Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Microwave Assisted $[RuCl_2(p\text{-cymene})_2]_2$ Catalyzed Regioselective *Endo*-Tandem Cyclization Involving Imine and Alkyne Activation: An Approach to benzo[4,5]imidazo[2,1-*a*]pyridine Scaffold

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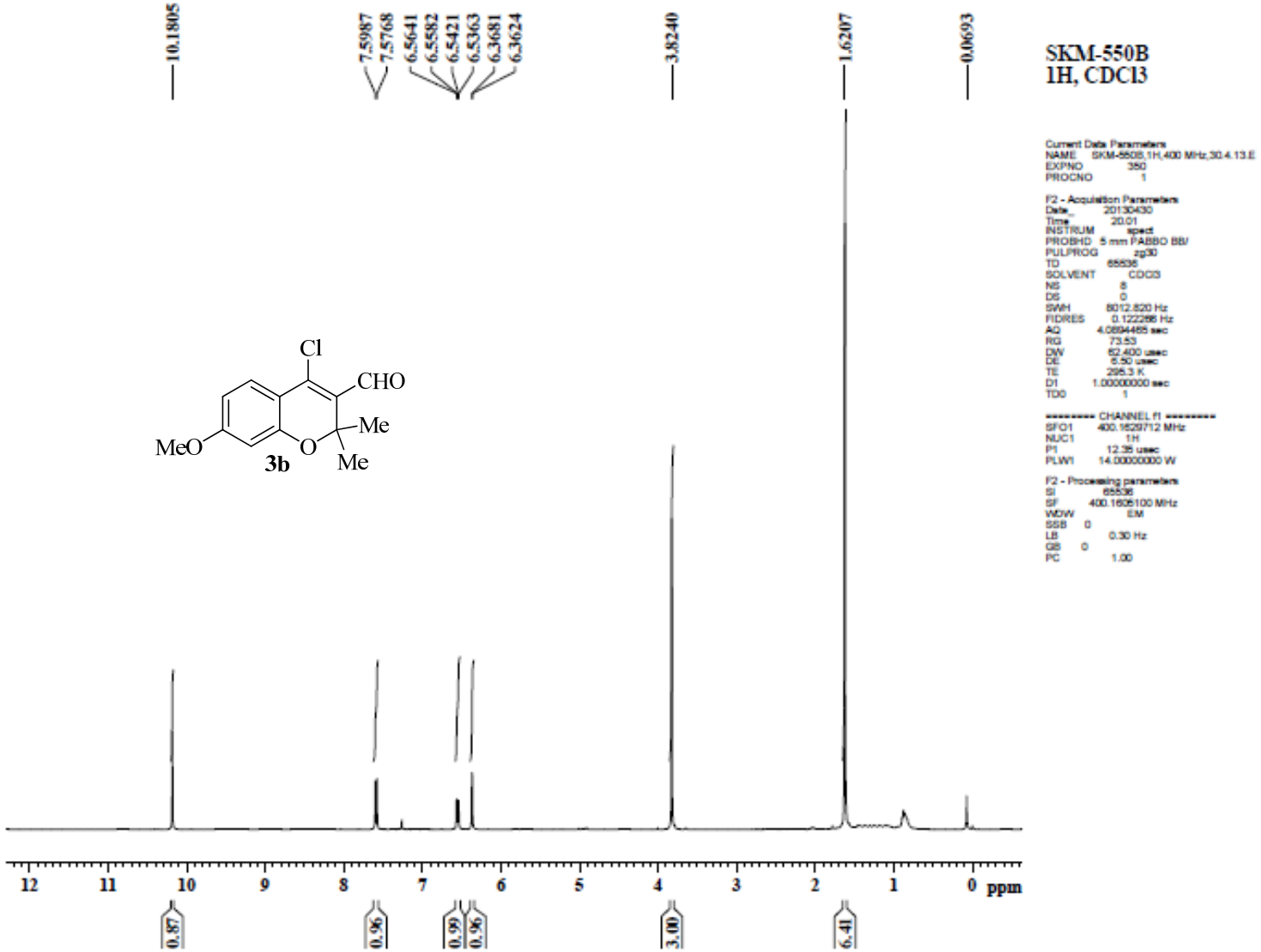


