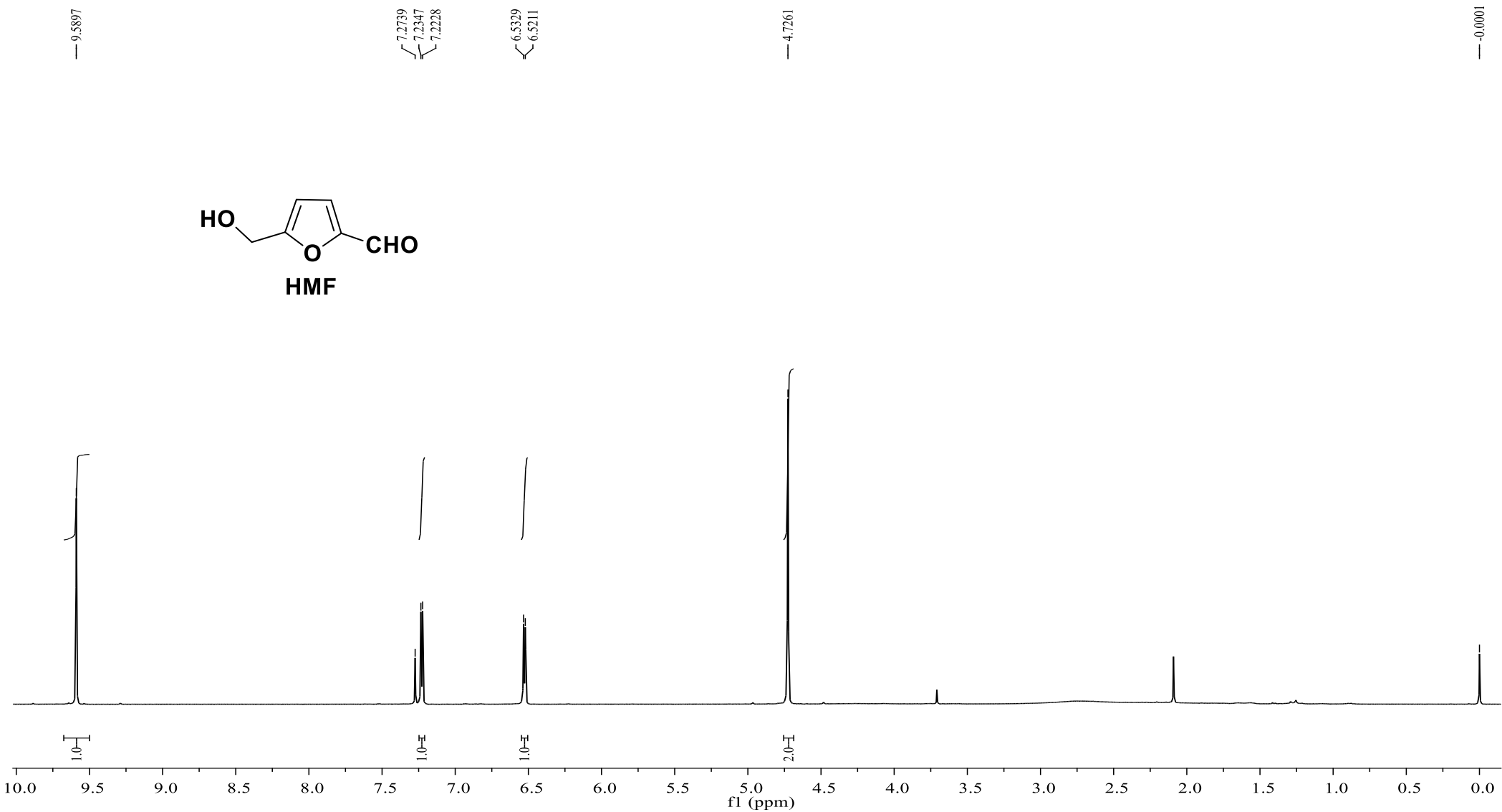


**Sustainable pseudo-homogeneous catalyst from renewable biomass. Design,  
development and catalytic applications**

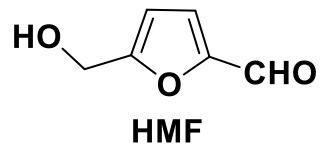
Rajamani Rajmohan, Ravichandran Rathnakowsiha, Srinivasan Prakadeesh and  
Potheappan Vairaprakash\*

Department of Chemistry,  
School of Chemical and Biotechnology,  
SASTRA Deemed University, Thanjavur,  
Tamil Nadu 613401, India.

