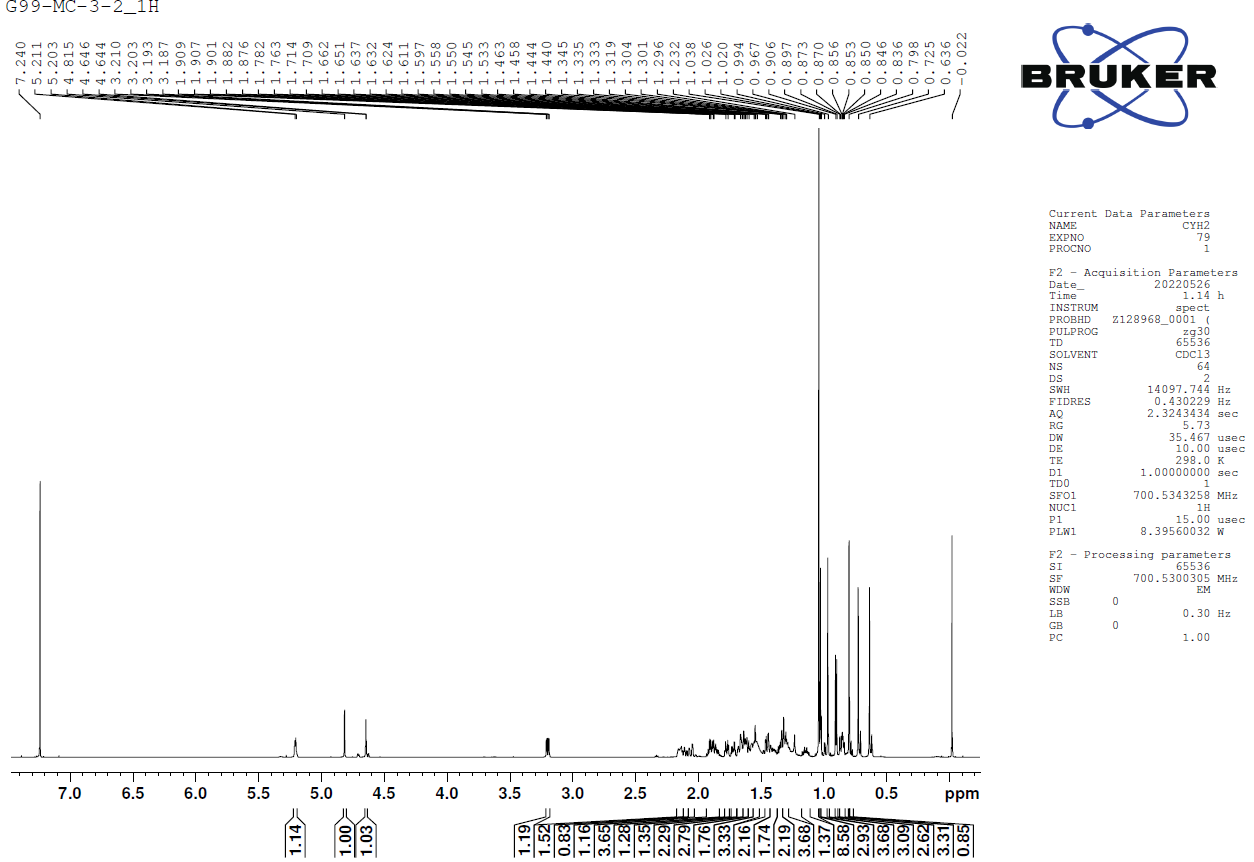
**Figure S36.** HMBC spectrum of compound **16**



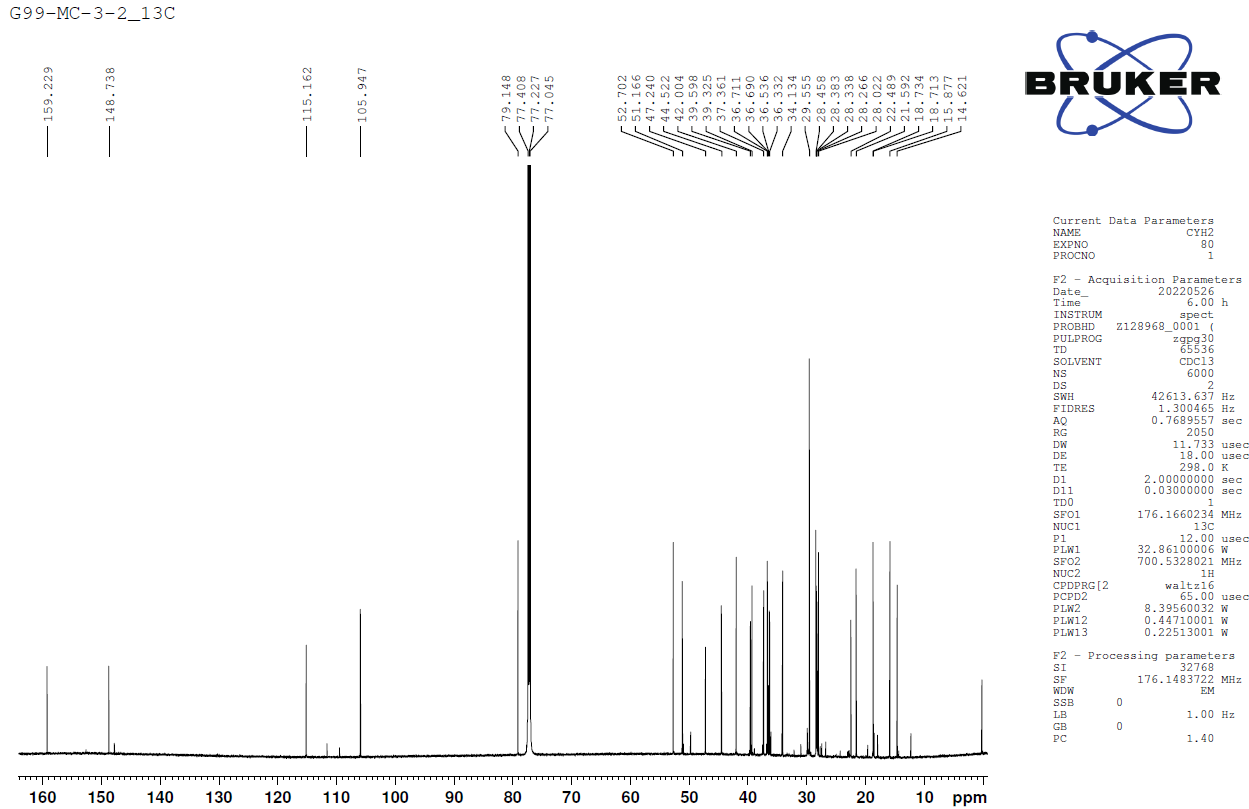
**Figure S37.** Expansion of HMBC spectrum of compound **16**



