

## Supplementary Material

### Synthesis of 8-aminoquinoline chelating moieties for chemosensor molecules

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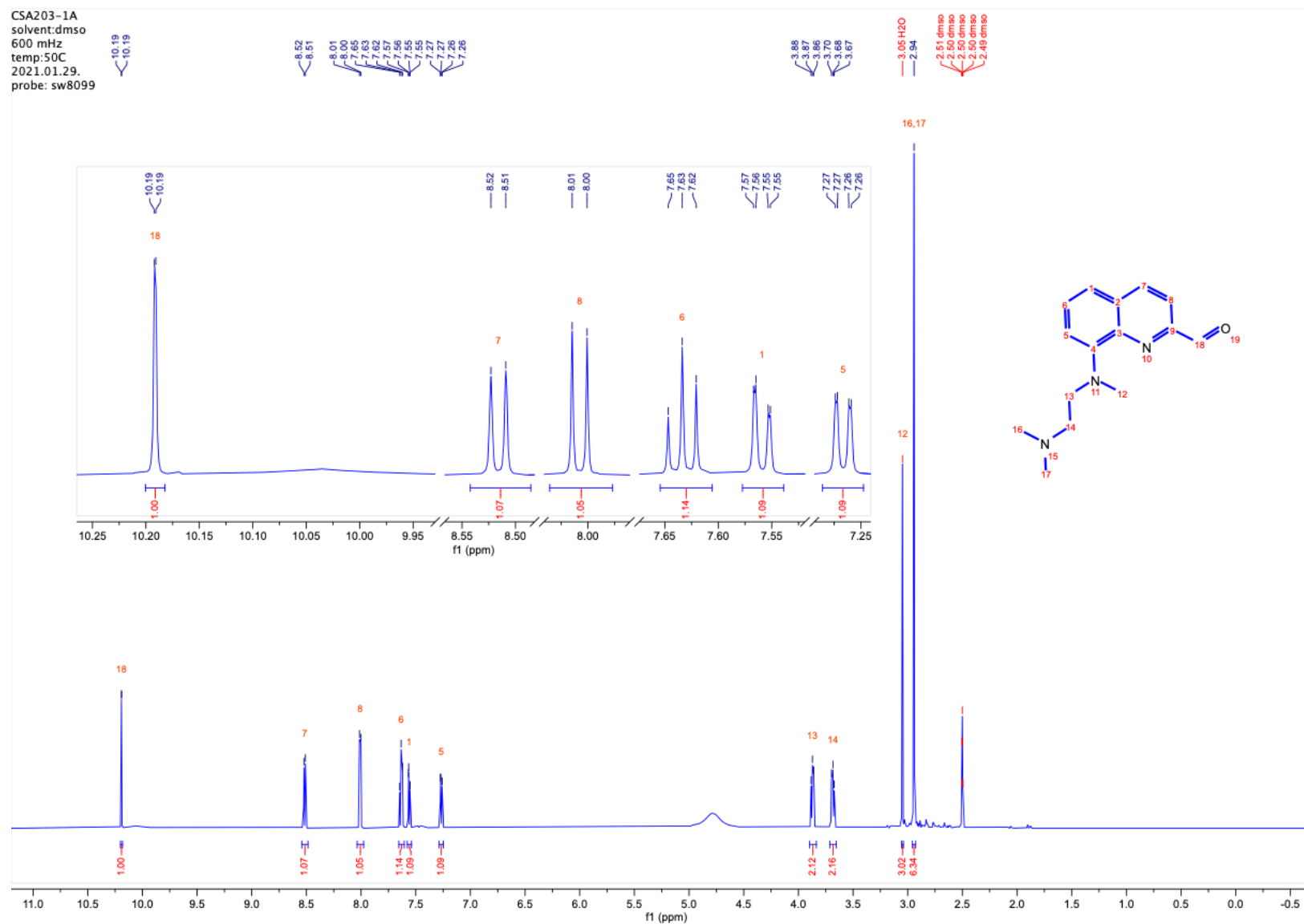


Figure S1.:  $^1\text{H}$  NMR spectrum of compound **1b** recorded at 600 MHz in  $\text{DMSO-}d_6$ .

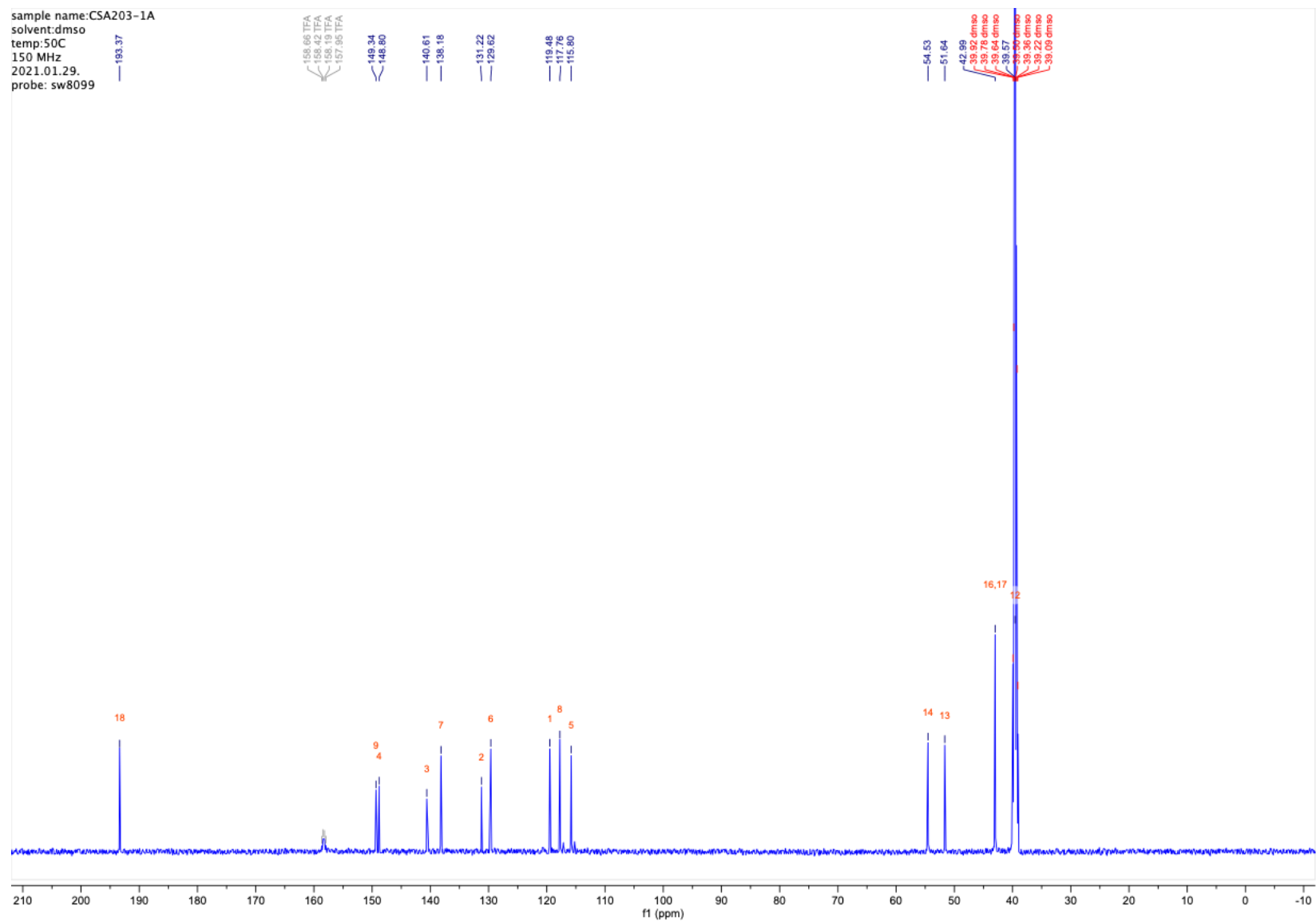


Figure S2.:  $^{13}\text{C}$  NMR spectrum of compound **1b** recorded at 150 MHz in  $\text{DMSO-}d_6$ .

CSA203 #145-180 RT: 0.66-0.82 AV: 36 NL: 2.53E8  
T: FTMS + p ESI Full ms [200.0000-1500.0000]

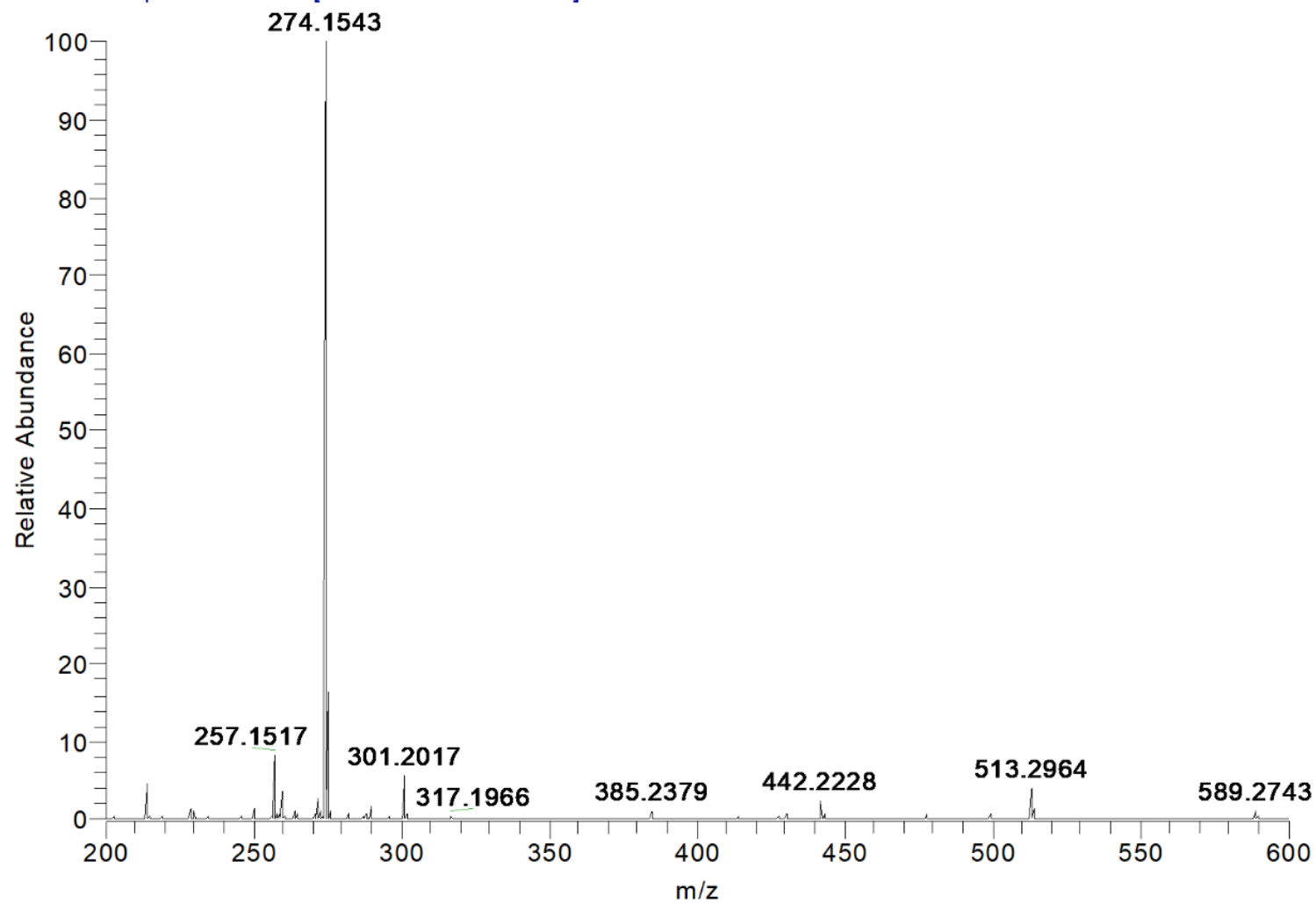


Figure S3.: HRMS spectrum of **1b**.

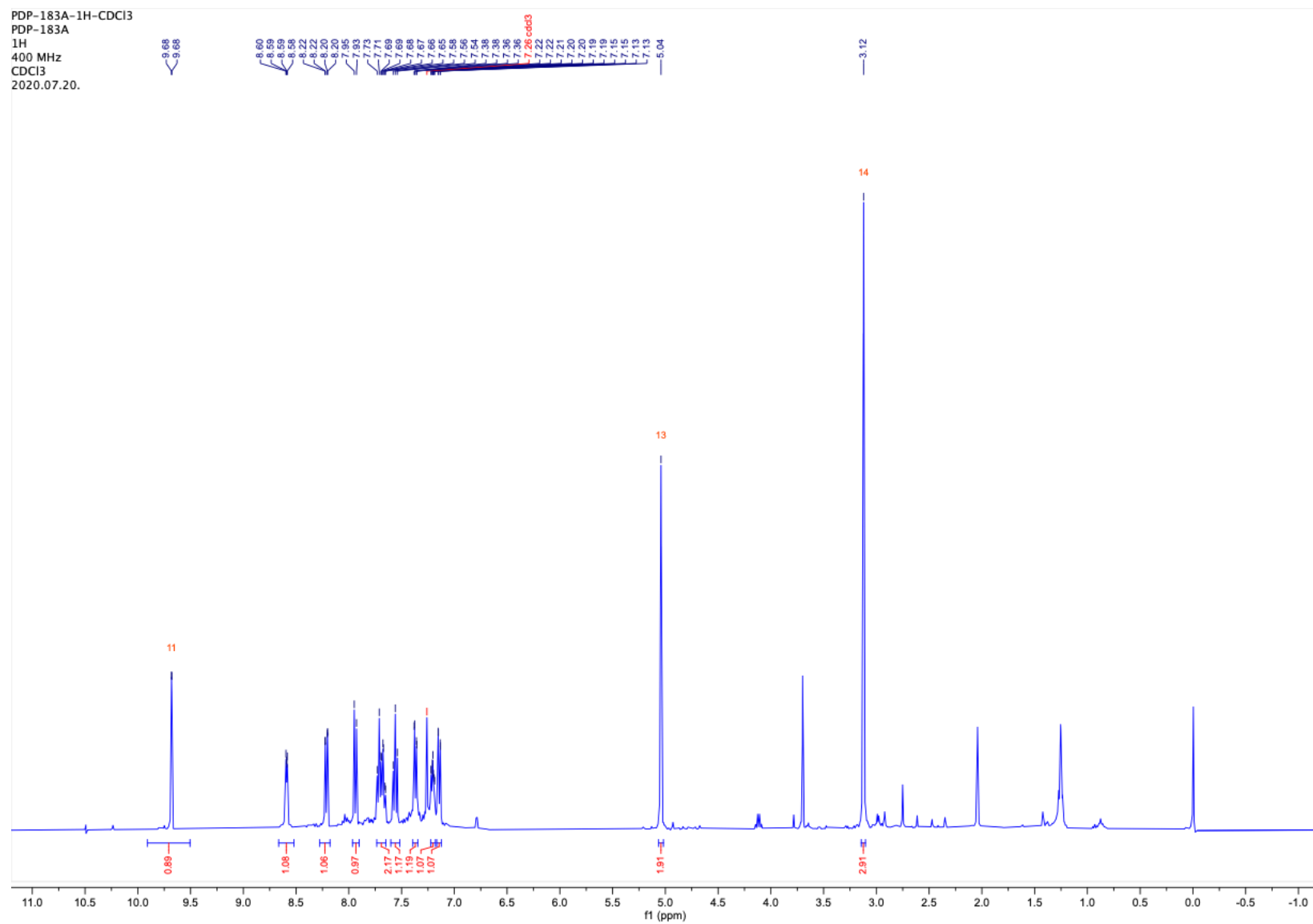


Figure S4.:  $^1\text{H}$  NMR spectrum of compound **1c** recorded at 400 MHz in Chloroform-*d*.

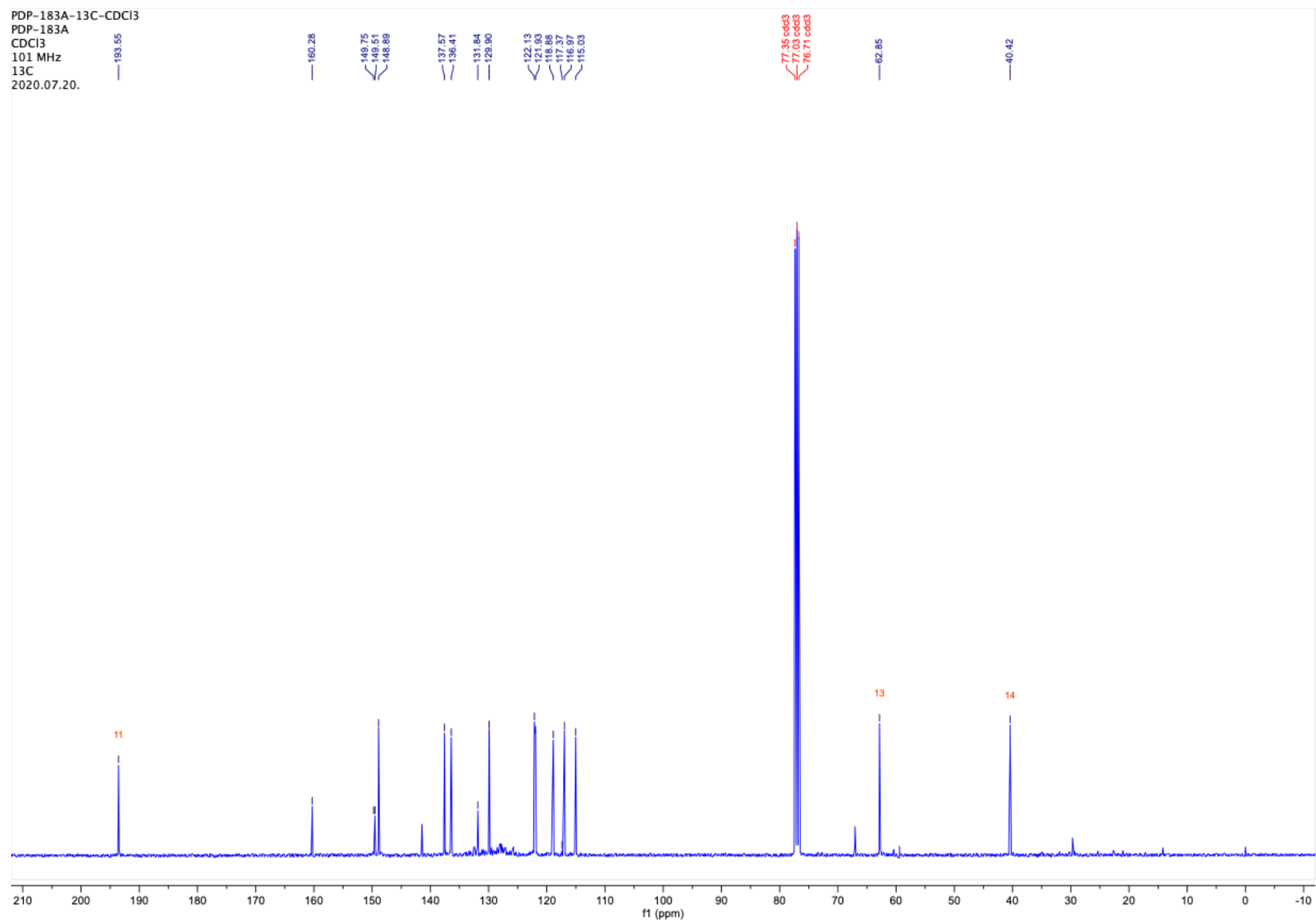


Figure S5.:  $^{13}\text{C}$  NMR spectrum of compound **1c** recorded at 101 MHz in Chloroform-*d*.

PDP183 #117-160 RT: 0.53-0.72 AV: 44 NL: 4.42E8  
T: FTMS + p ESI Full ms [200.0000-1500.0000]

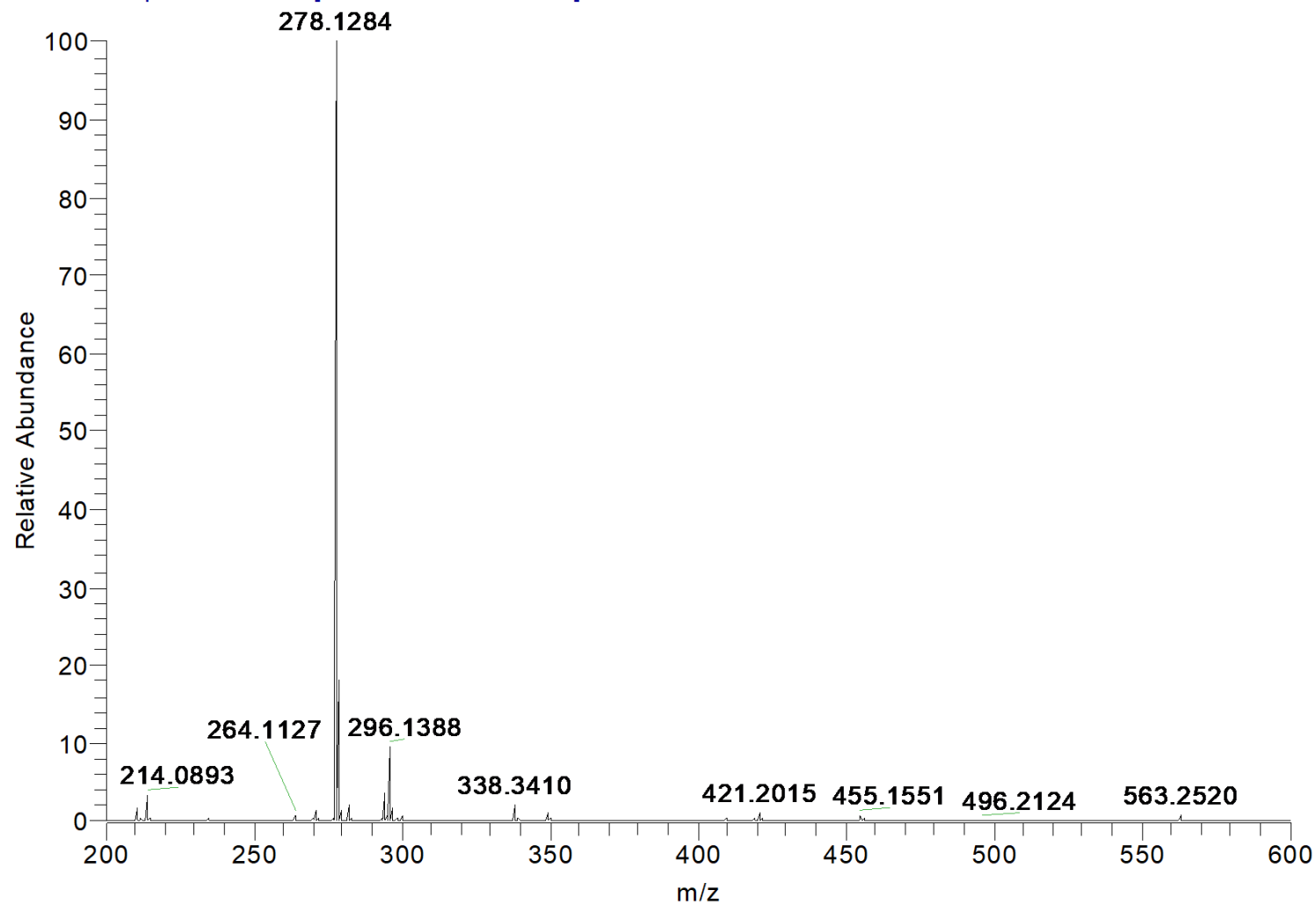


Figure S6.: HRMS spectrum of 1c.