Supporting Information



**Figure S1.**  $^1\text{H}$  NMR spectrum of 5-hydroxymethylfurfural in  $\text{CDCl}_3$



— 177.9054

— 161.2290

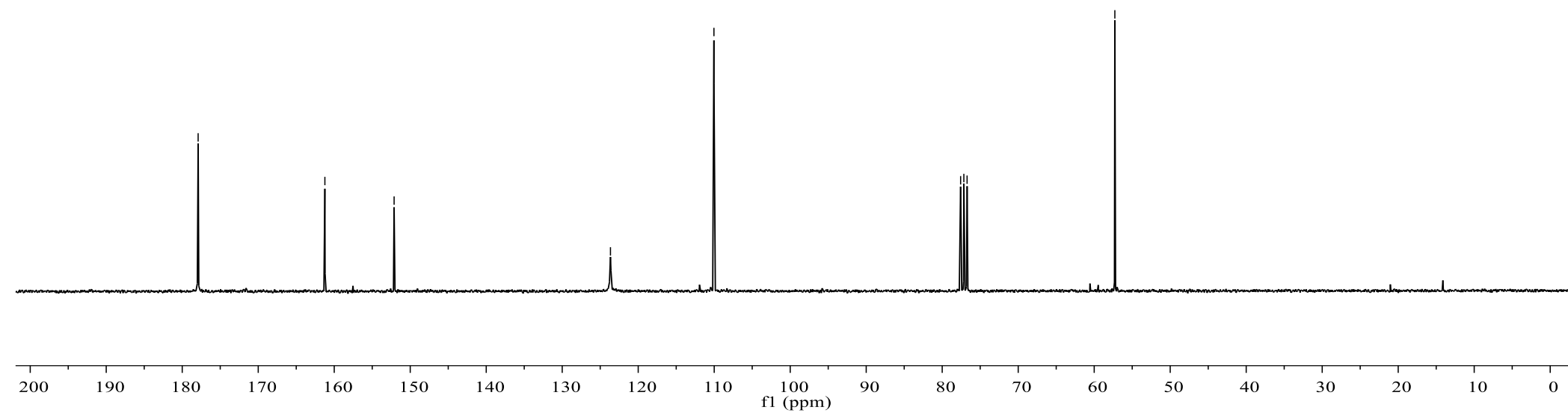
— 152.1199

— 123.6520

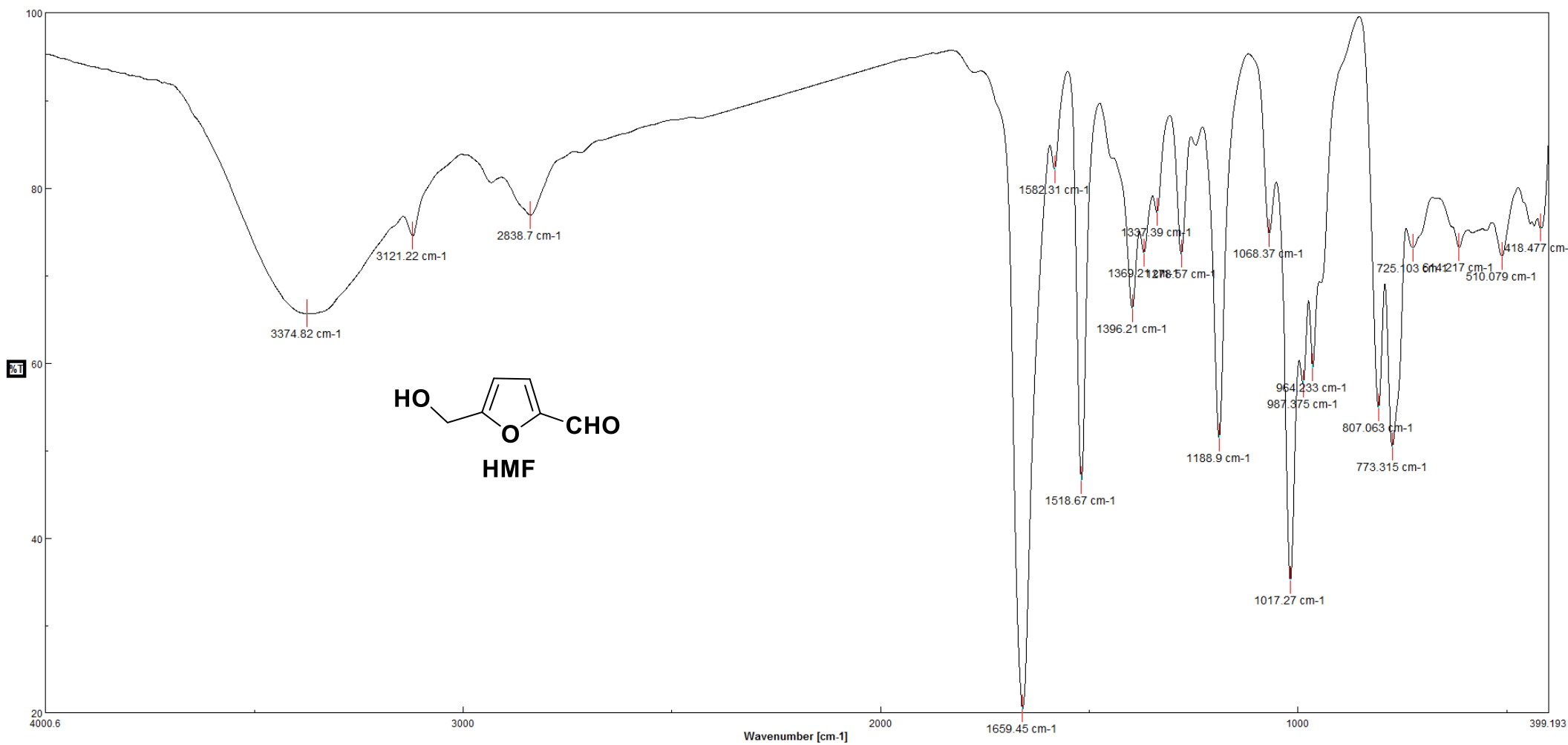
— 110.0374

77.5769  
77.1520  
76.7273

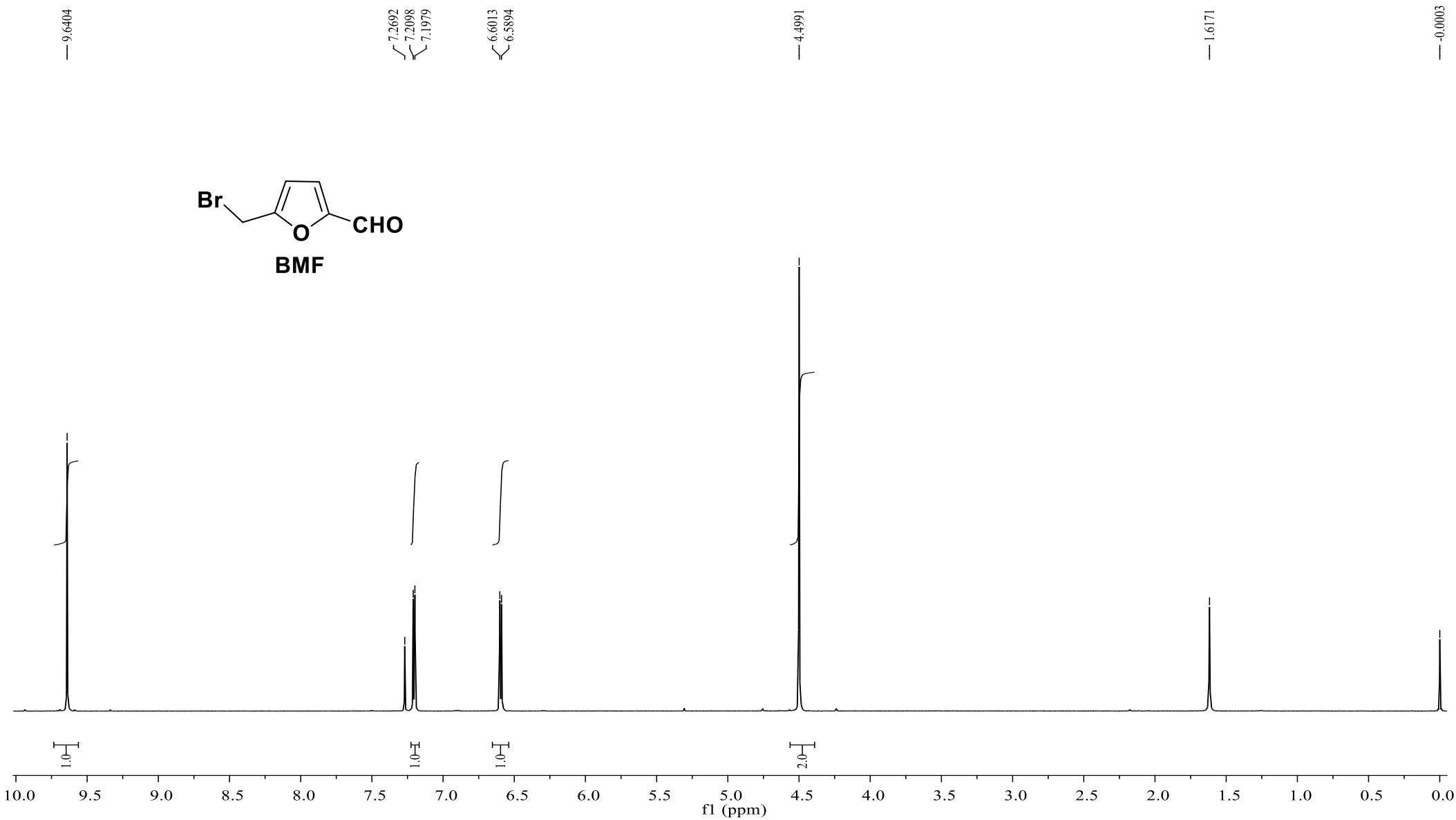
— 57.2854



**Figure S2.**  $^{13}\text{C}$  NMR spectrum of 5-hydroxymethylfurfural in  $\text{CDCl}_3$



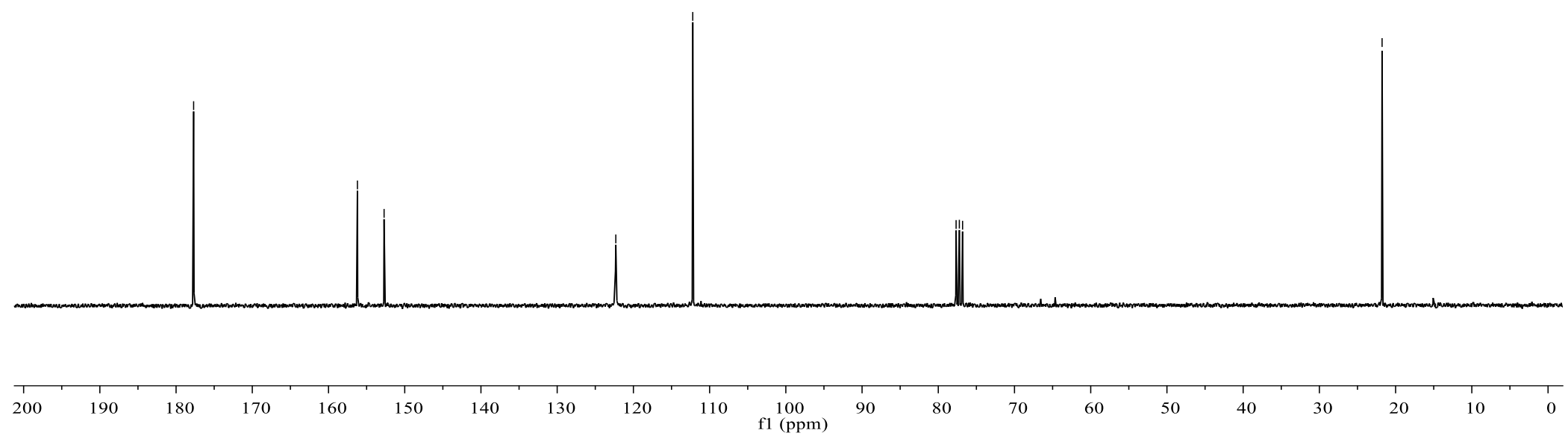
**Figure S3.** FTIR spectrum of 5-hydroxymethylfurfural (neat)