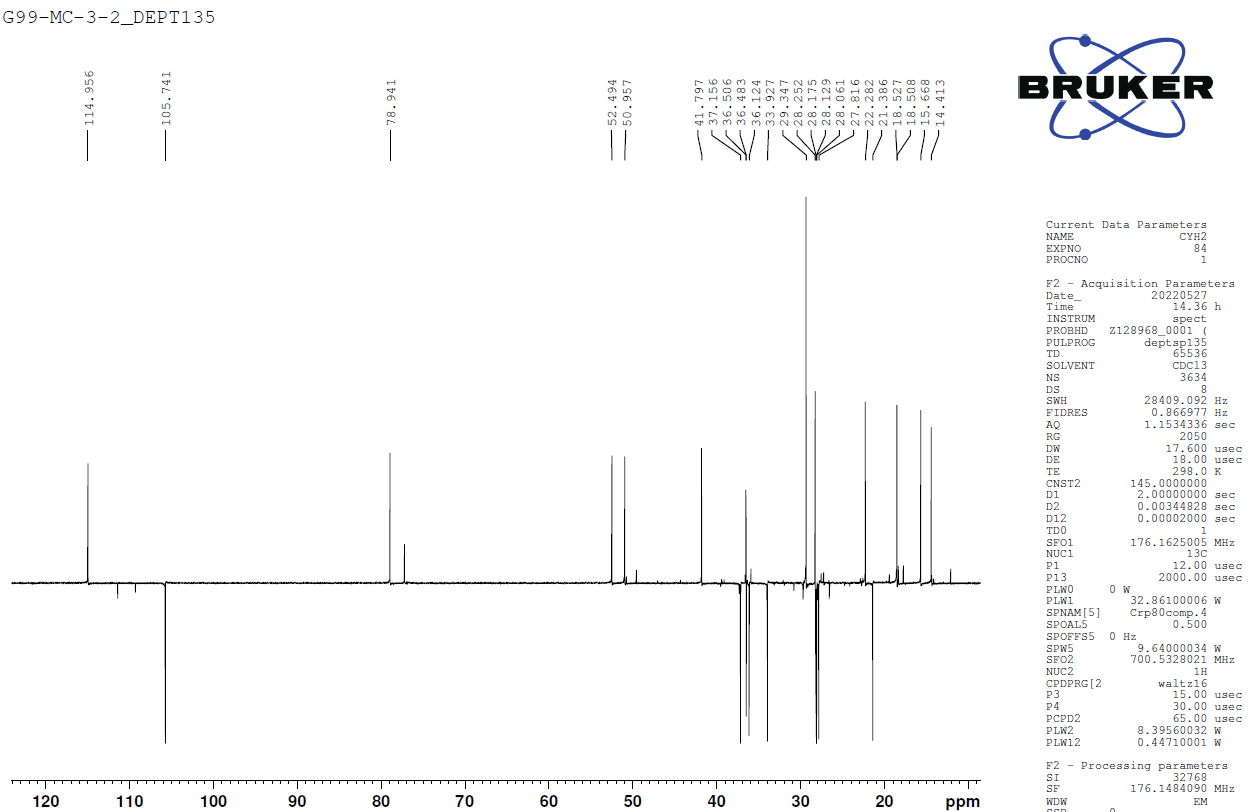
**Figure S38**. HRESIMS spectrum of compound **16**



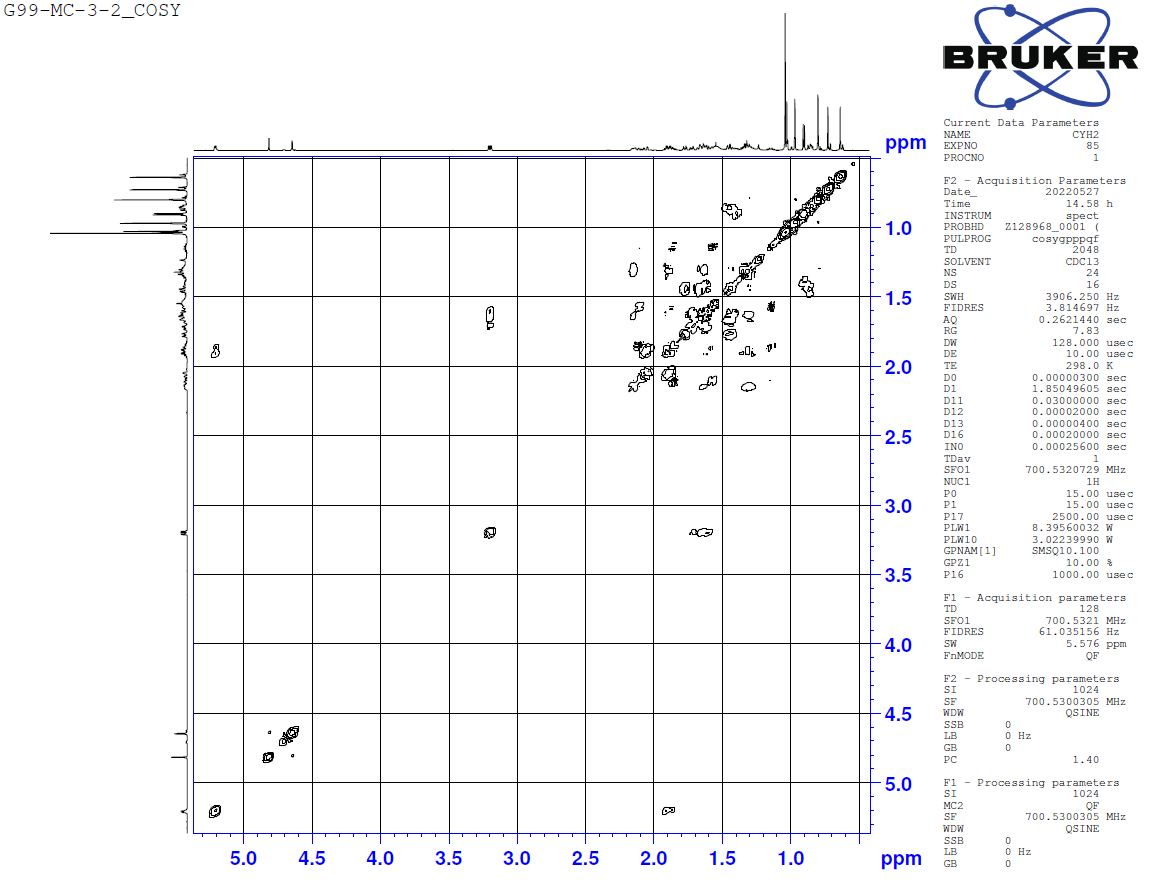
**Figure S39.** 1H-NMR spectrum (CDCl3, 700 MHz) of compound **17**



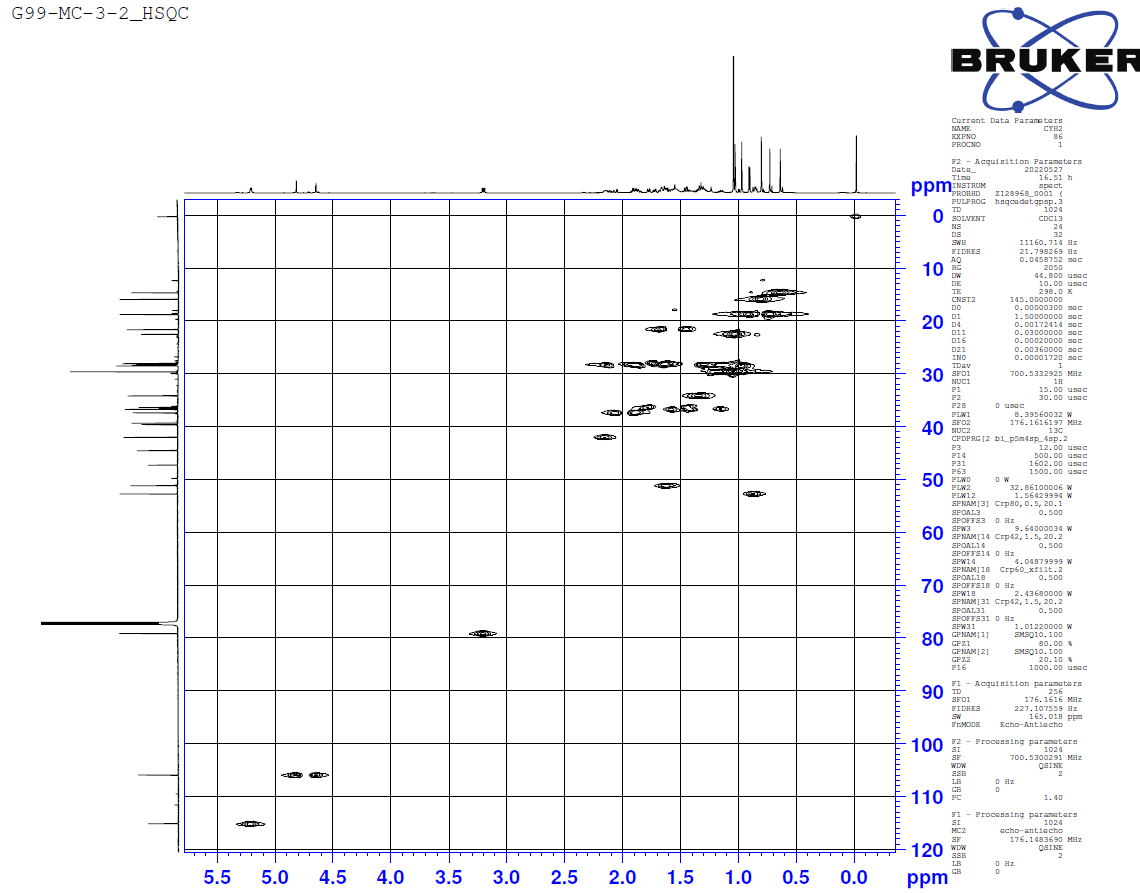
**Figure S40.** 13C-NMR spectrum (CDCl3, 175 MHz) of compound **17**



