Supporting Information

Design and synthesis of sugar-benzohydrazides: Low molecular weight organogelators

~~Design and synthesis of sugar-benzohydrazide- N-glycosylamines: Low molecular weight organogelators self-assemble into nanorods~~

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S.I. 1 Description of experimental techniques.

S.I. 1.1: NMR

NMR spectra were recorded on a Bruker DRX 300 MHz instrument in $CDCl_3$ (with a few drops of DMSO-d_6). Chemical shifts are referenced to internal TMS.

S.I. 1.2: Field emission - scanning electron microscopy (FE-SEM)

Field emission-scanning electron microscopic studies were performed by using Hitachi Scanning Electron Microscope SU3500. The samples were prepared by drop casting of dichloroethane~~ethanol~~ gel of glycosidic gelators on aluminium studs at the required concentrations at ambient conditions. FE-SEM images were obtained after drying the sample at ambient temperature.

S.I. 1.3: Transmission electron microscopy (TEM)

Transmission electron microscopic studies were performed by using Hitachi Transmission electron microscope H-9500. The samples were prepared by drop casting of dichloroethane~~ethanolic~~ solution of glycoside (**11**) on to carbon coated copper grids (400 mesh) at the concentration of 1 X 10^{-5} M at ambient conditions. TEM images were obtained after drying the sample and without staining in vaccum

S.I. 1.4: Fourier Transform - Infrared spectroscopy (FT-IR)

Fourier Transform - Infrared spectroscopy studies were performed by using Agilent Technology Carry 630 FT-IR. The samples were analyzed by directly putting them under attenuated total reflectance (ATR) mode.

S.I. 1.5: Rheological studies

Rheological measurements were carried out with Anton Paar-Rheoplus instrument. Oscillatory experiments were performed in a 0.001–100 Hz frequency range with 0.1 % constant strain on 0.5~~3~~ % gel of 8 in 1,2-dichloroethane~~ethanol~~ at 25^{o}C.

S.I. 1.6: XRD analysis

PXRD patterns are recorded by X-ray diffractometer with CuK_{α} radiation source. The scan rate was 0.5^{o}/min. The xerogel was prepared by evaporating gel prepared in ethanol at room temperature.

S.I. 1.7: Photo physical studies

UV-vis spectrophotometer and fluorescence spectrophotometer studies were performed by Agilent Technology UV-Vis spectrophotometer and Agilent Technology Carry Eclipse Fluorescence spectrophotometers. The samples were prepared from absorption and emission spectra of the N-glycosylamine was recorded at the concentration of 5 X 10^{-5} M in dichloroethane as a solvents

S.I. 2 **Synthesis and characterization of benzohydrazine based N-glycosylamine (**1**)**.

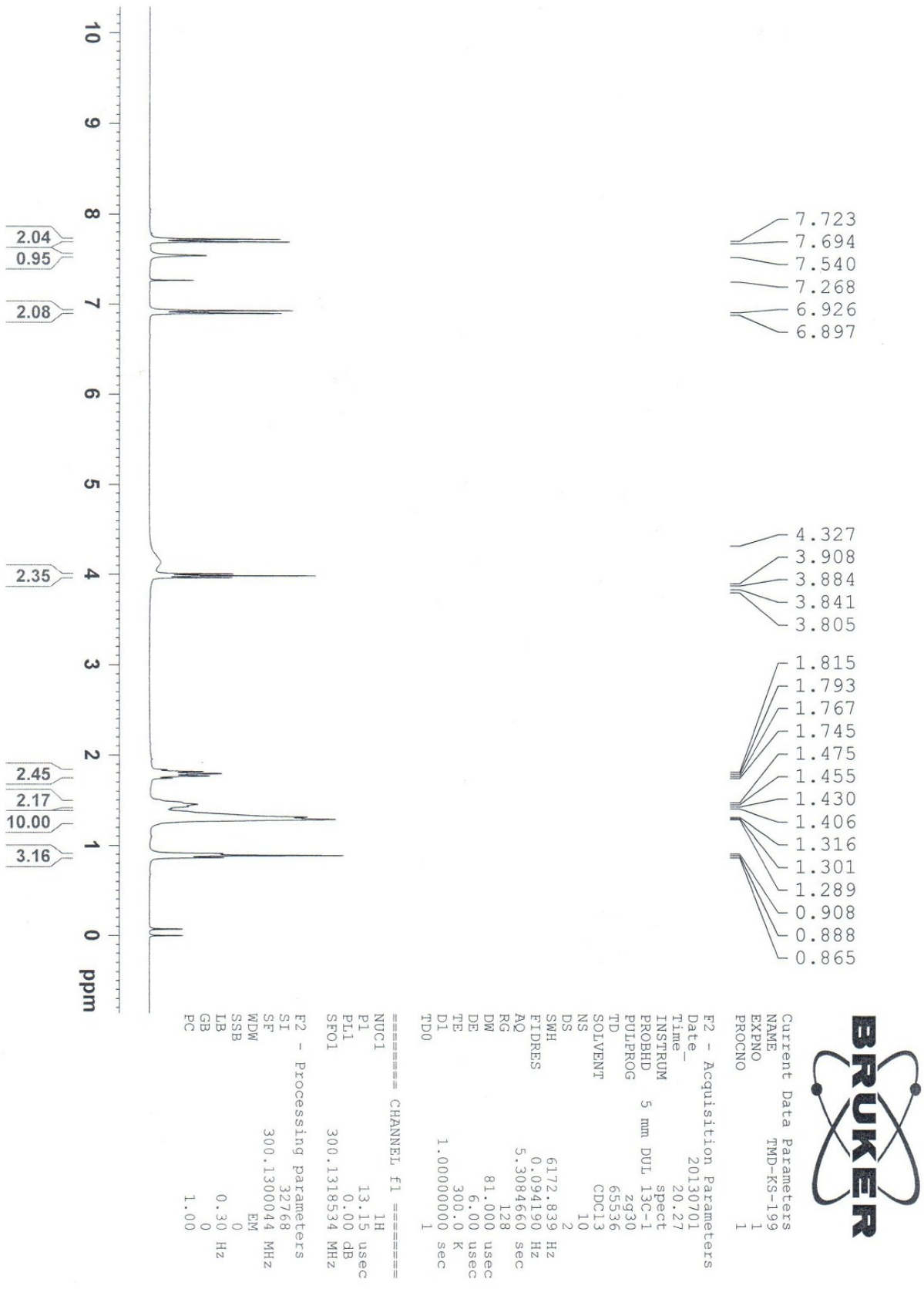


Fig. S.I.2.1: ^{1}H NMR spectrum of compound **1**

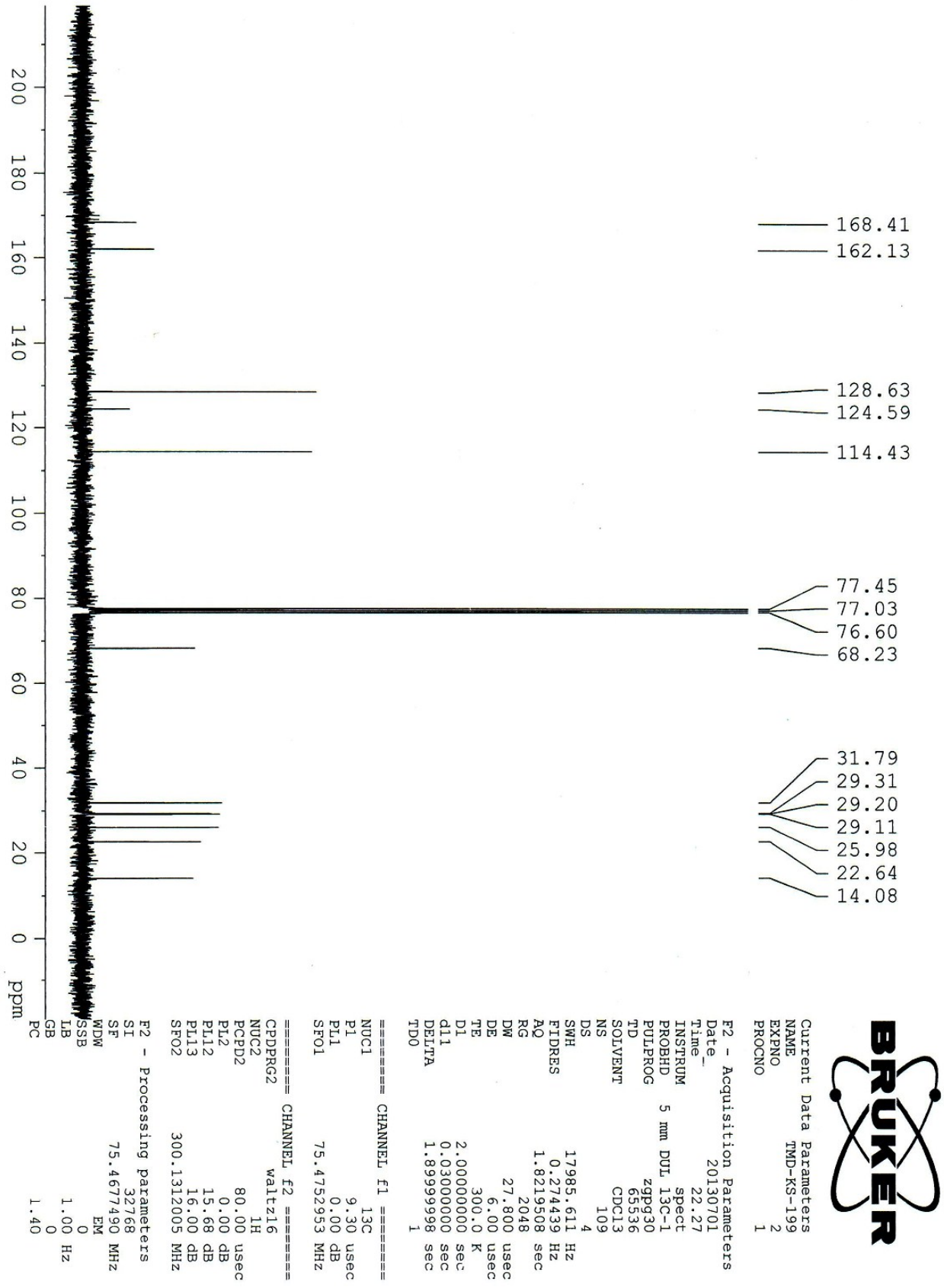


Fig. S.I.2.2: ^{13}C NMR spectrum of compound 1

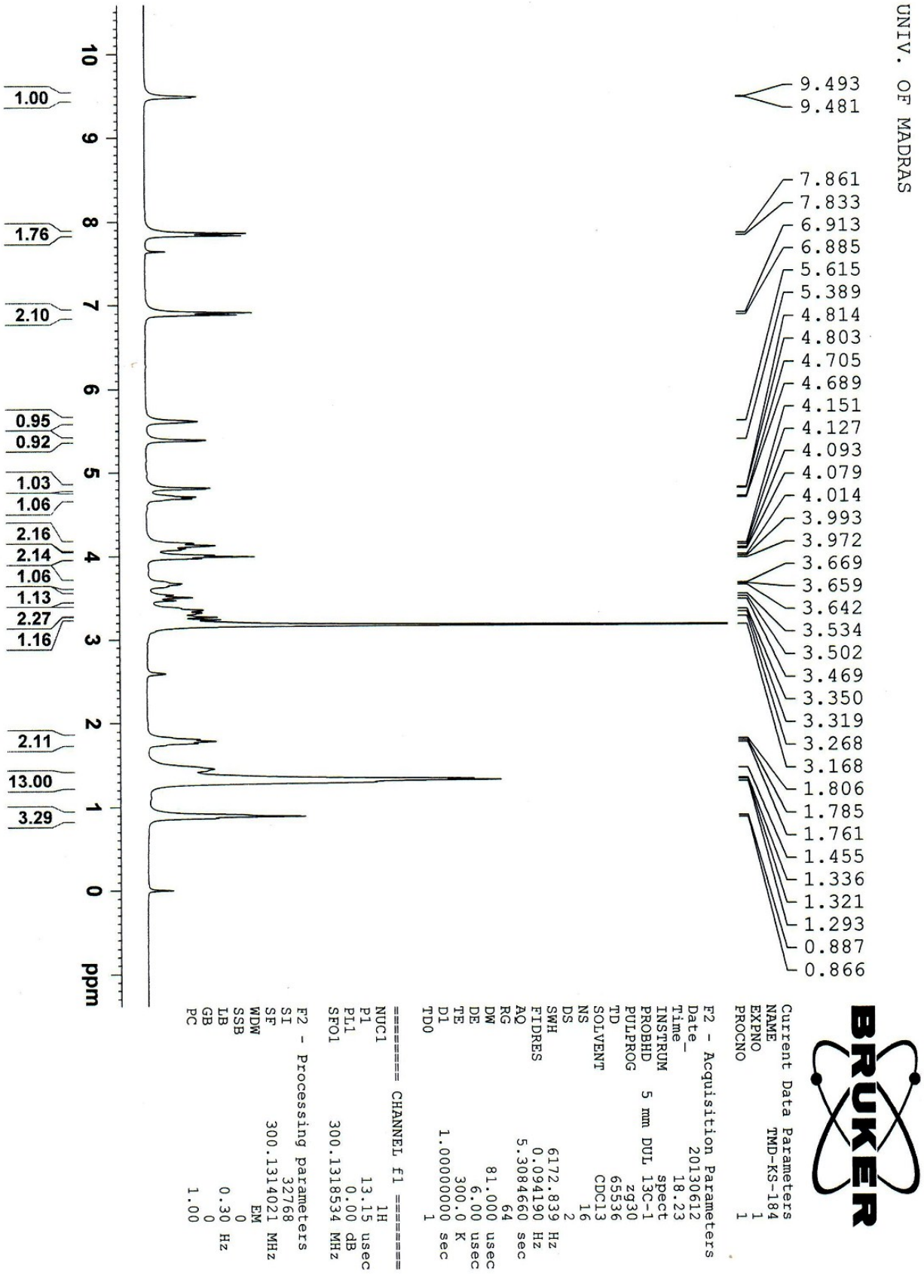
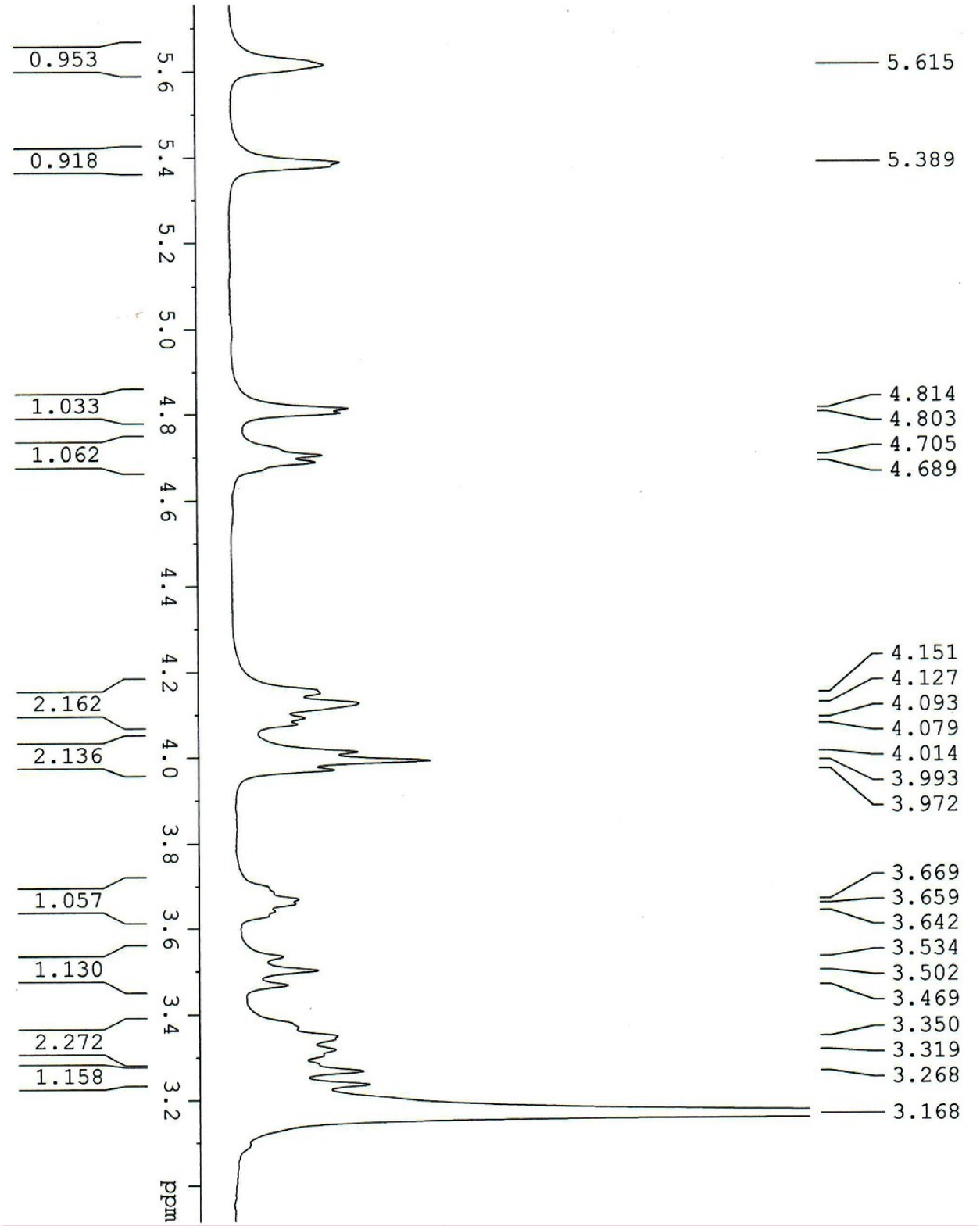