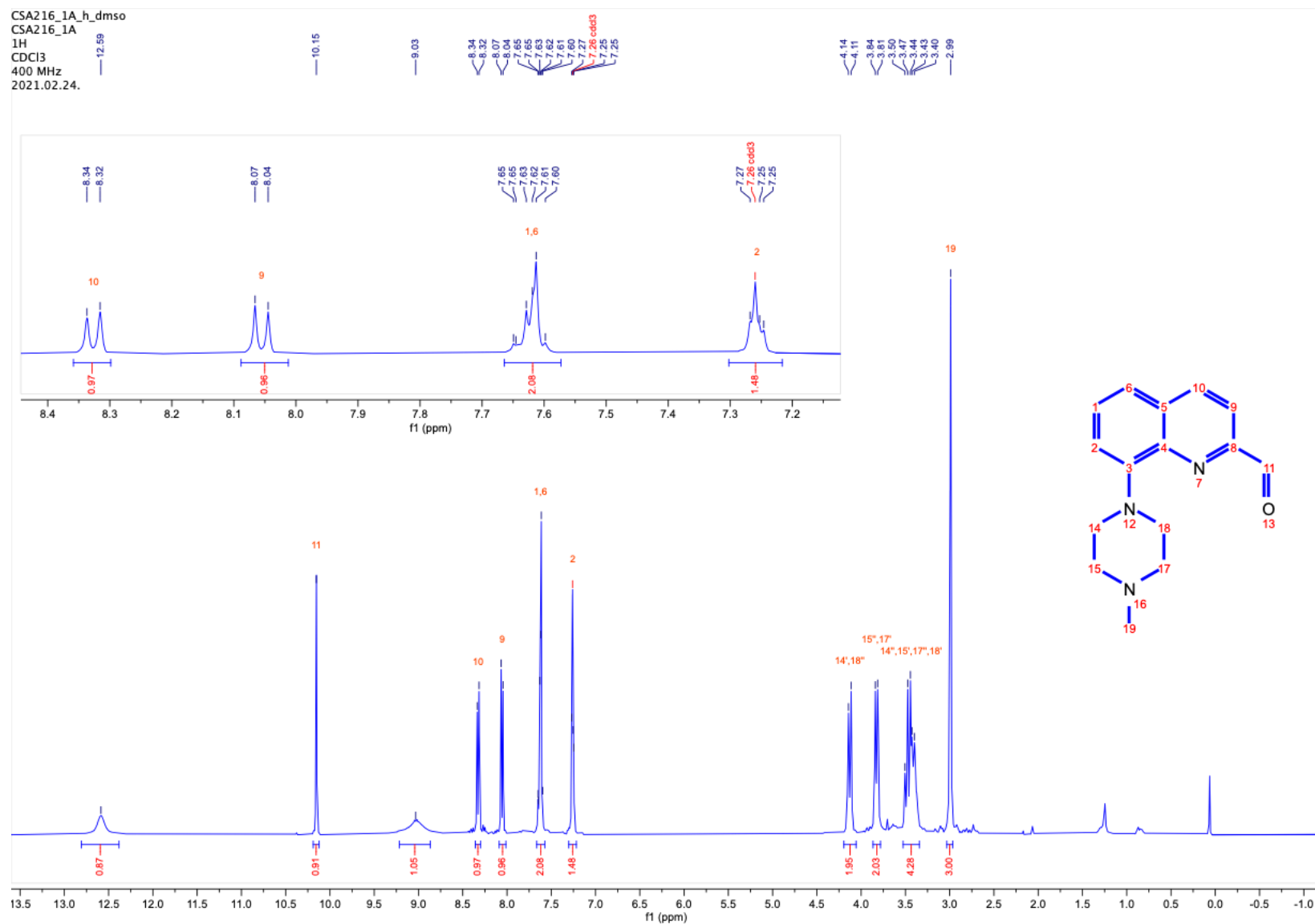


Figure S7.:  $^1\text{H}$  NMR spectrum of compound **1d** recorded at 400 MHz in Chloroform-*d*.

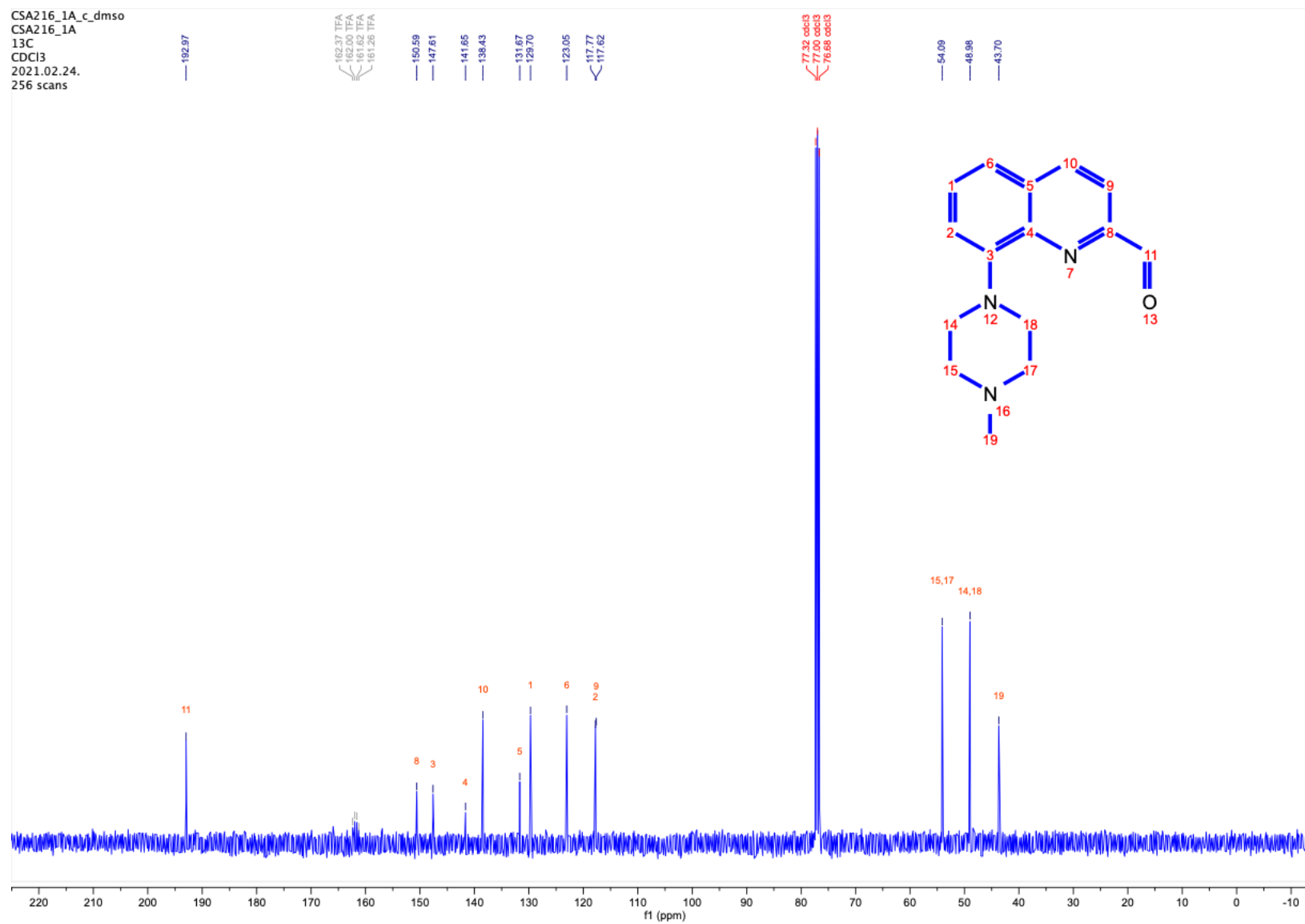


Figure S8.:  $^{13}\text{C}$  NMR spectrum of compound **1d** recorded at 101 MHz in Chloroform-*d*.

CSA216 #108-141 RT: 0.49-0.64 AV: 34 NL: 8.46E7  
T: FTMS + p ESI Full ms [200.0000-1500.0000]

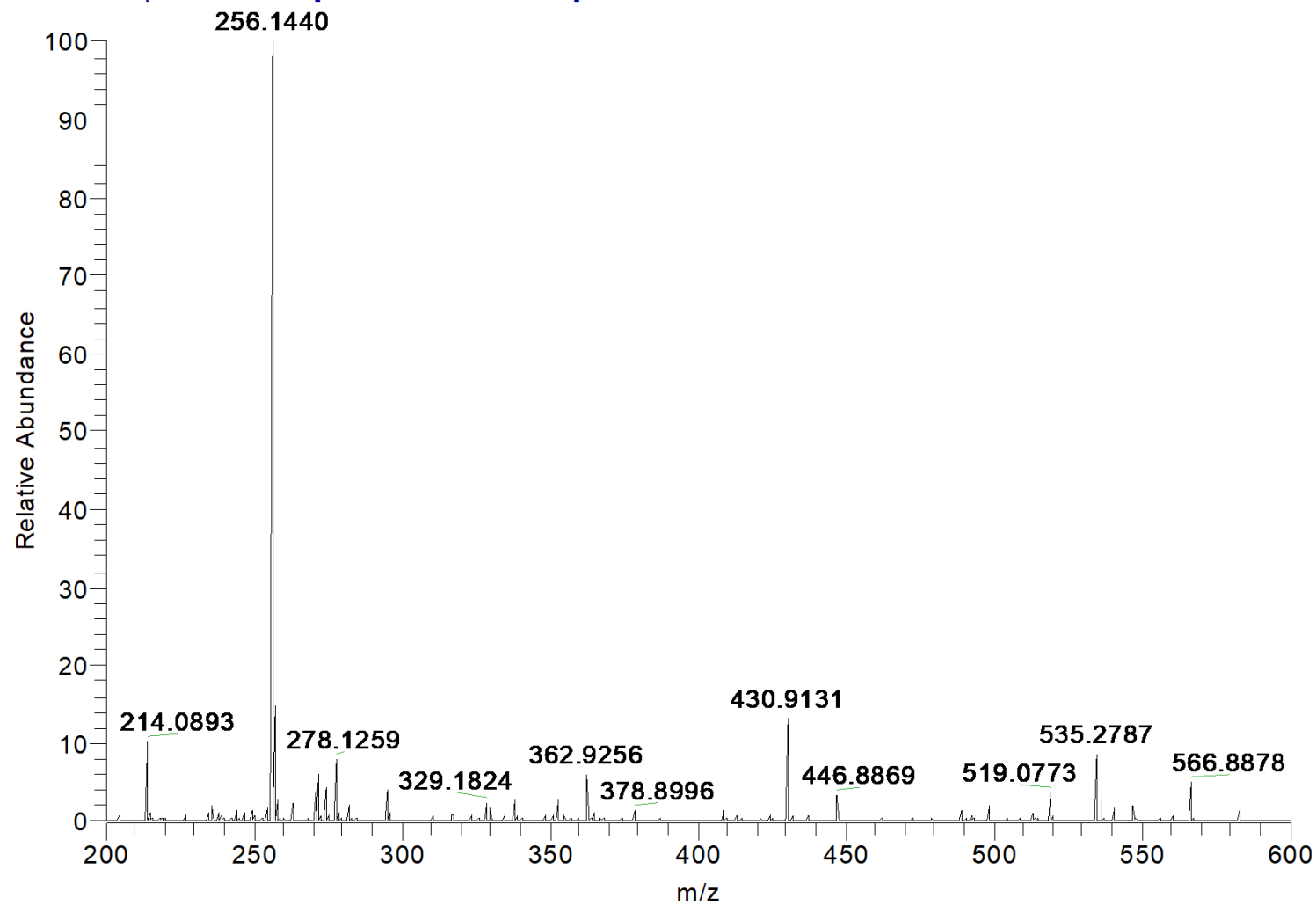


Figure S9.: HRMS spectrum of 1d.

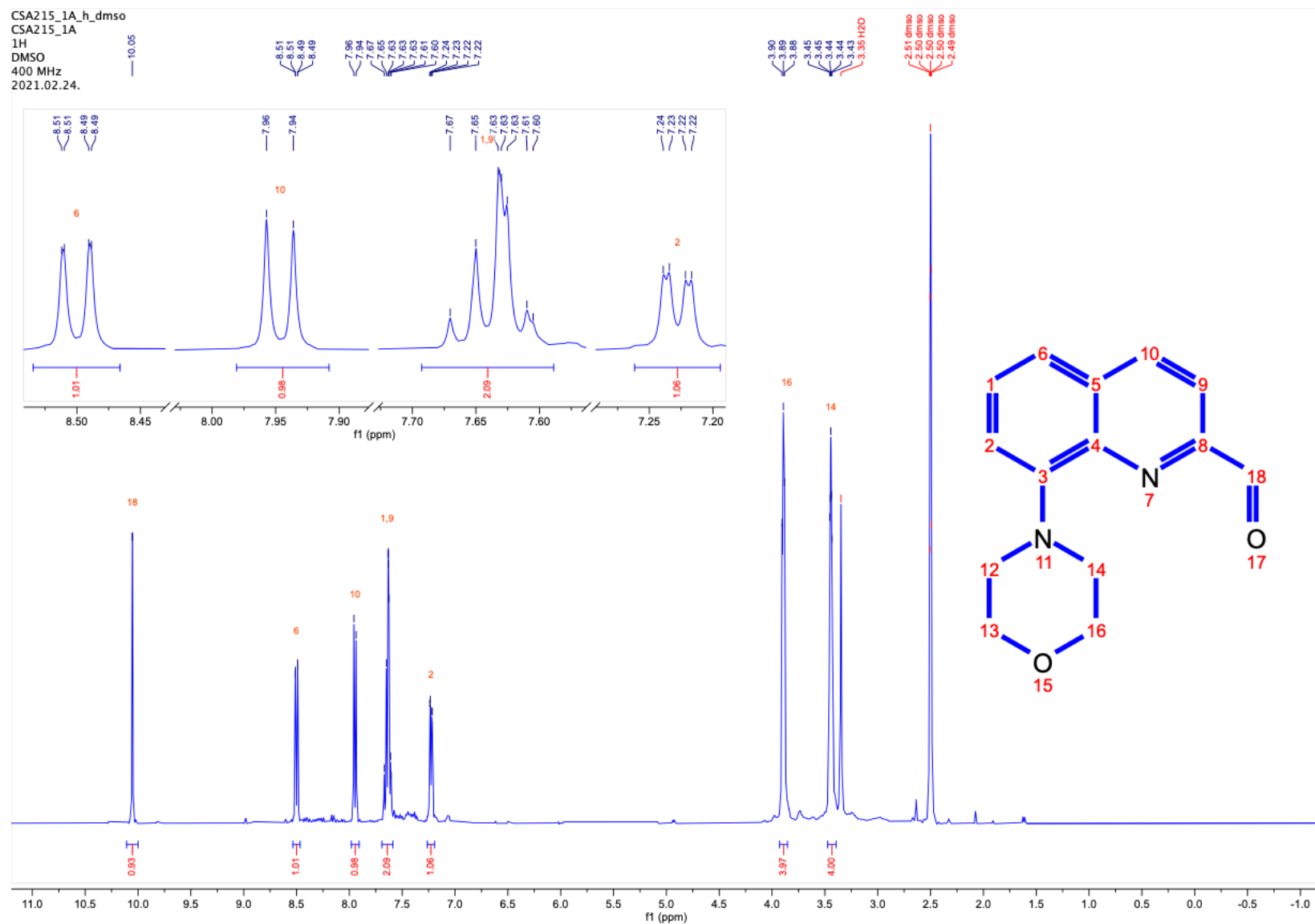


Figure S10.: <sup>1</sup>H NMR spectrum of compound **1e** recorded at 400 MHz in DMSO-*d*<sub>6</sub>.

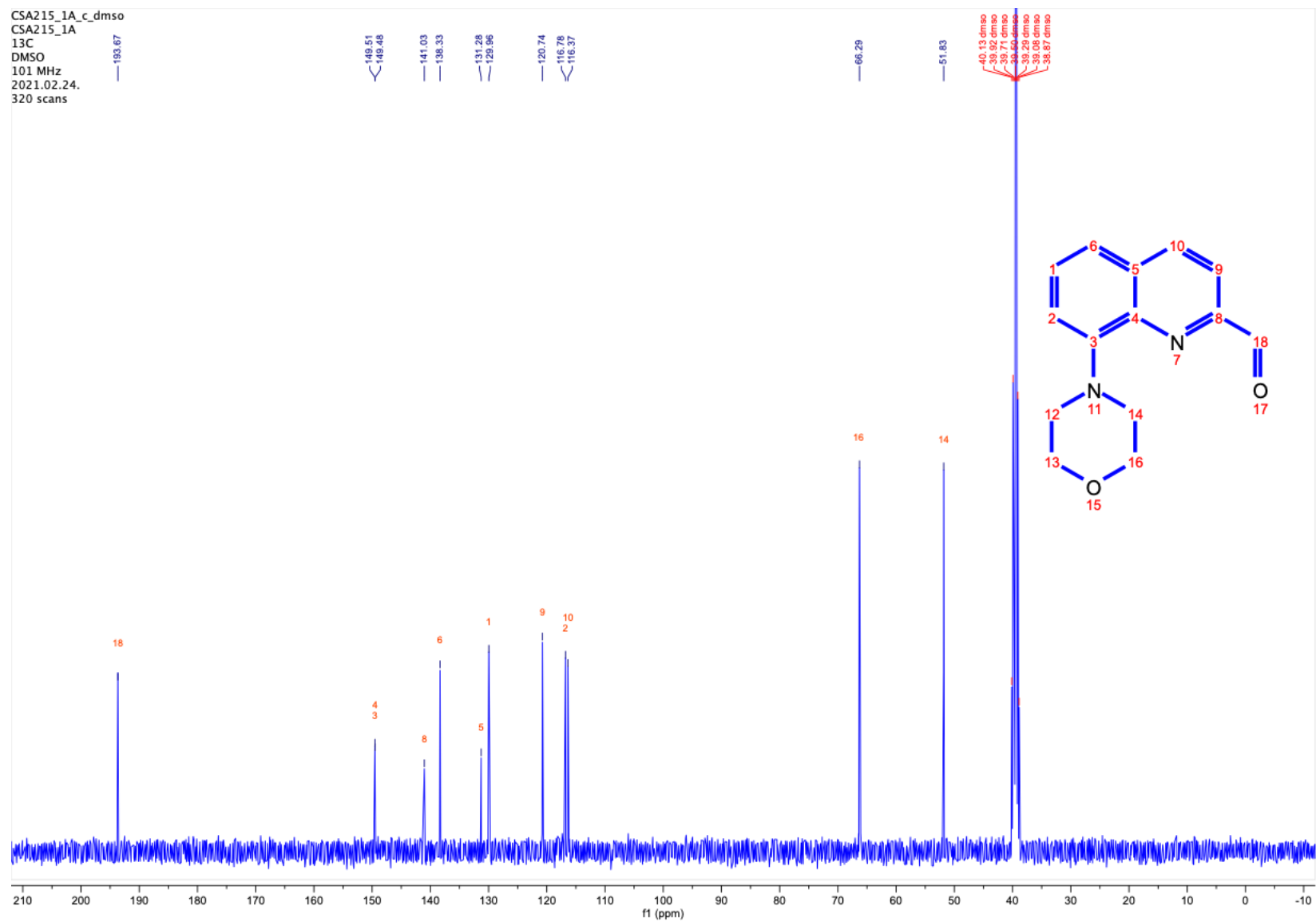


Figure S11.:  $^{13}\text{C}$  NMR spectrum of compound **1e** recorded at 101 MHz in  $\text{DMSO-}d_6$ .