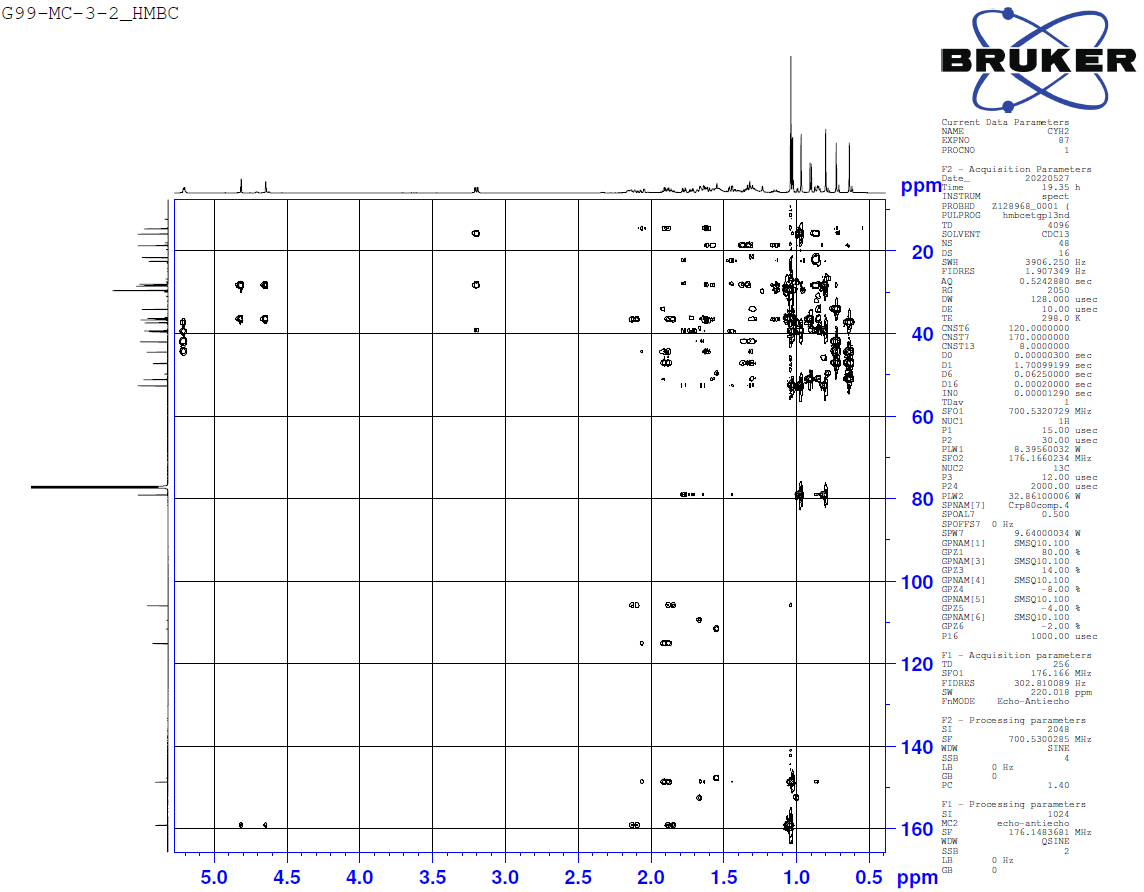
**Figure S41.** DEPT135 spectrum of compound **17**



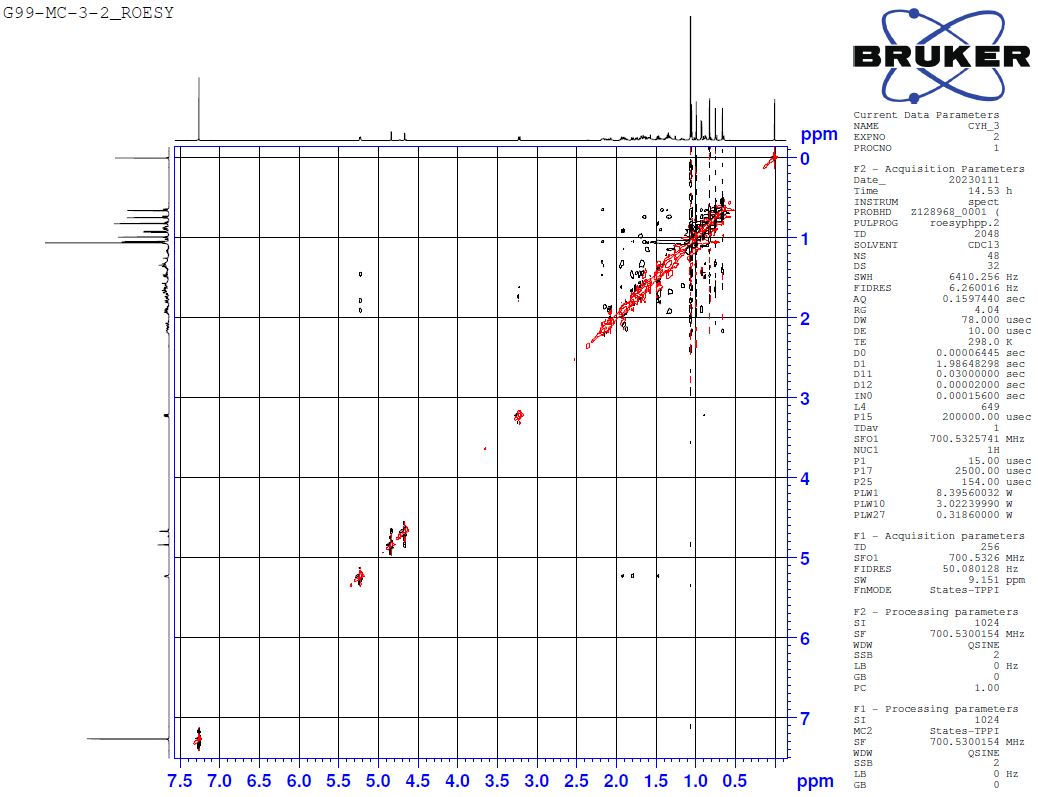
**Figure S42.** 1H-1H COSY spectrum of compound **17**



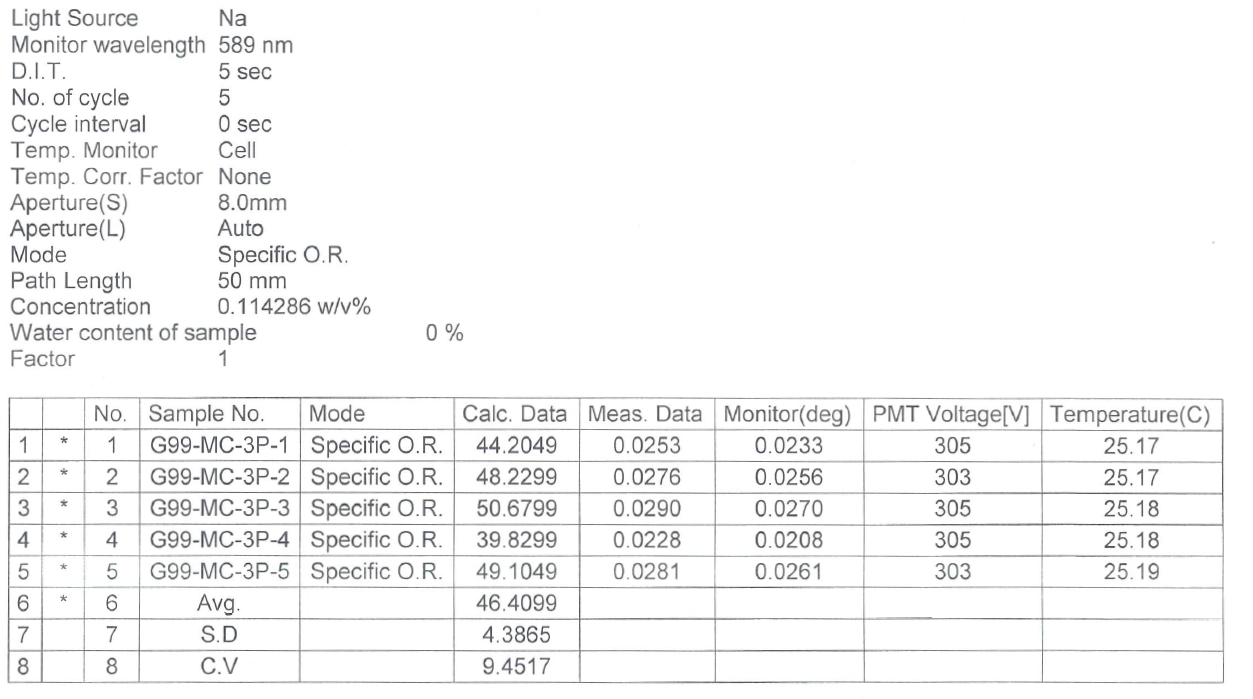
**Figure S43.** HSQC spectrum of compound **17**