Fig. S.I.2.3: ^{1}H NMR spectrum of compound 8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1.062
2.162
2.136
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1.130
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1.158
5.6
5.4
5.2
5.0
4.8
4.6
4.4
4.2
4.0
3.8
3.6
3.4
3.2
ppm
5.615
5.389
4.814
4.803
4.705
4.689
4.151
4.127
4.093
4.079
4.014
3.993
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3.168

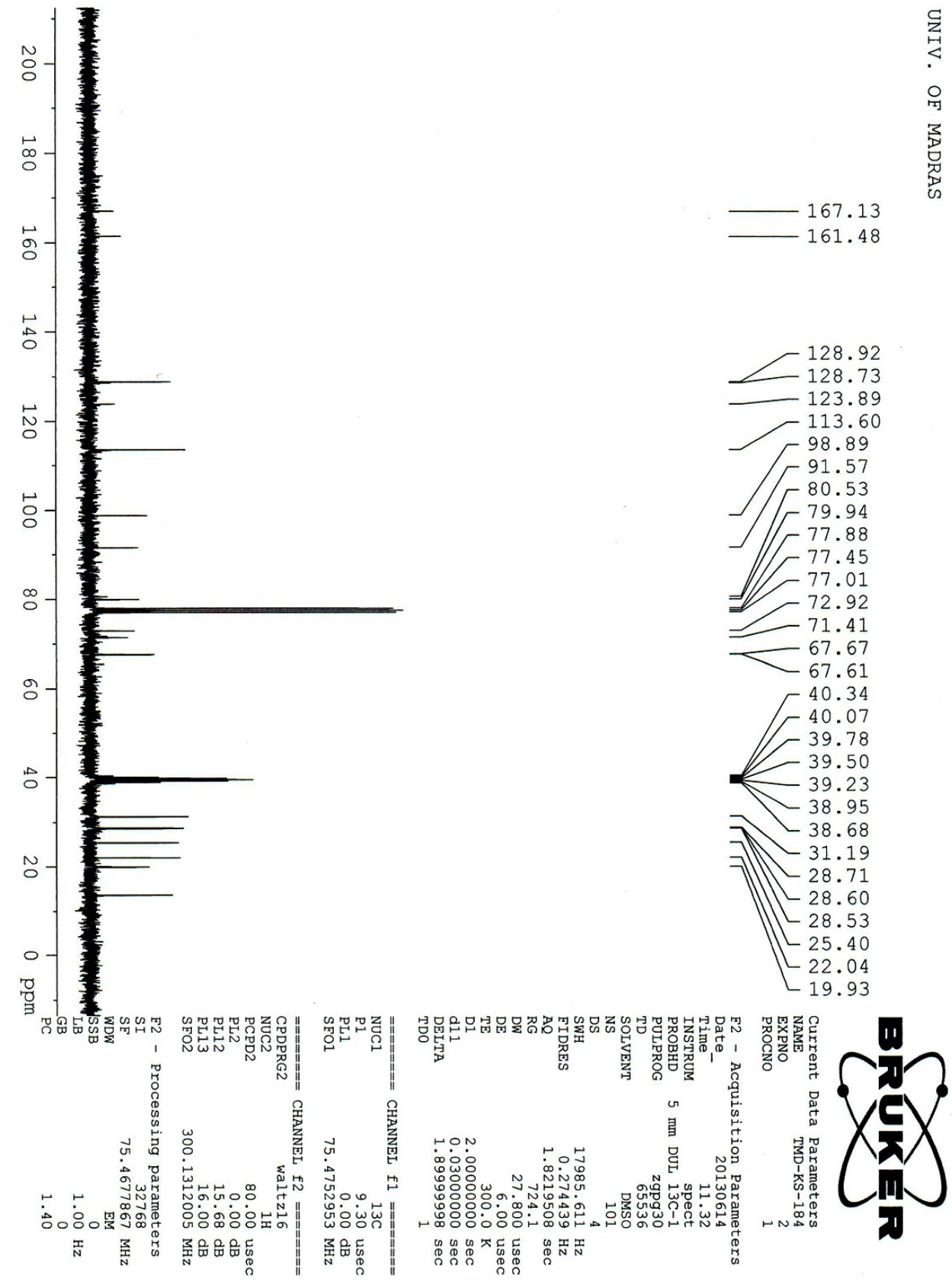


Fig. S.I.2.4: ^{13}C NMR spectrum of compound **8**

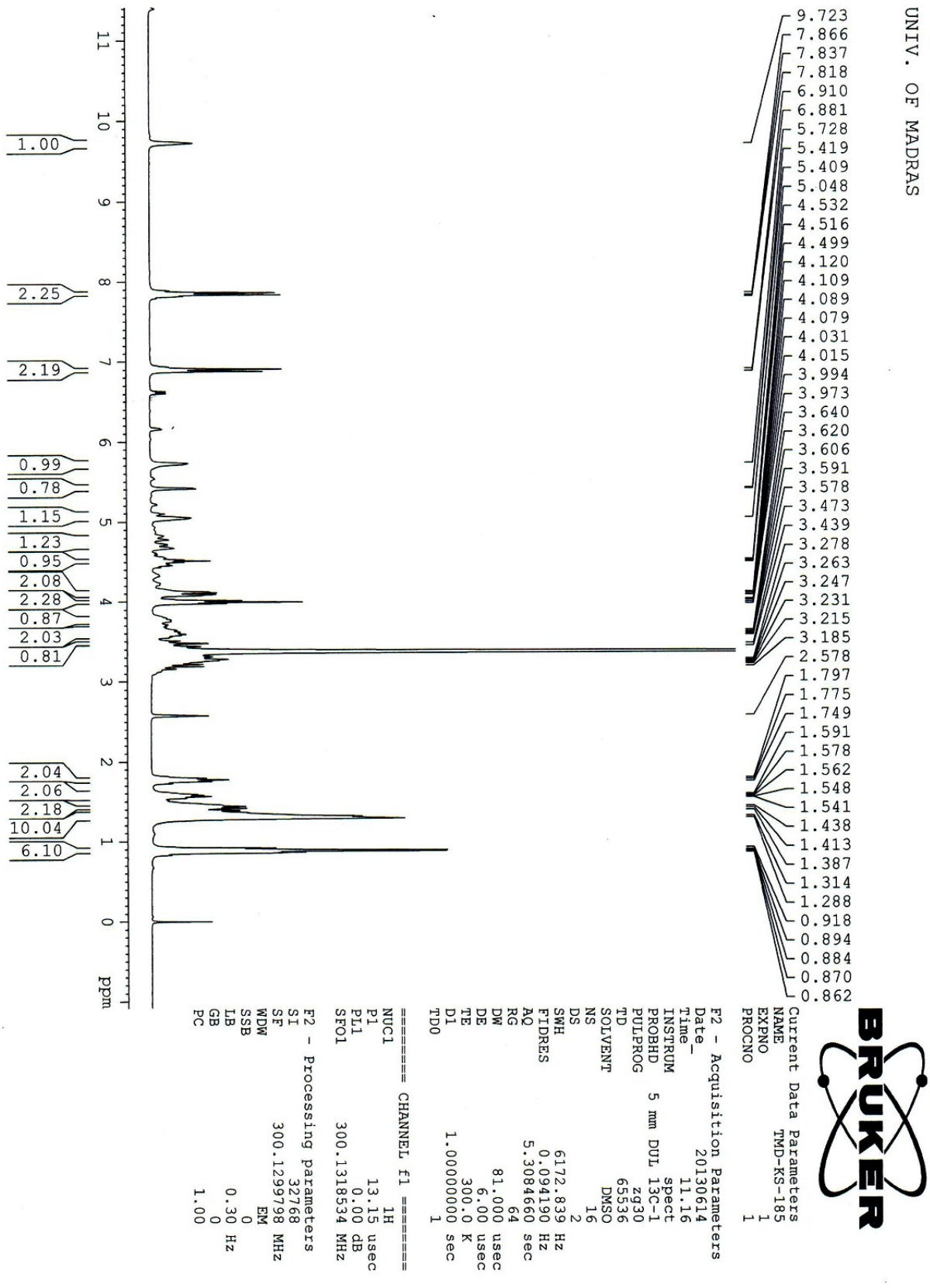
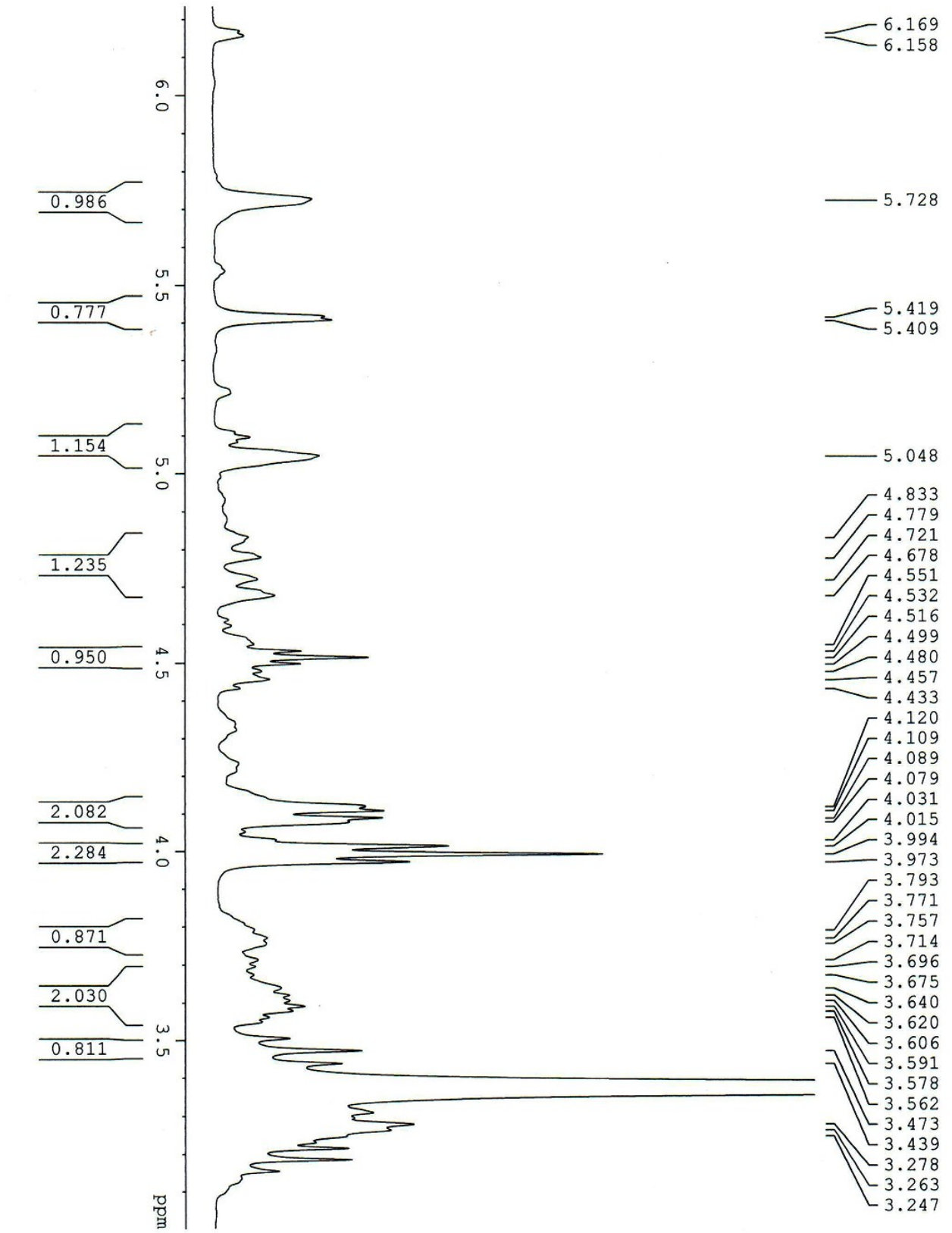


Fig. S.I.2.5: ^{1}H NMR spectrum of compound **9**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4.516
4.499
4.480
4.457
4.433
4.120
4.109
4.089
4.079
4.031
4.015
3.994
3.973
3.793
3.771
3.757
3.714
3.696
3.675
3.640
3.620
3.606
3.591
3.578
3.562
3.473
3.439
3.278
3.263
3.247
0.986
0.777
1.154
1.235
0.950
2.082
2.284
0.871
2.030
0.811
6.0
5.5
5.0
4.5
4.0
3.5
ppm