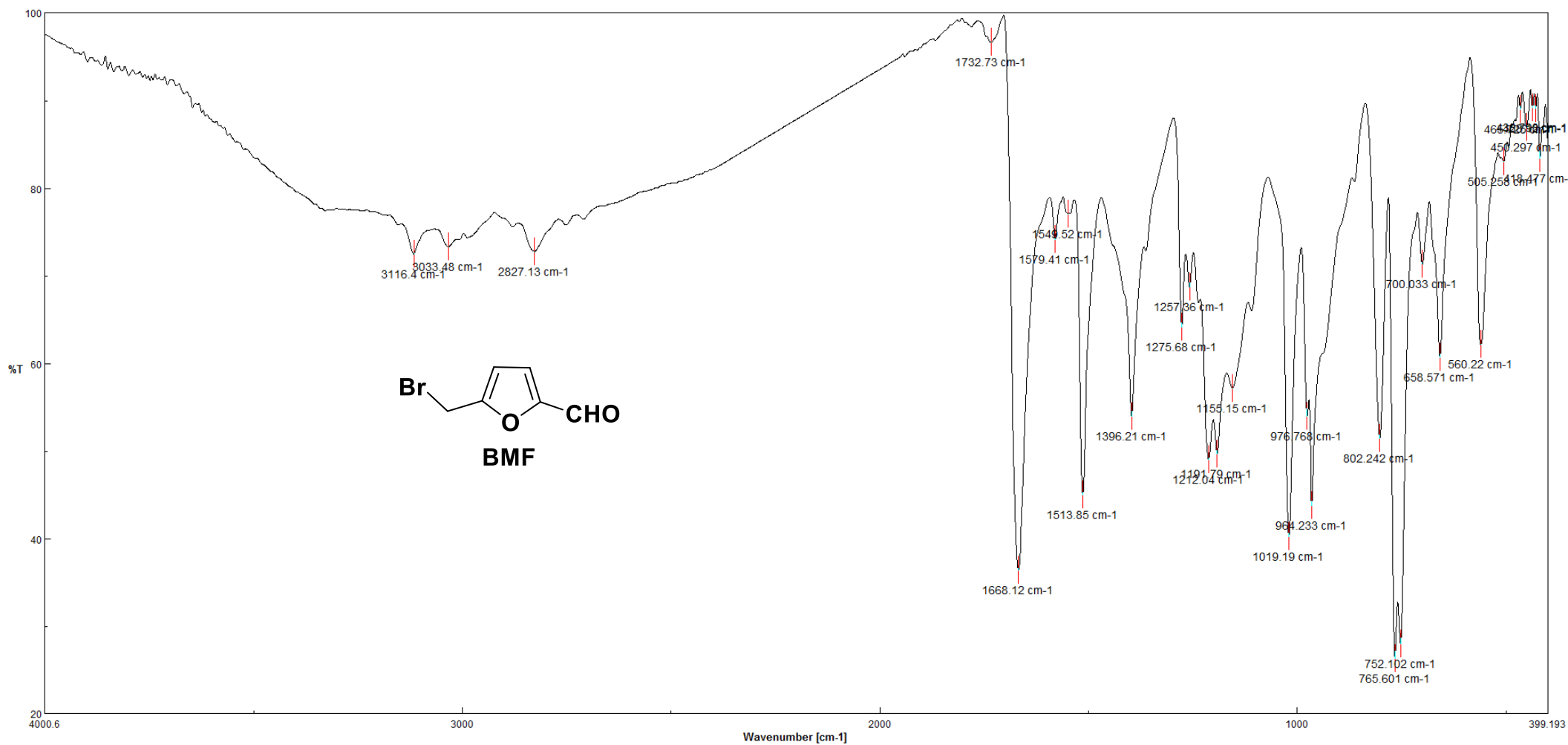
**Figure S4.**  $^1\text{H}$  NMR spectrum of 5-bromomethylfurfural in  $\text{CDCl}_3$



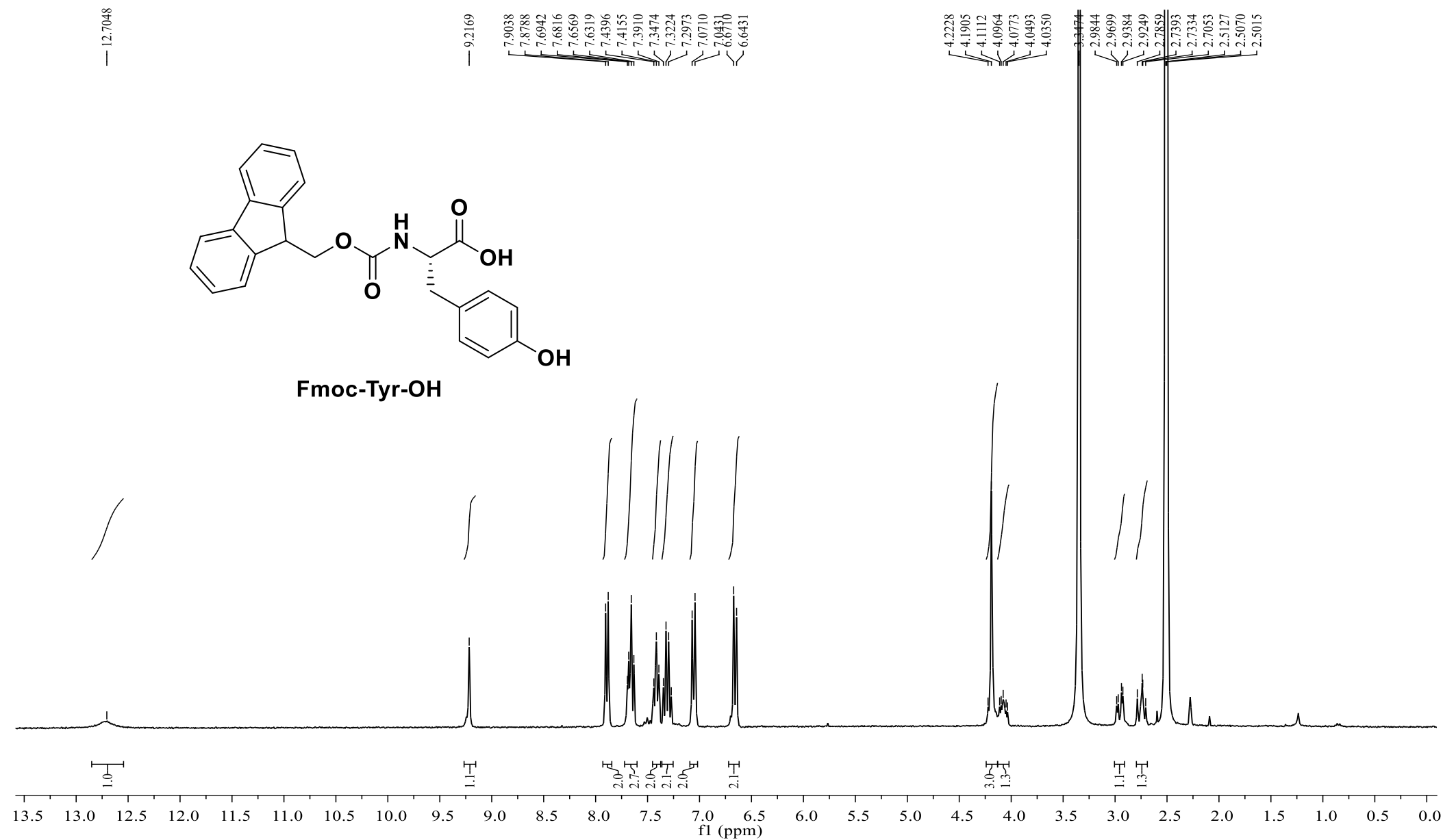
— 177.6966      — 156.2077      — 152.7084      — 122.3072      — 112.2125      — 77.6619      — 77.2365      — 76.8115      — 21.7739