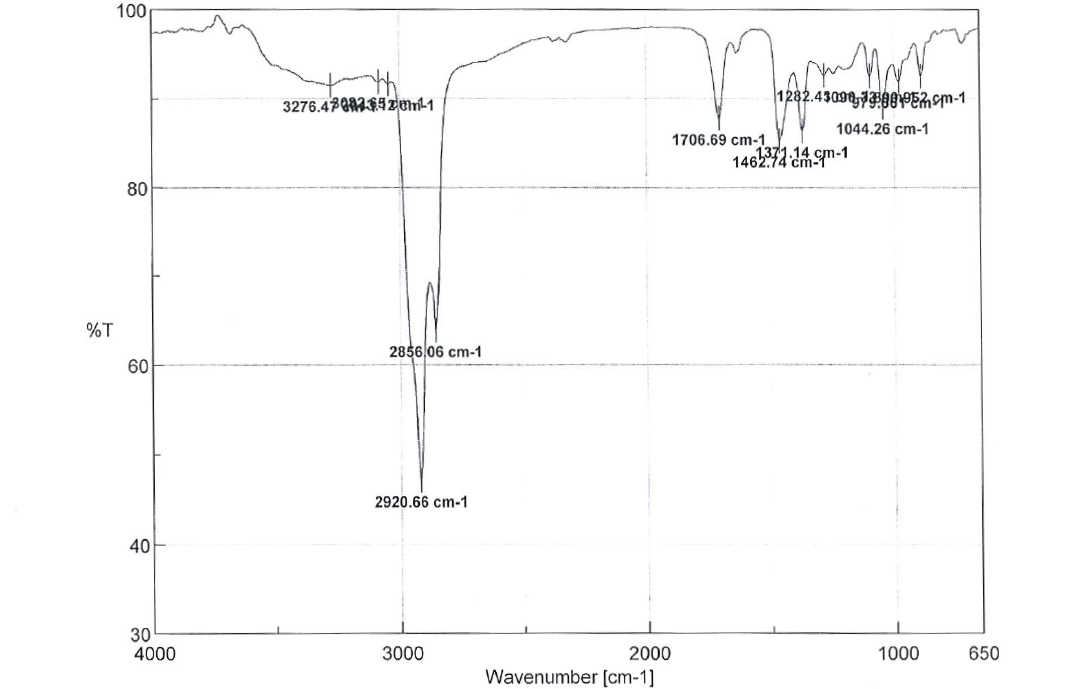
**Figure S44.** HMBC spectrum of compound **17**



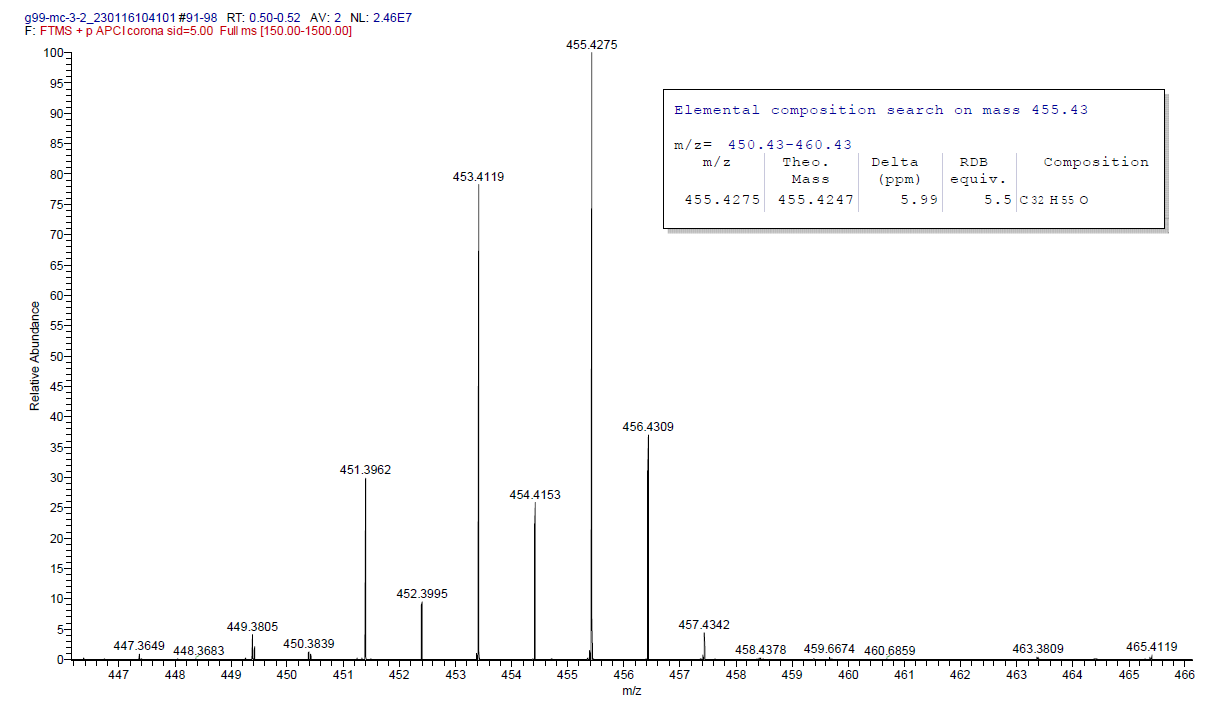
**Figure S45.** ROESY spectrum of compound **17**



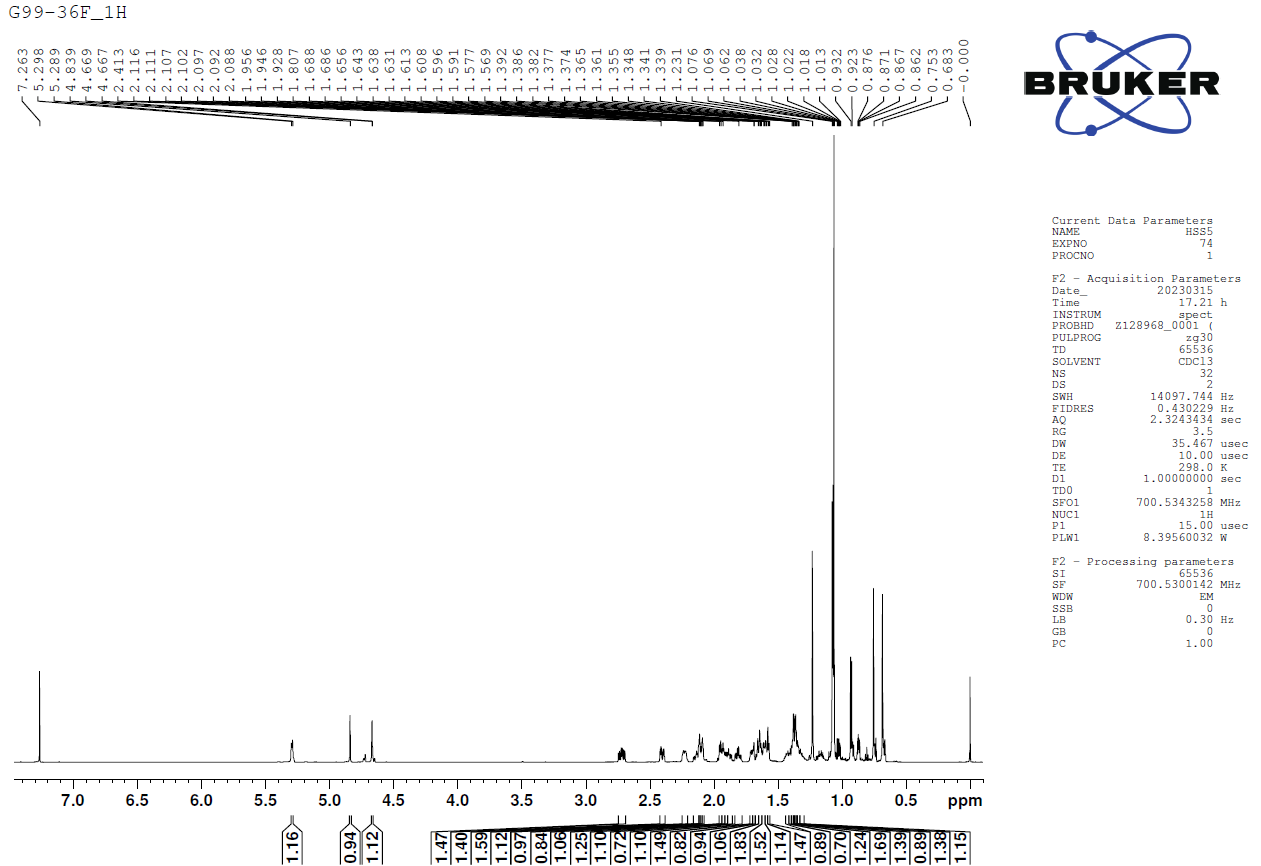
**Figure S46.** Specific optical rotation of compound **17**