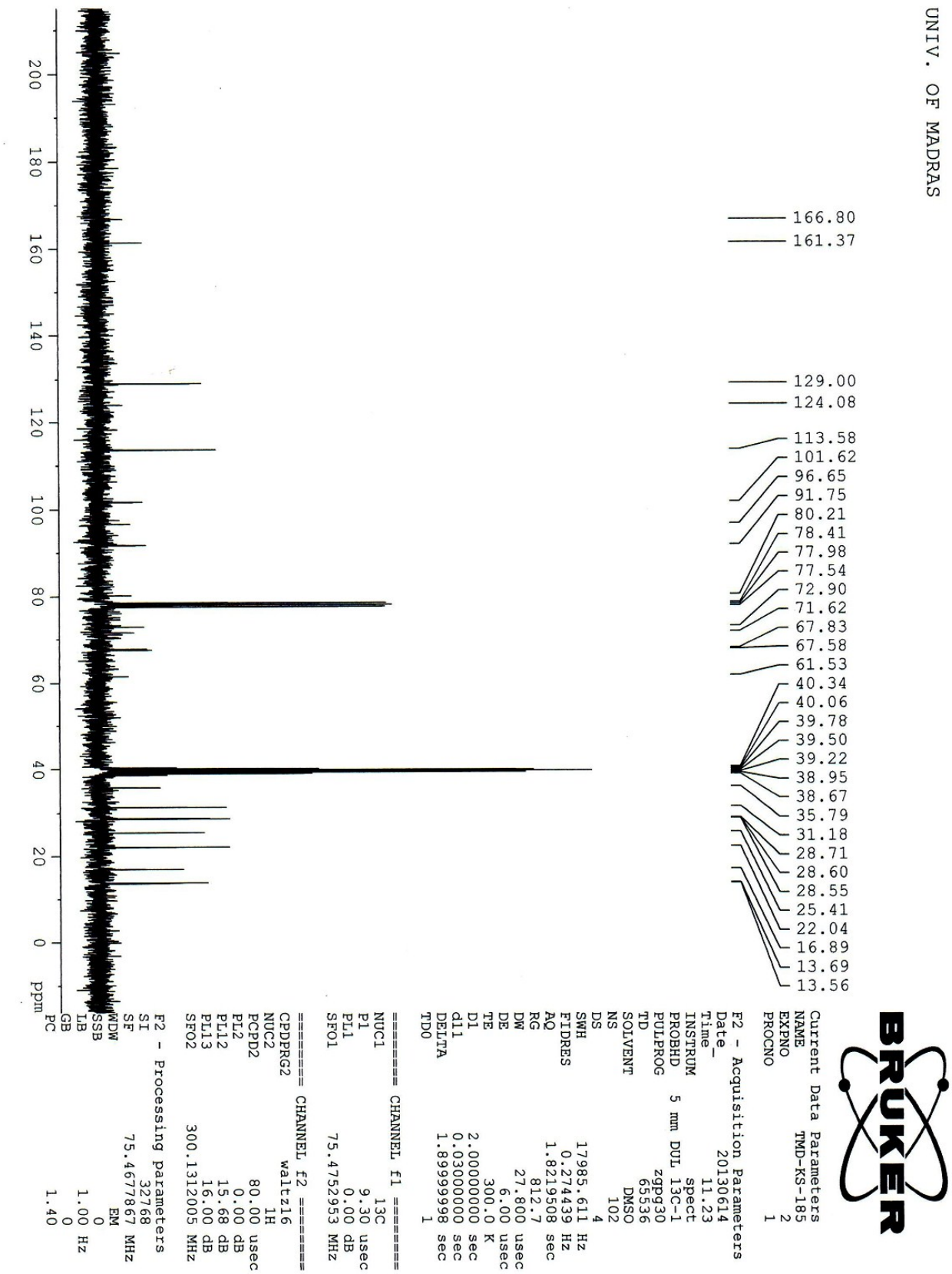


Fig. S.I.2.6: ^{13}C NMR spectrum of compound **9**

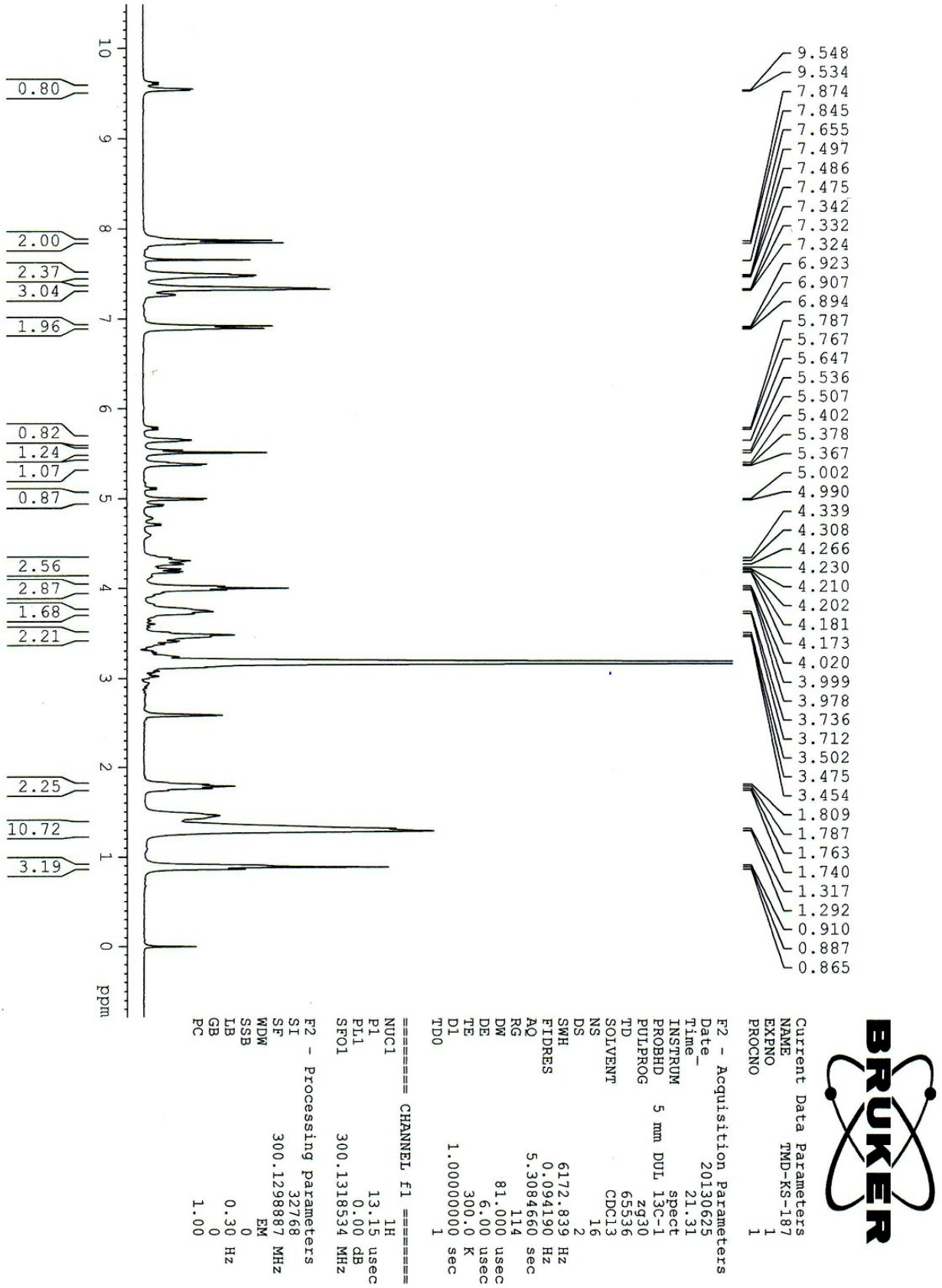
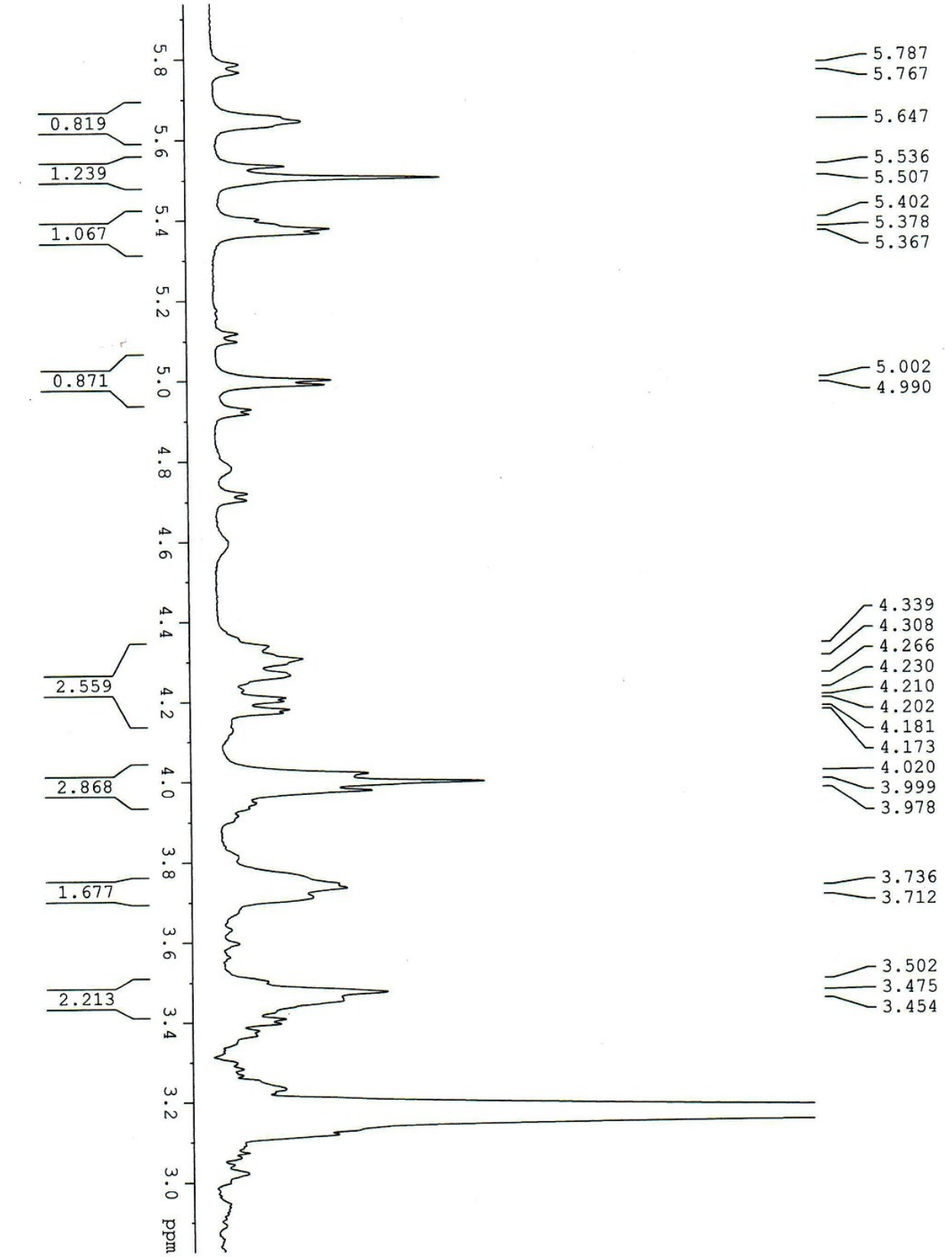


Fig. S.I.2.7: ^{1}H NMR spectrum of compound **10**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3.8
3.6
3.4
3.2
3.0
ppm
0.819
1.239
1.067
0.871
2.559
2.868
1.677
2.213
5.787
5.767
5.647
5.536
5.507
5.402
5.378
5.367
5.002
4.990
4.339
4.308
4.266
4.230
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3.454