Figure 1: ^{1}H -NMR Spectrum of **3b.**

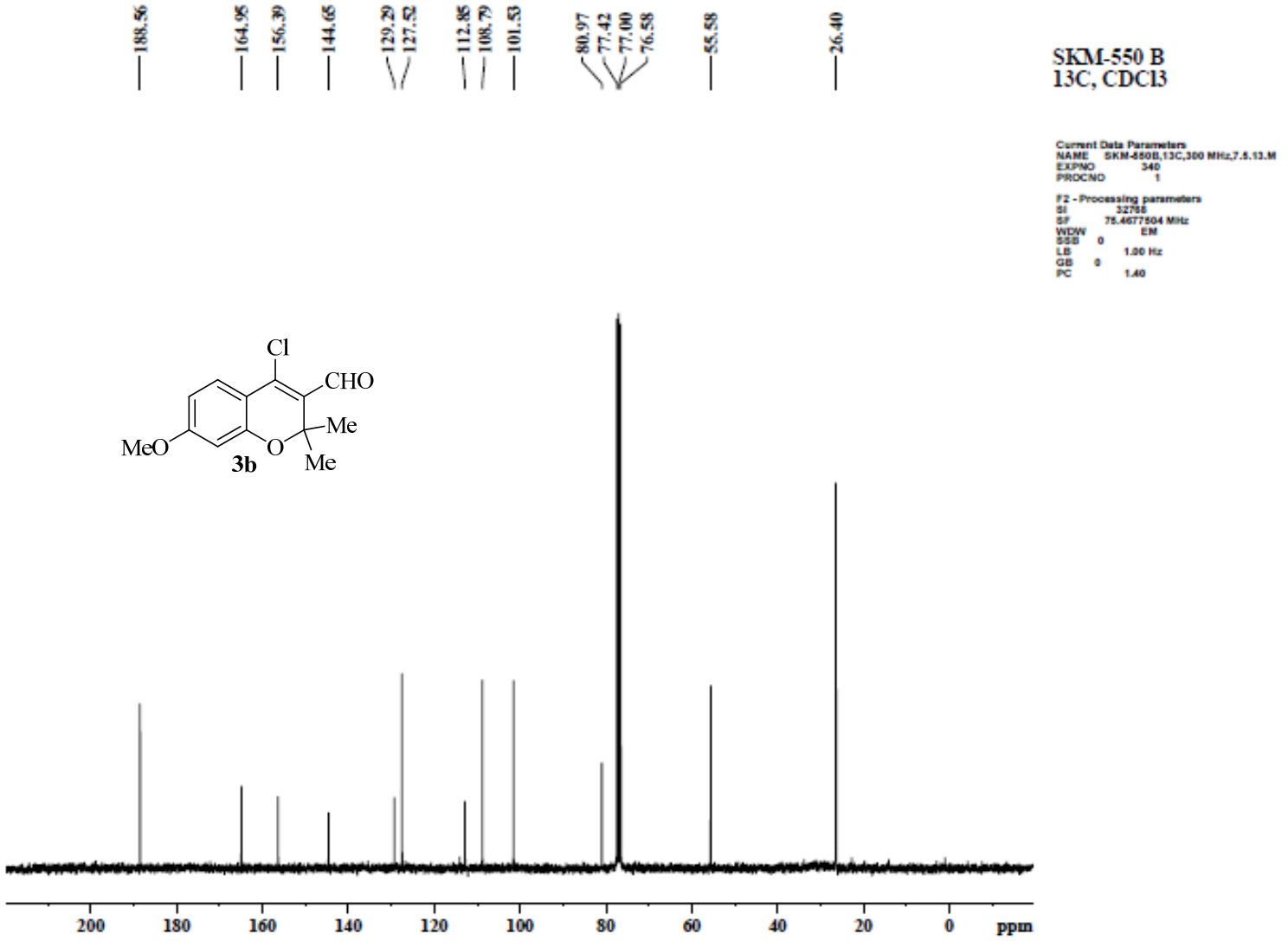