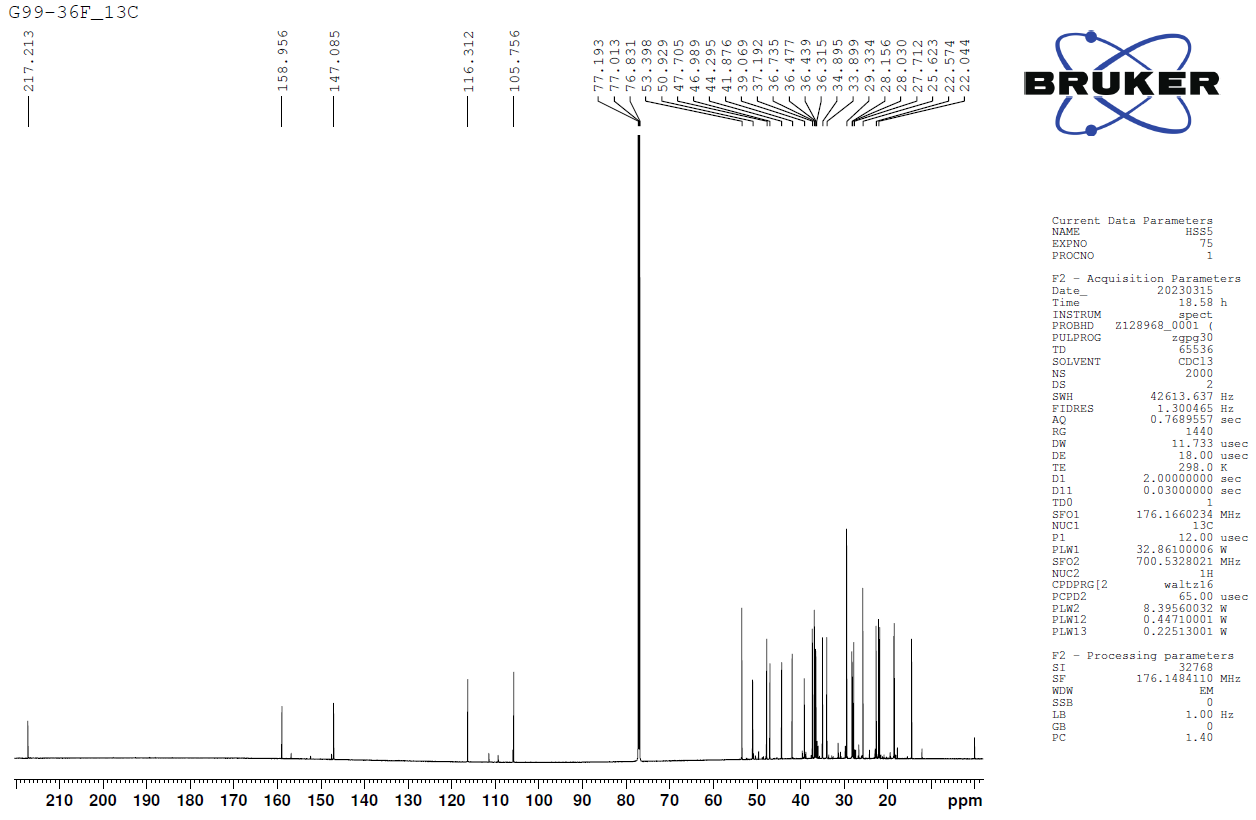
**Figure S47.** IR spectrum of compound **17**



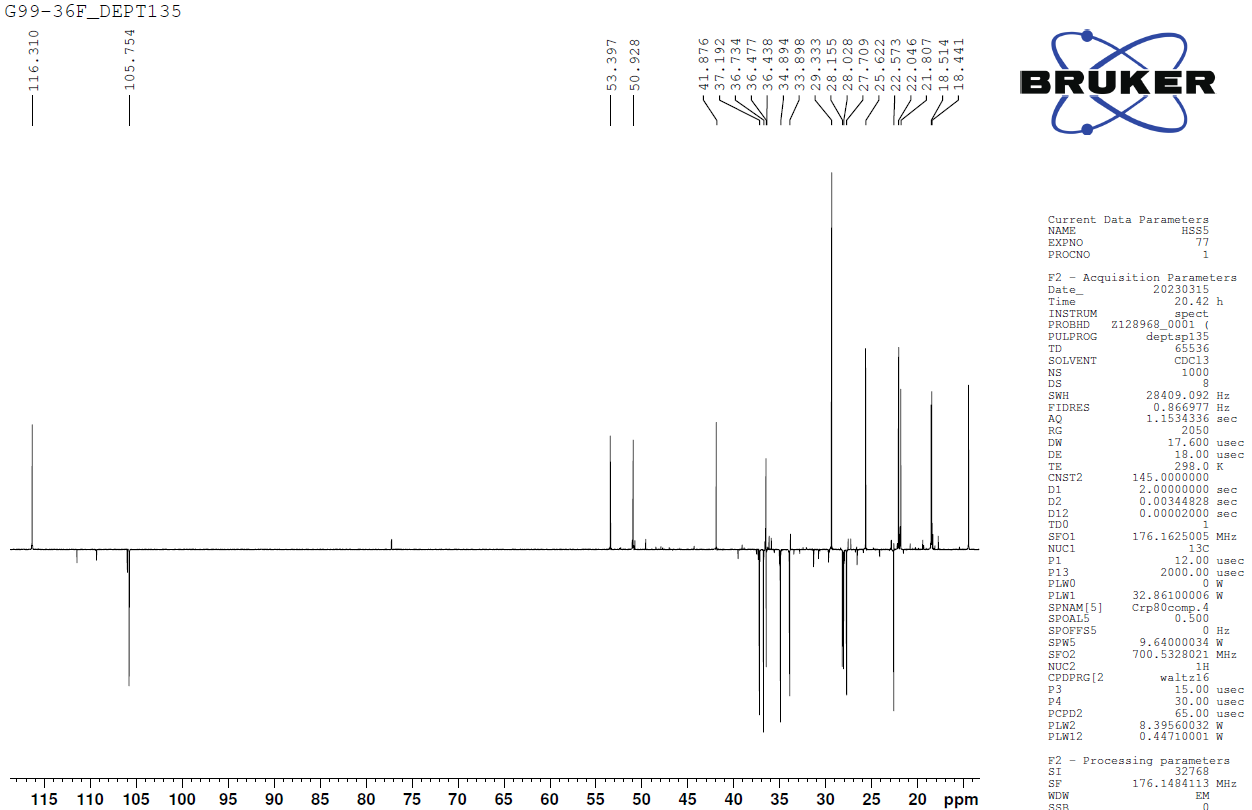
**Figure S48**. HRESIMS spectrum of compound **17**