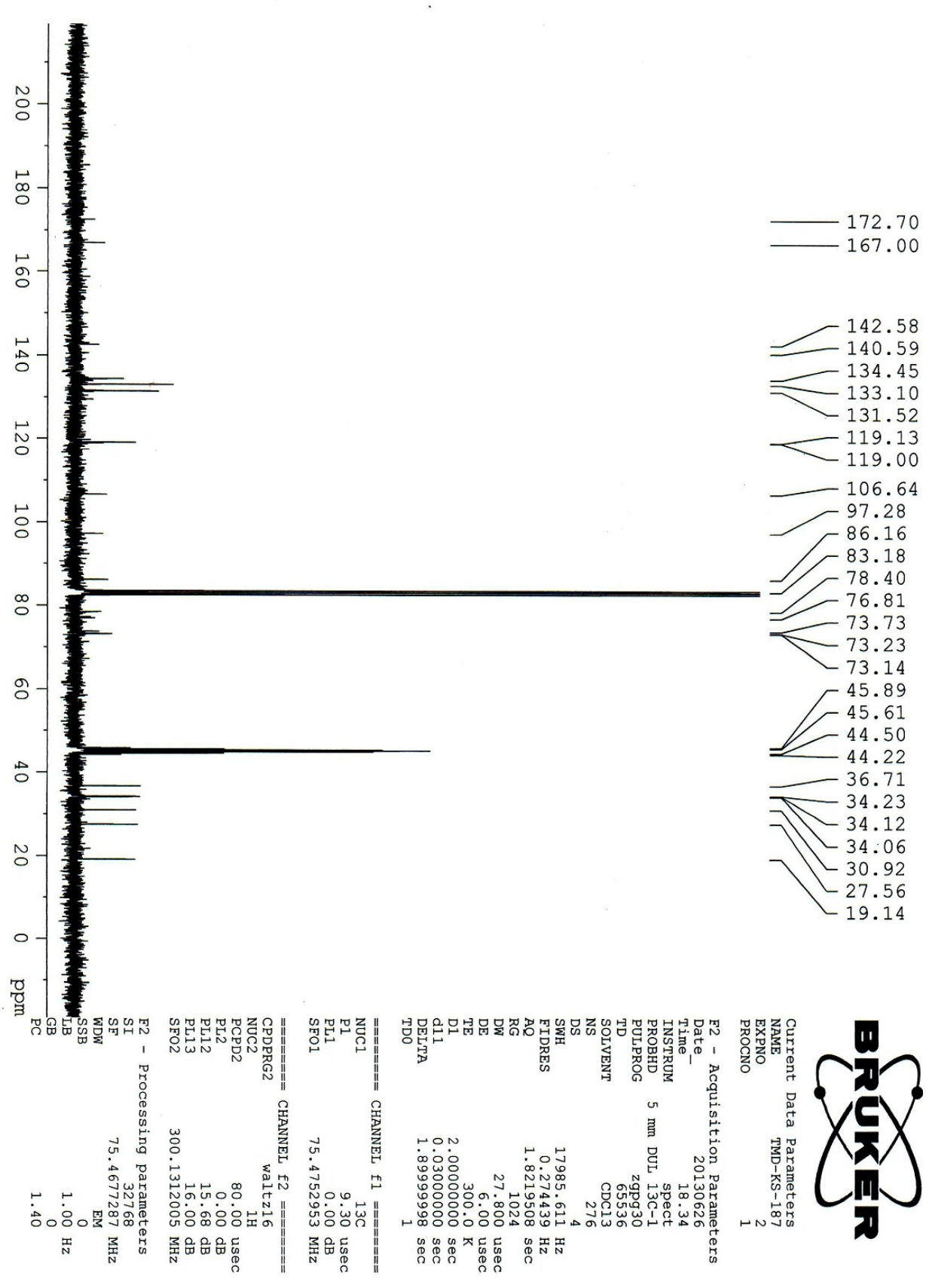


Fig. S.I.2.8: ^{13}C NMR spectrum of compound **10**

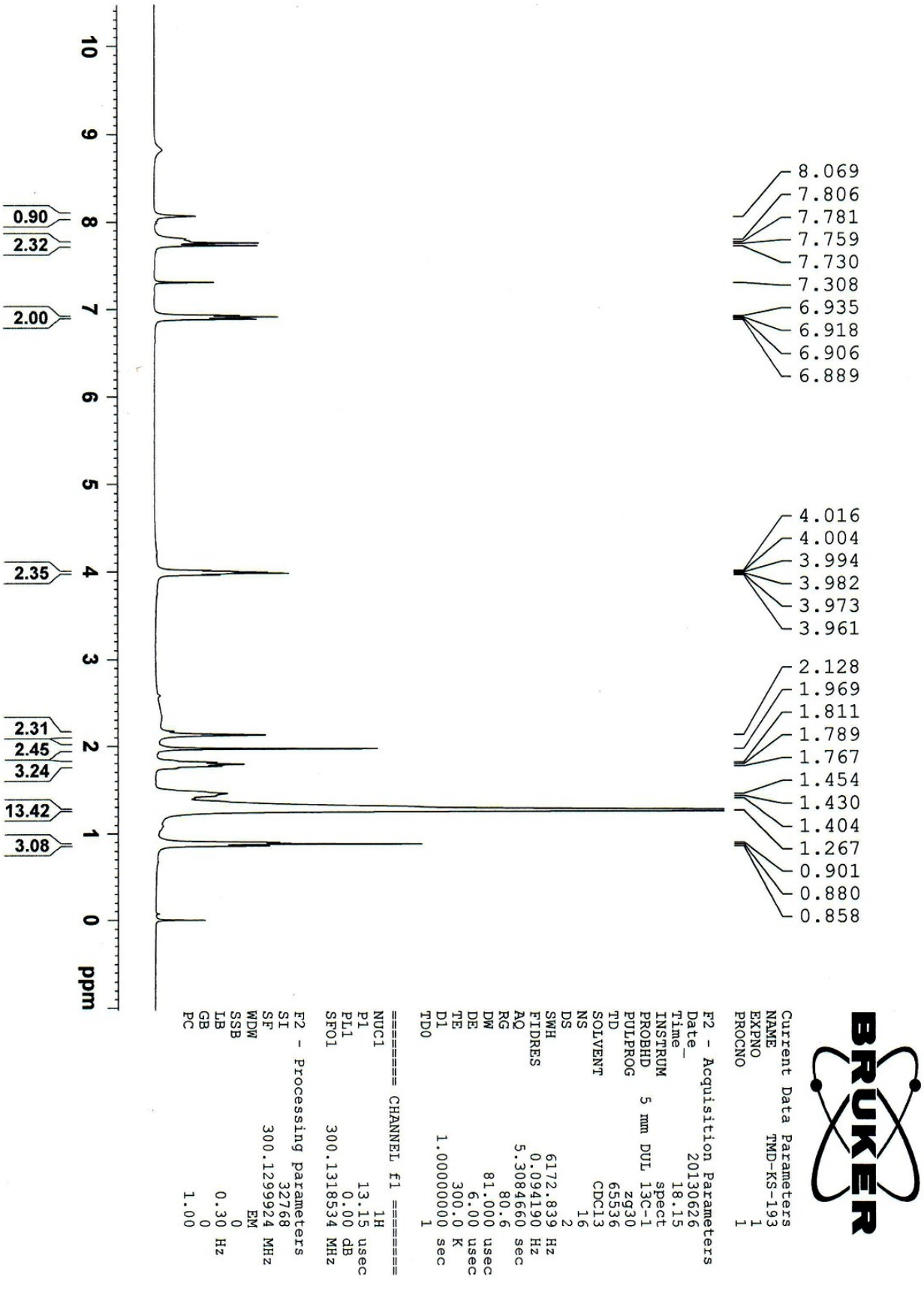


Fig. S.I.2.9: ^{1}H NMR spectrum of compound **2**

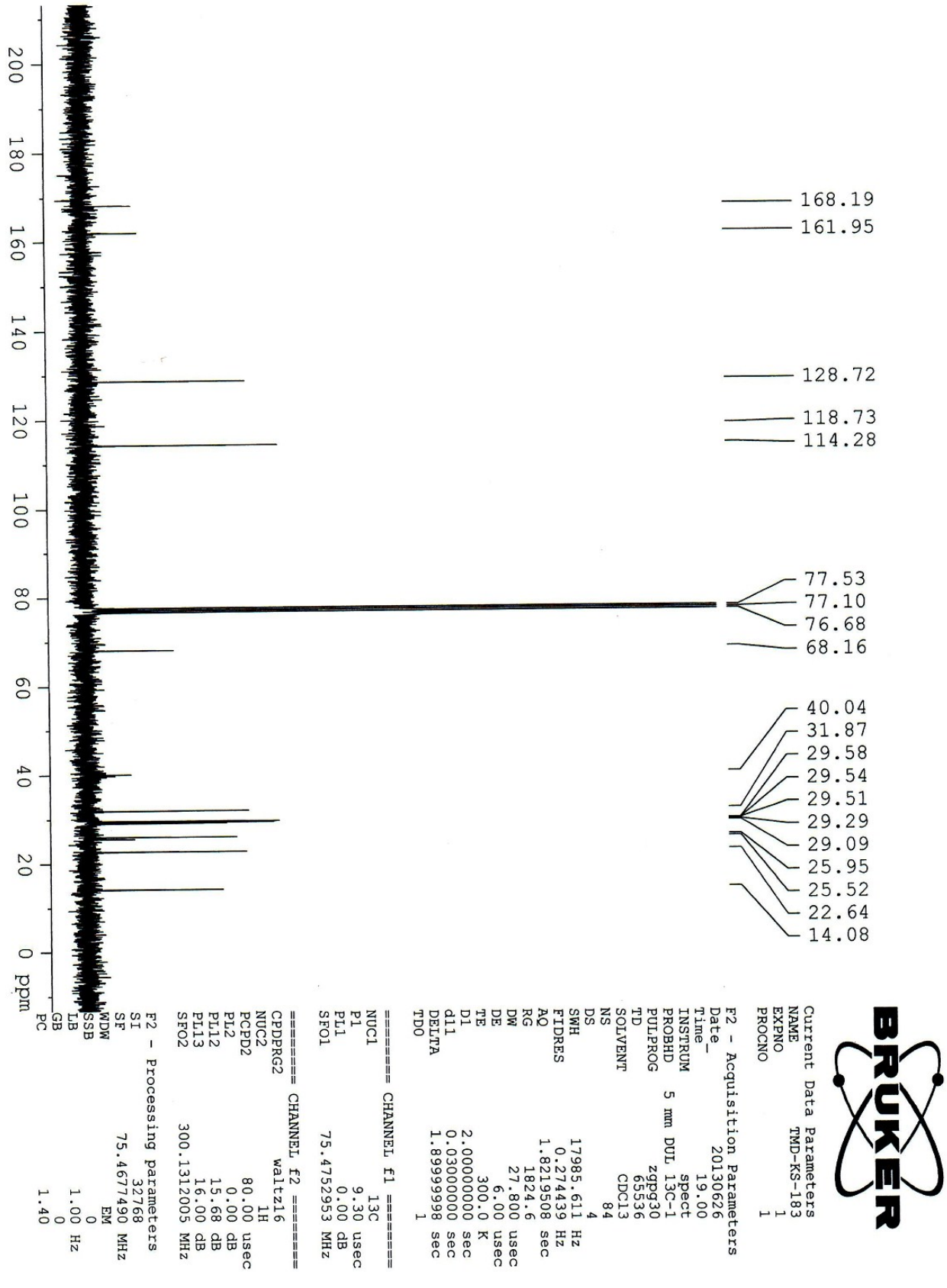


Fig. S.I.2.10: ^{13}C NMR spectrum of compound **2**