Figure 2: ^{13}C -NMR Spectrum of **3b.**

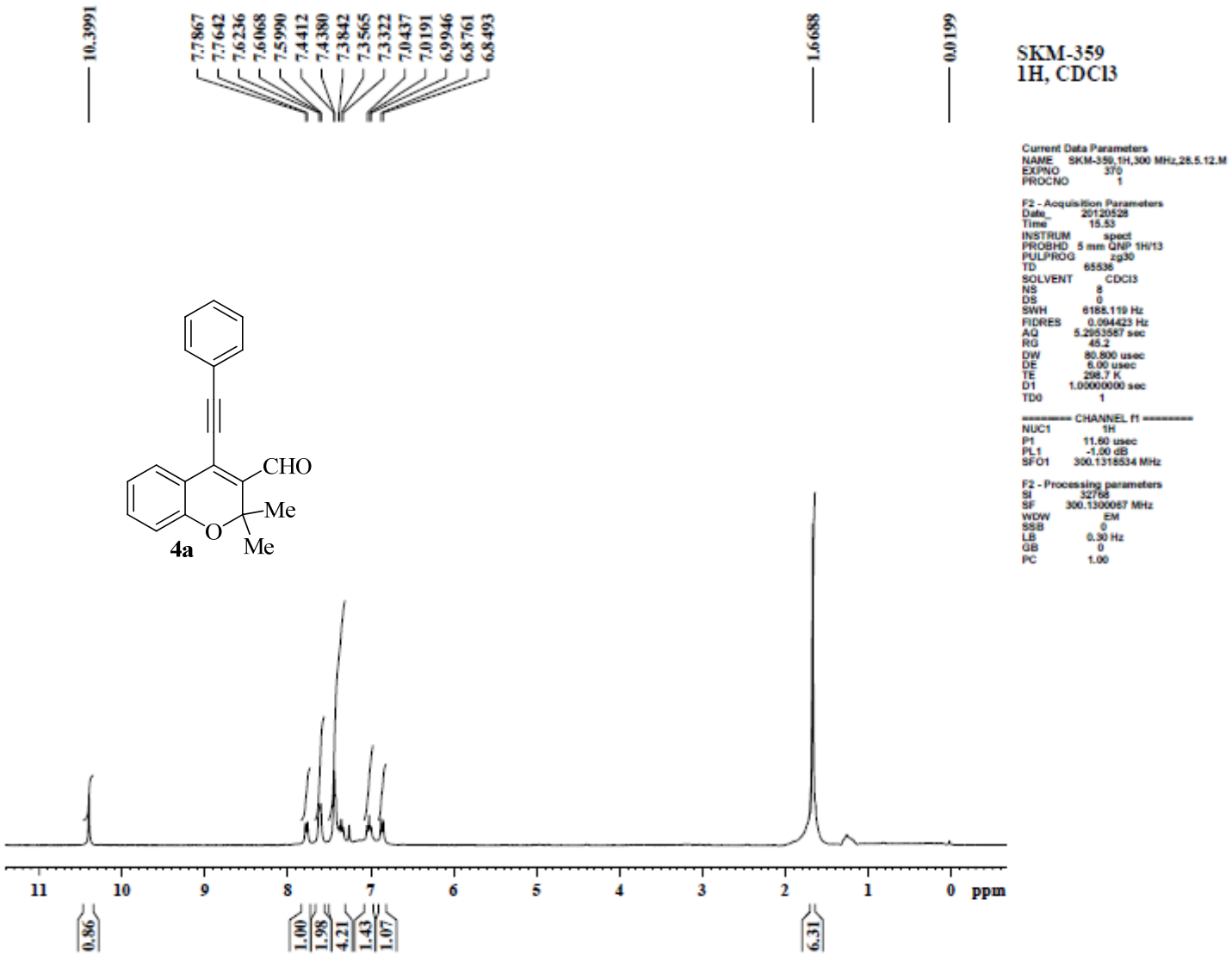


Figure 3: ^{1}H -NMR Spectrum of **4a.**

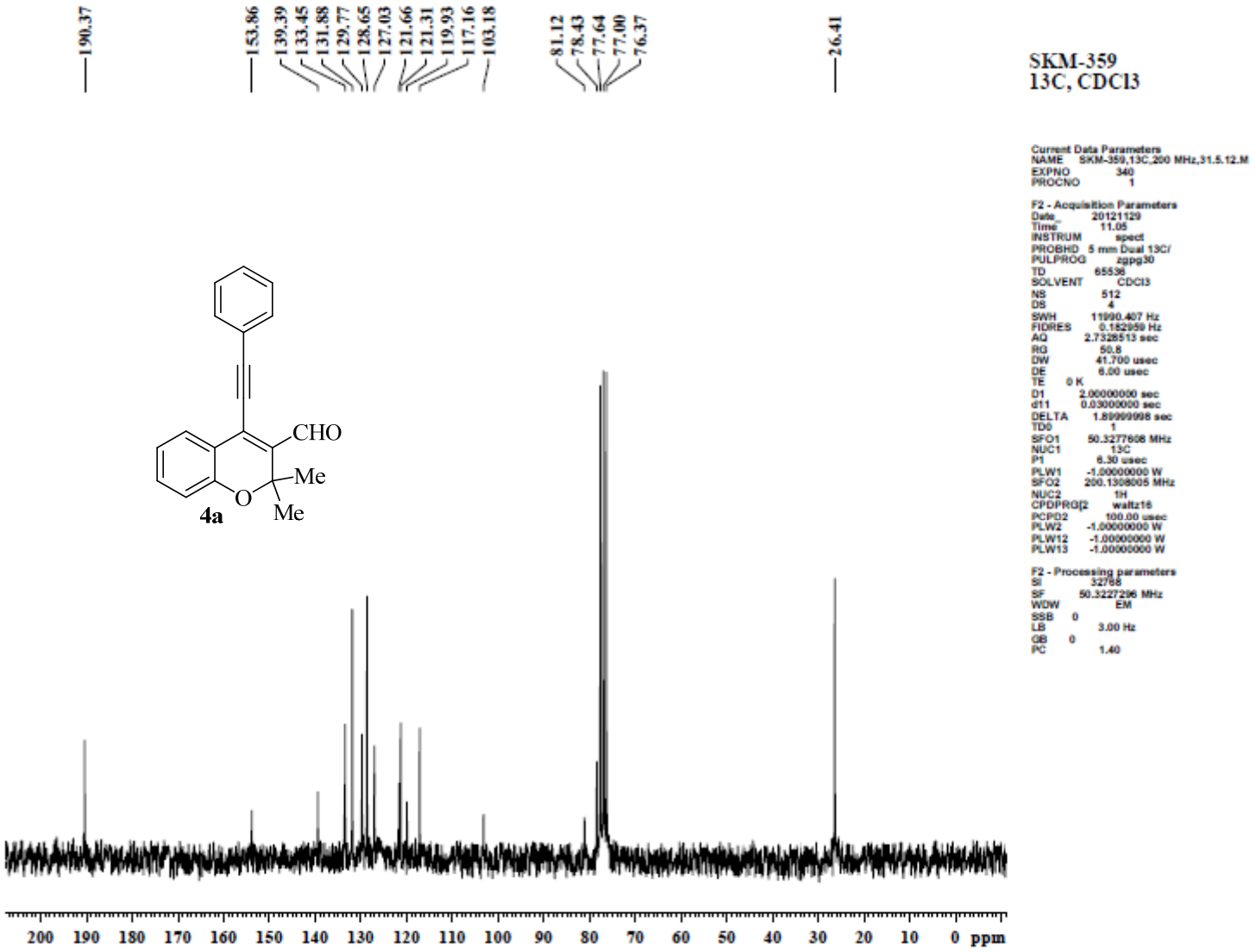


Figure 4: ^{13}C -NMR Spectrum of **4a.