CSA215 #108-150 RT: 0.49-0.68 AV: 43 NL: 5.93E8  
T: FTMS + p ESI Full ms [200.0000-1500.0000]

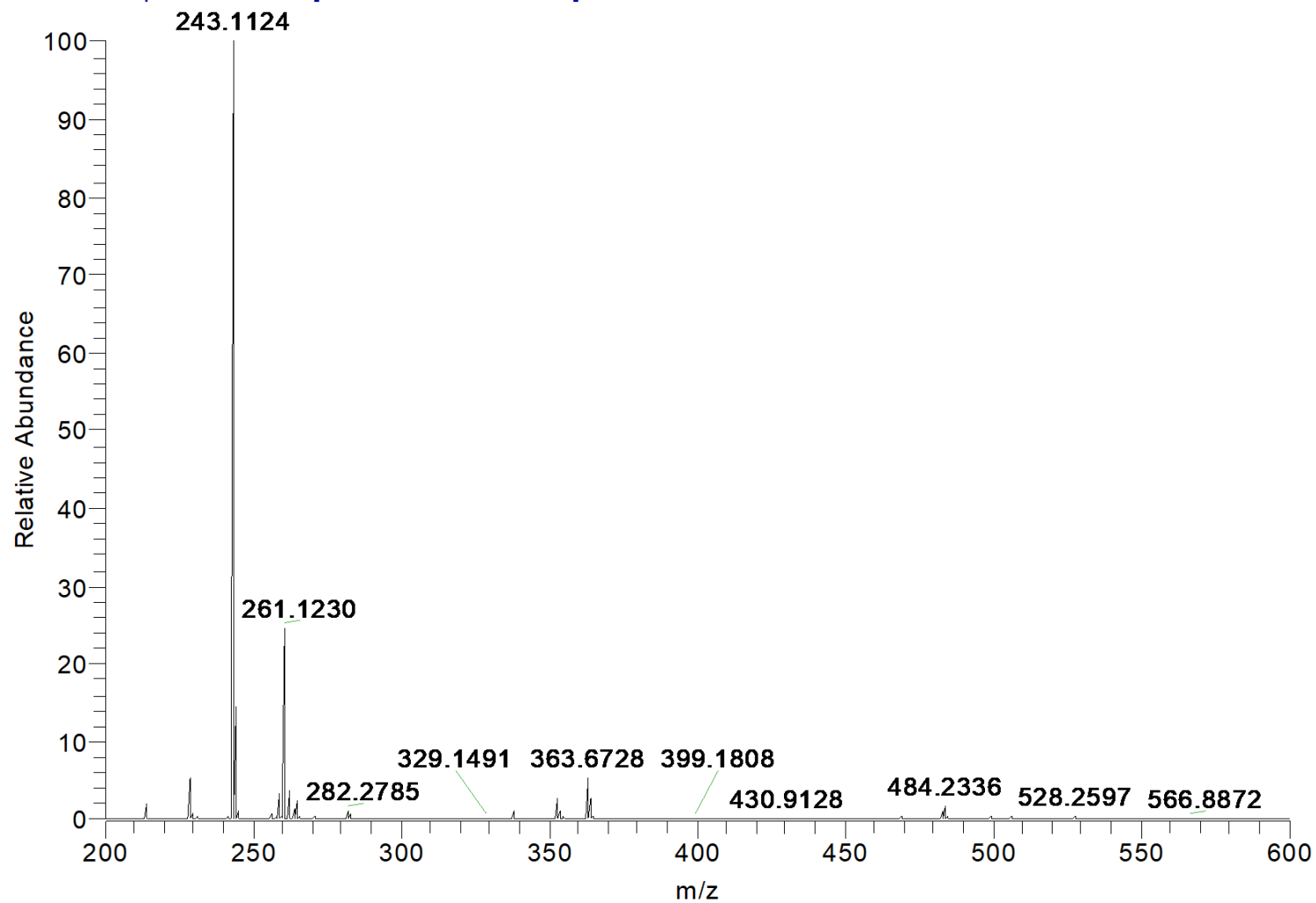


Figure S12.: HRMS spectrum of 1e.

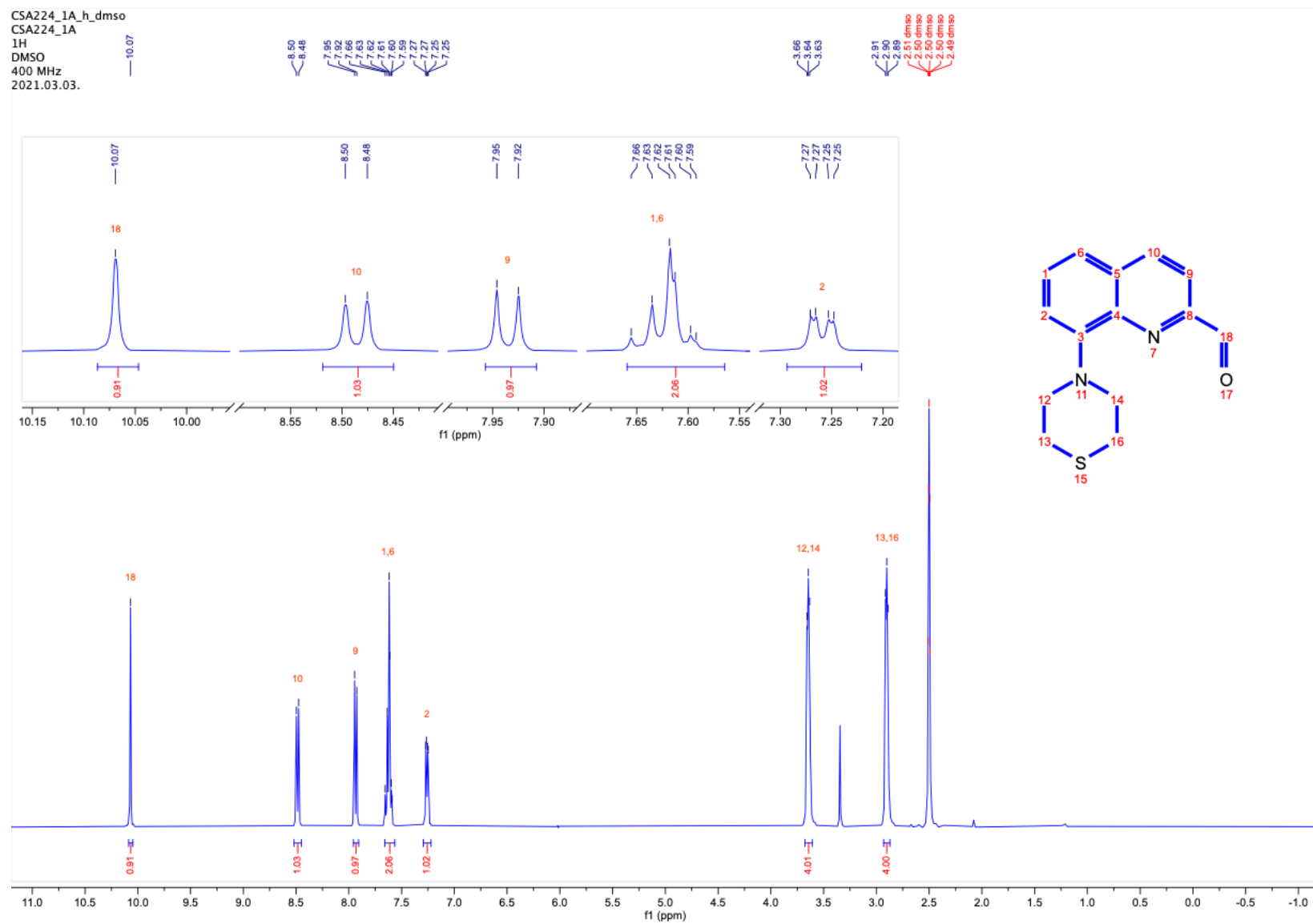


Figure S13.: <sup>1</sup>H NMR spectrum of compound **1f** recorded at 400 MHz in DMSO-*d*<sub>6</sub>.

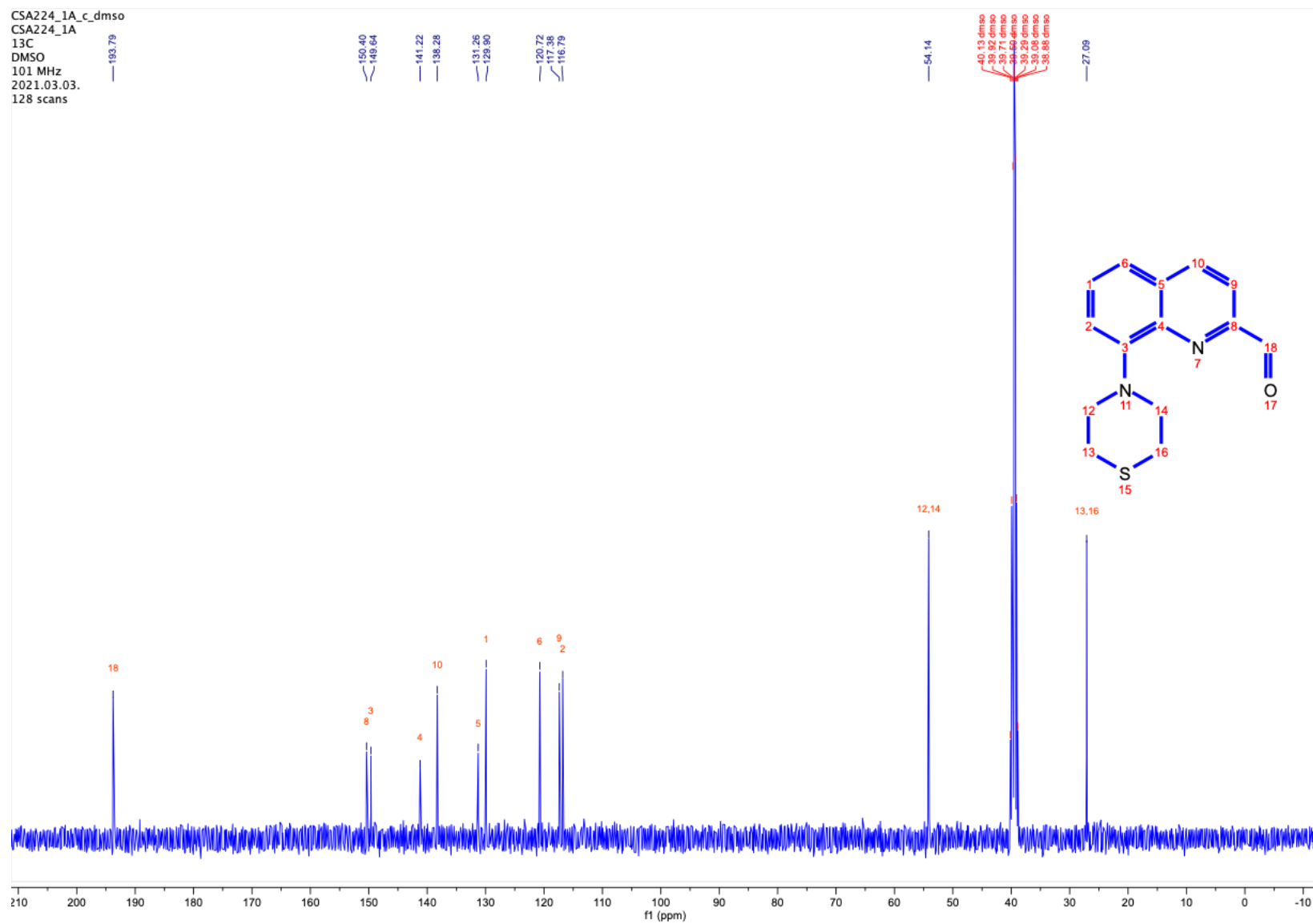


Figure S14.:  $^{13}\text{C}$  NMR spectrum of compound **1f** recorded at 101 MHz in  $\text{DMSO-}d_6$ .



CSA224\_1A #111-146 RT: 0.50-0.66 AV: 36 NL: 2.98E8  
T: FTMS + p ESI Full ms [200.0000-1500.0000]

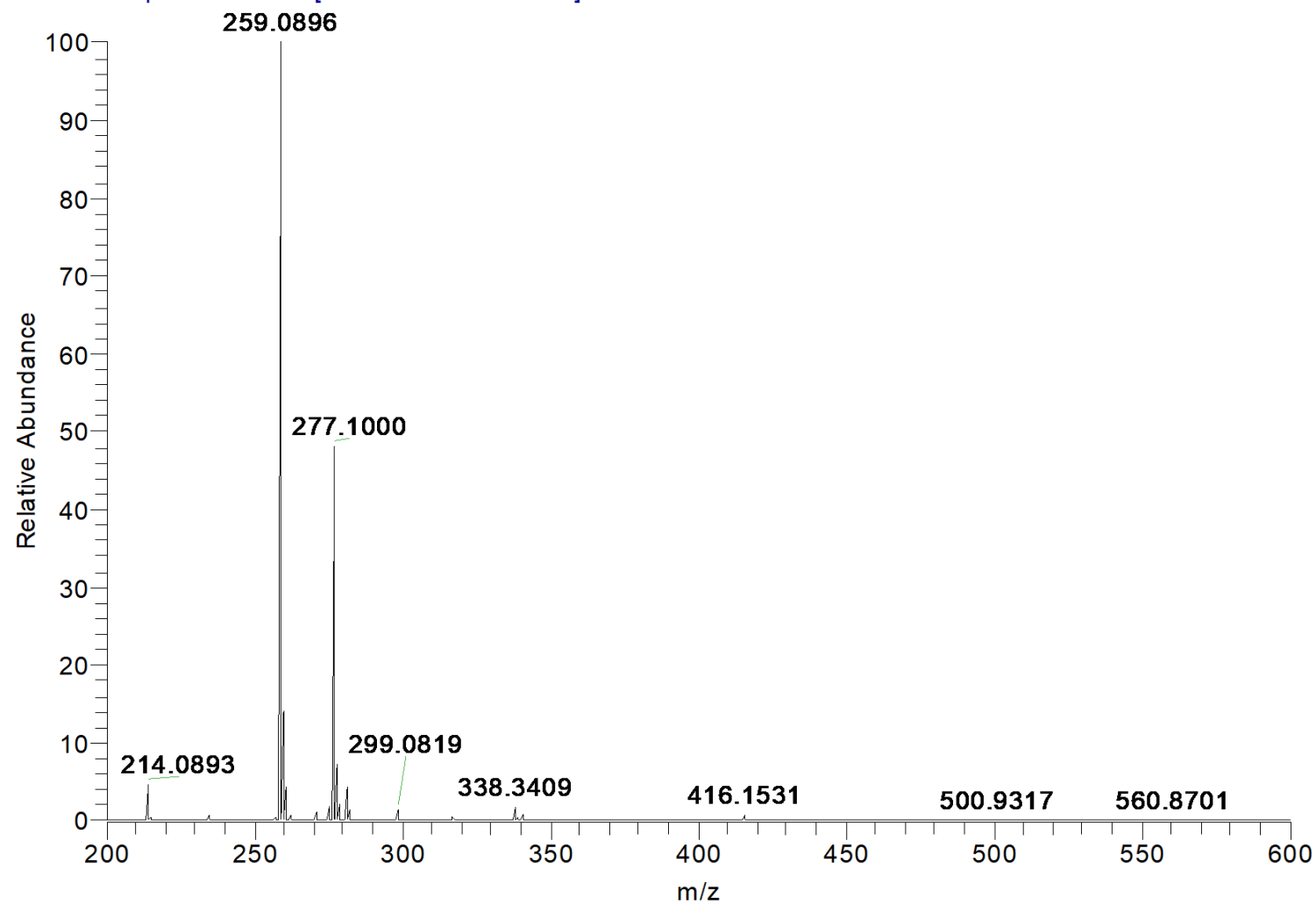


Figure S15.: HRMS spectrum of 1f.

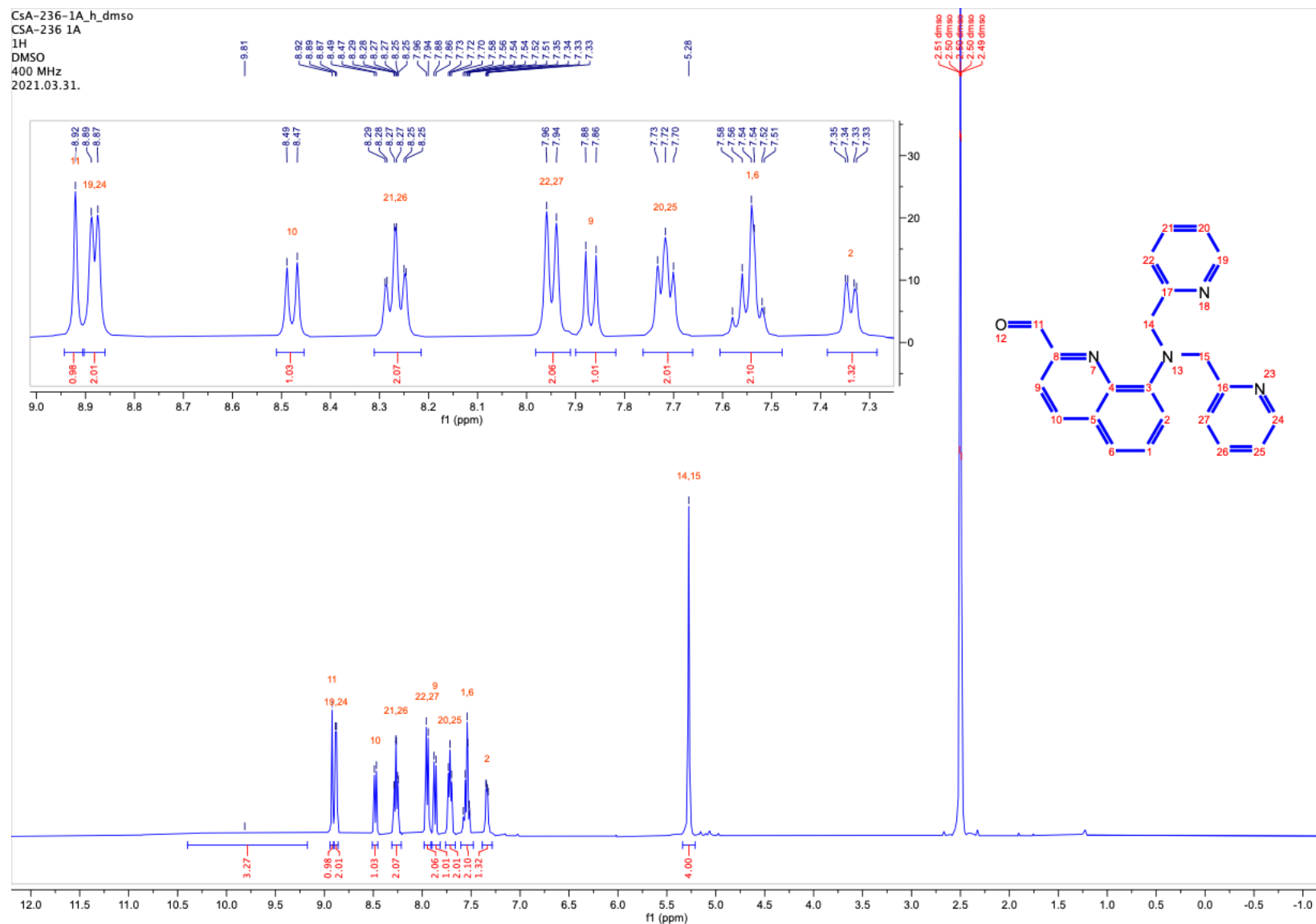


Figure S16.:  $^1\text{H}$  NMR spectrum of compound **1g** recorded at 400 MHz in  $\text{DMSO-}d_6$ .

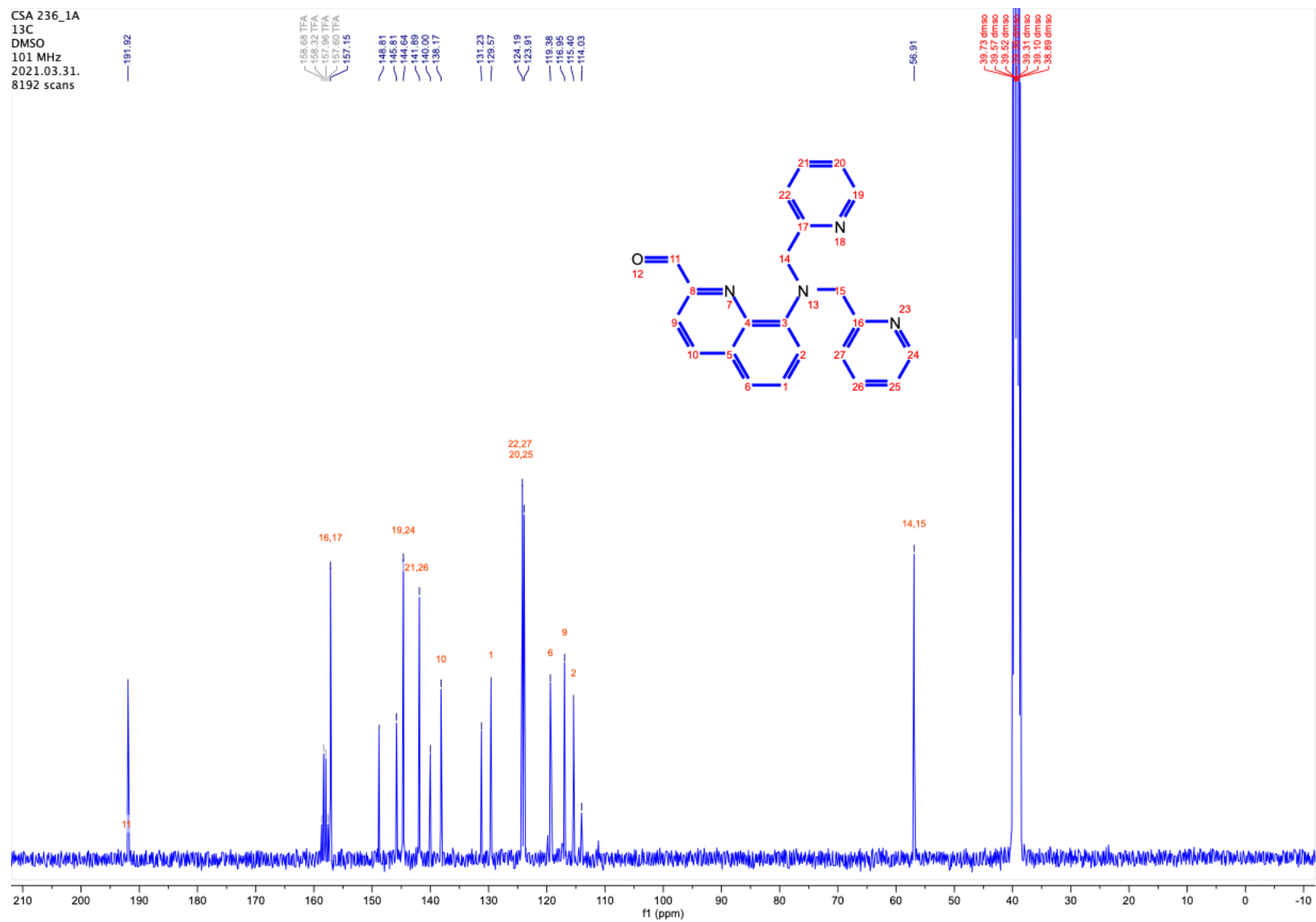


Figure S17.:  $^{13}\text{C}$  NMR spectrum of compound **1g** recorded at 101 MHz in  $\text{DMSO-}d_6$ .