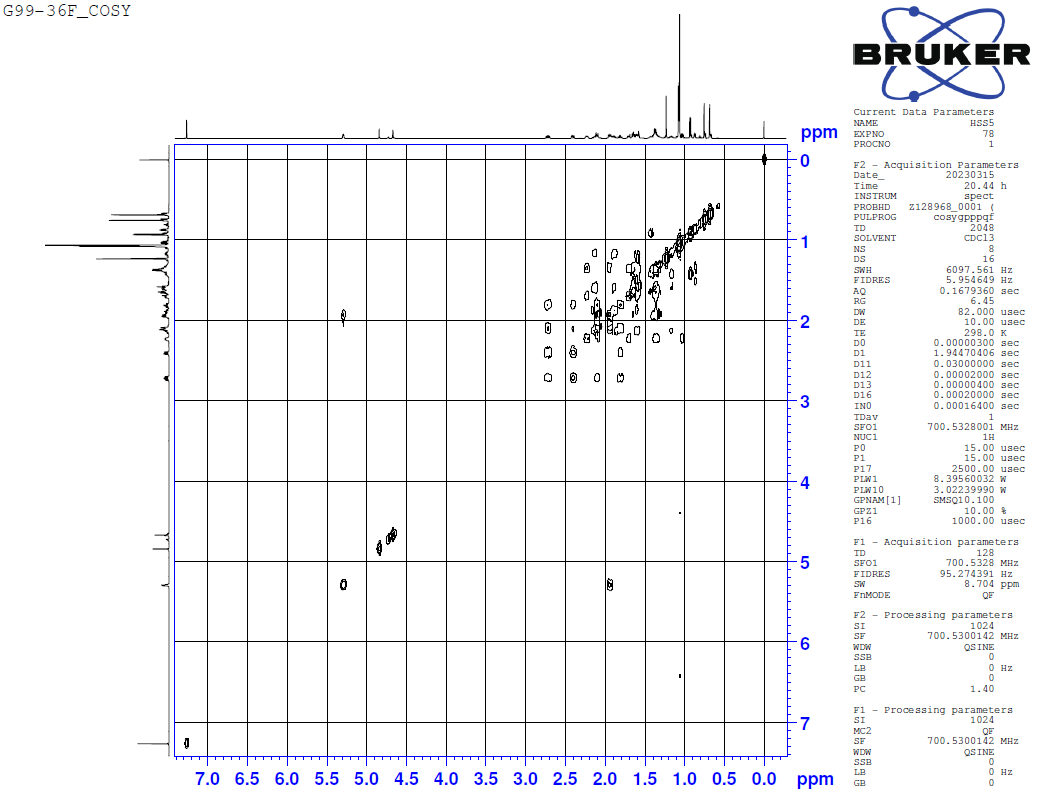
**Figure S49.** 1H-NMR spectrum (CDCl3, 700 MHz) of compound **18**



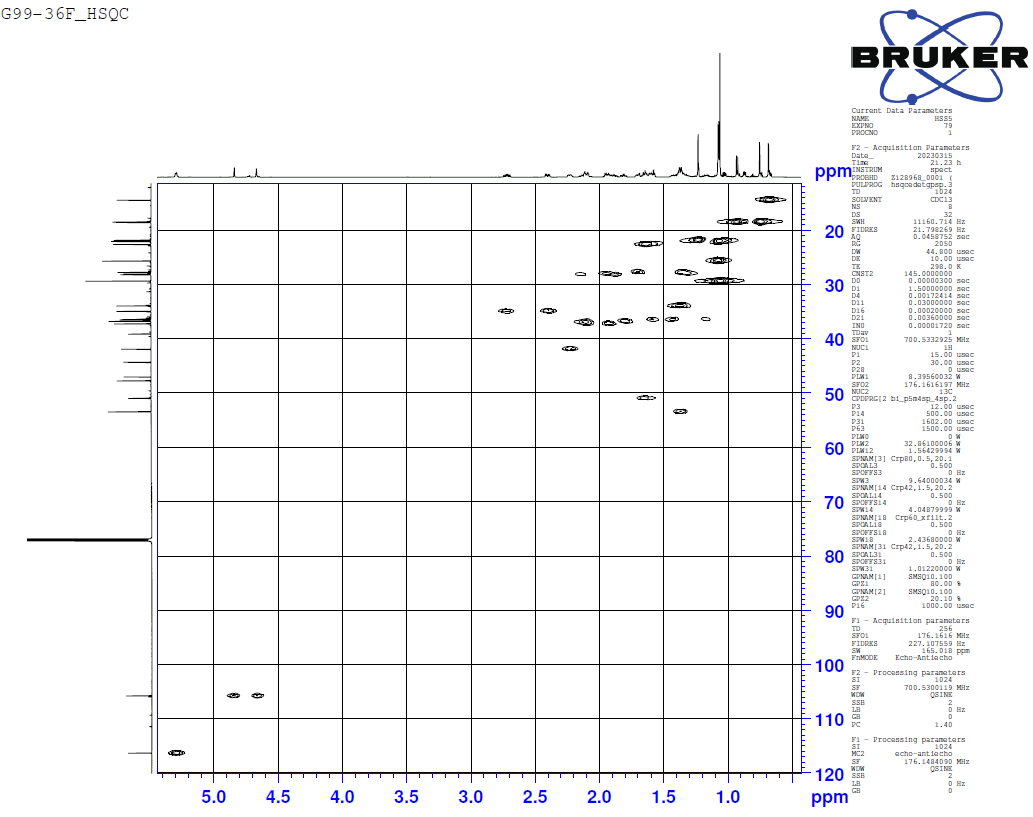
**Figure S50.** 13C-NMR spectrum (CDCl3, 175 MHz) of compound **18**



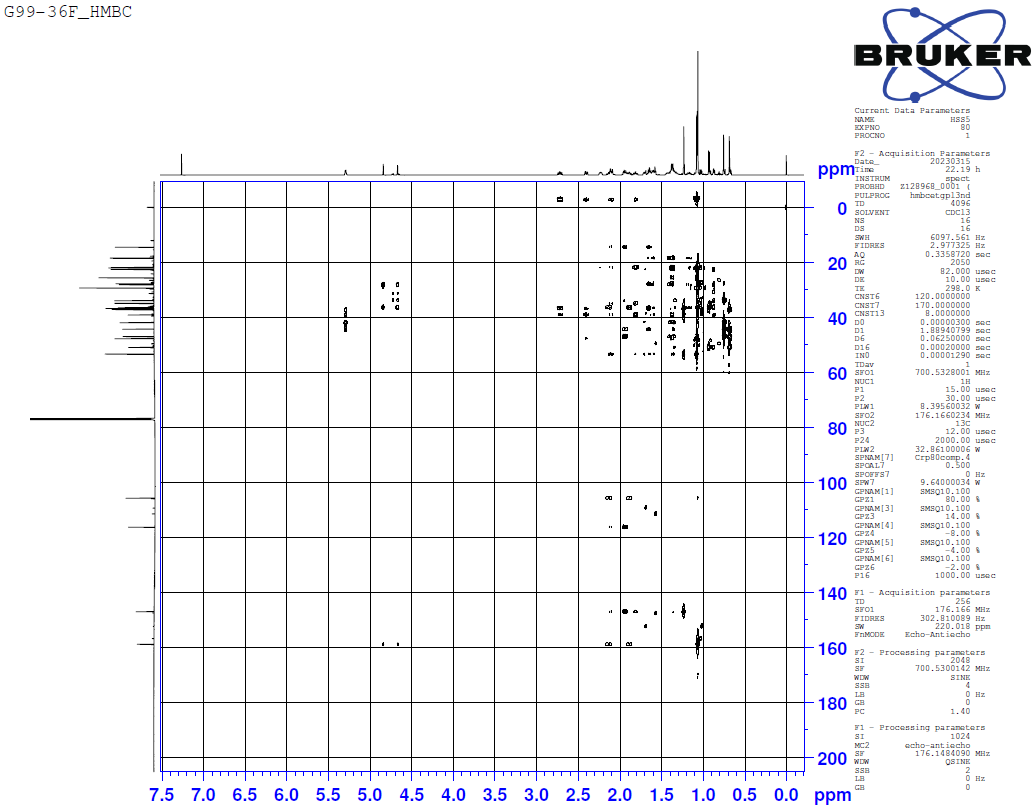
**Figure S51.** DEPT135 spectrum of compound **18**