**

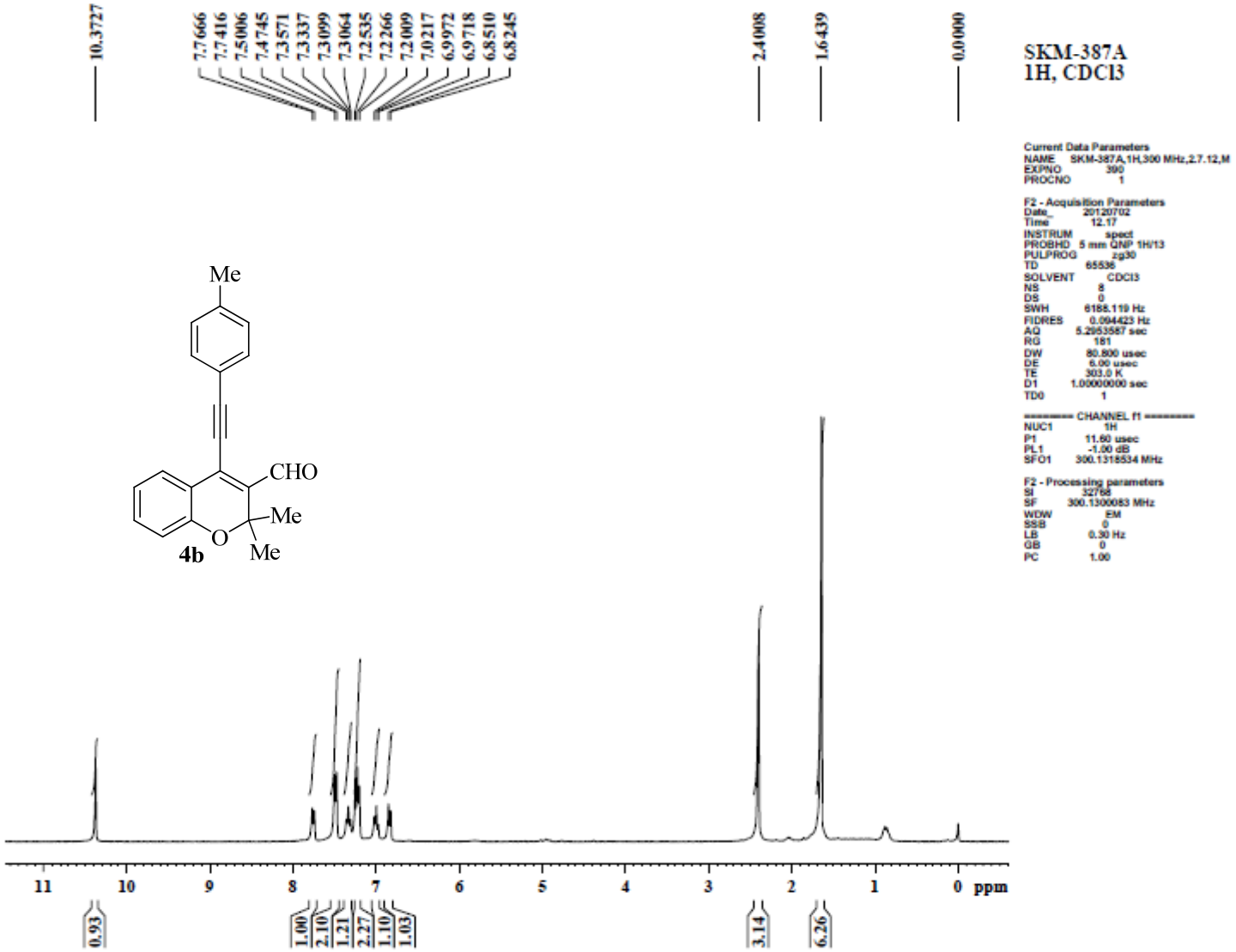


Figure 5: ^{1}H -NMR Spectrum of **4b.**