CSA236 #119-148 RT: 0.54-0.67 AV: 30 NL: 1.00E7  
T: FTMS + p ESI Full ms [200.0000-1500.0000]

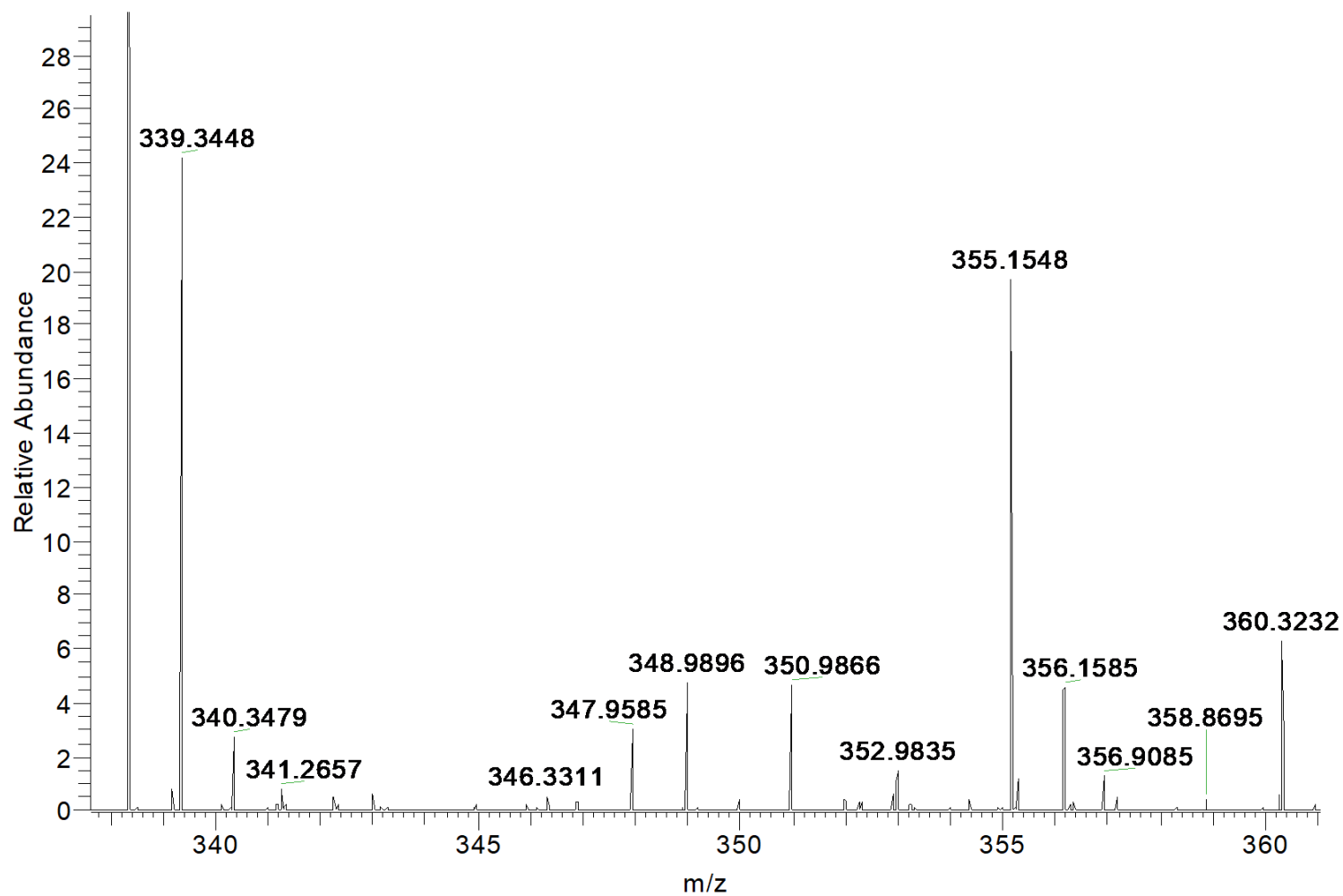


Figure S18.: HRMS spectrum of 1g.

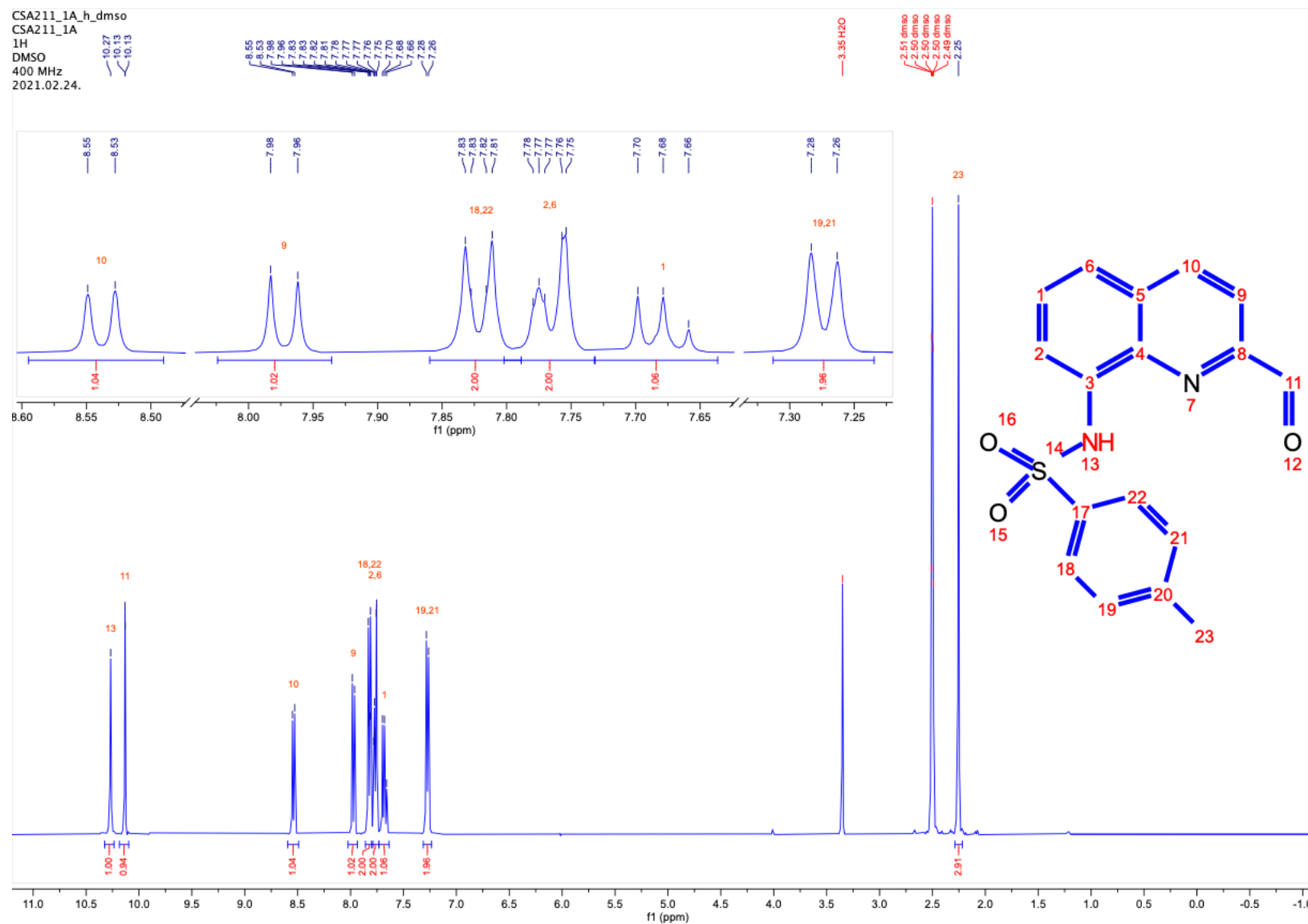


Figure S19.: <sup>1</sup>H NMR spectrum of compound **1h** recorded at 400 MHz in DMSO-*d*<sub>6</sub>.

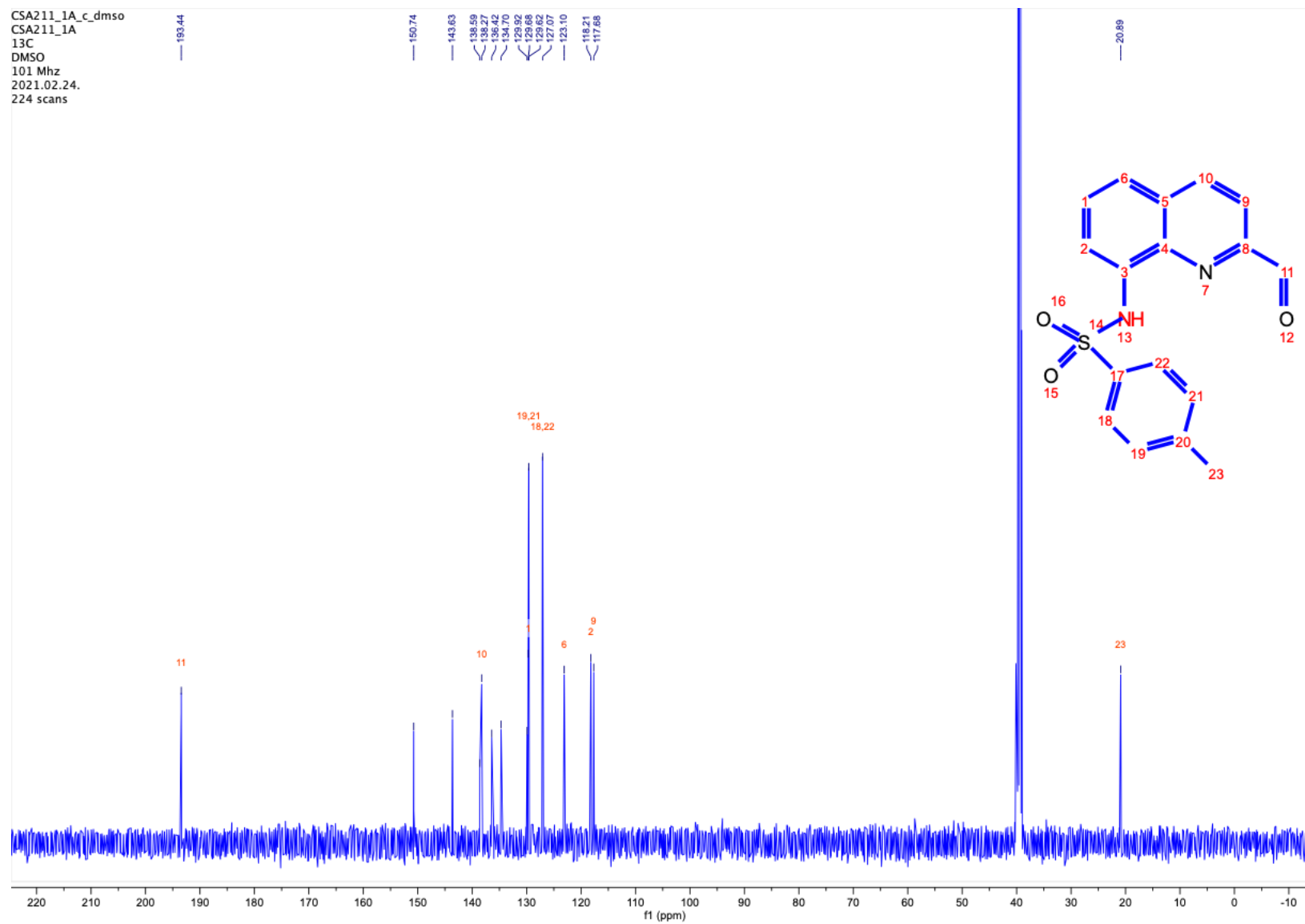


Figure S20.:  $^{13}\text{C}$  NMR spectrum of compound **1h** recorded at 101 MHz in  $\text{DMSO-}d_6$ .

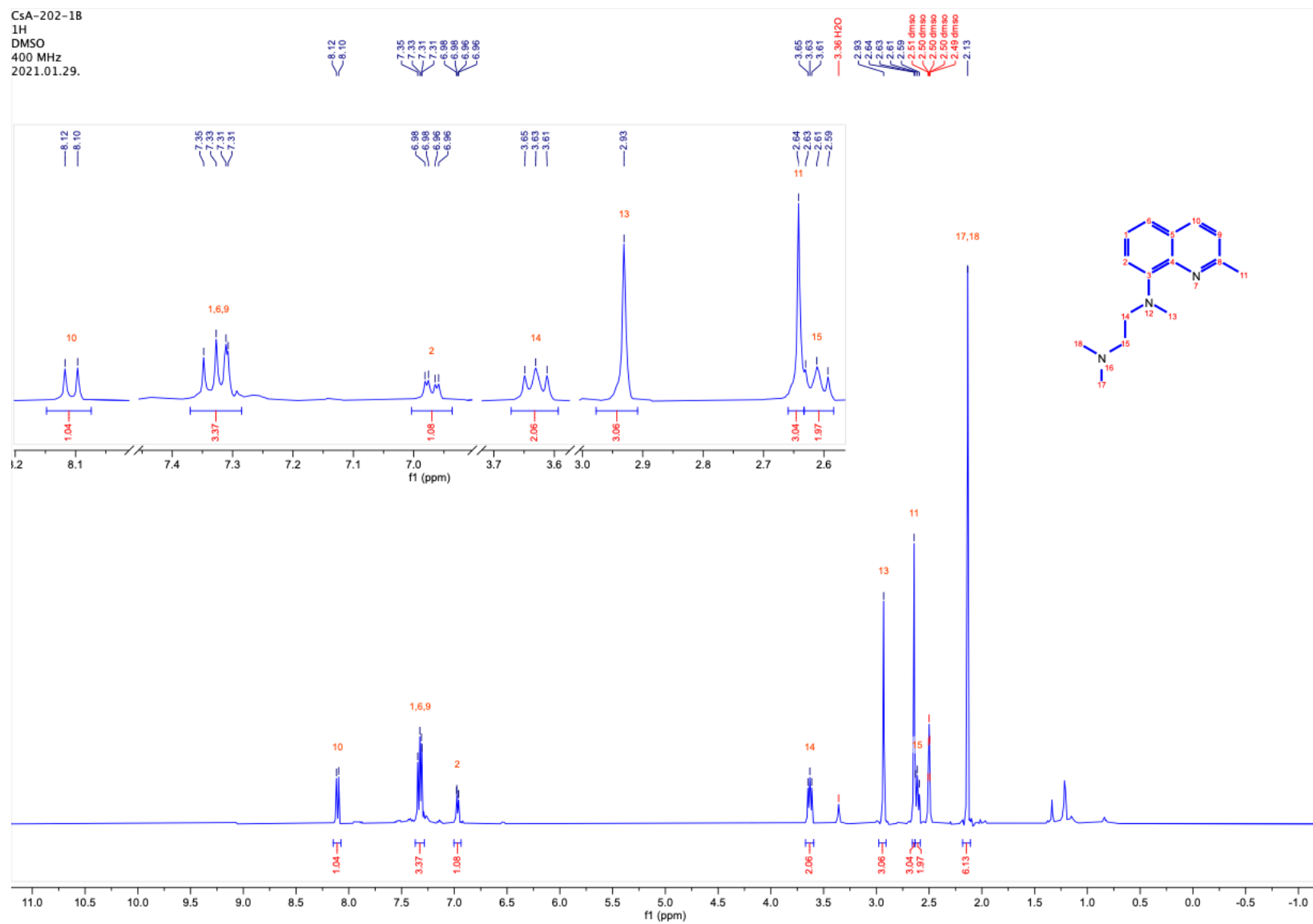


Figure S21.: <sup>1</sup>H NMR spectrum of compound **4b** recorded at 400 MHz in DMSO-*d*<sub>6</sub>.

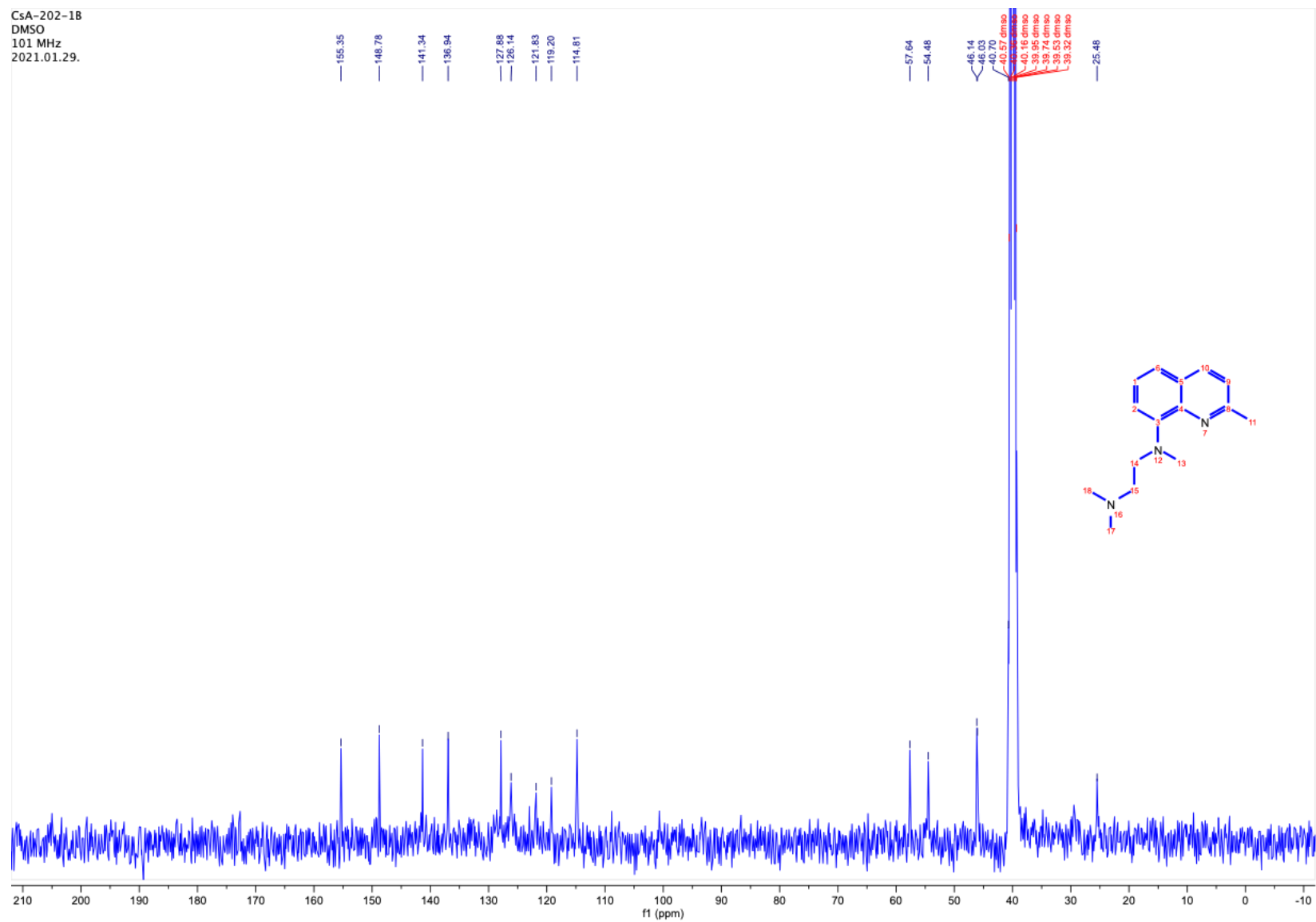


Figure S22.:  $^{13}\text{C}$  NMR spectrum of compound **4b** recorded at 101 MHz in  $\text{DMSO-}d_6$ .