**Figure S52.** 1H-1H COSY spectrum of compound **18**



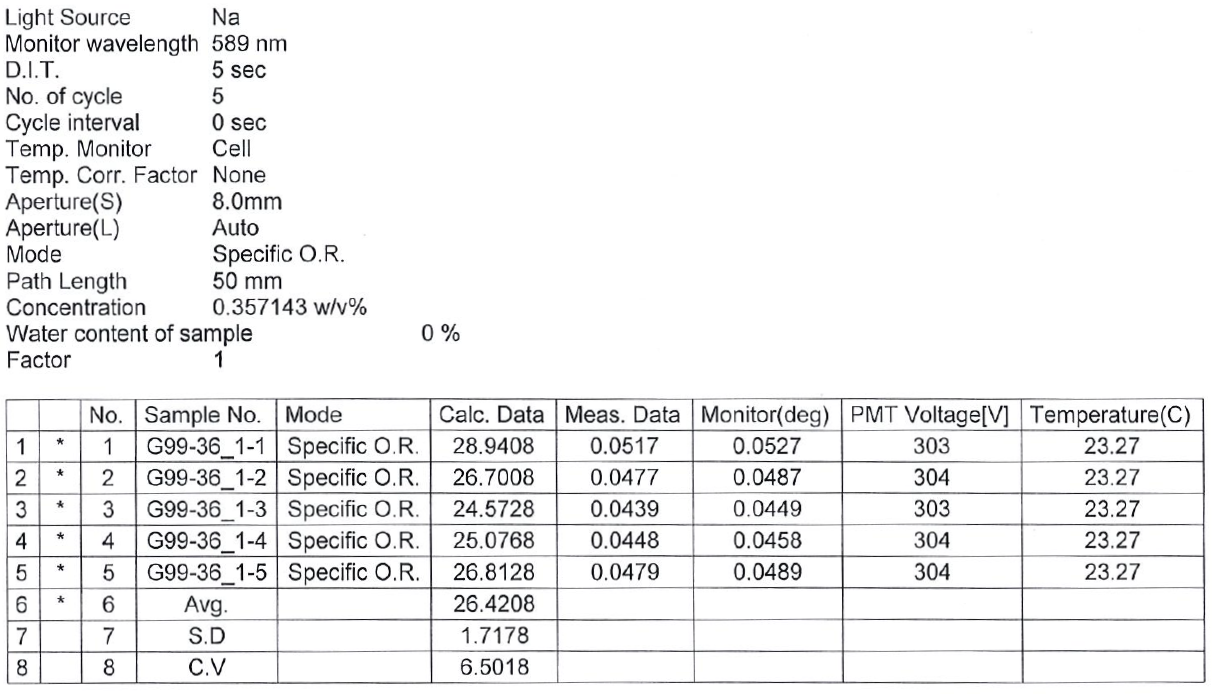
**Figure S53.** HSQC spectrum of compound **18**



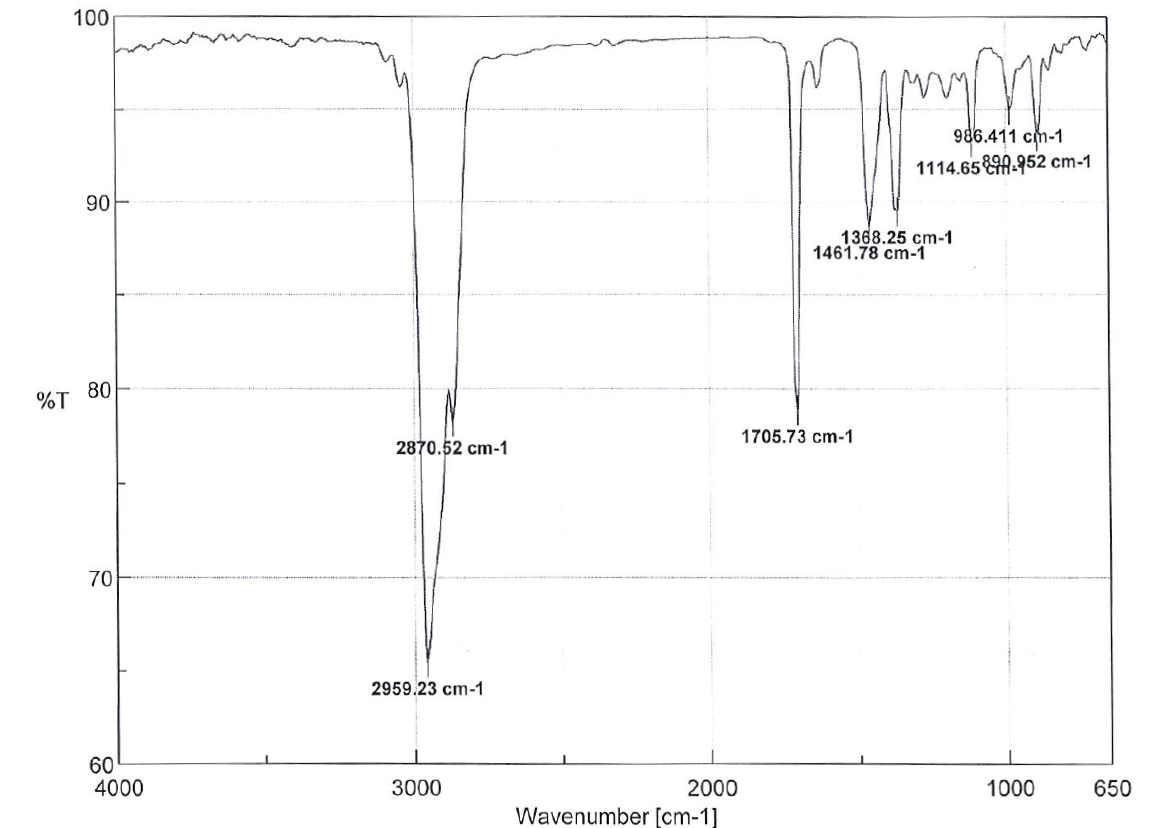
**Figure S54.** HMBC spectrum of compound **18**



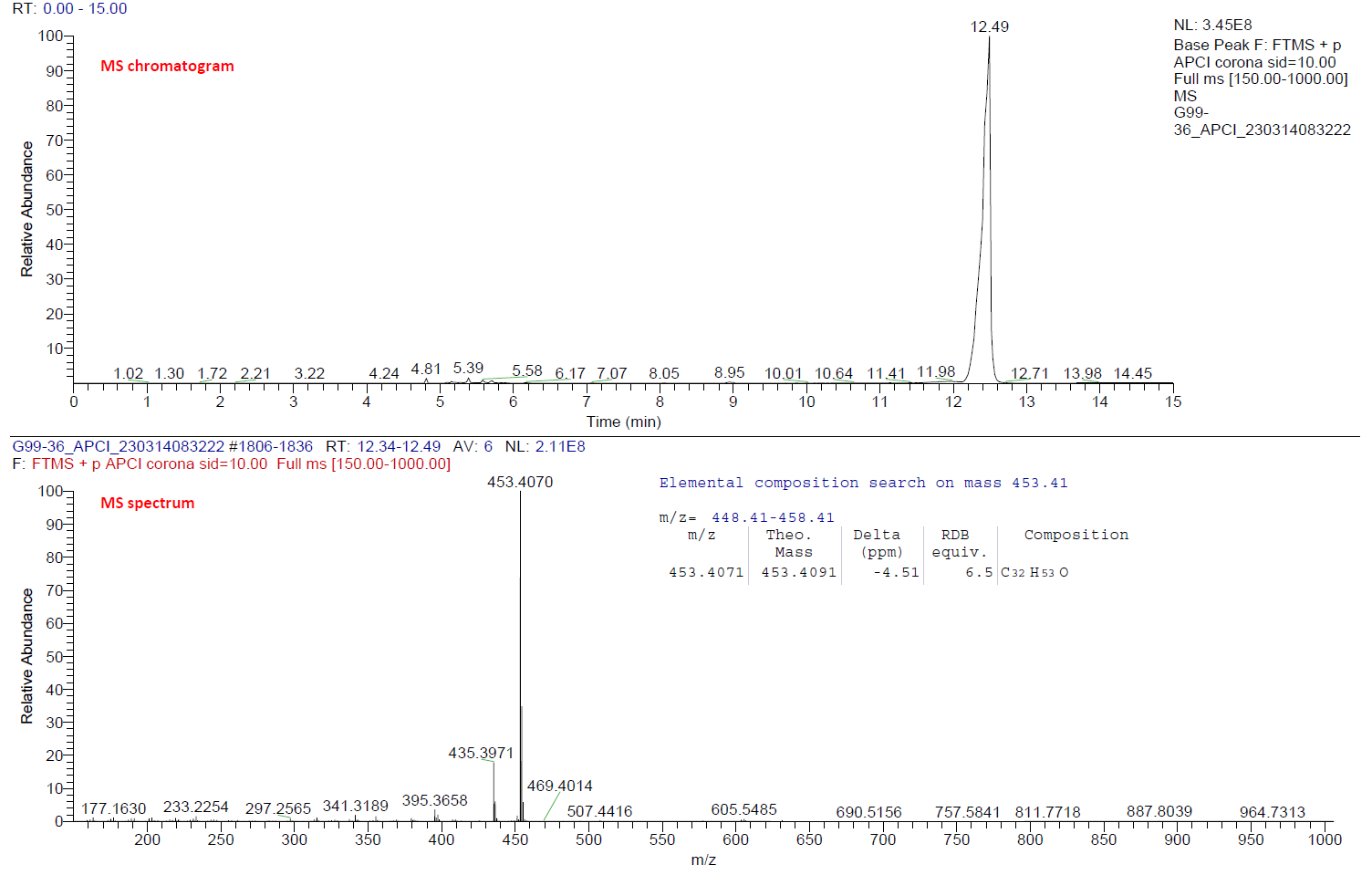
**Figure S55.** ROESY spectrum of compound **18**