**Figure S5.**  $^{13}\text{C}$  NMR spectrum of 5-bromomethylfurfural in  $\text{CDCl}_3$

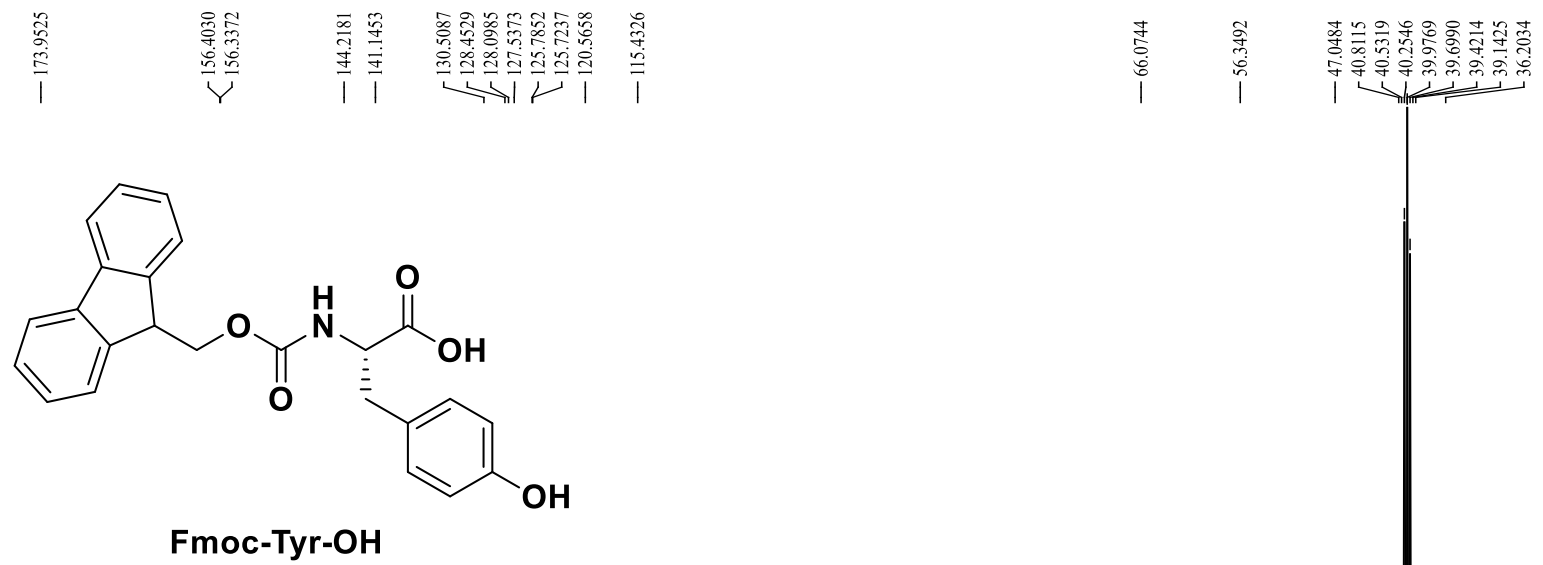


**Figure S6.** FTIR spectrum of 5-bromomethylfurfural (neat)

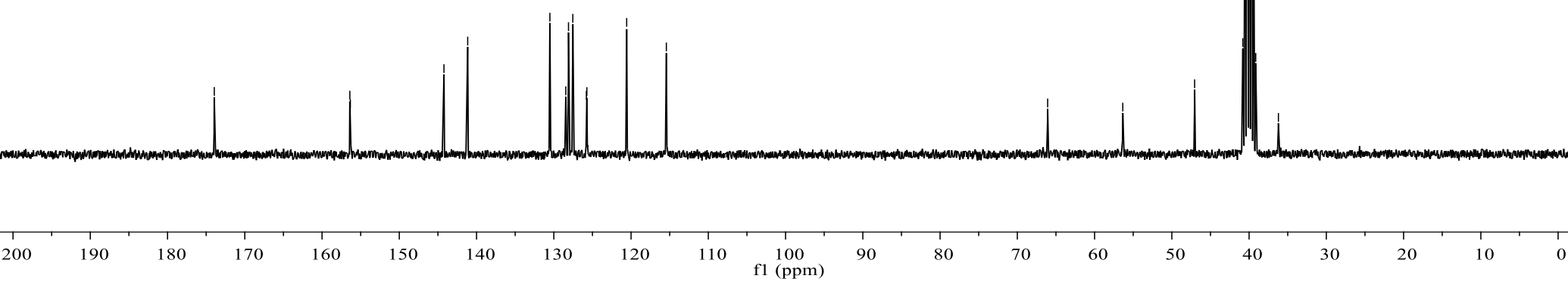


**Figure S7.** <sup>1</sup>H NMR spectrum of Fmoc-Tyr-OH in DMSO-*d*<sub>6</sub>

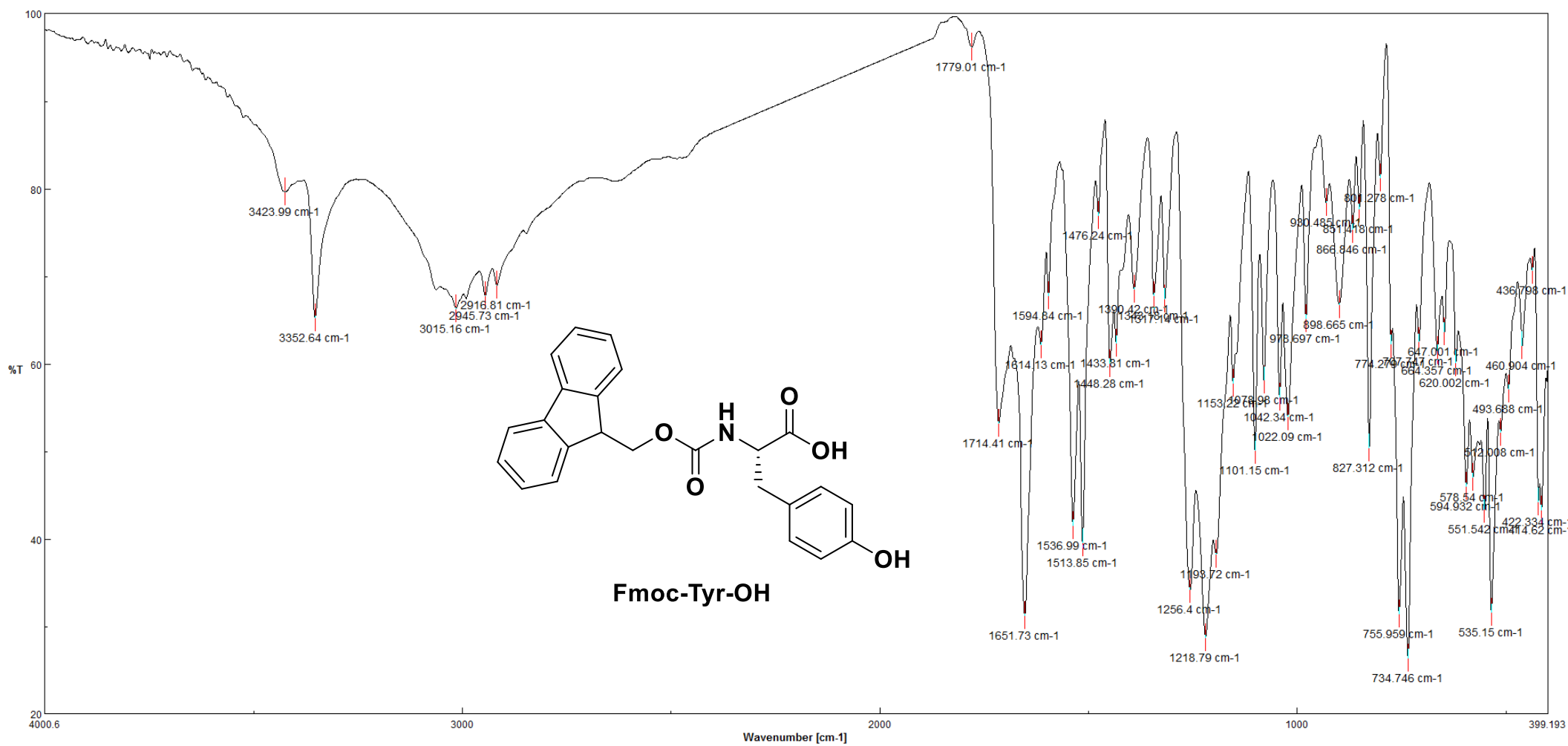




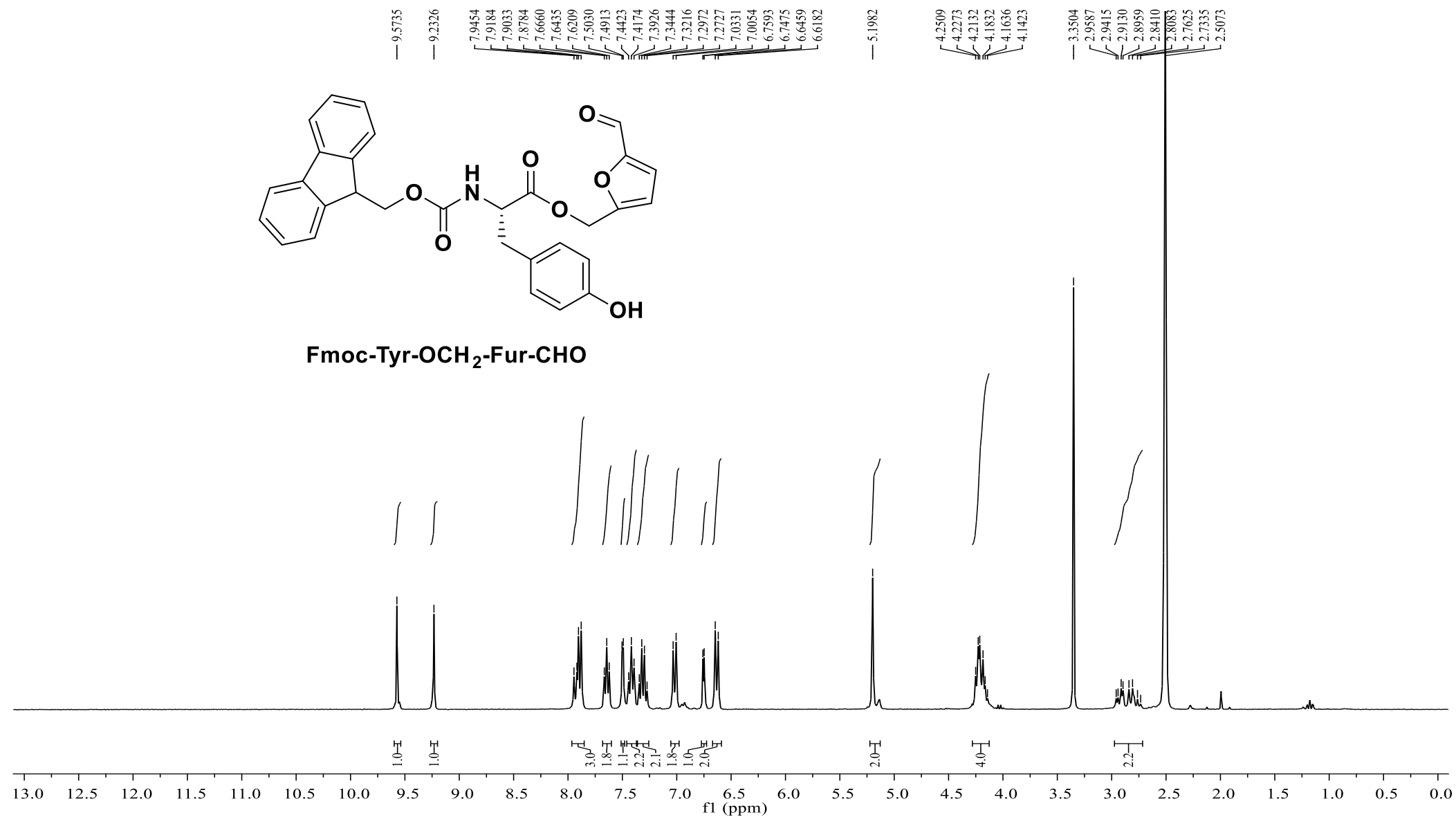