CSA202 #146-155 RT: 0.66-0.70 AV: 10 NL: 4.33E8  
T: FTMS + p ESI Full ms [200.0000-1500.0000]

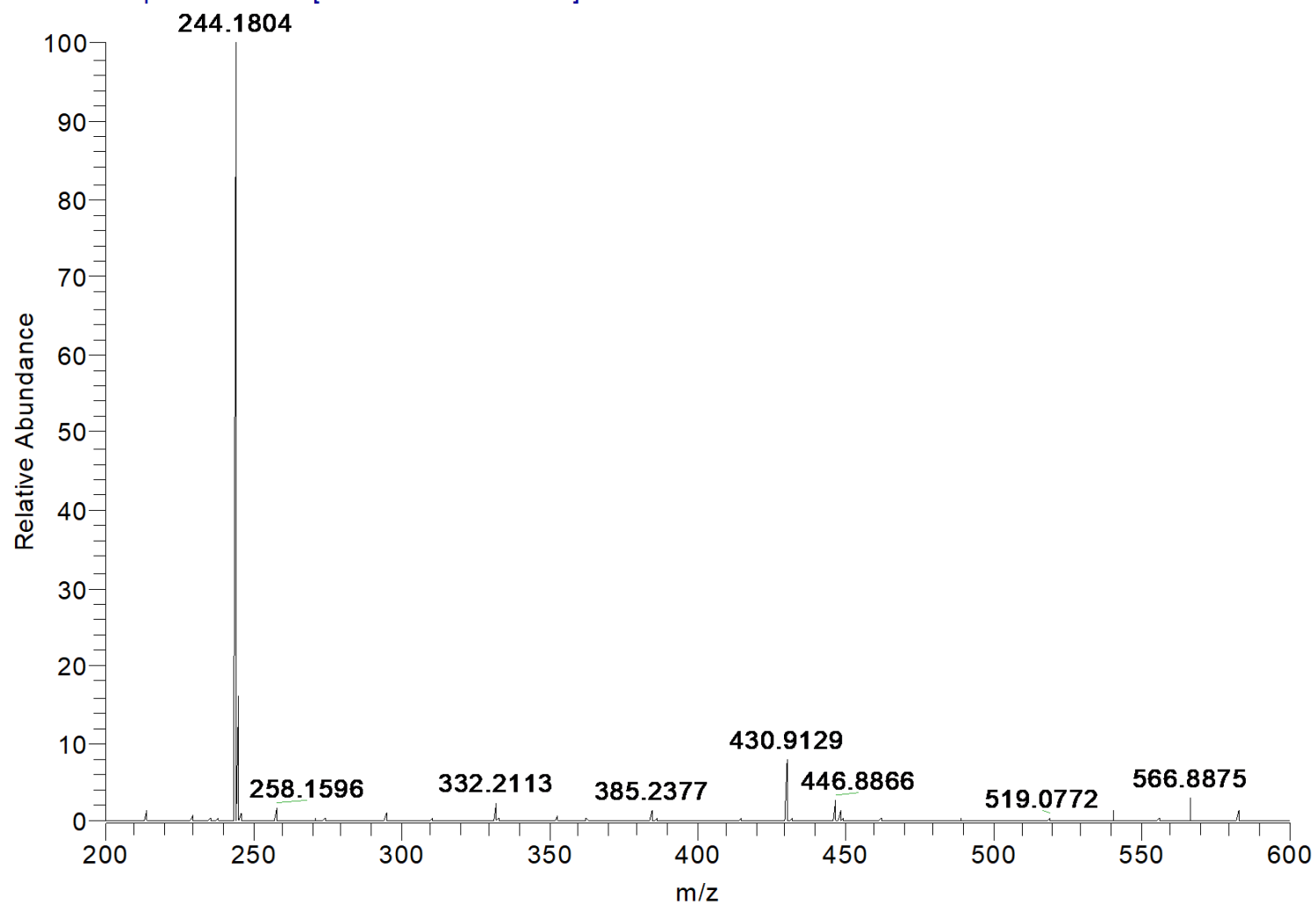


Figure S23.: HRMS spectrum of 4b.

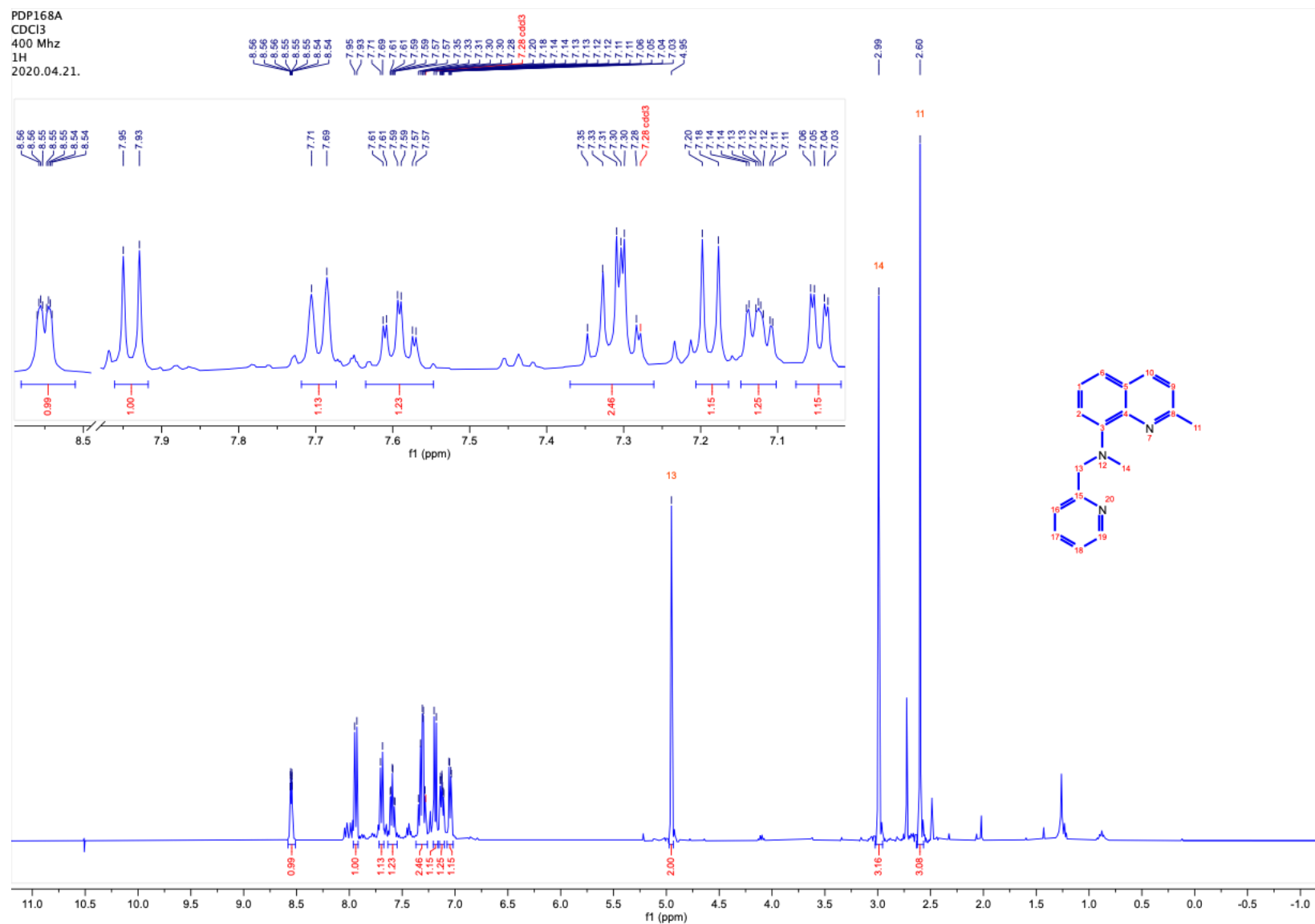


Figure S24.:  $^1\text{H}$  NMR spectrum of compound **4c** recorded at 400 MHz in Chloroform-*d*.

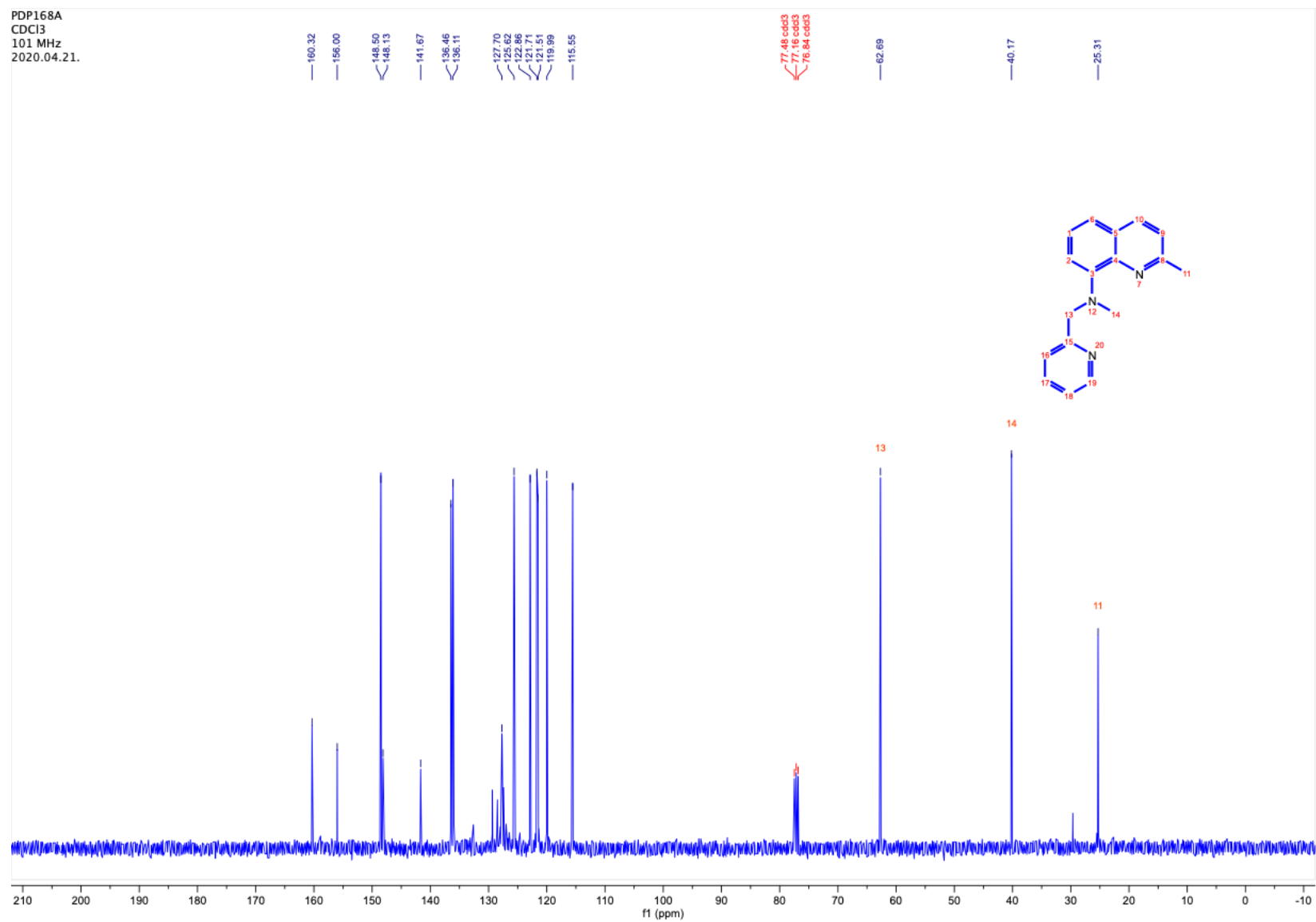


Figure S25.: <sup>13</sup>C NMR spectrum of compound **4c** recorded at 101 MHz in Chloroform-*d*.

PDP168 #113-135 RT: 0.51-0.61 AV: 23 NL: 6.77E8  
T: FTMS + p ESI Full ms [200.0000-1500.0000]

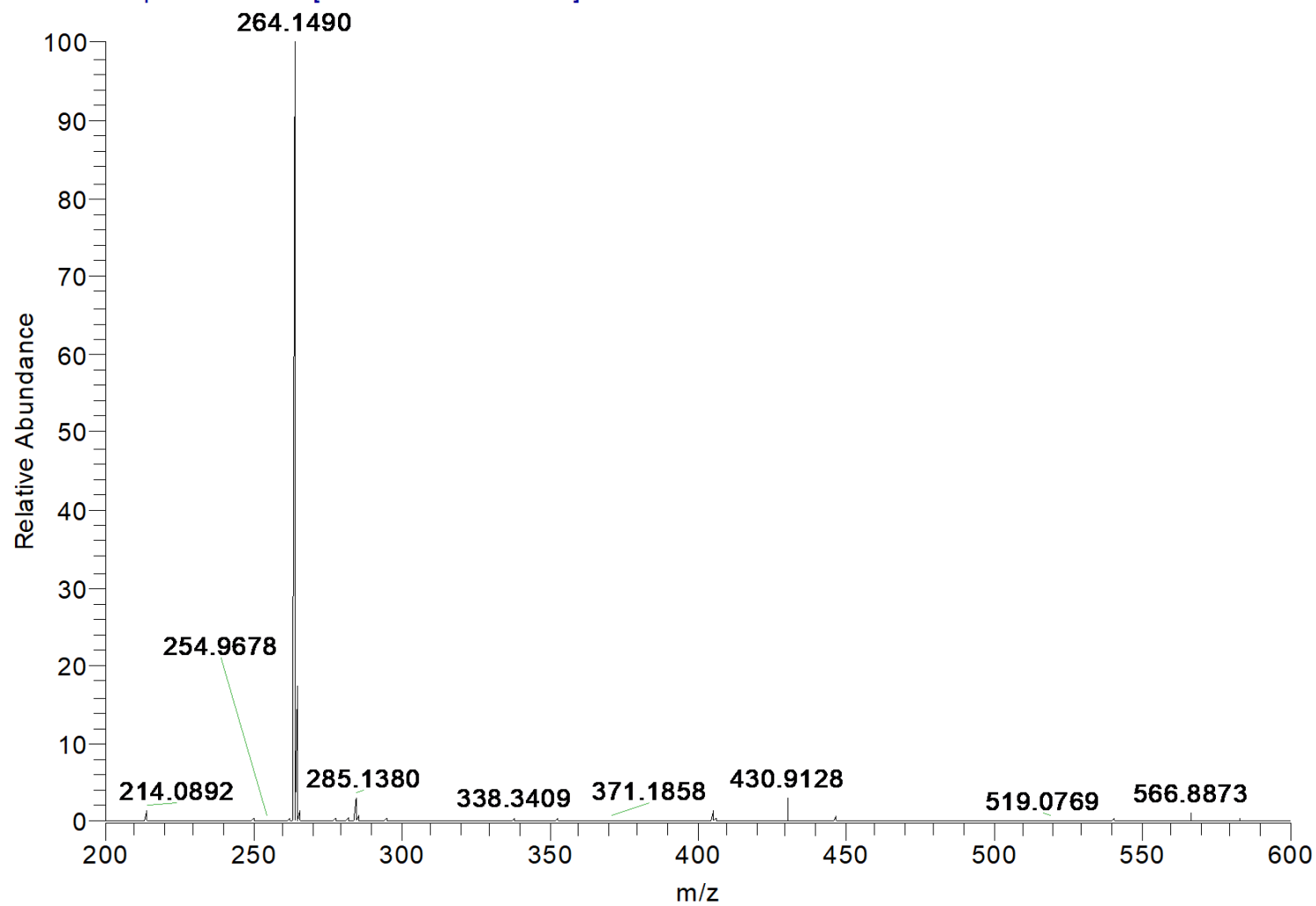


Figure S26.: HRMS spectrum of 4c.

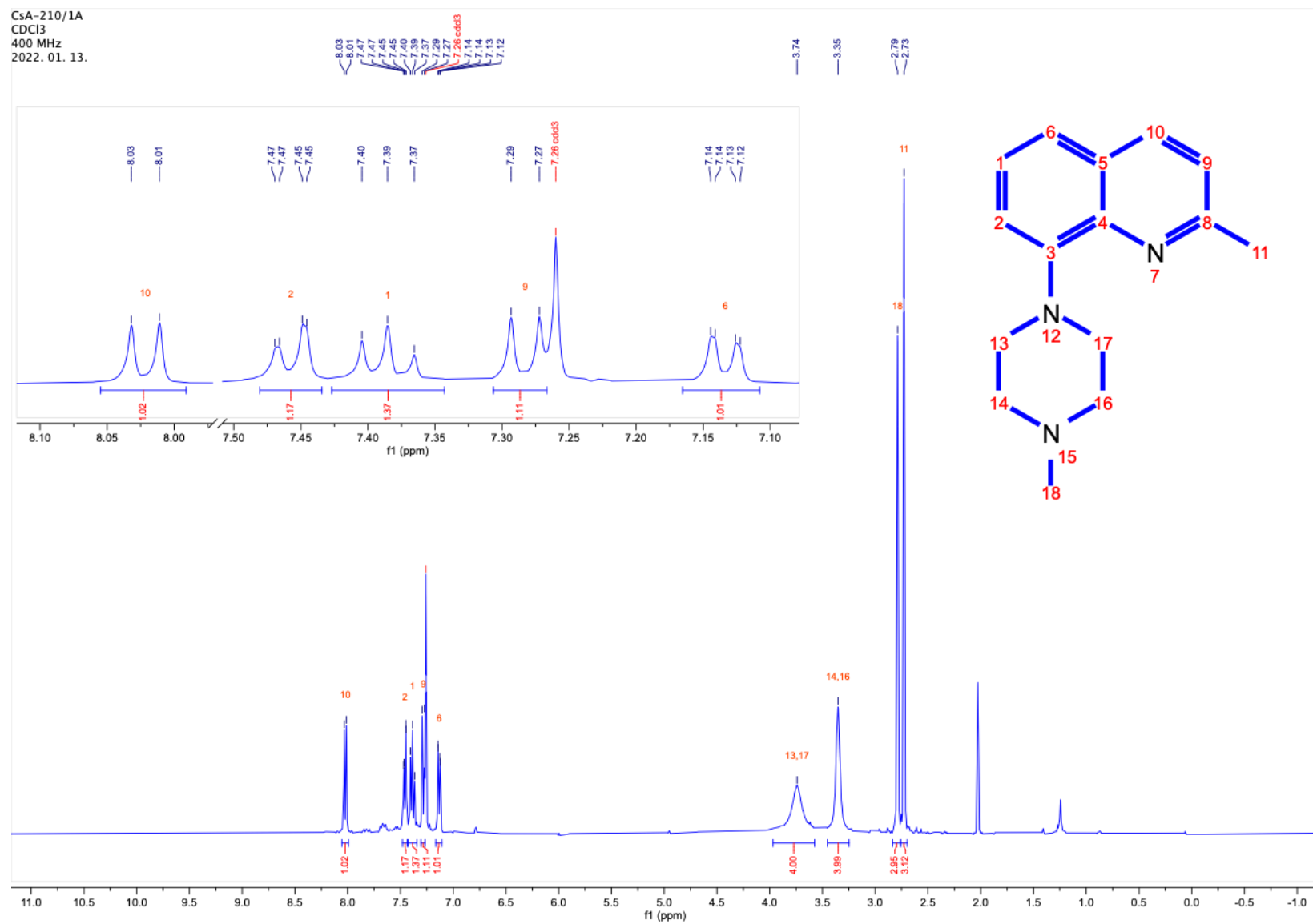


Figure S27.: <sup>1</sup>H NMR spectrum of compound **4d** recorded at 400 MHz in DMSO-*d*<sub>6</sub>.

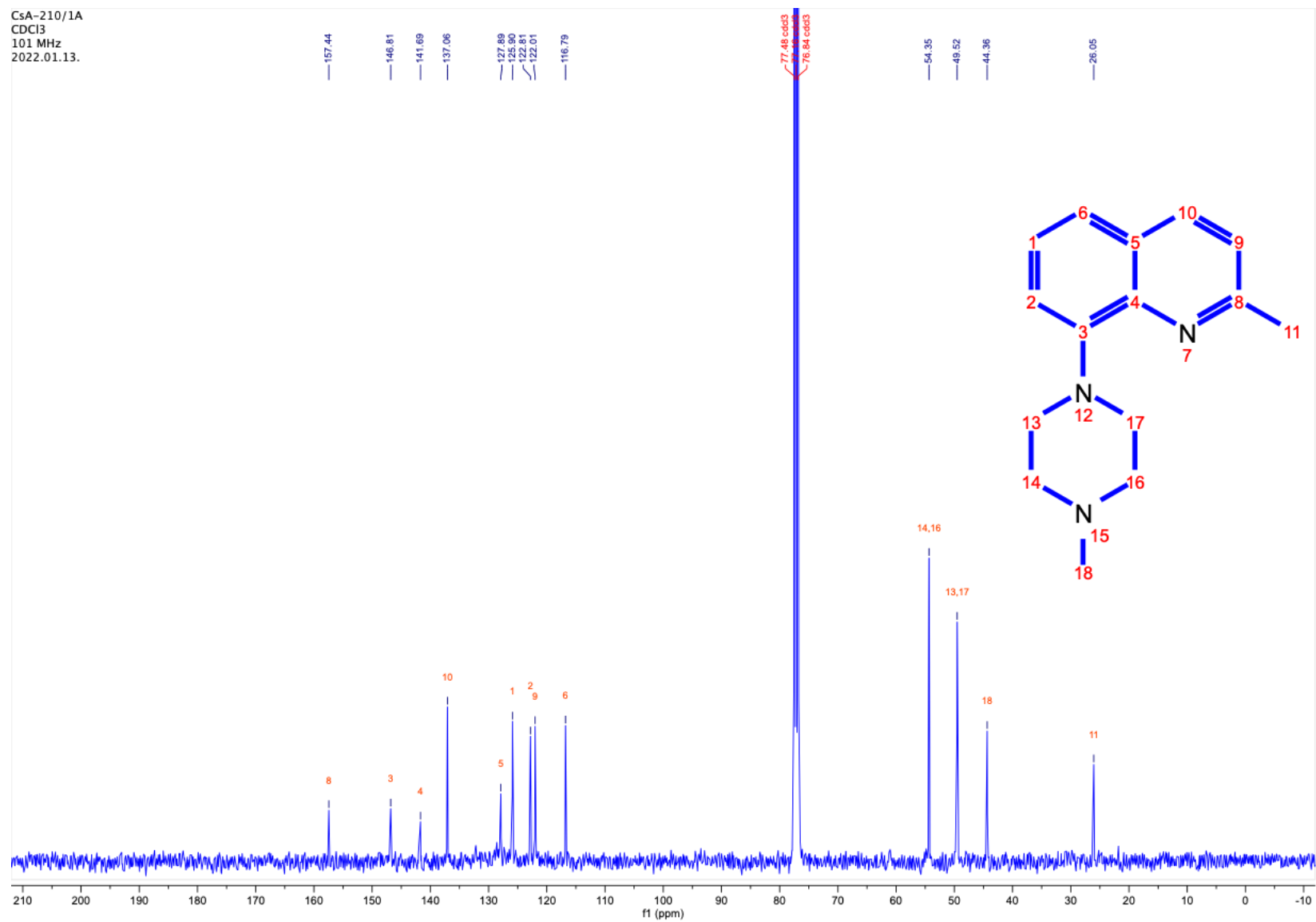


Figure S28.:  $^{13}\text{C}$  NMR spectrum of compound **4d** recorded at 101 MHz in  $\text{DMSO-}d_6$ .