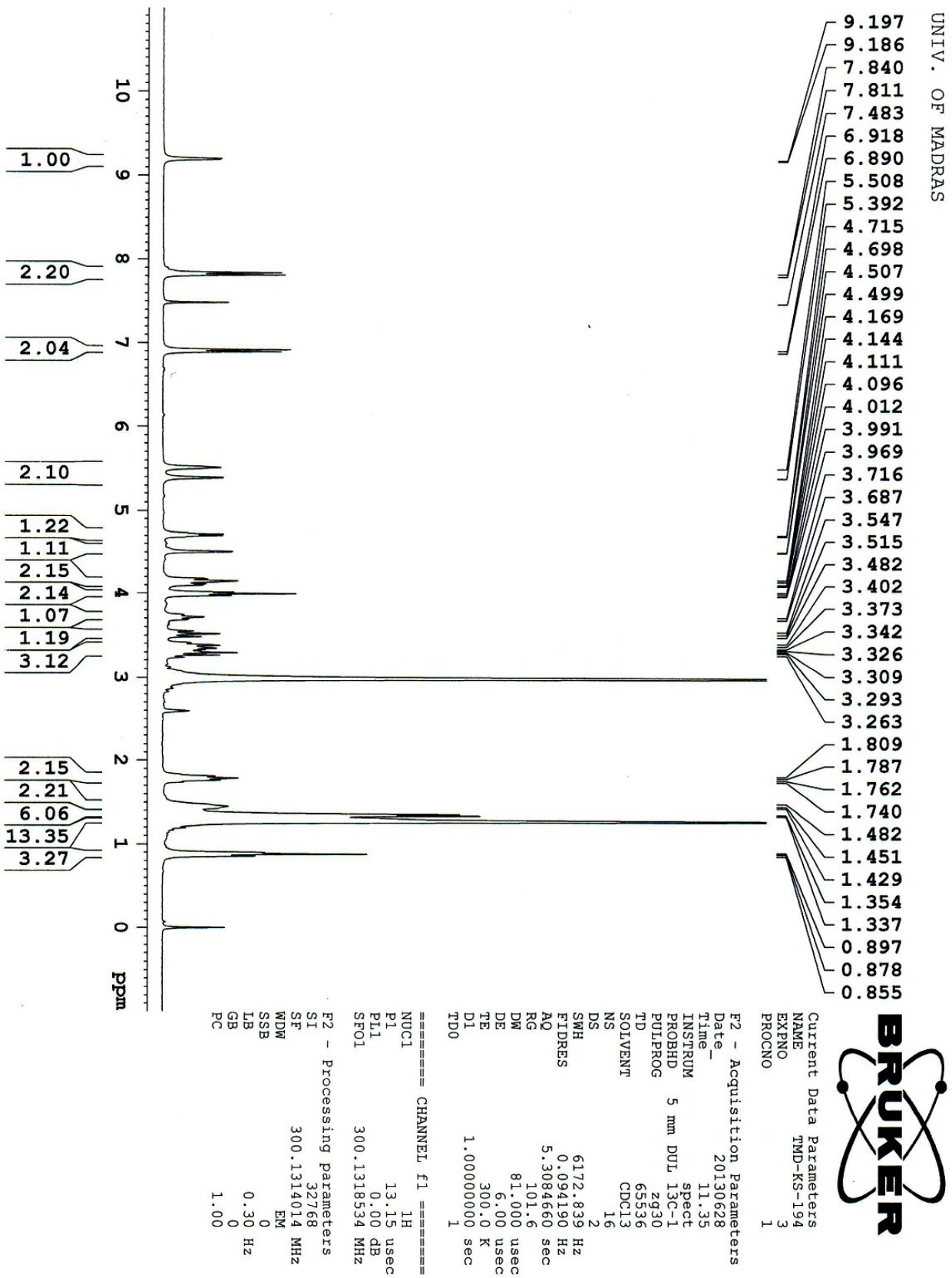


Fig. S.I.2.11: ^{1}H NMR spectrum of compound **11**

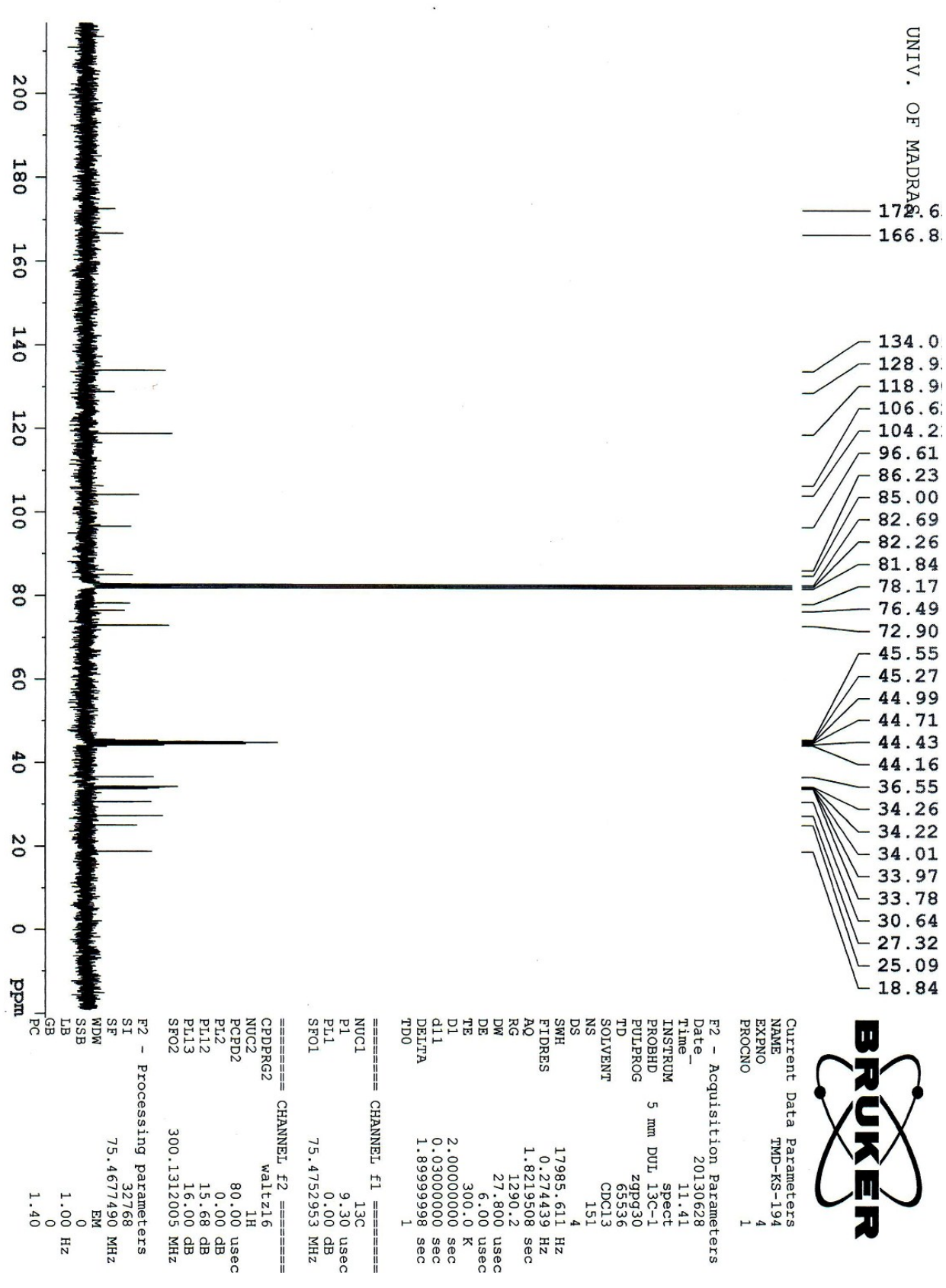


Fig. S.I.2.12: ^{13}C NMR spectrum of compound **11**

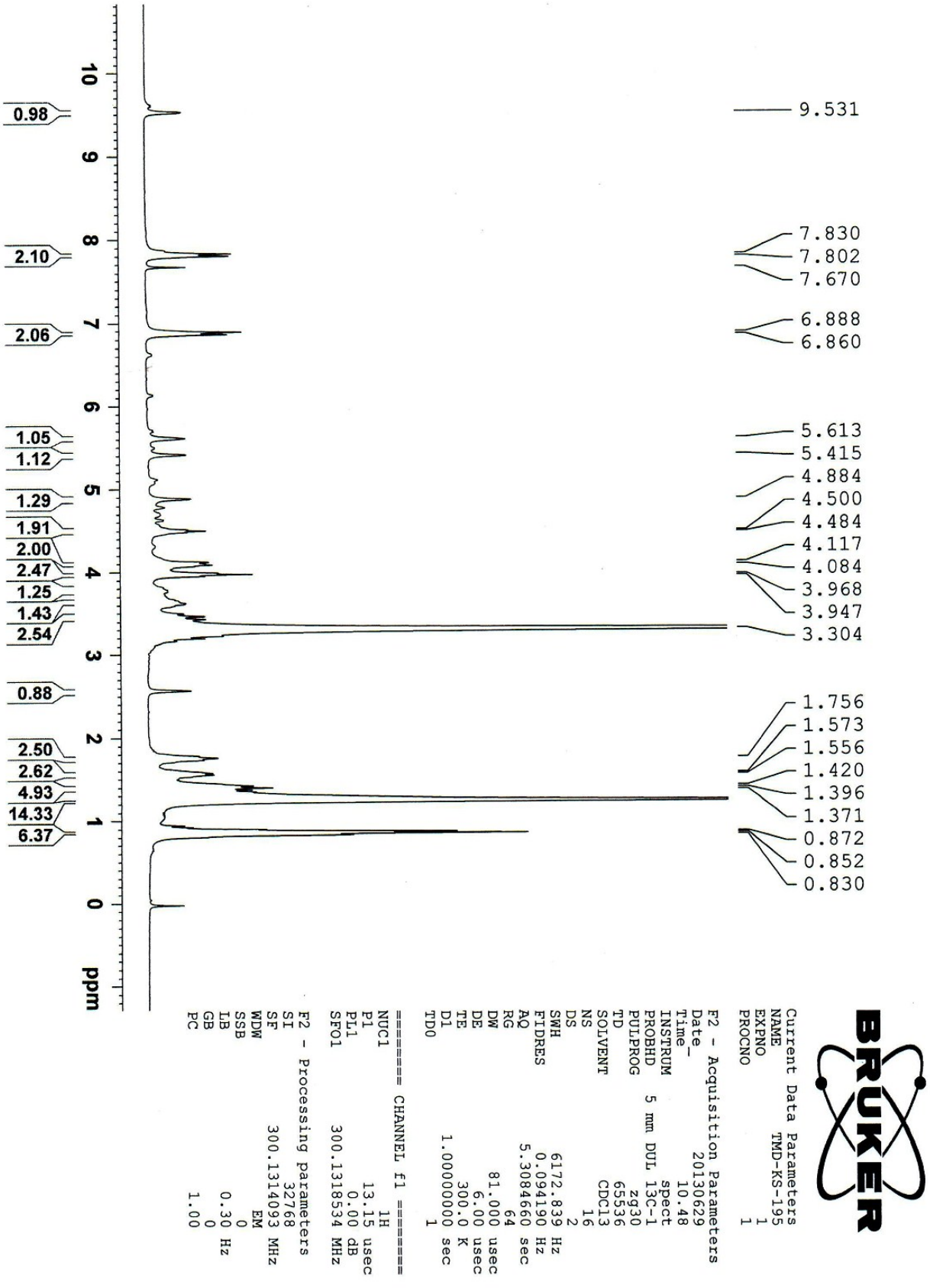
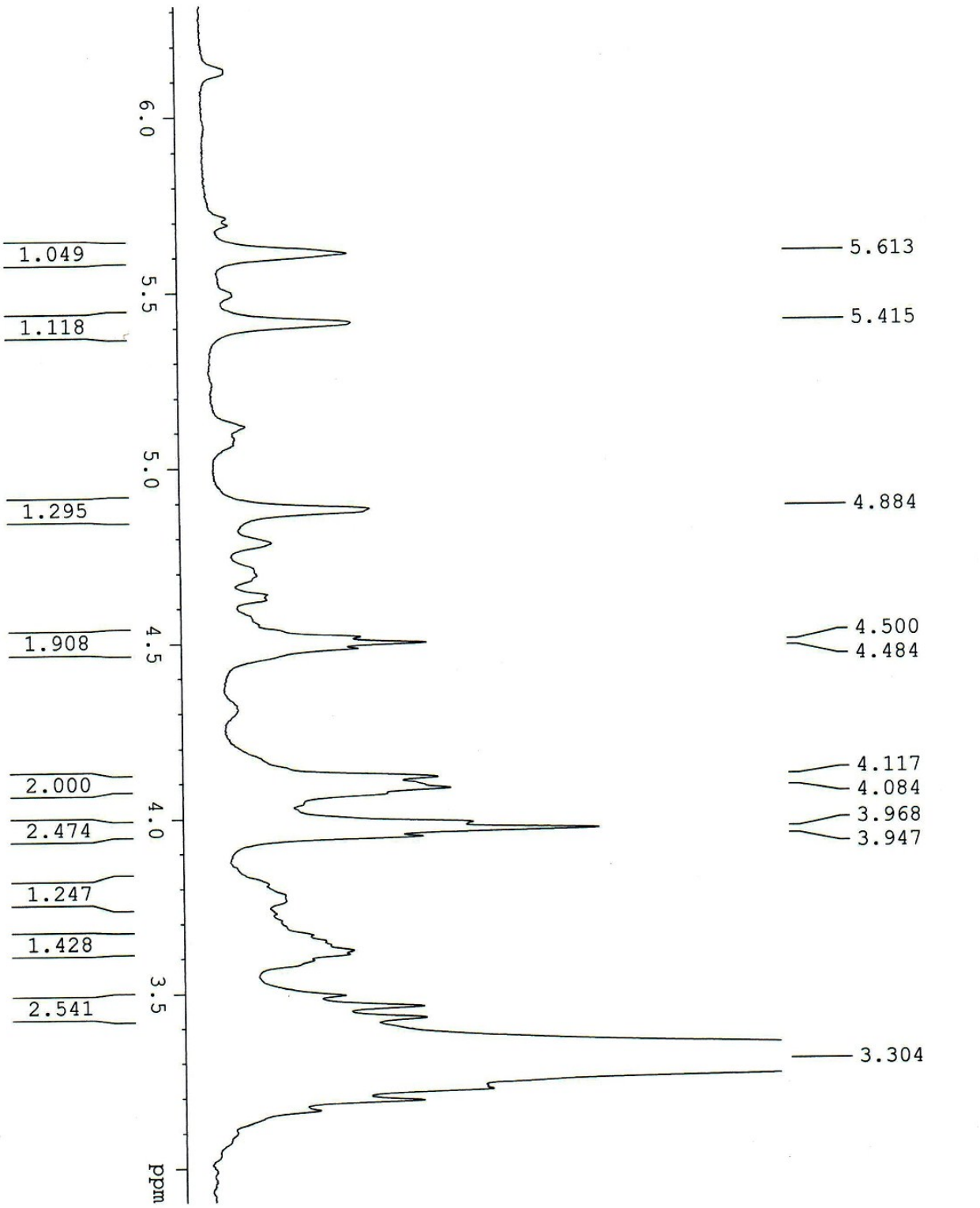