- 173.9525
- 156.4030
- 156.3372
- 144.2181
- 141.1453
- 130.5087
- 128.4529
- 128.0985
- 127.5373
- 125.7852
- 125.7237
- 120.5658
- 115.4326
- 66.0744
- 56.3492
- 47.0484
- 40.8115
- 40.5319
- 40.2546
- 39.9769
- 39.6990
- 39.4214
- 39.1425
- 36.2034



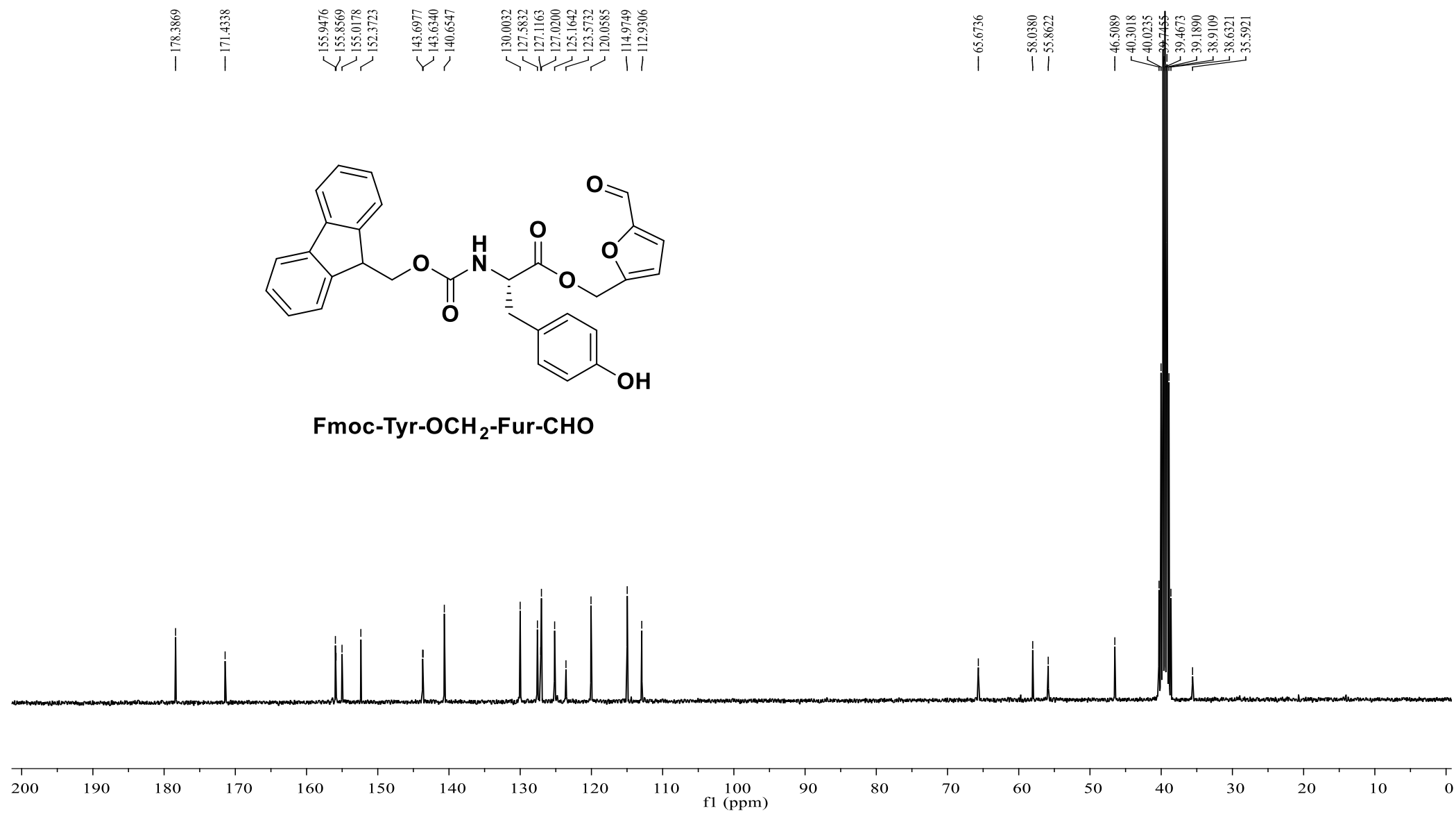
**Figure S8.**  $^{13}\text{C}$  NMR spectrum of Fmoc-Tyr-OH in  $\text{DMSO-}d_6$