CSA210 #103-153 RT: 0.47-0.69 AV: 51 NL: 3.36E8  
T: FTMS + p ESI Full ms [200.0000-1500.0000]

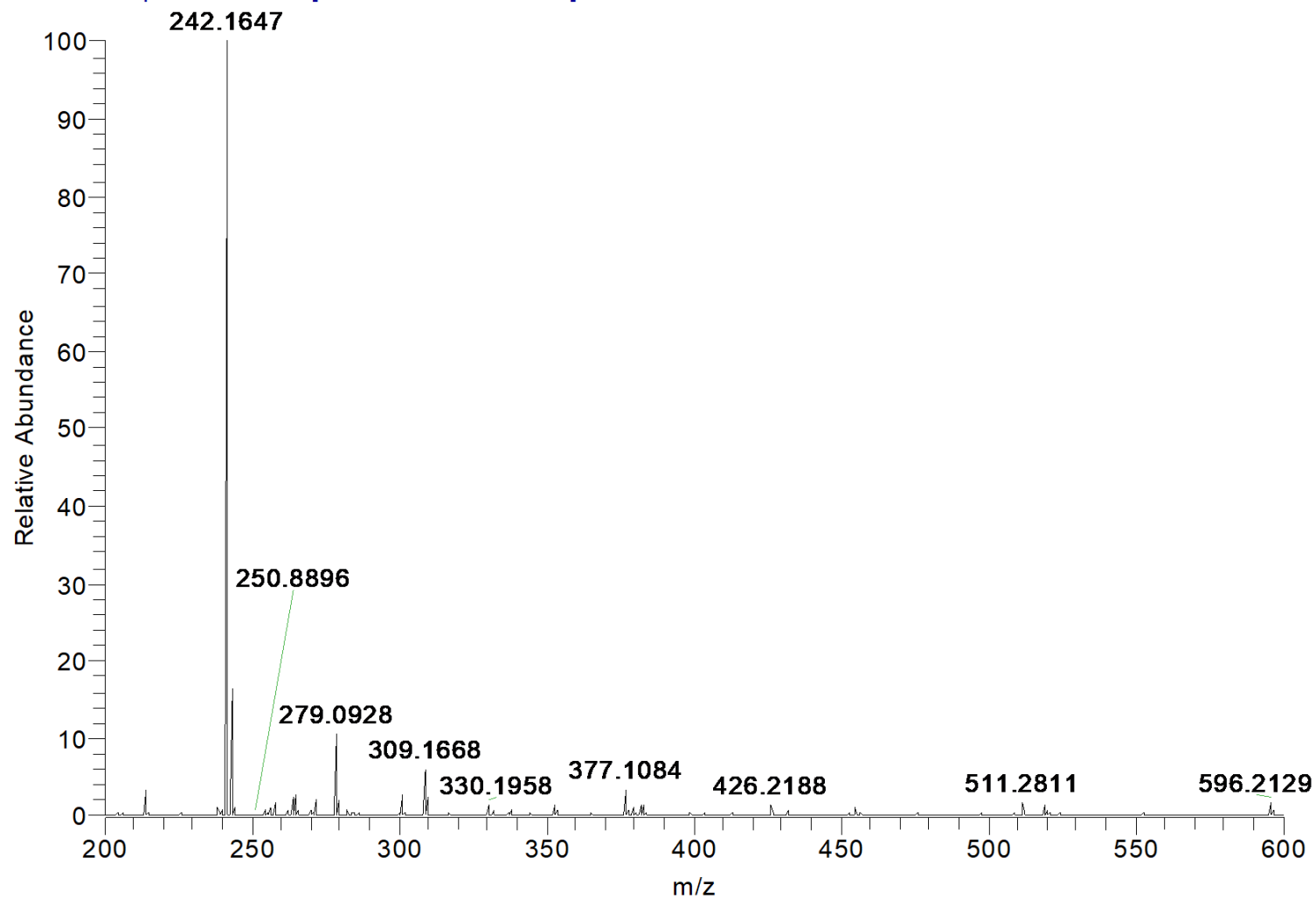


Figure S29.: HRMS spectrum of 4d.

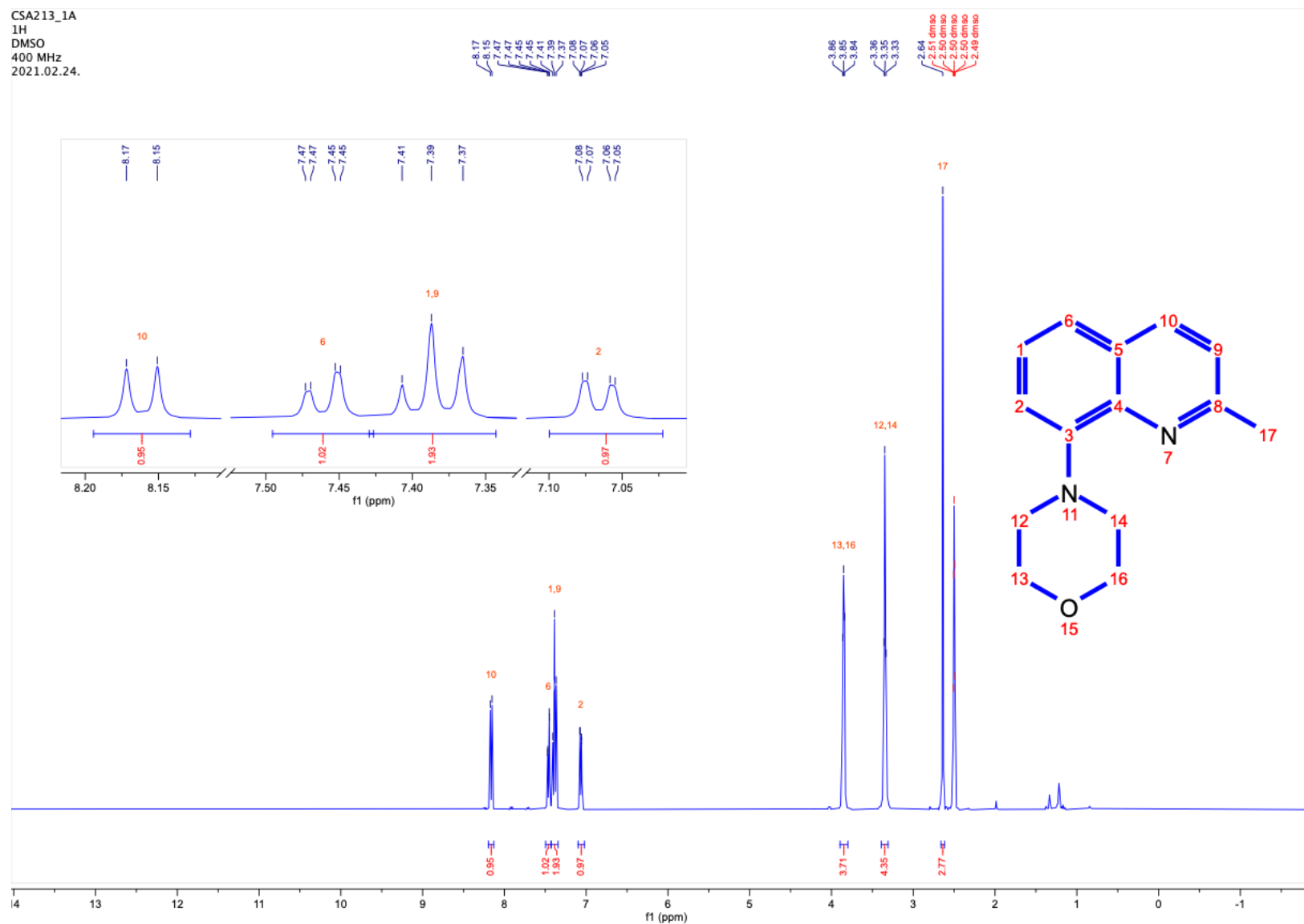


Figure S30.:  $^1\text{H}$  NMR spectrum of compound **4e** recorded at 400 MHz in  $\text{DMSO-}d_6$ .



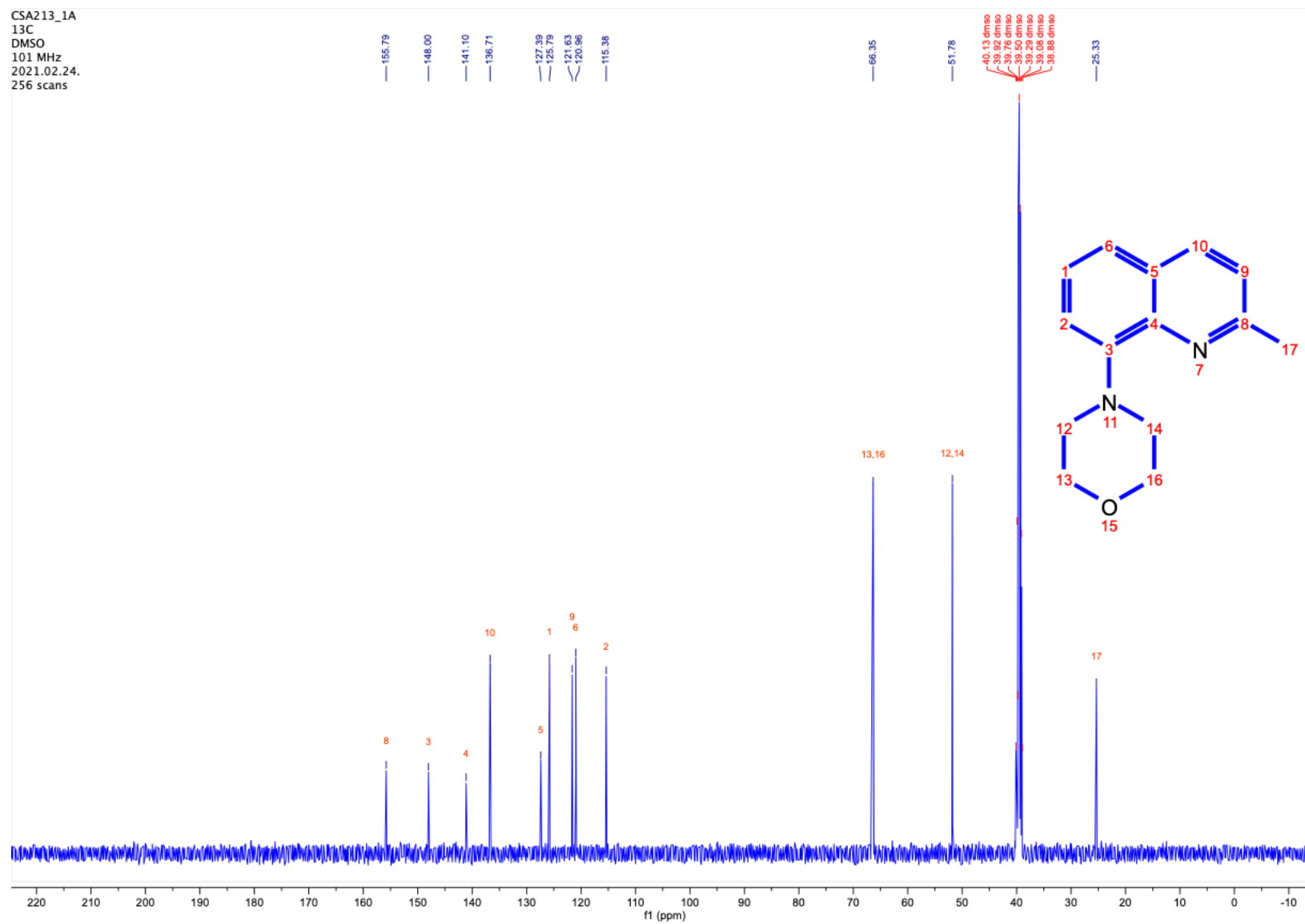


Figure S31.:  $^{13}\text{C}$  NMR spectrum of compound **4e** recorded at 101 MHz in  $\text{DMSO-}d_6$ .

CSA213 #115-135 RT: 0.52-0.61 AV: 21 NL: 3.59E9  
T: FTMS + p ESI Full ms [200.0000-1500.0000]

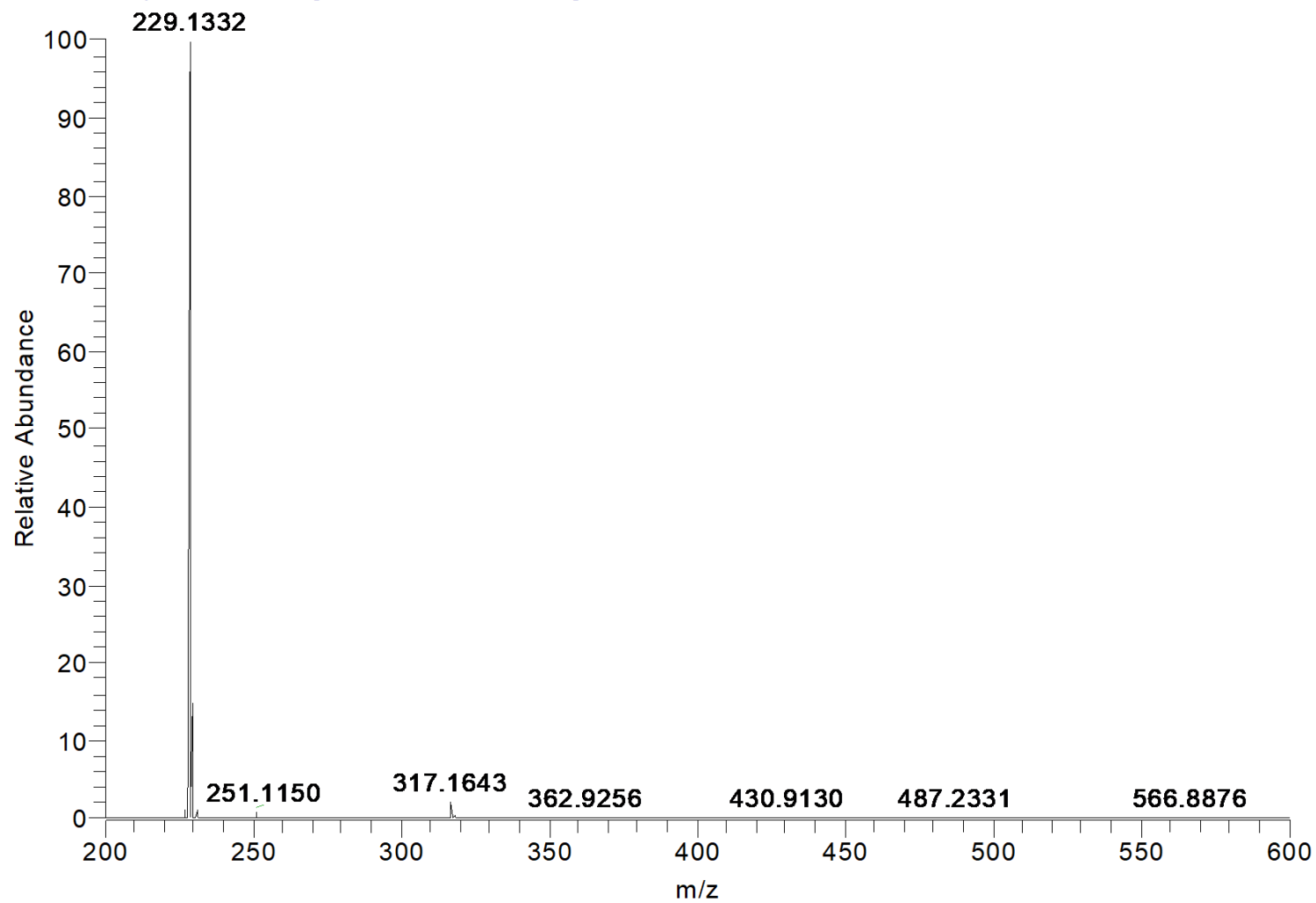


Figure S32.: HRMS spectrum of 4e.

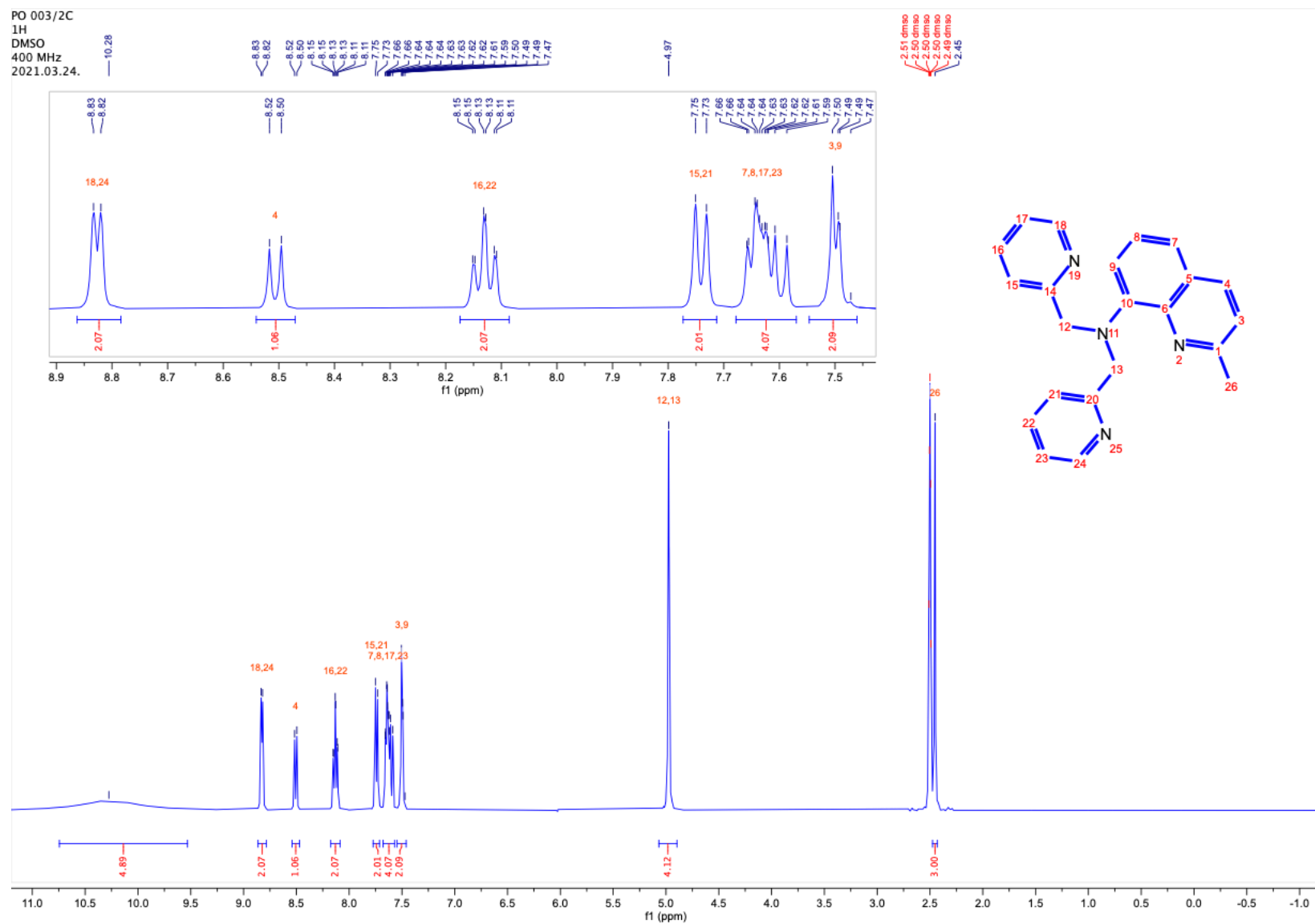


Figure S33.:  $^1\text{H}$  NMR spectrum of compound **4g** recorded at 400 MHz in  $\text{DMSO-}d_6$ .

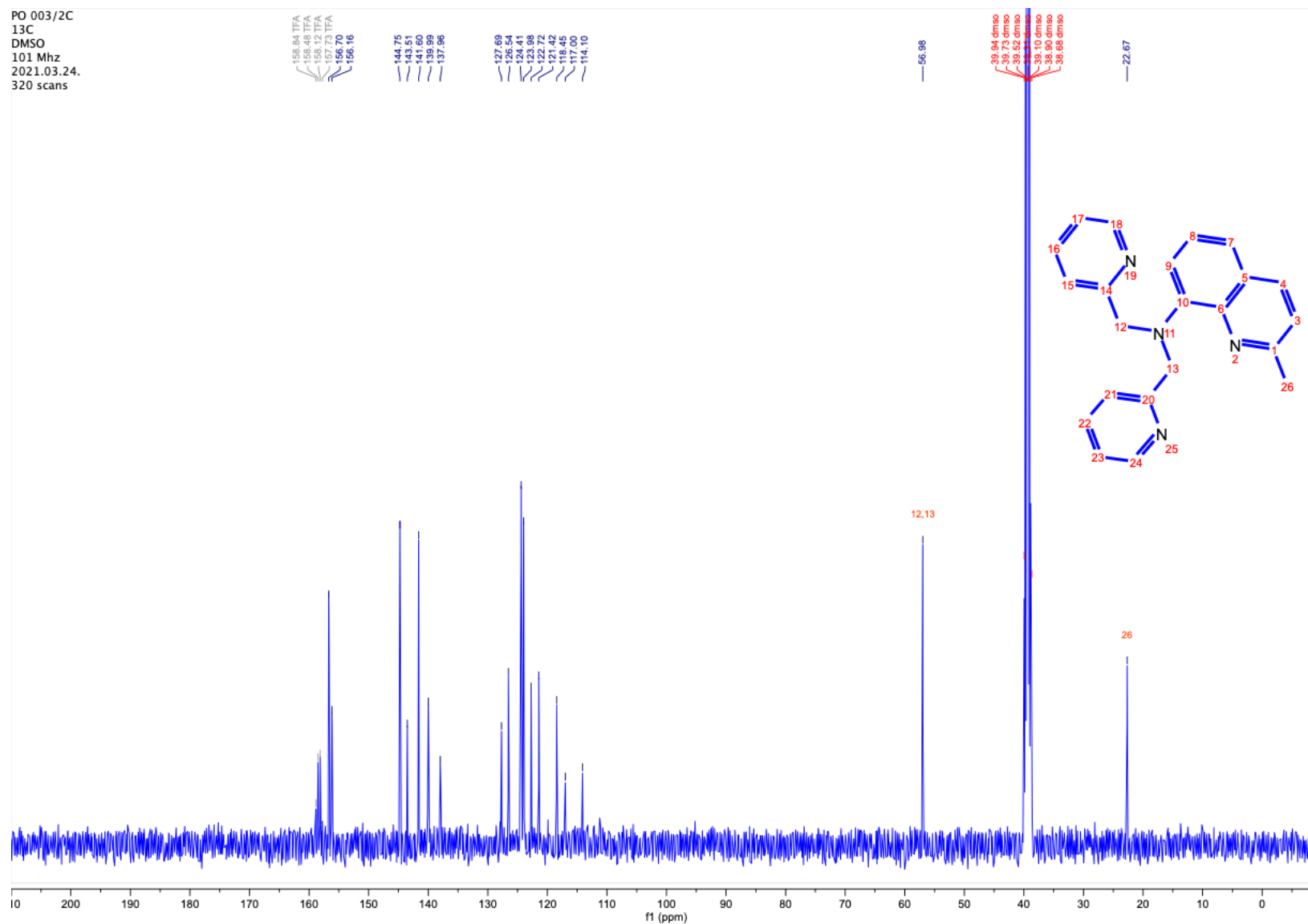


Figure S34.:  $^{13}\text{C}$  NMR spectrum of compound **4g** recorded at 101 MHz in  $\text{DMSO-}d_6$ .