Fig. S.I.2.13: ^{1}H NMR spectrum of compound **12**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4.084
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3.304

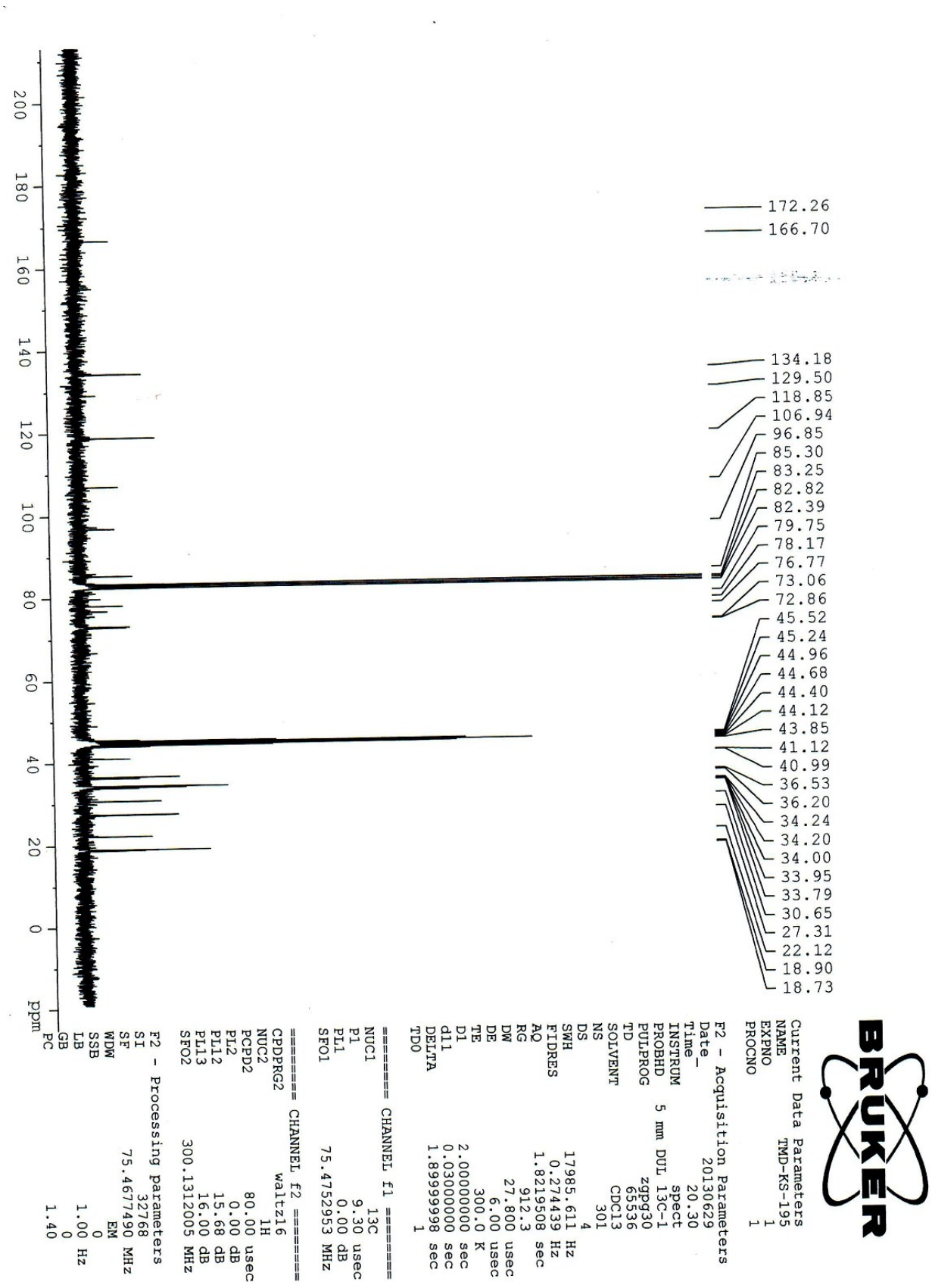


Fig. S.I.2.14: ^{13}C NMR spectrum of compound **12**

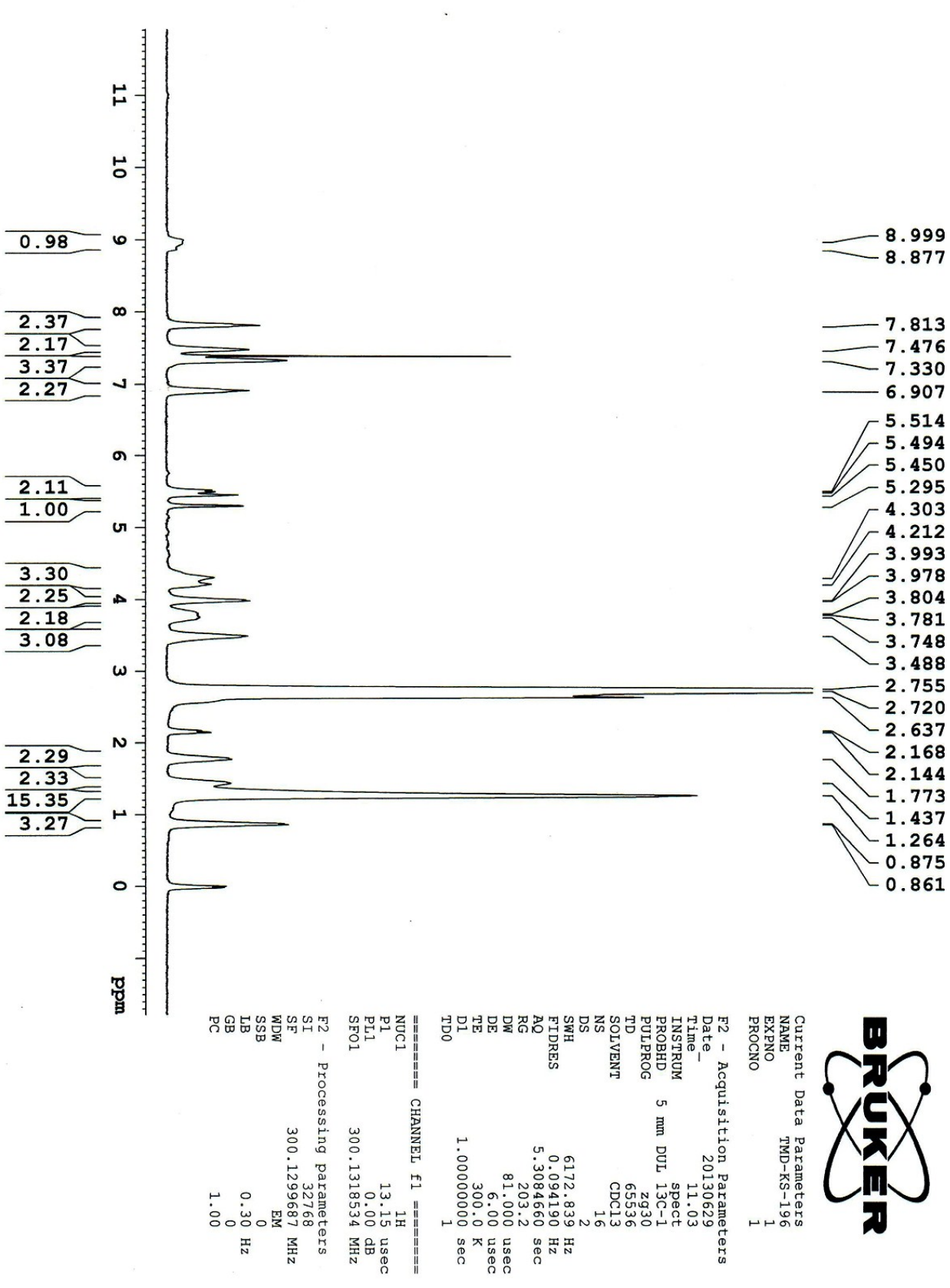


Fig. S.I.2.15: ^{1}H NMR spectrum of compound **13**

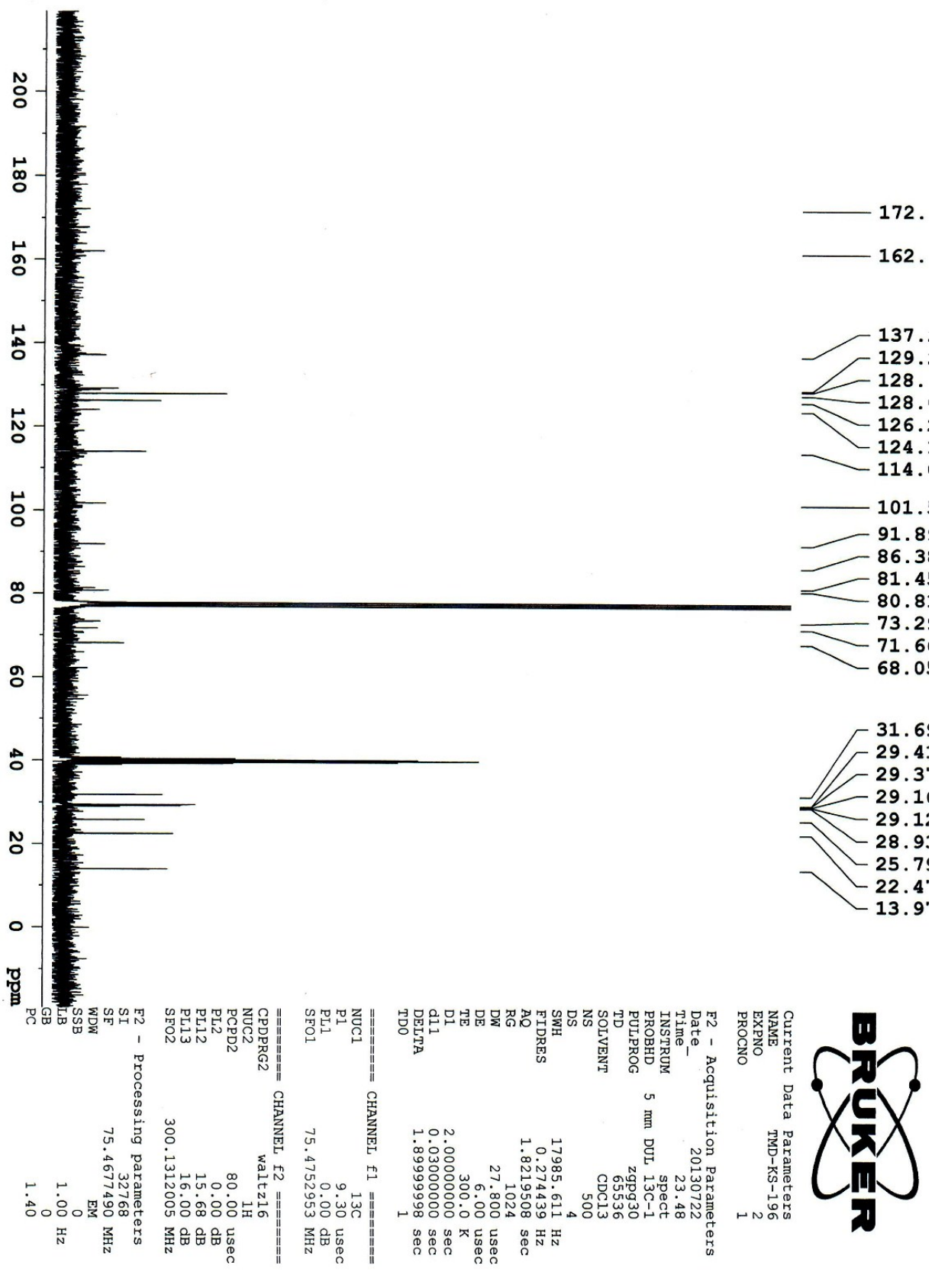


Fig. S.I.2.16: ^{13}C NMR spectrum of compound **13**

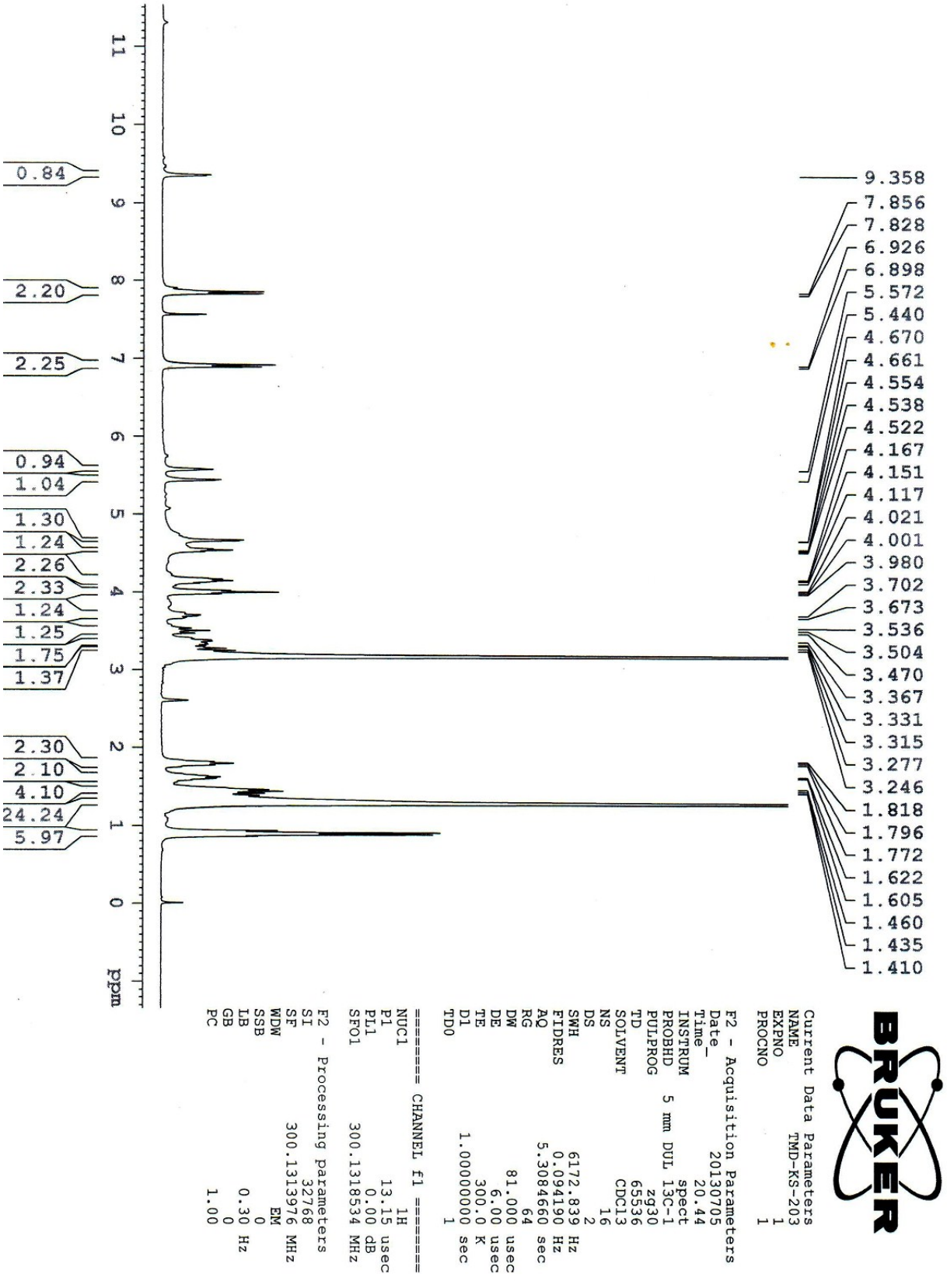


Fig. S.I.2.17: ^{1}H NMR spectrum of compound **14**

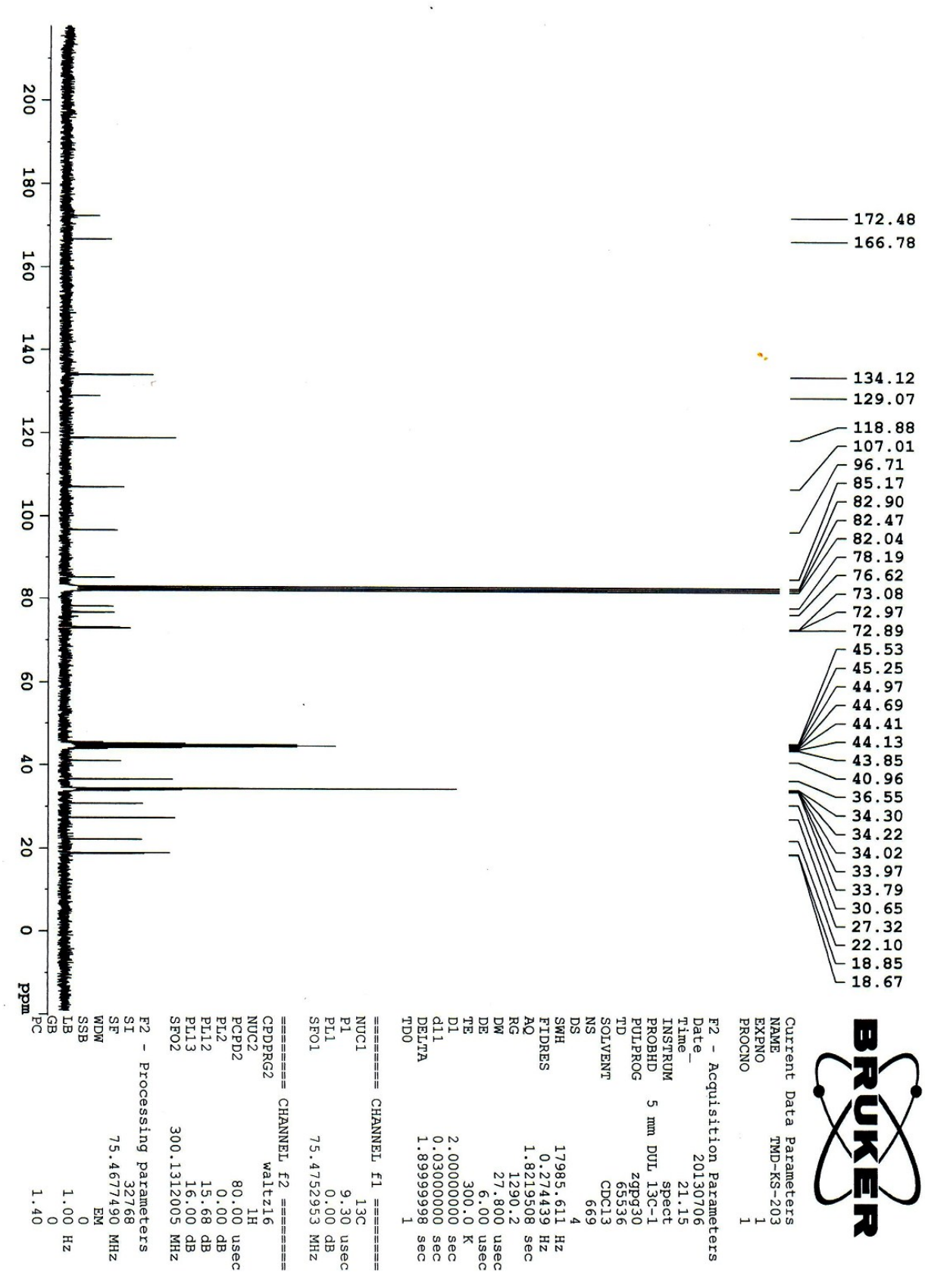
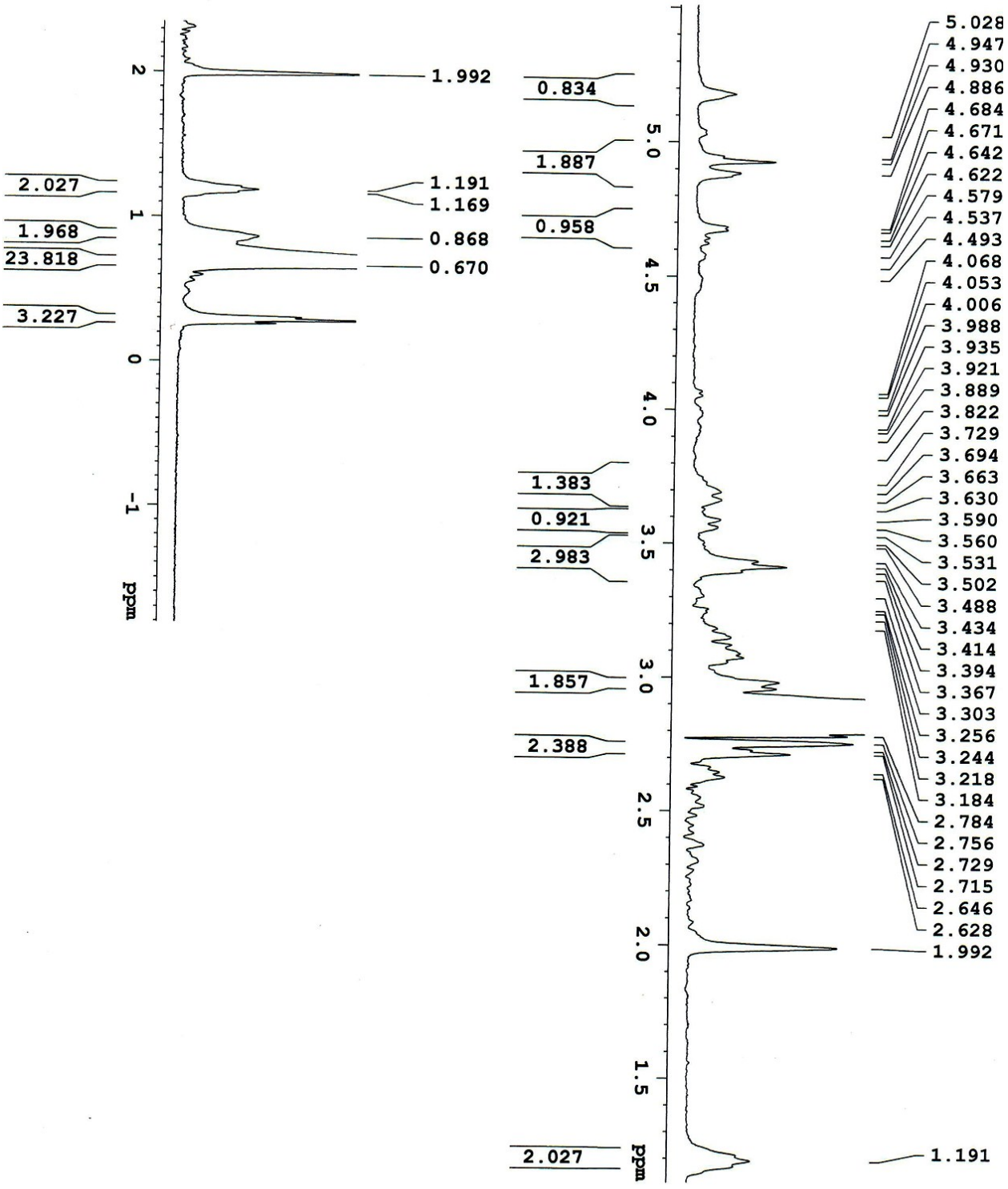