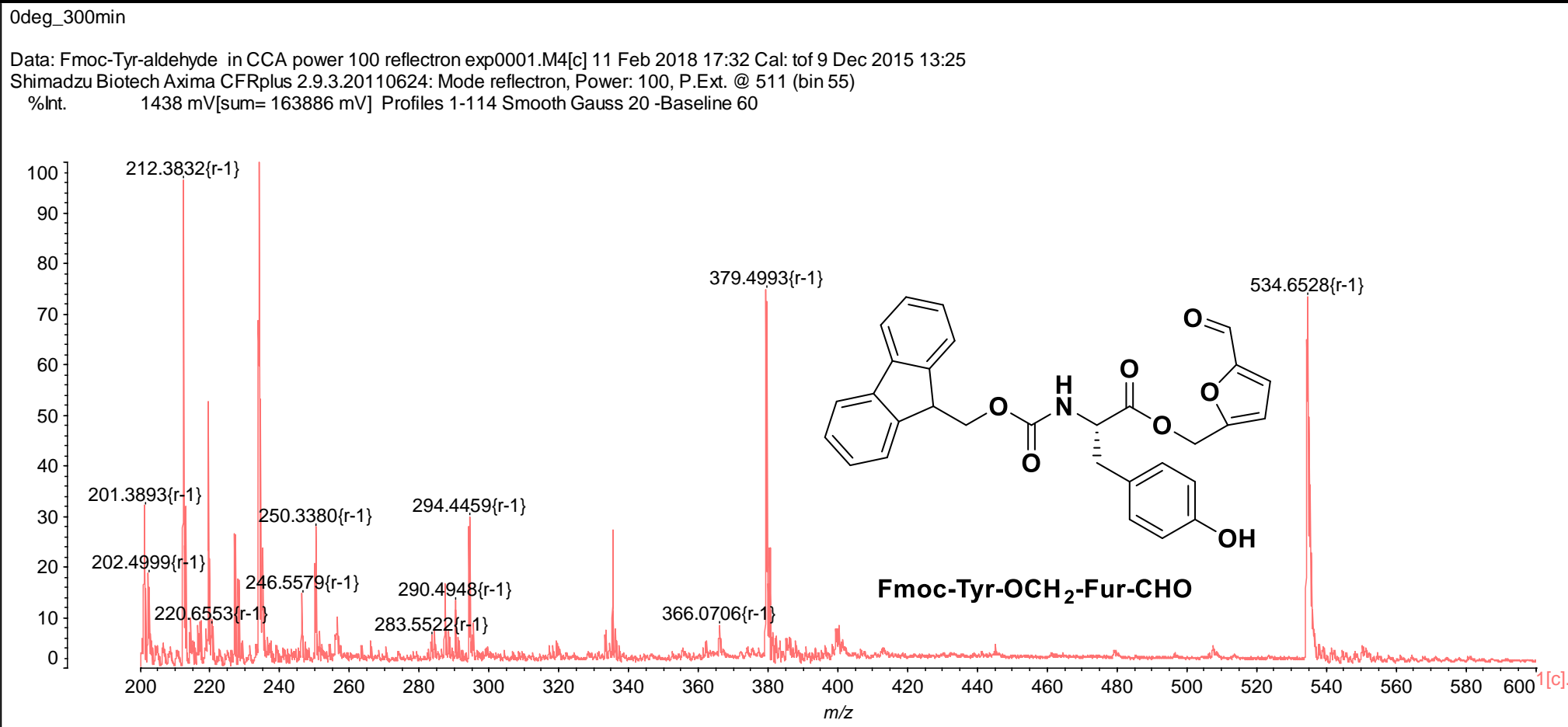
**Figure S9.** FTIR spectrum of Fmoc-Tyr-OH



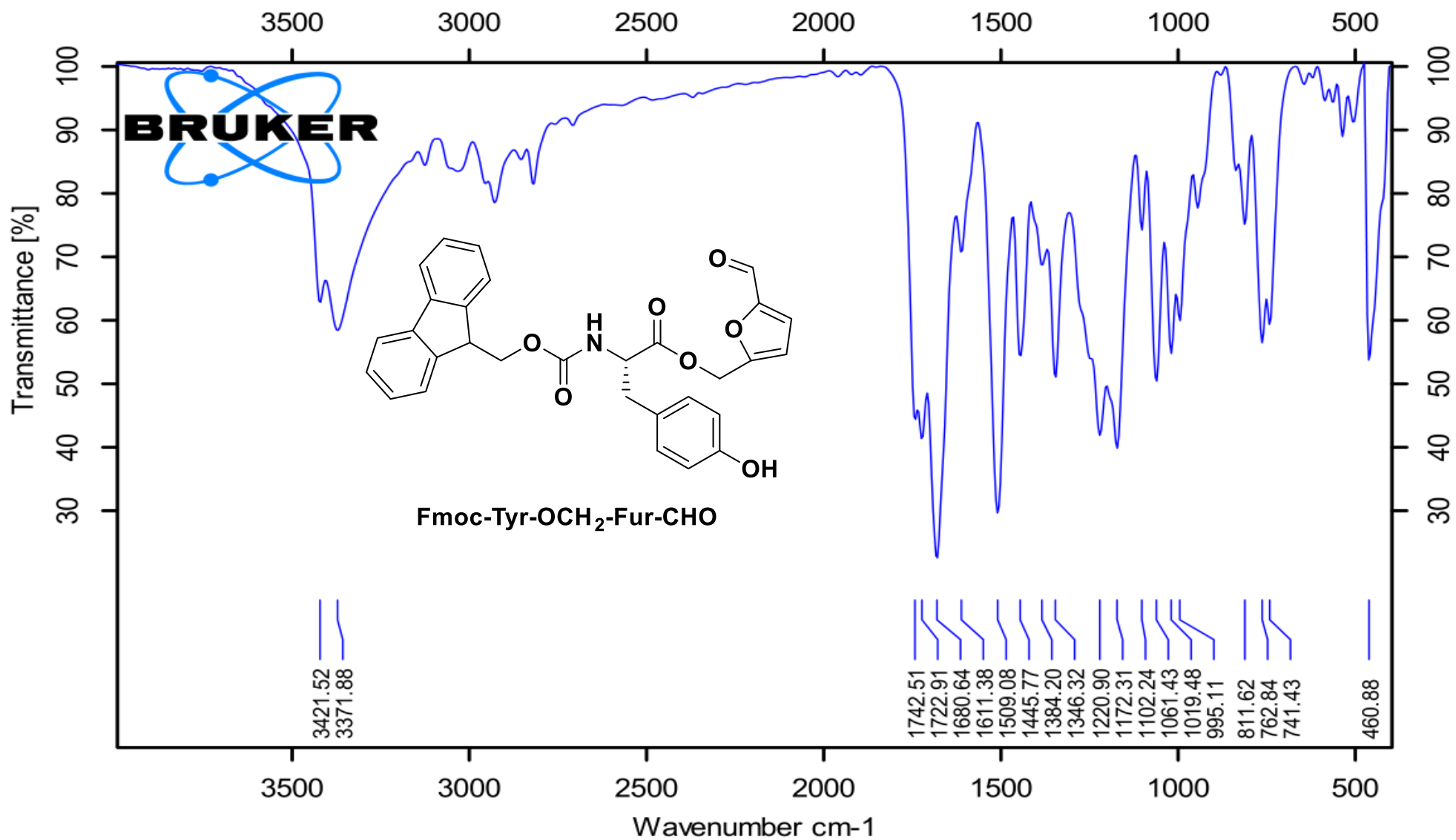
**Figure S10.** <sup>1</sup>H NMR spectrum of Fmoc-Tyr-OCH<sub>2</sub>-Fur-CHO in DMSO-*d*<sub>6</sub>