PO003\_2C #115-155 RT: 0.52-0.70 AV: 41 NL: 1.77E9  
T: FTMS + p ESI Full ms [200.0000-1500.0000]

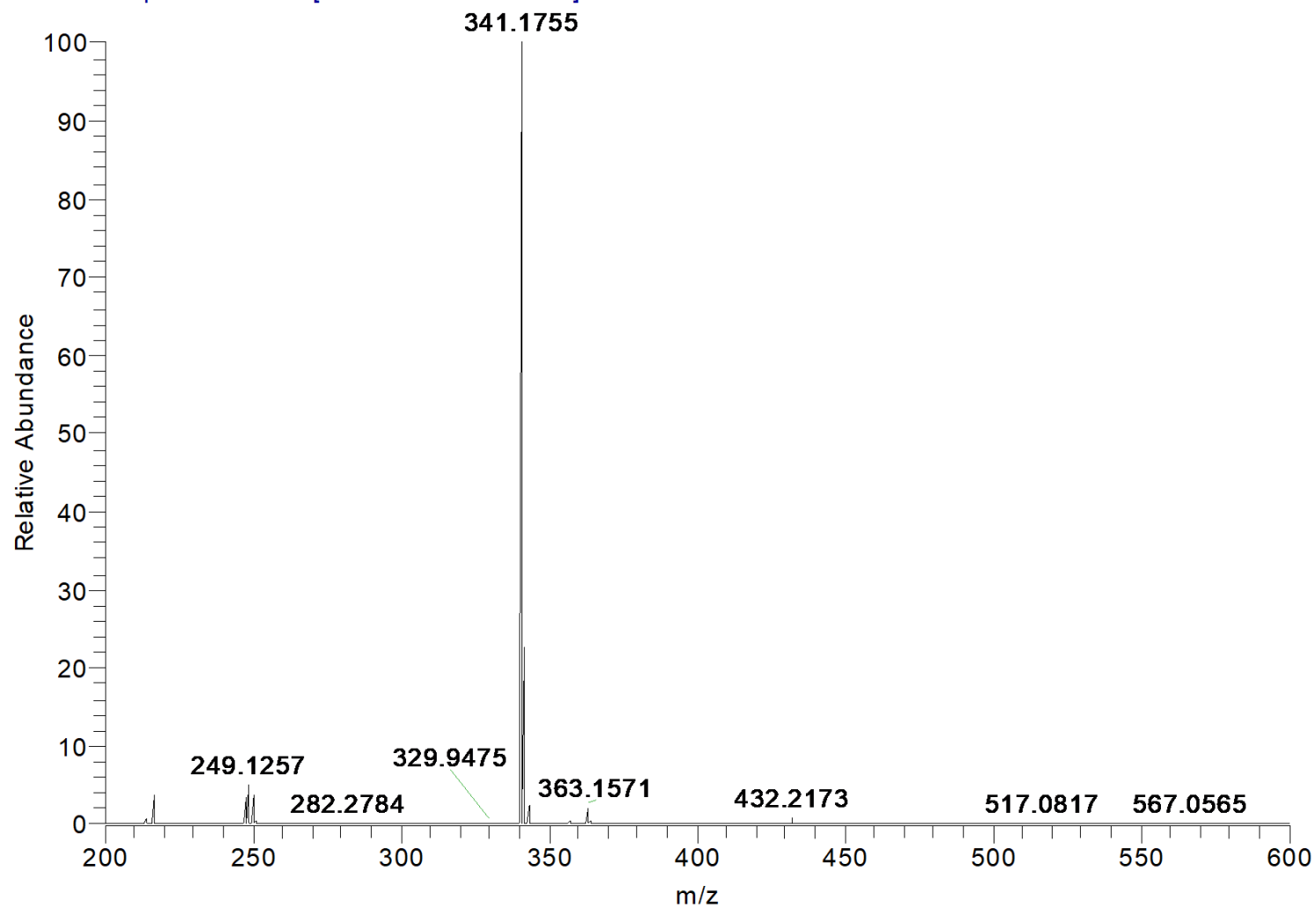


Figure S35.: HRMS spectrum of 4g.

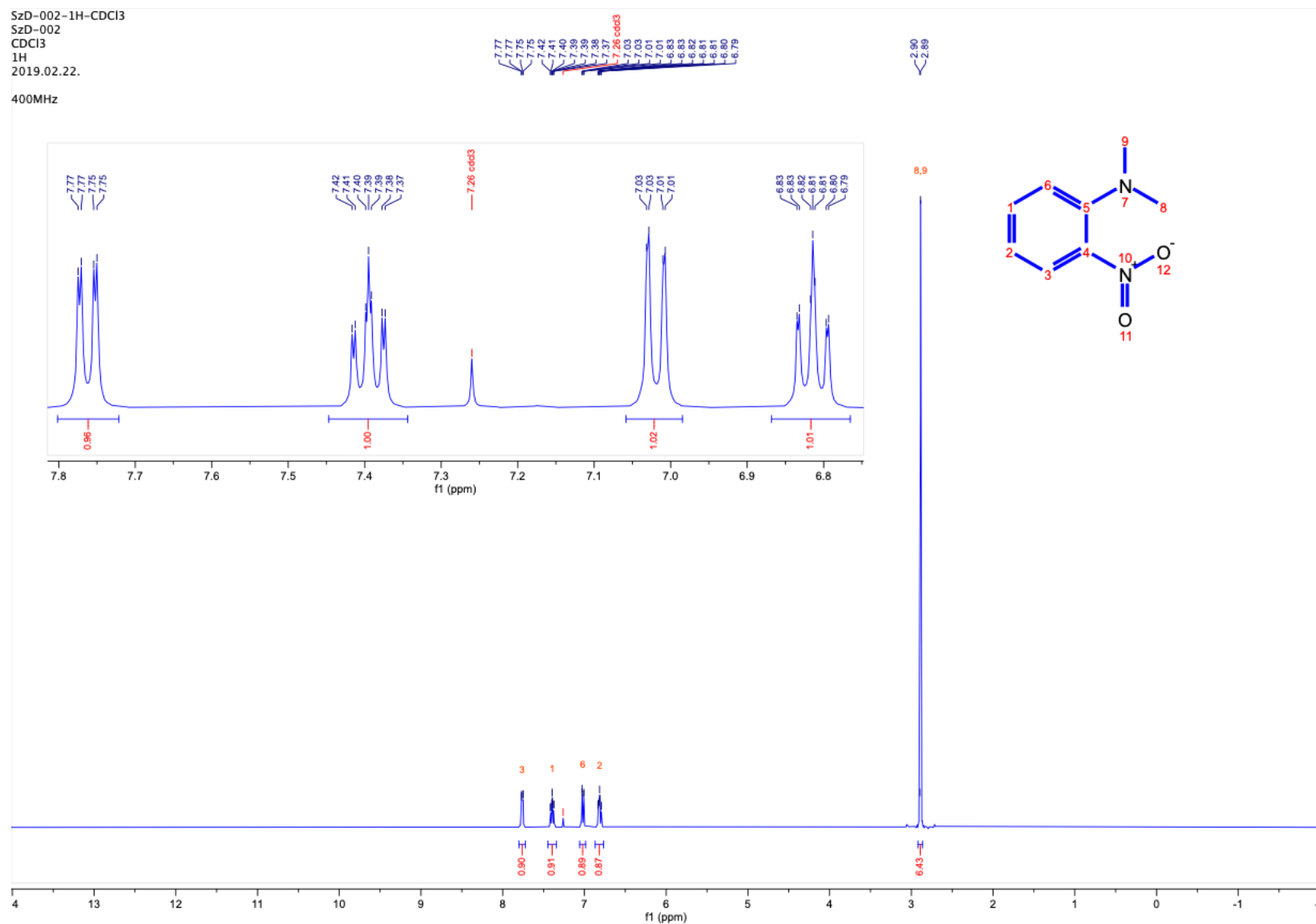


Figure S36.:  $^1\text{H}$  NMR spectrum of known compound **6** recorded at 400 MHz in Chloroform-*d*.

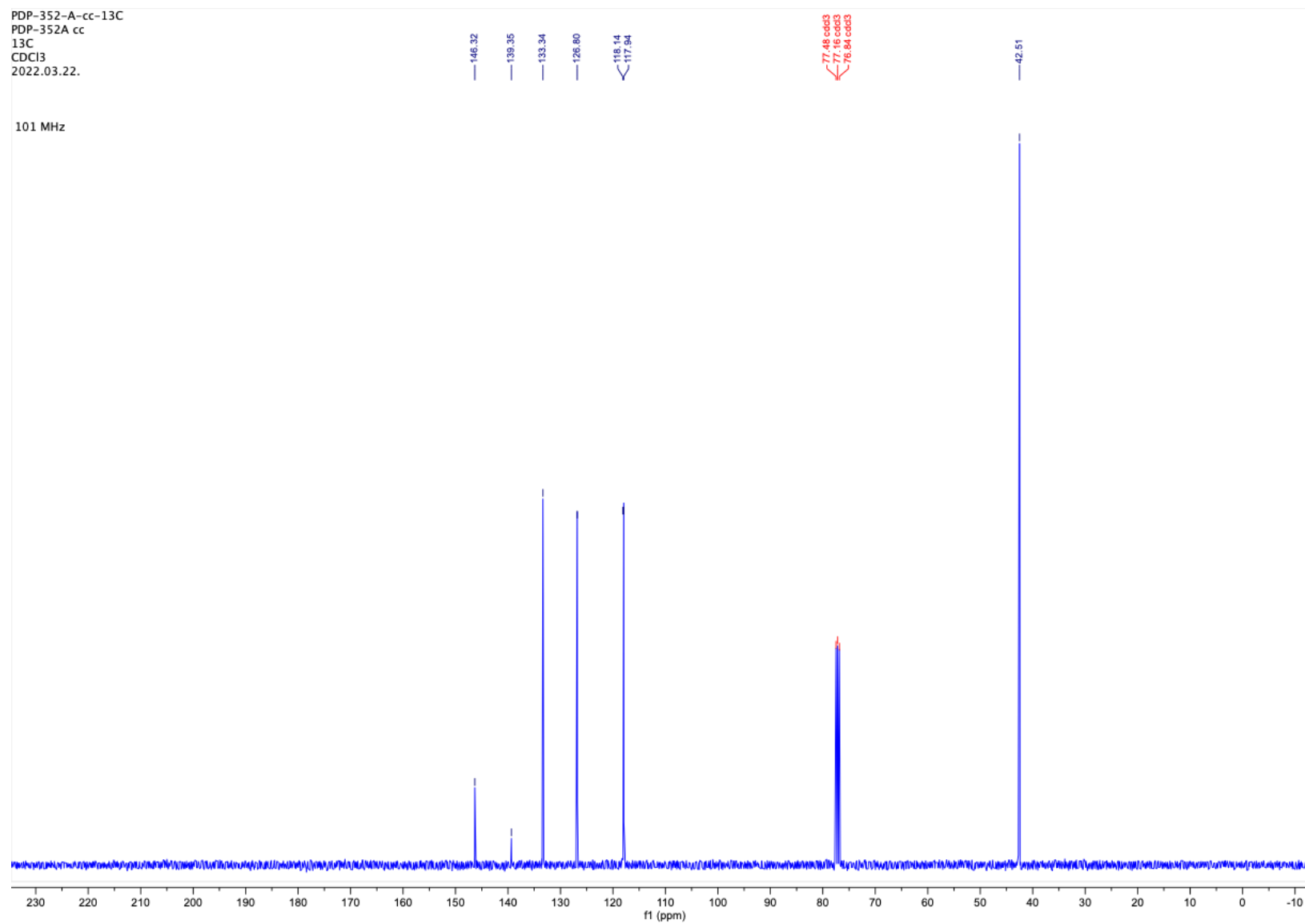


Figure S37.:  $^{13}\text{C}$  NMR spectrum of known compound **6** recorded at 101 MHz in Chloroform-*d*.

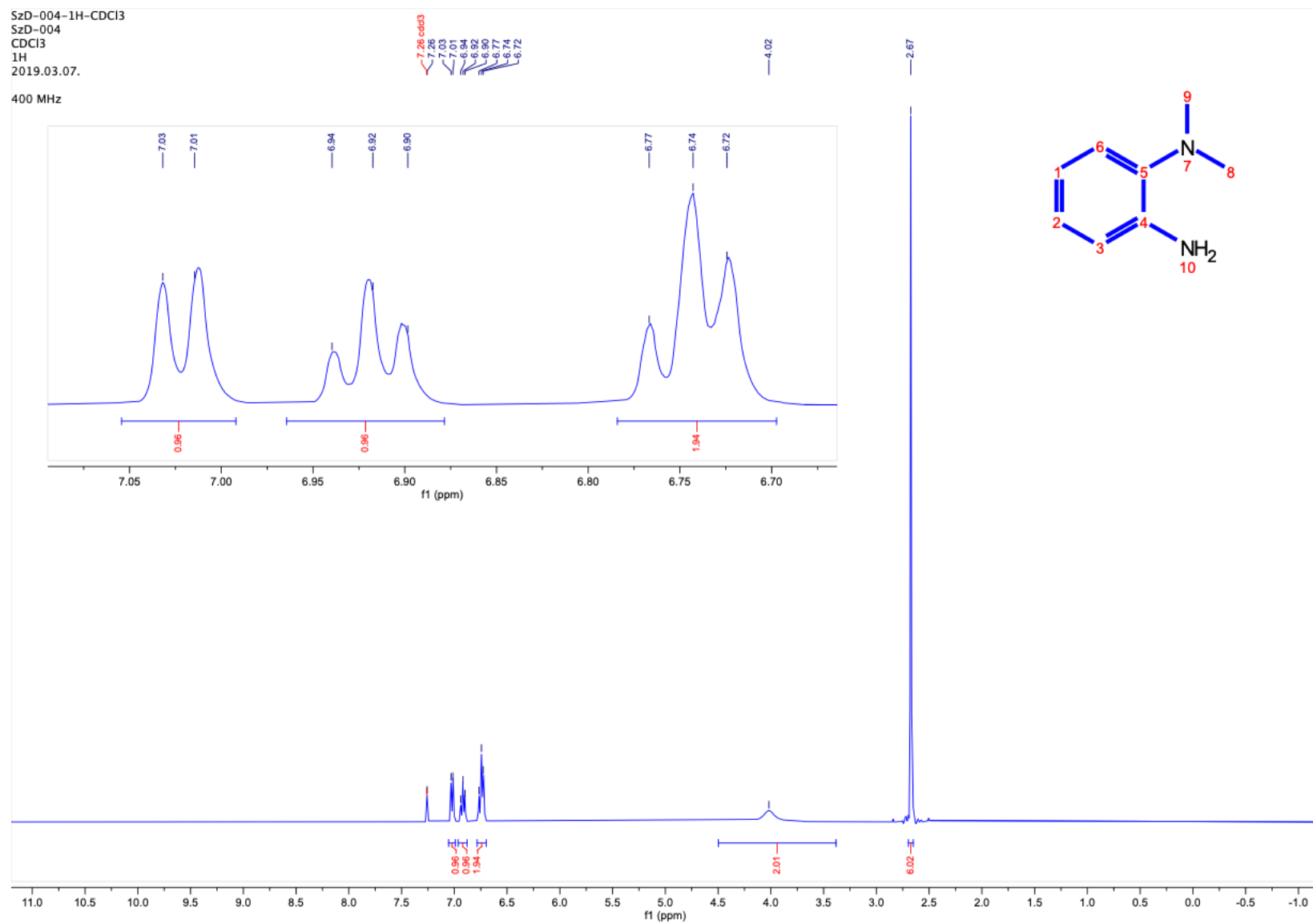


Figure S38.: <sup>1</sup>H NMR spectrum of known compound **7** recorded at 400 MHz in Chloroform-*d*.



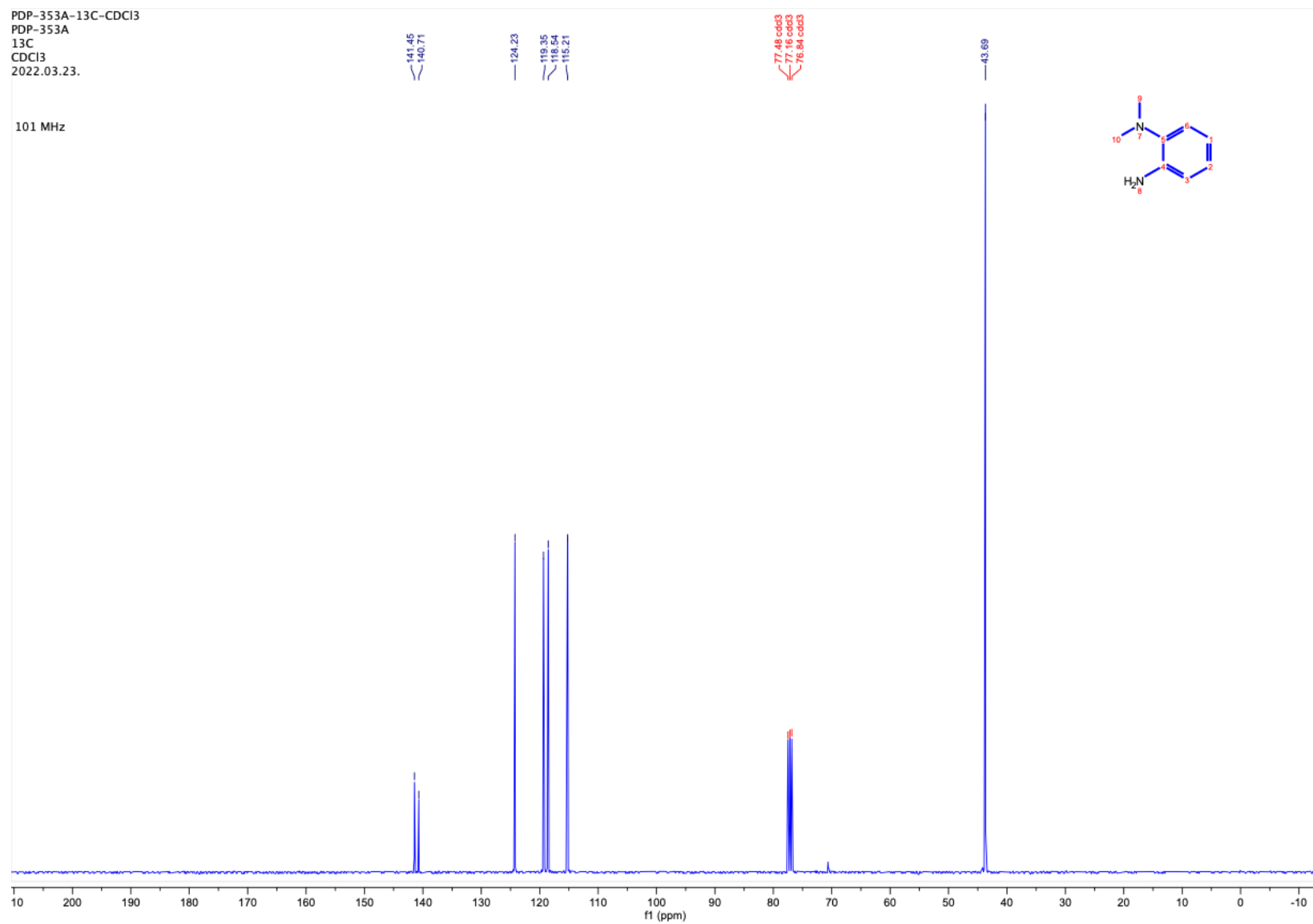


Figure S39.:  $^{13}\text{C}$  NMR spectrum of known compound **7** recorded at 101 MHz in Chloroform-*d*.