Fig. S.I.2.18: ^{13}C NMR spectrum of compound **14**

Fig. S.I.2.6: ^{1}H NMR spectrum of compound **13**



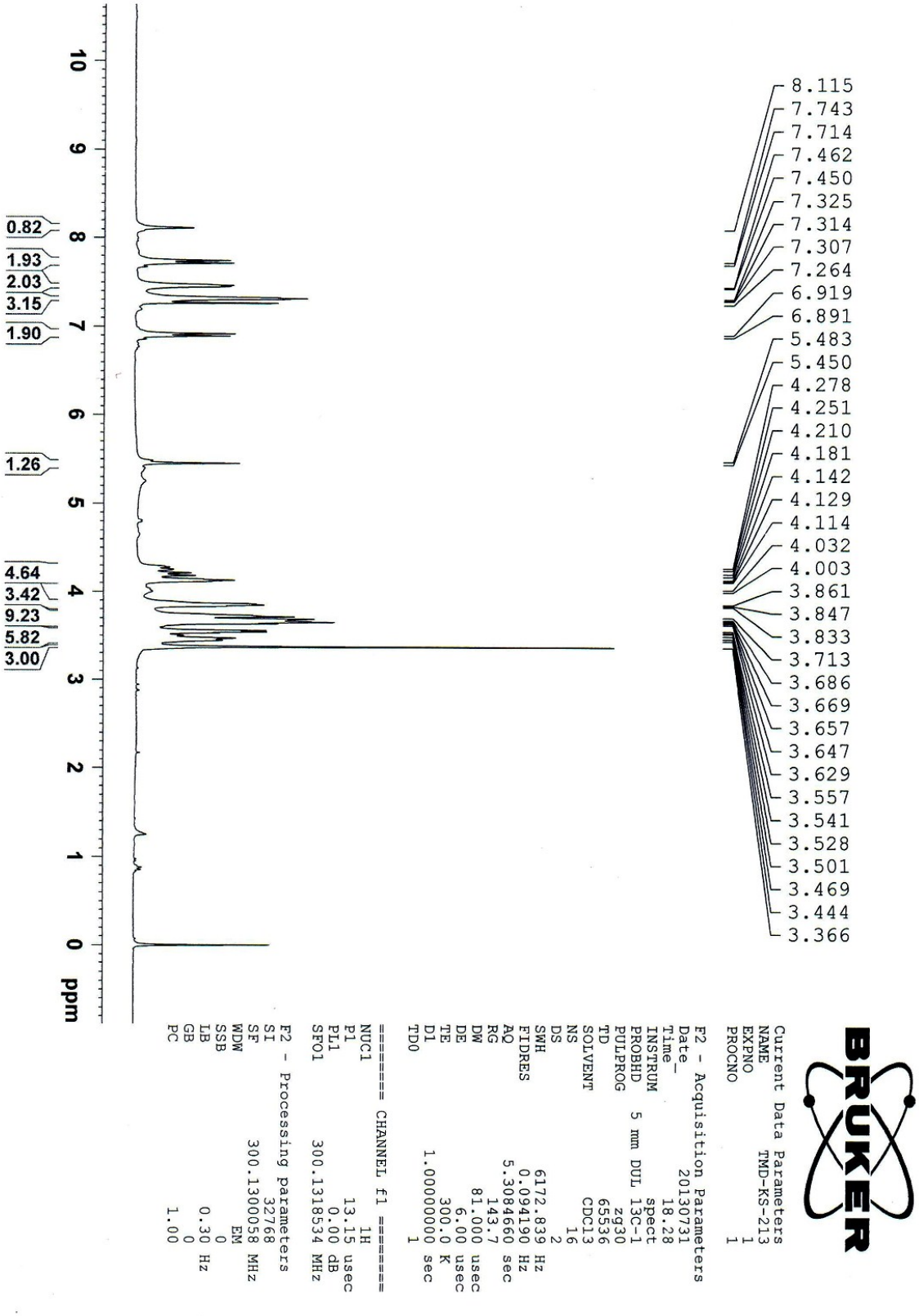


Fig. S.I.2.19: ^{1}H NMR spectrum of compound **15**

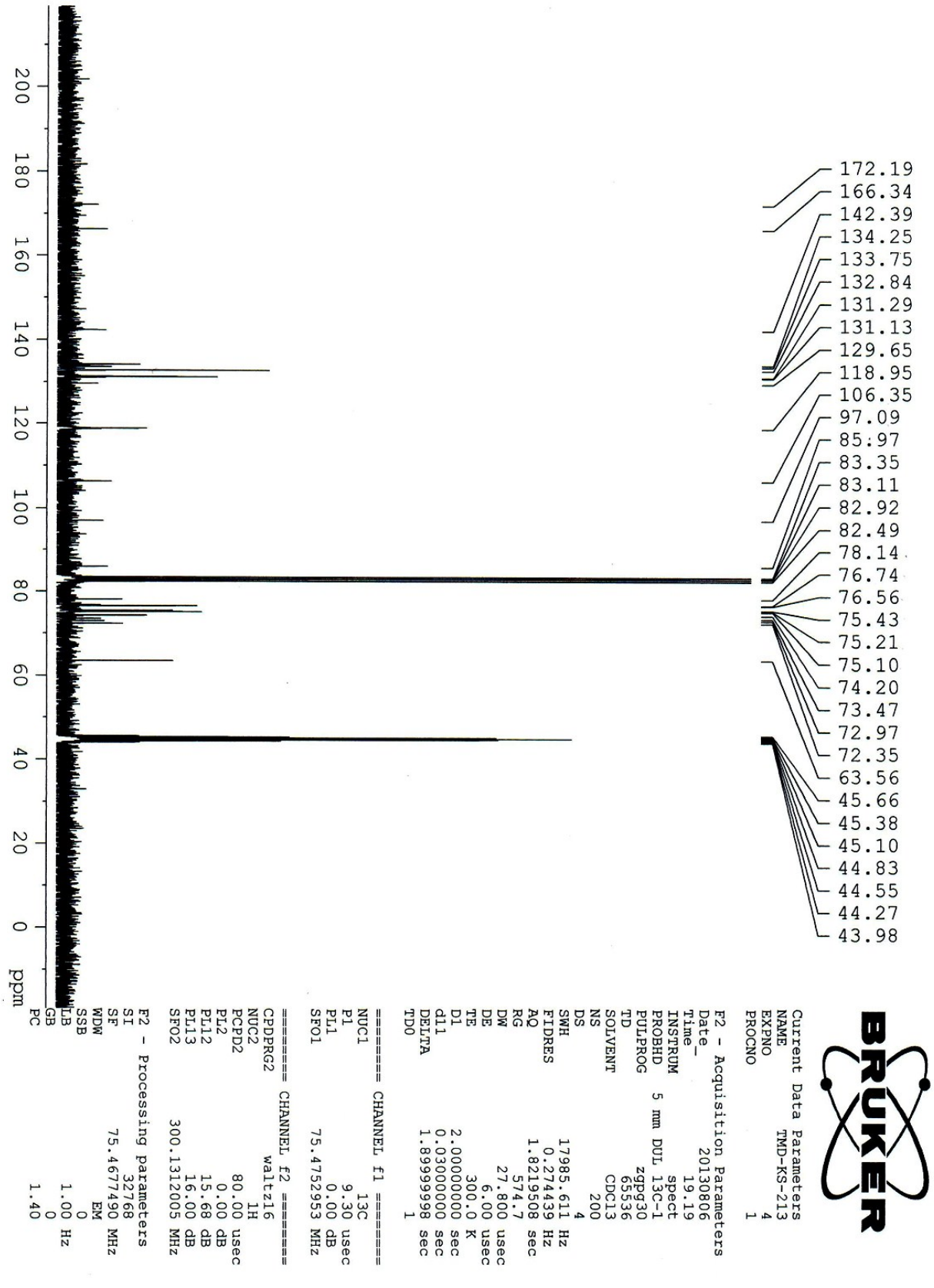


Fig. S.I.2.20: ^{13}C NMR spectrum of compound **15**

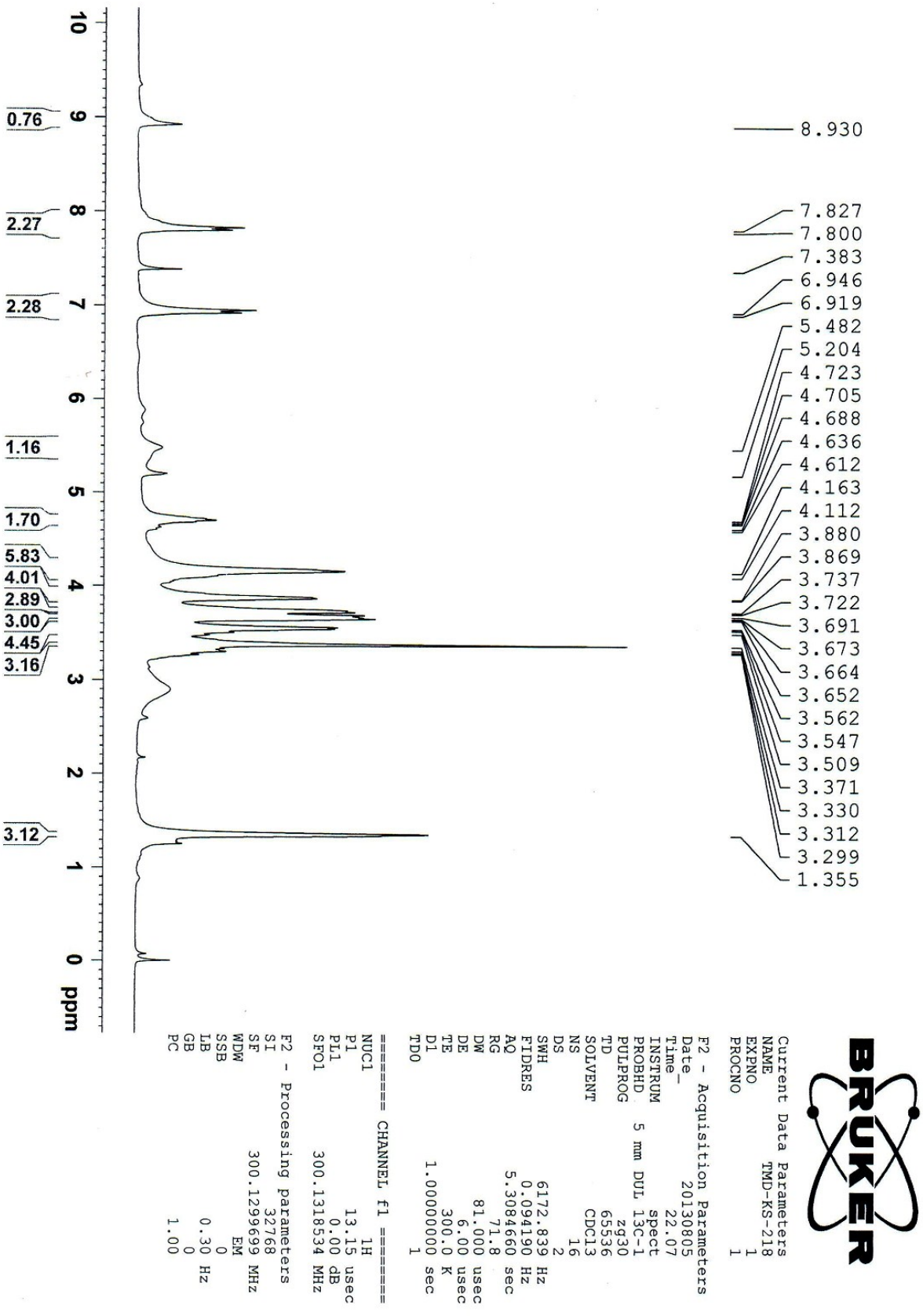


Fig. S.I.2.21: ^{1}H NMR spectrum of compound **16**

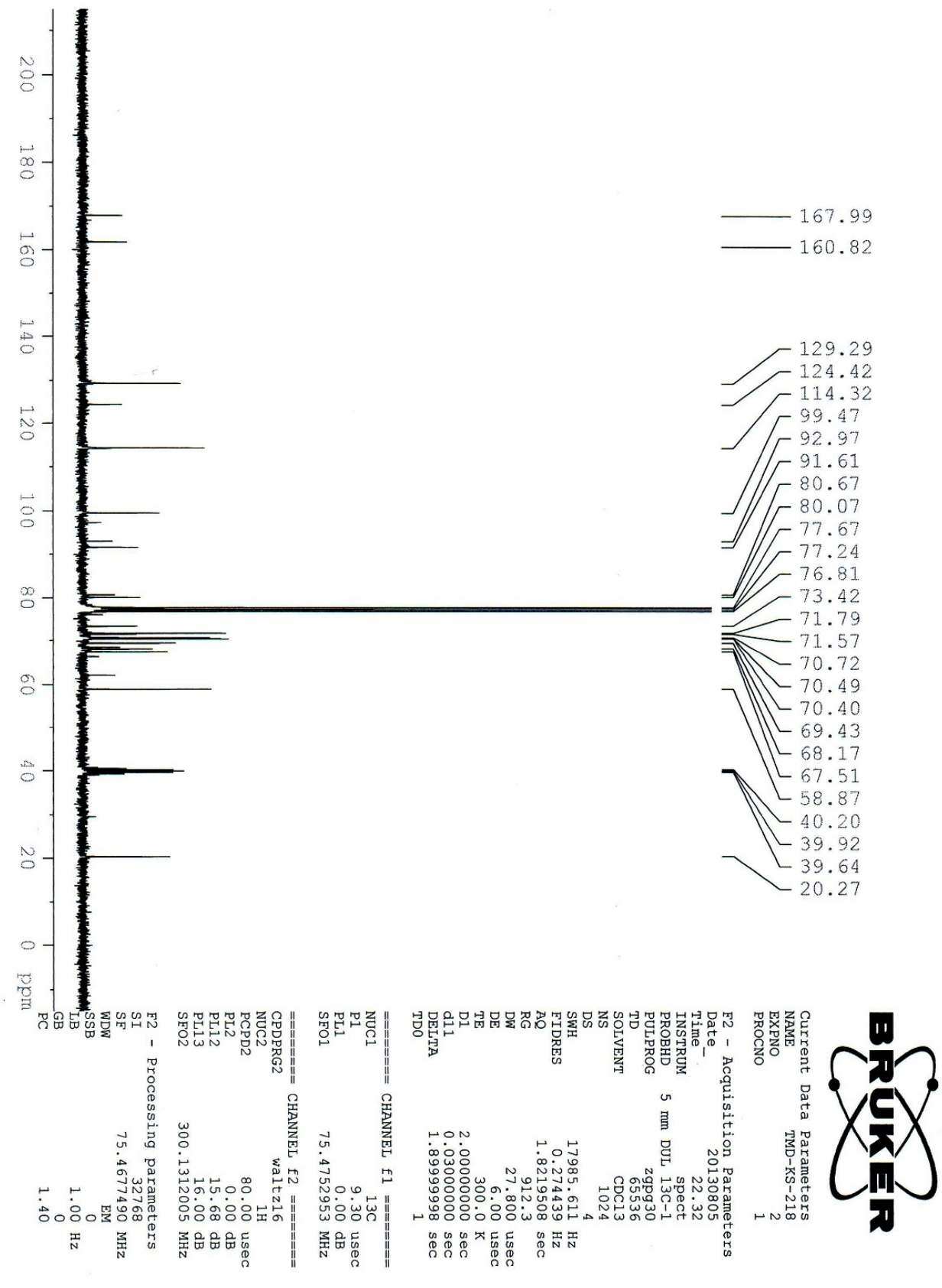


Fig. S.I.2.227: ^{13}C NMR spectrum of compound **16**

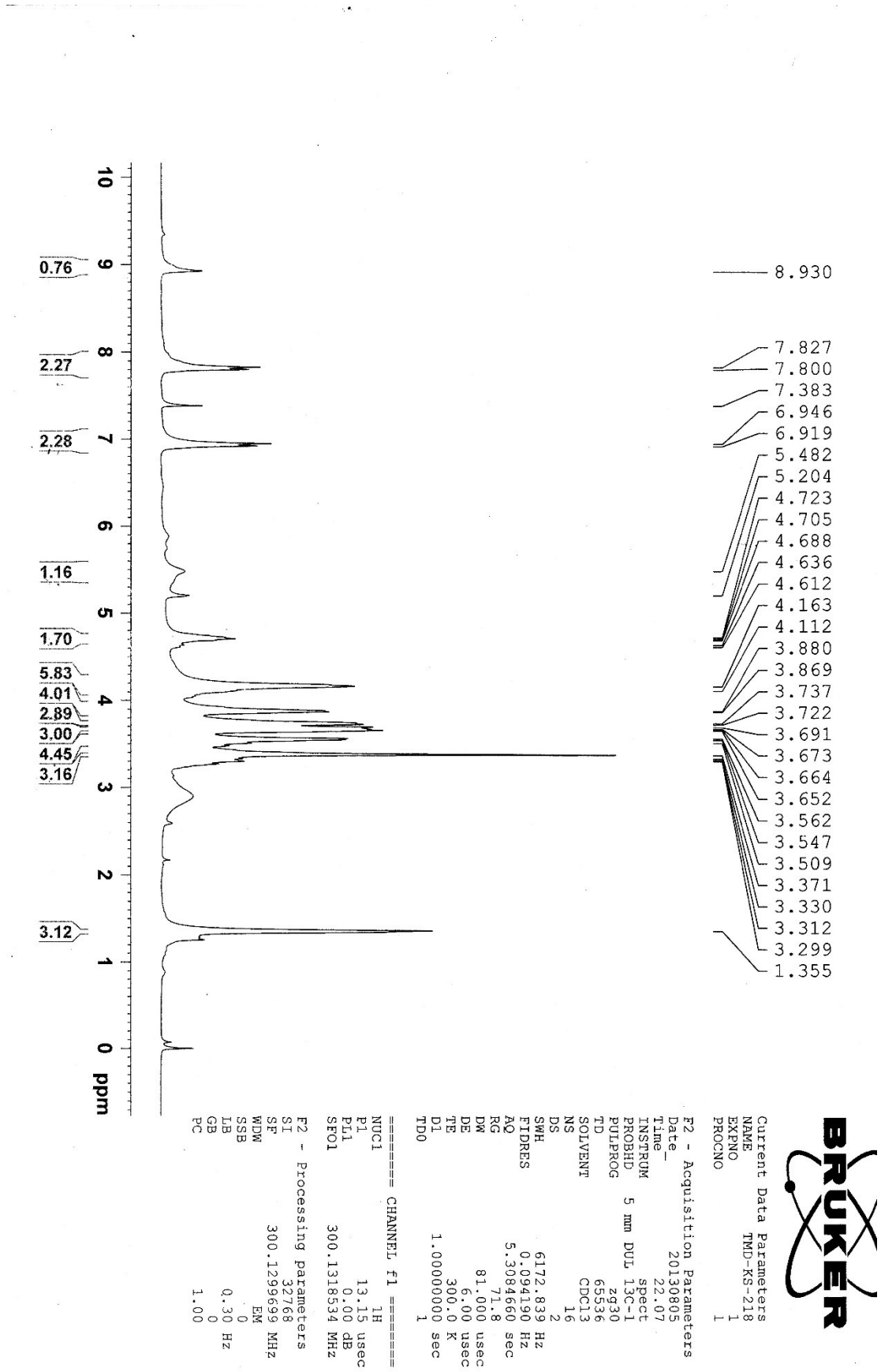


Fig. S.I.2.23: ^{1}H NMR spectrum of compound **17**

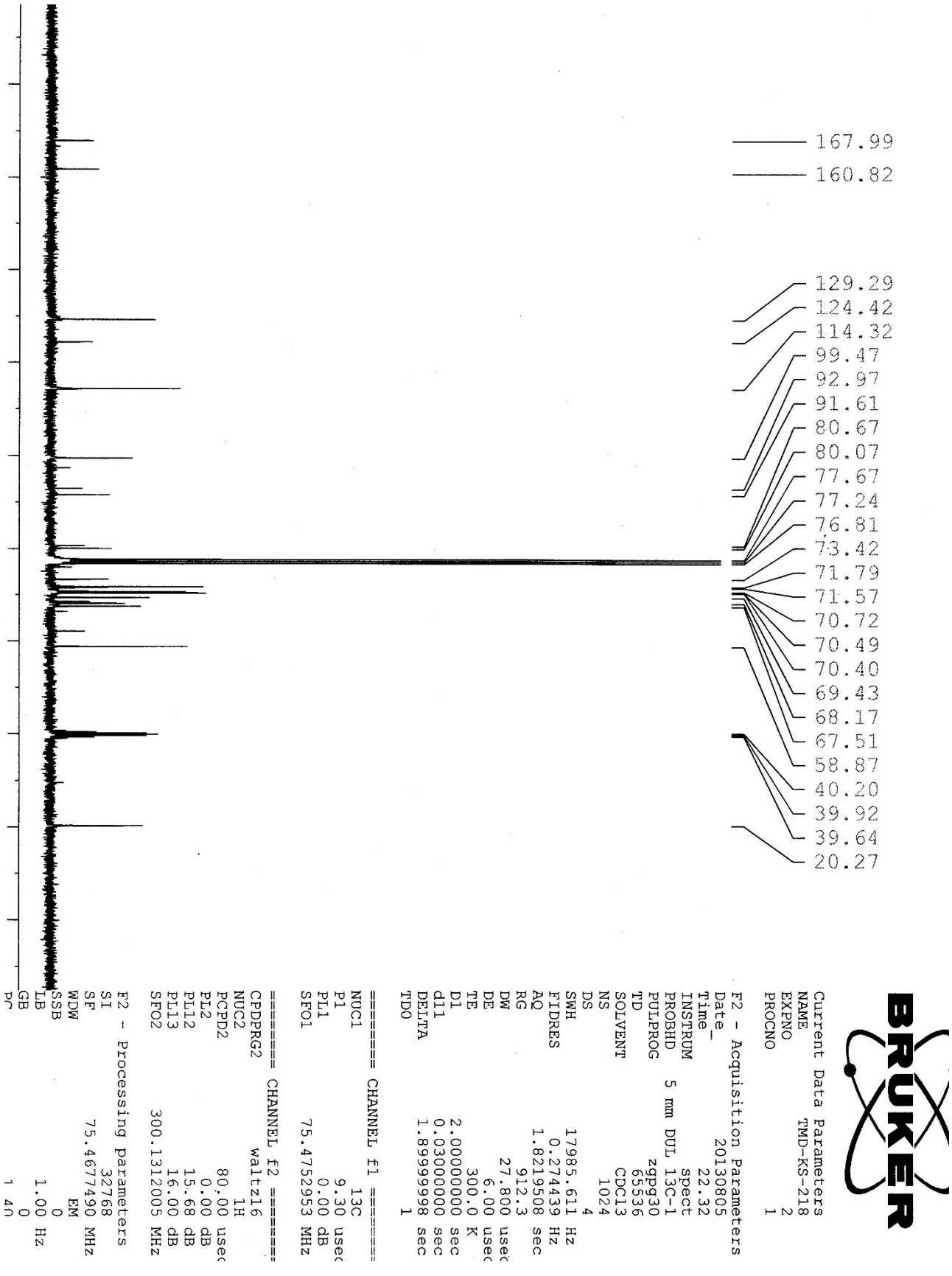