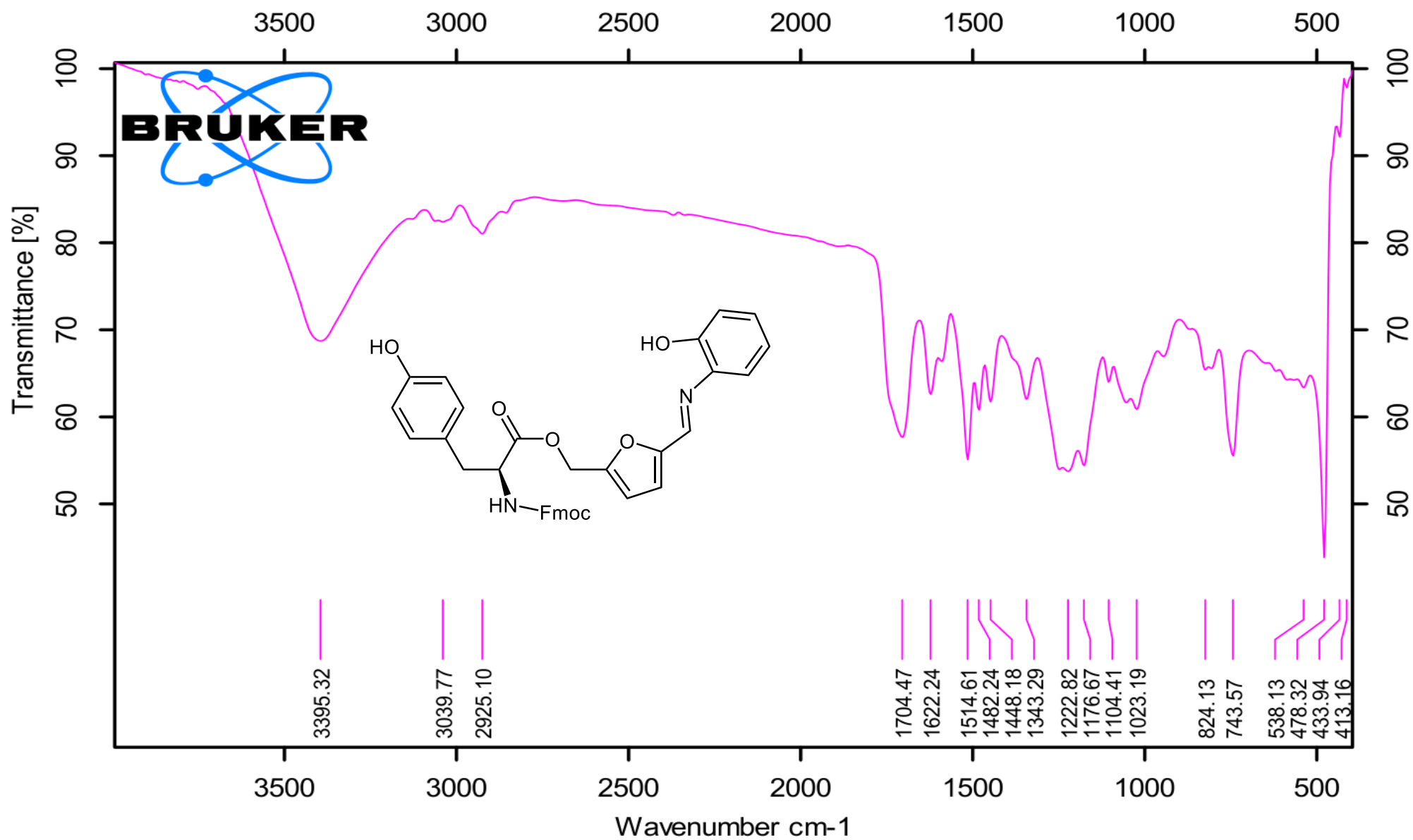
**Figure S11.** <sup>13</sup>C NMR spectrum of Fmoc-Tyr-OCH<sub>2</sub>-Fur-CHO in DMSO-*d*<sub>6</sub>



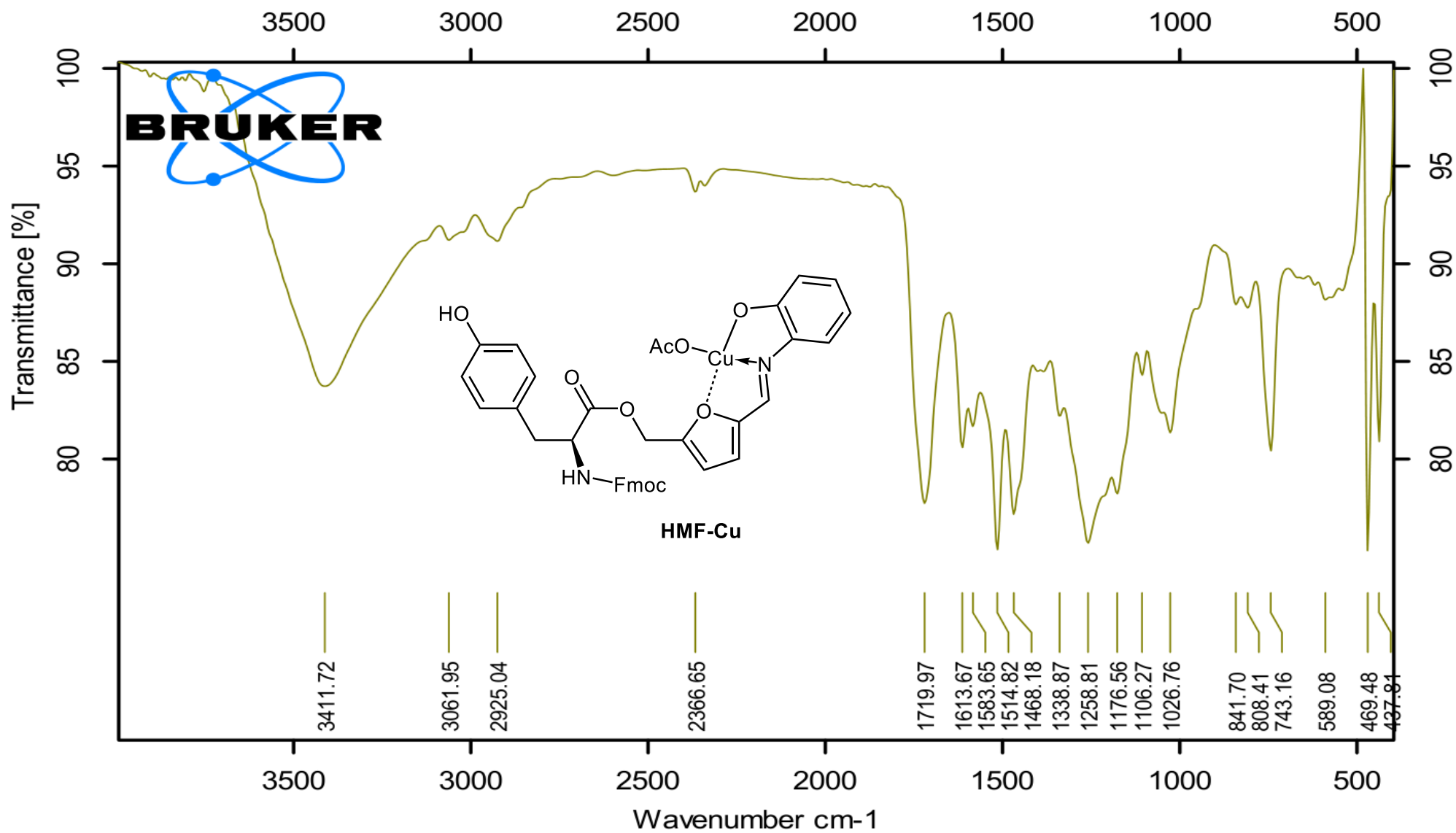
**Figure S12.** MALDI Mass Spectrum of Fmoc-Tyr-OCH<sub>2</sub>-Fur-CHO