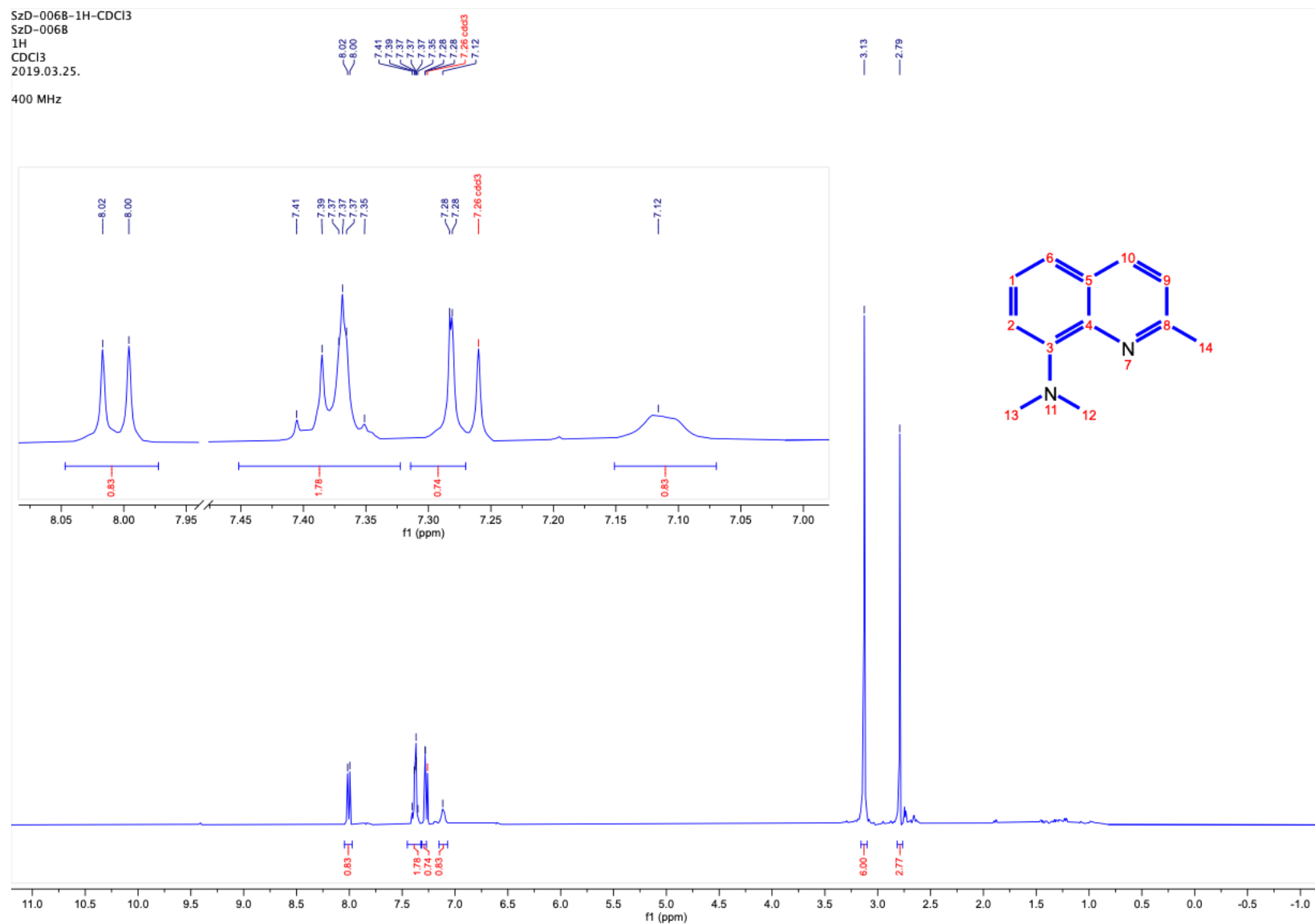


Figure S40.:  $^1\text{H}$  NMR spectrum of known compound **4a** recorded at 400 MHz in Chloroform-*d*.

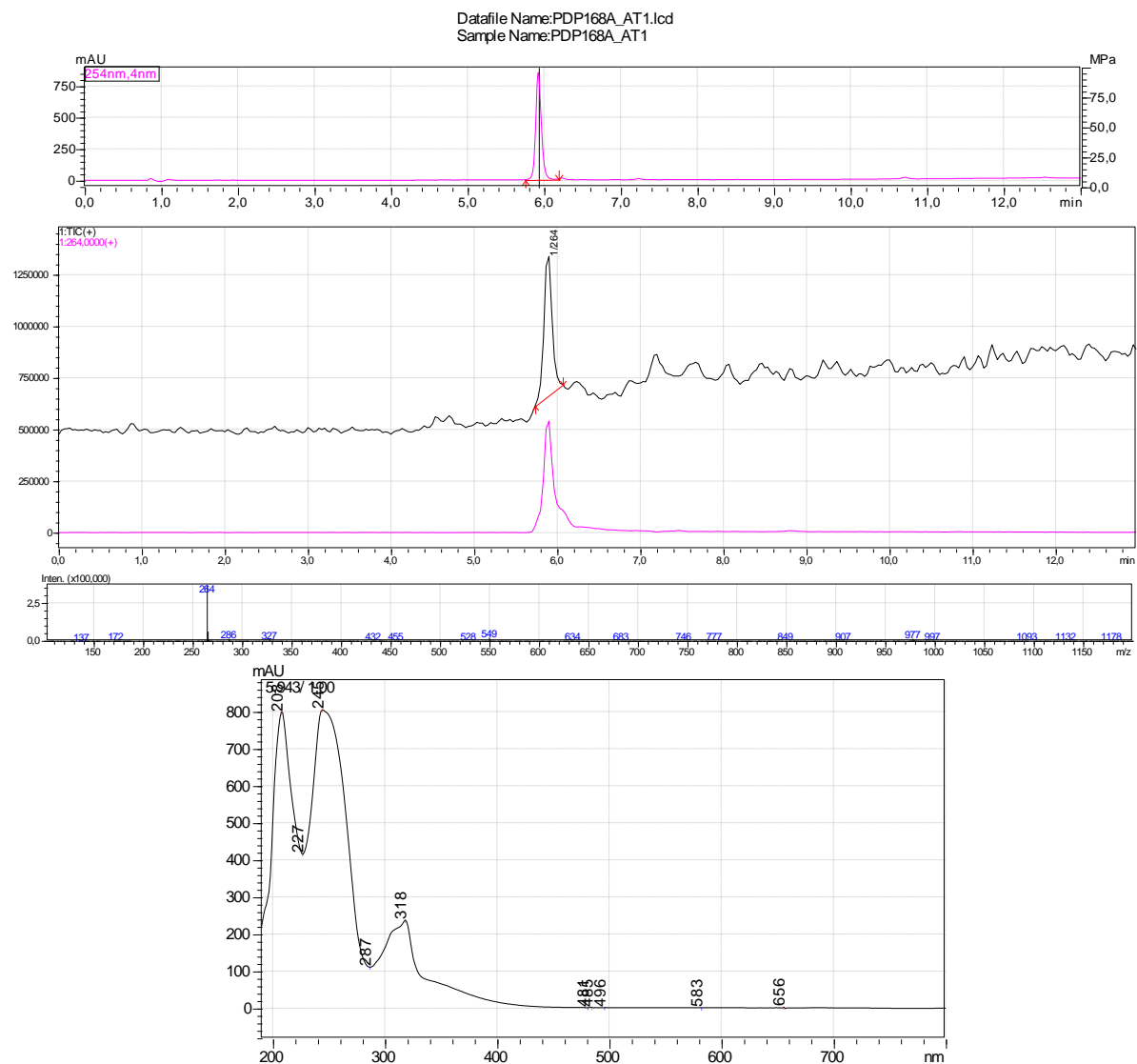


Figure S41.: HPLC UV and MS chromatograms, mass spectrum and UV-VIS spectrum of known compound 4a.

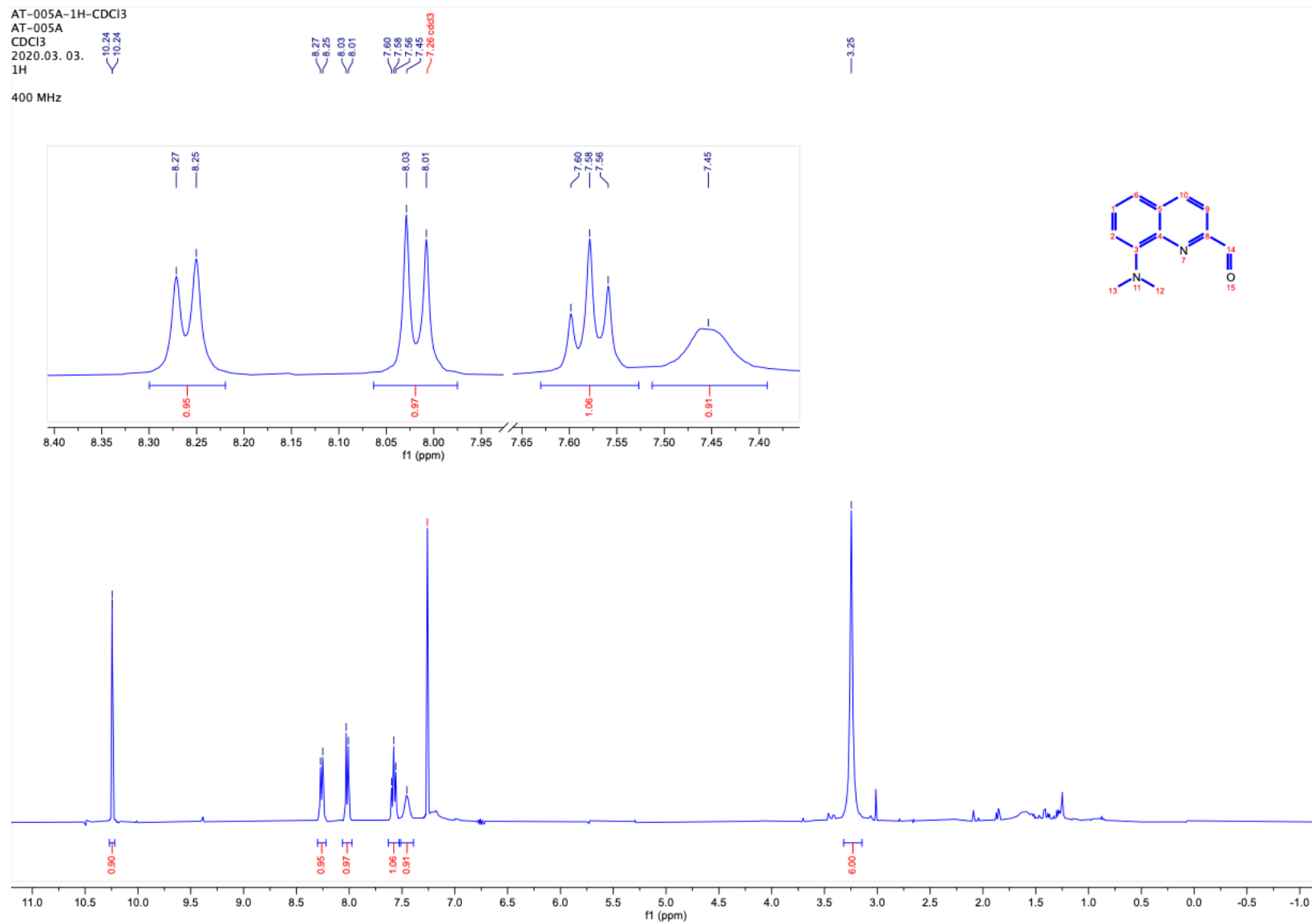


Figure S42.:  $^1\text{H}$  NMR spectrum of known compound **1a** recorded at 400 MHz in Chloroform-*d*.

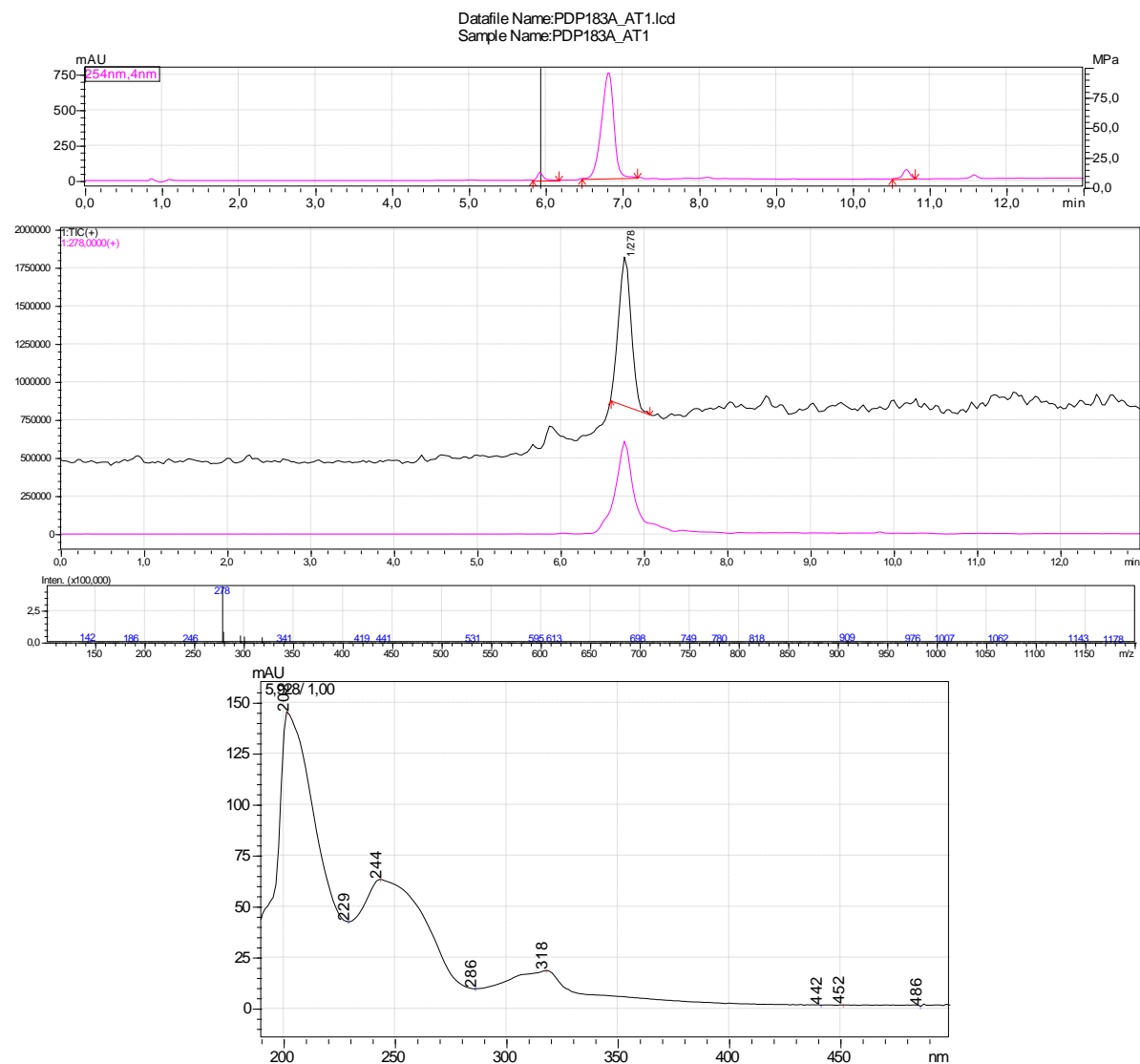


Figure S43.: HPLC UV and MS chromatograms, mass spectrum and UV-VIS spectrum of known compound 1a.

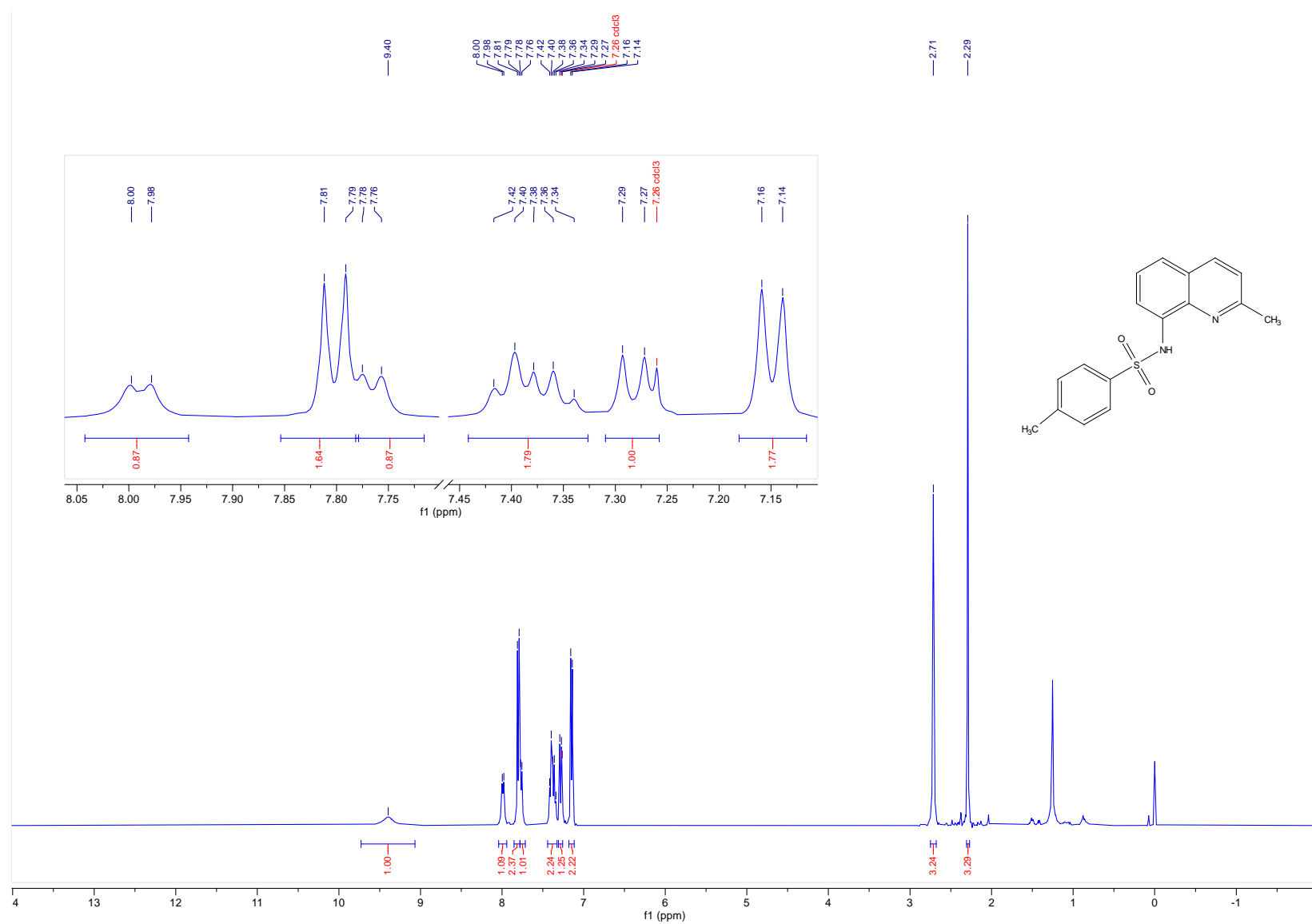


Figure S44.:  $^1\text{H}$  NMR spectrum of known compound **4h** recorded at 400 MHz in Chloroform-*d*.

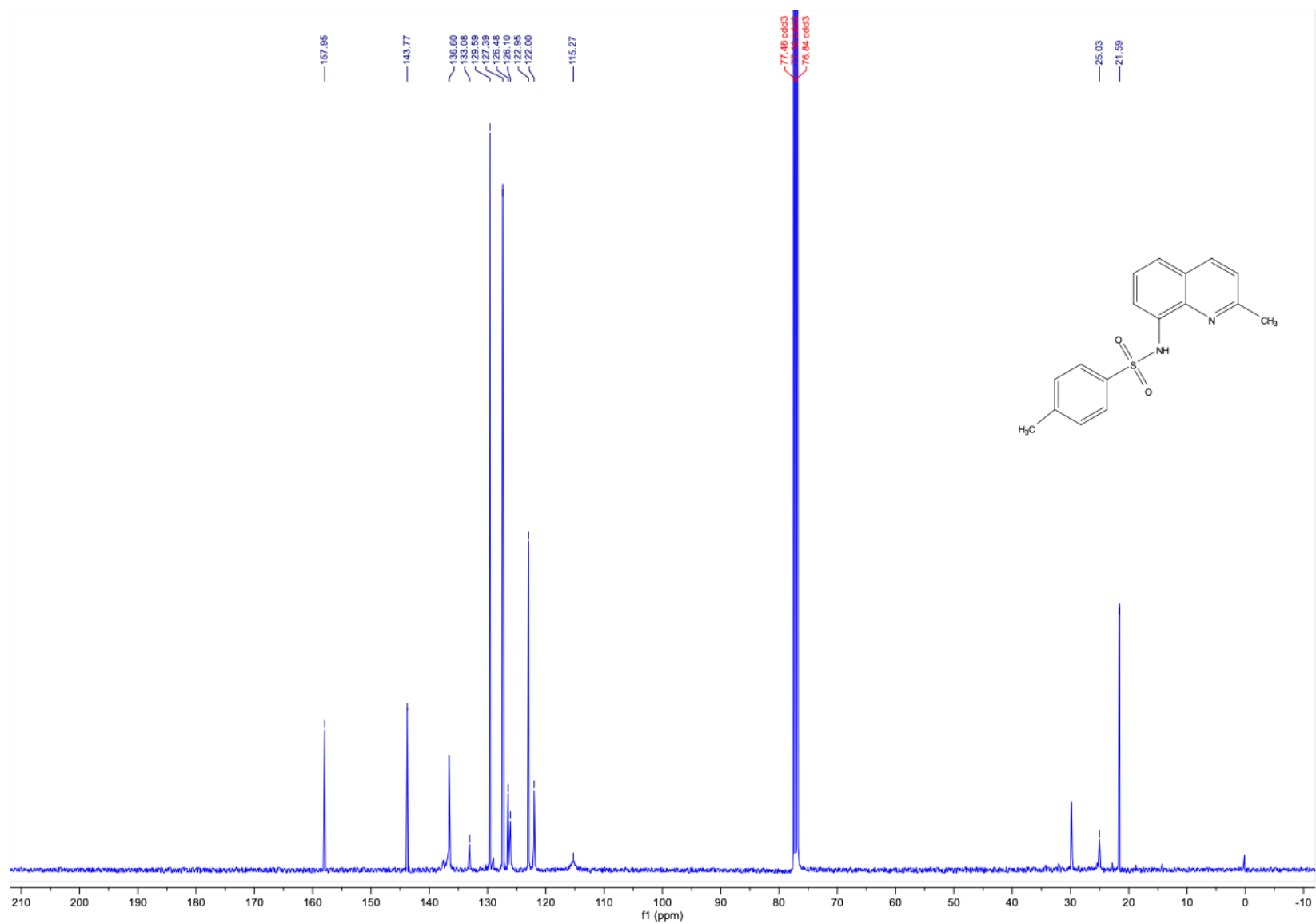


Figure S45.:  $^{13}\text{C}$  NMR spectrum of known compound **4h** recorded at 101 MHz in Chloroform-*d*.