Fig. S.I.2.247: ^{13}C NMR spectrum of compound **17**

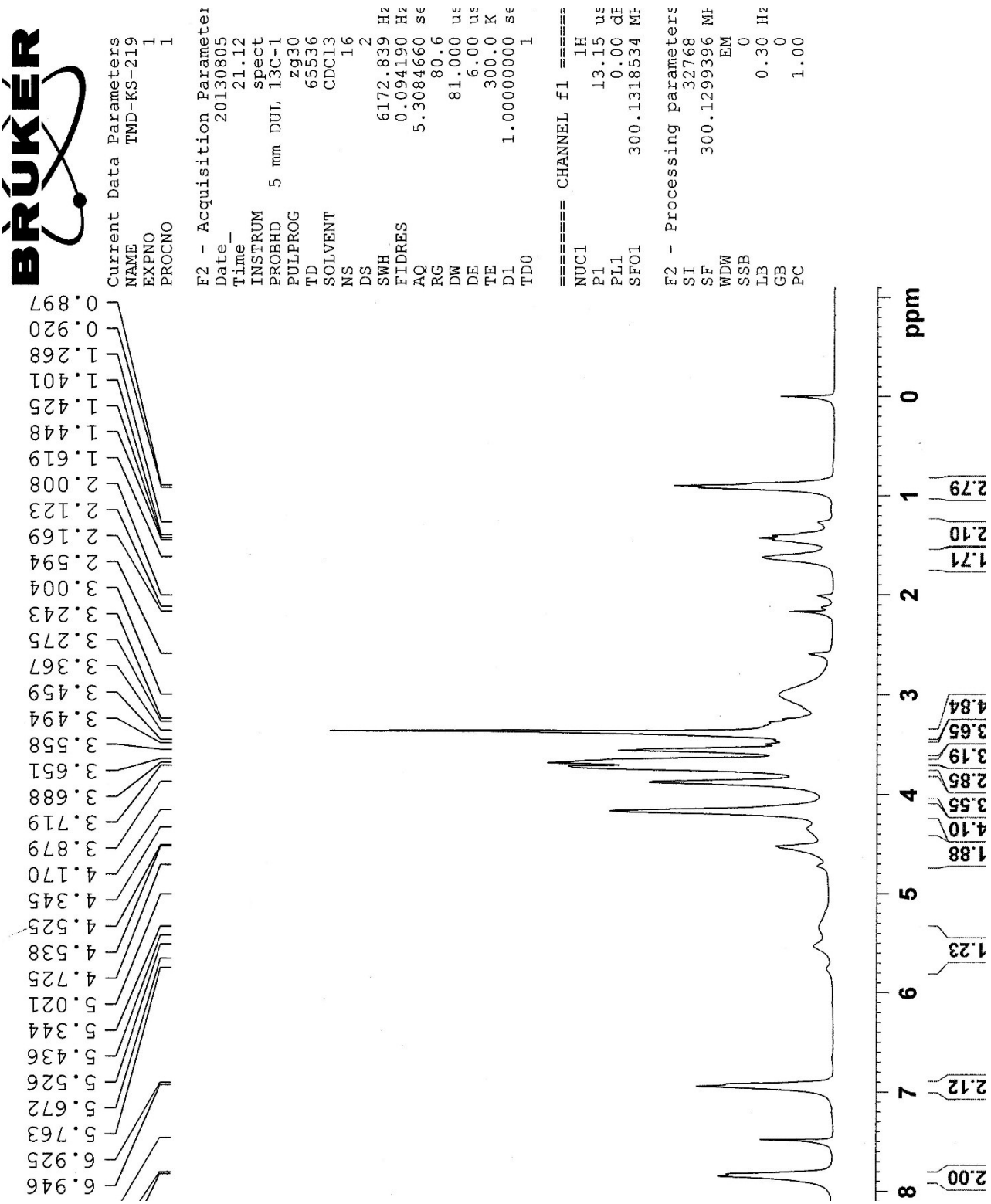


Fig. S.I.2.25: ^{1}H NMR spectrum of compound **18**

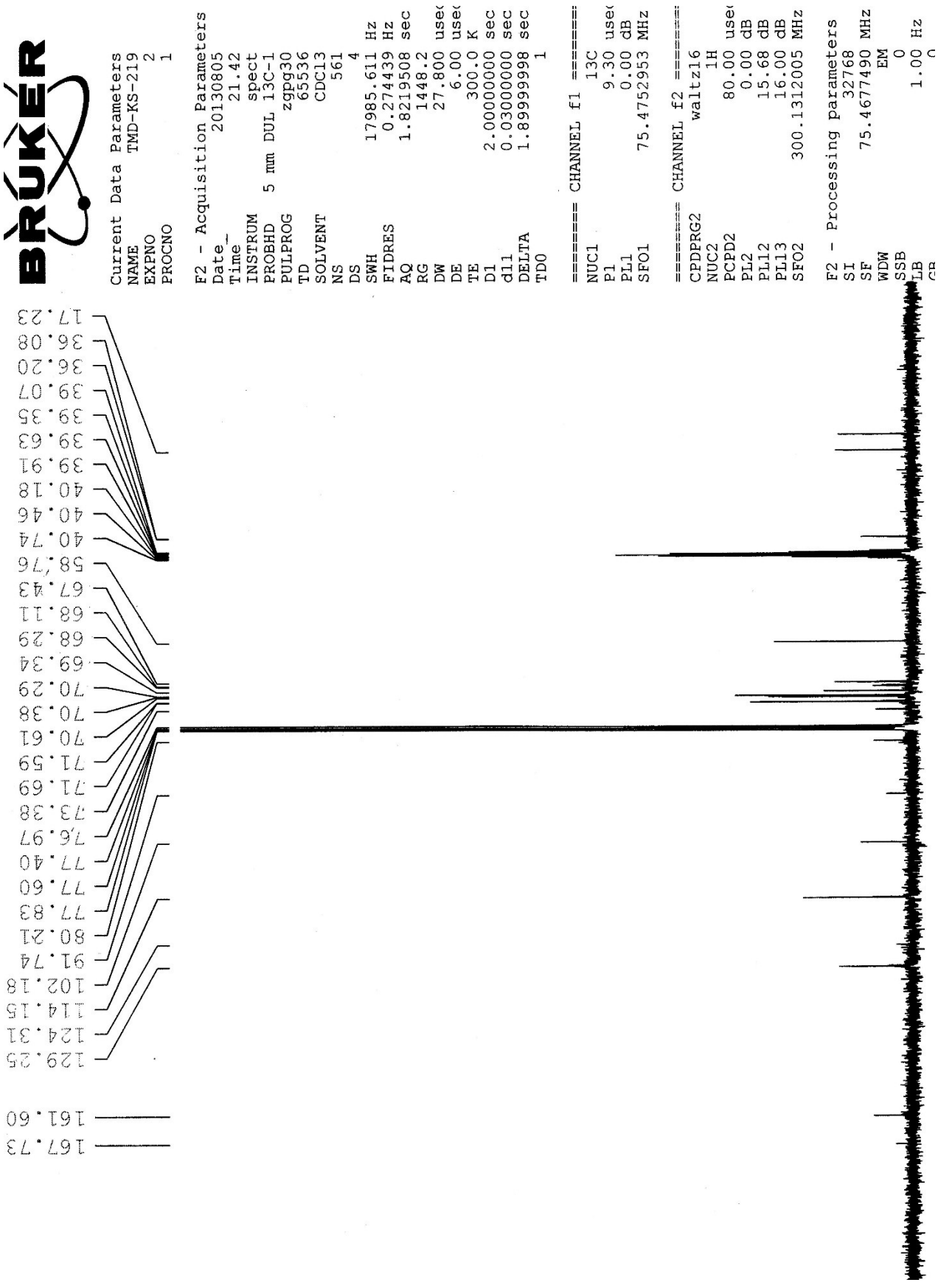


Fig. S.I.2.2~~6~~7: ^{13}C NMR spectrum of compound **18**

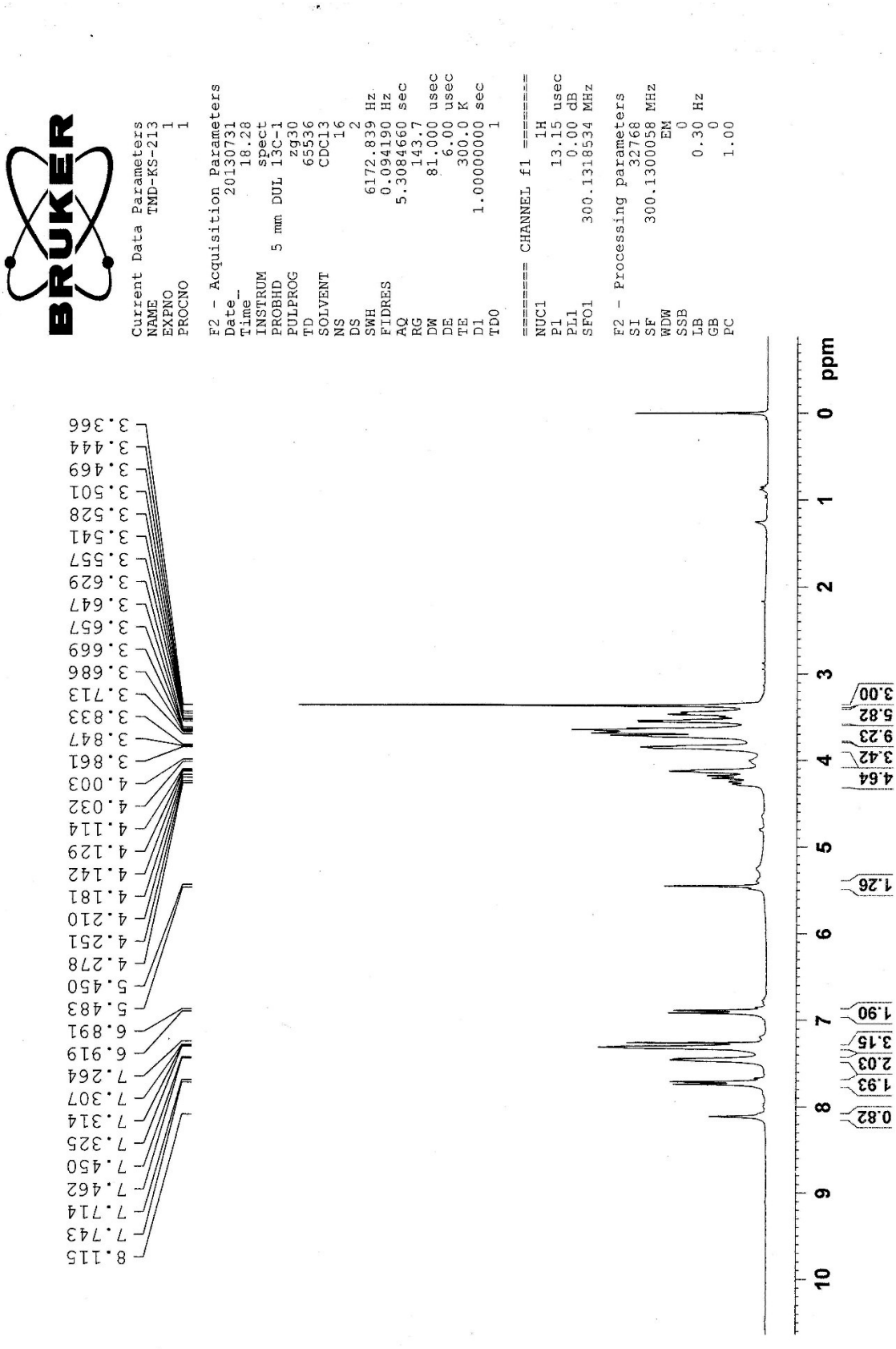


Fig. S.I.2.27: ^{1}H NMR spectrum of compound **19**

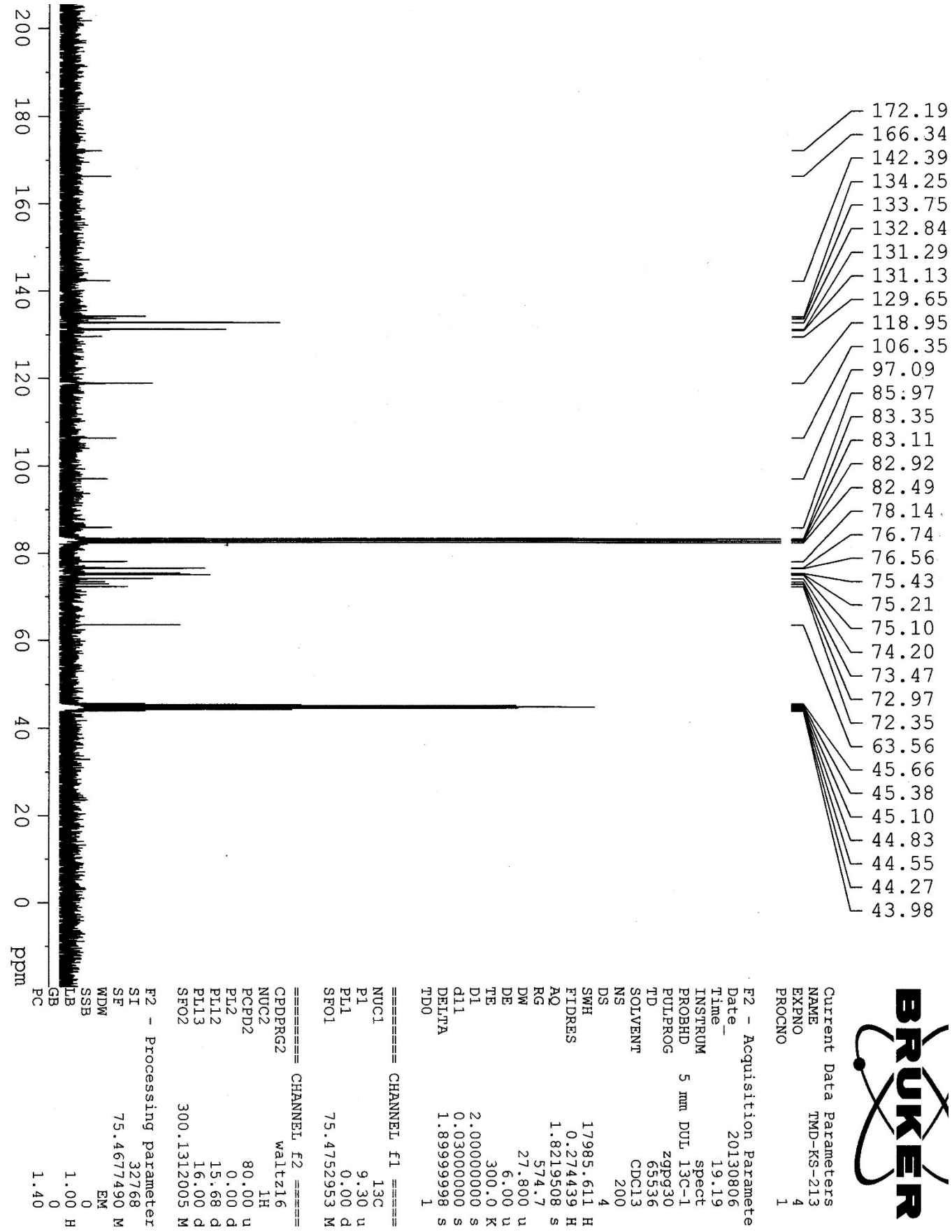


Fig. S.I.2.287: ^{13}C NMR spectrum of compound **19**

S.I. 3 Digital photograph of gel of compound 8

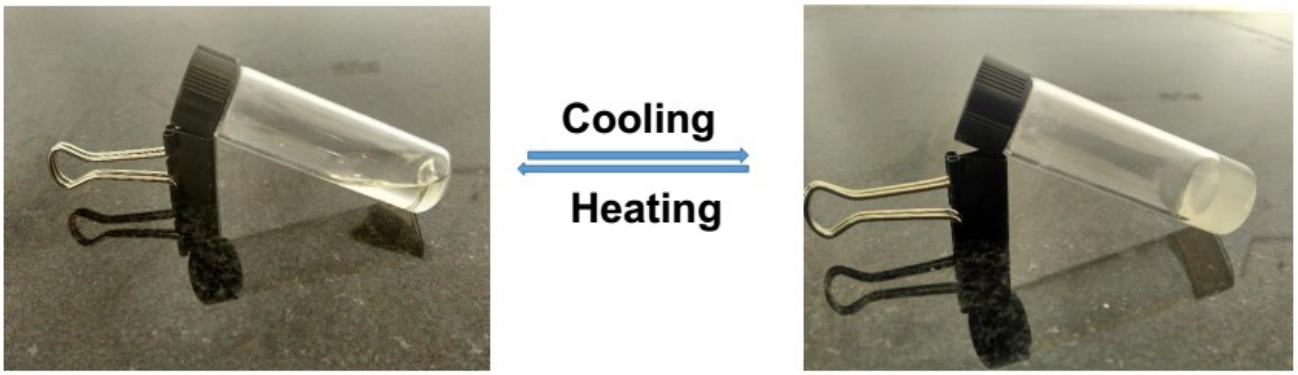


Fig. S.I.3.1: Digital photograph of gel in 1, 2-dichloroethane of compound **8**