**Figure S13.** FTIR spectrum of Fmoc-Tyr-OCH<sub>2</sub>-Fur-CHO



**Figure S14.** FTIR spectrum of the aliquot withdrawn at imine stage

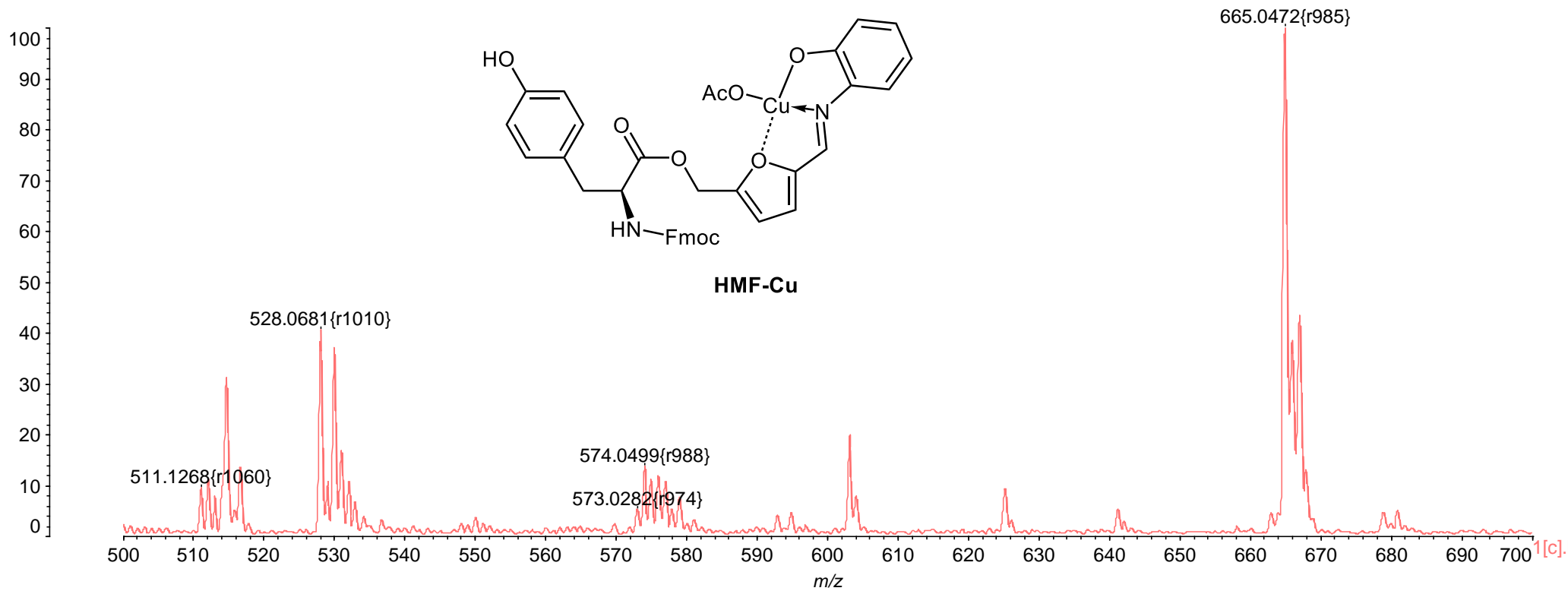


**Figure S15.** FTIR spectrum of the complex **HMF-Cu**

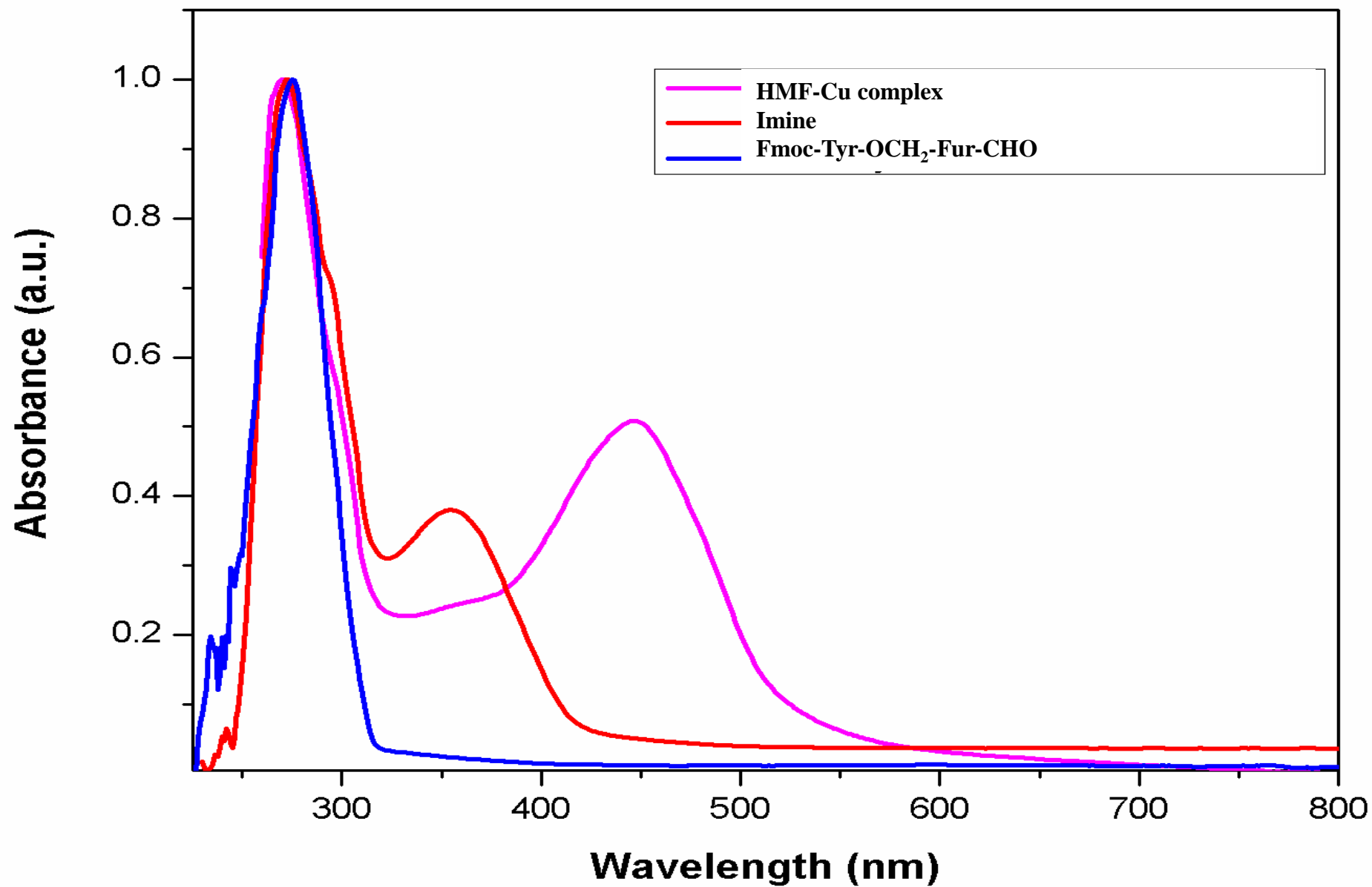


Odeg\_300min

Data: copper complex reflectron power 100 full0001.F20[c] 11 Feb 2018 18:35 Cal: tof 9 Dec 2015 13:25  
Shimadzu Biotech Axima CFRplus 2.9.3.20110624: Mode reflectron, Power: 100, P.Ext. @ 660 (bin 62)  
%Int. 45 mV[sum= 4518 mV] Profiles 1-100 Smooth Gauss 20 -Baseline 60



**Figure S16.** MALDI Mass Spectrum of the copper complex (**HMF-Cu**)



**Figure S17.** UV vis spectra of aldehyde, imine and copper complex