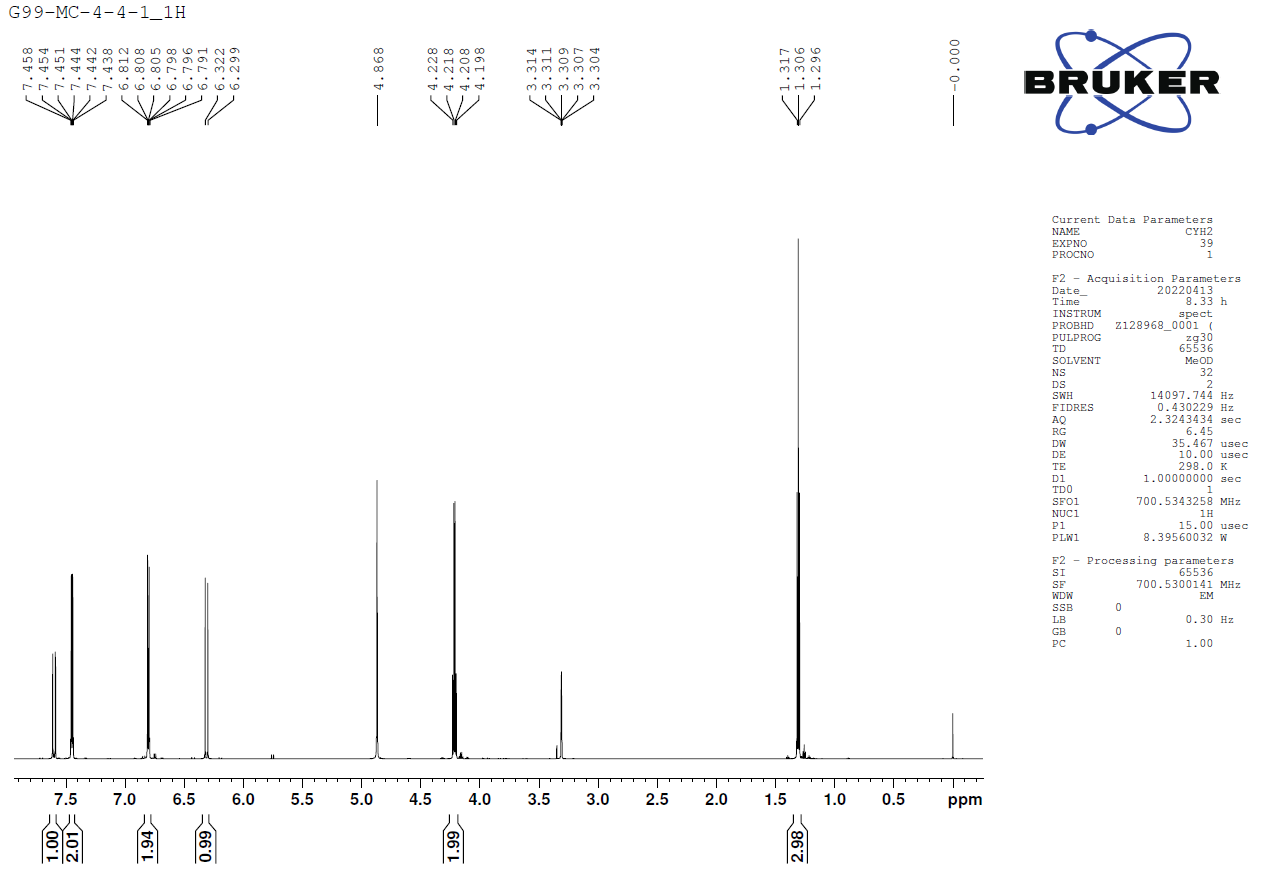
**Figure S56.** Specific optical rotation of compound **18**



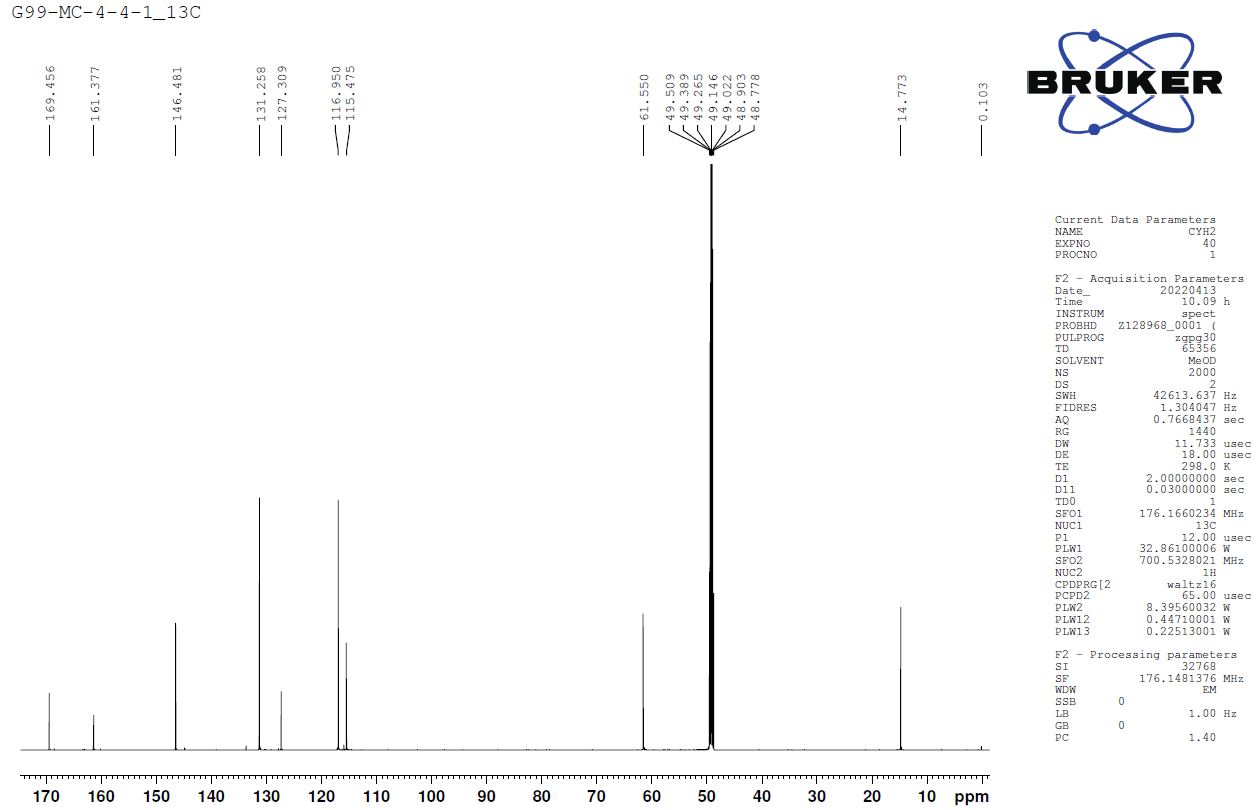
**Figure S57.** IR spectrum of compound **18**



**Figure S58**. HRESIMS spectrum of compound **18**



**Figure S59.** 1H-NMR spectrum (CD3OD, 700 MHz) of compound **19**



**Figure S60.** 13C-NMR spectrum (CD3OD, 175 MHz) of compound **19**