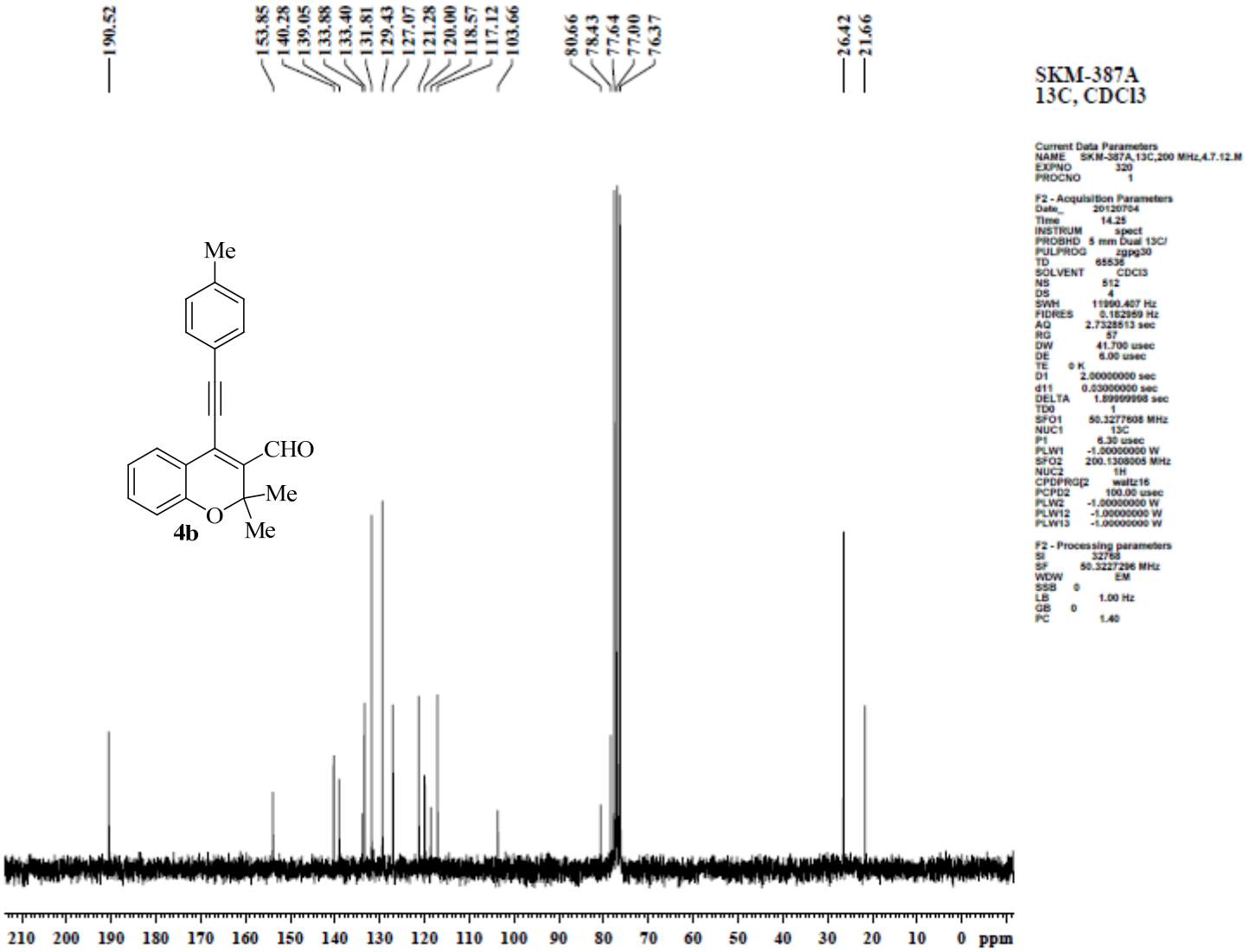


Figure 6: ^{13}C -NMR Spectrum of **4b.**

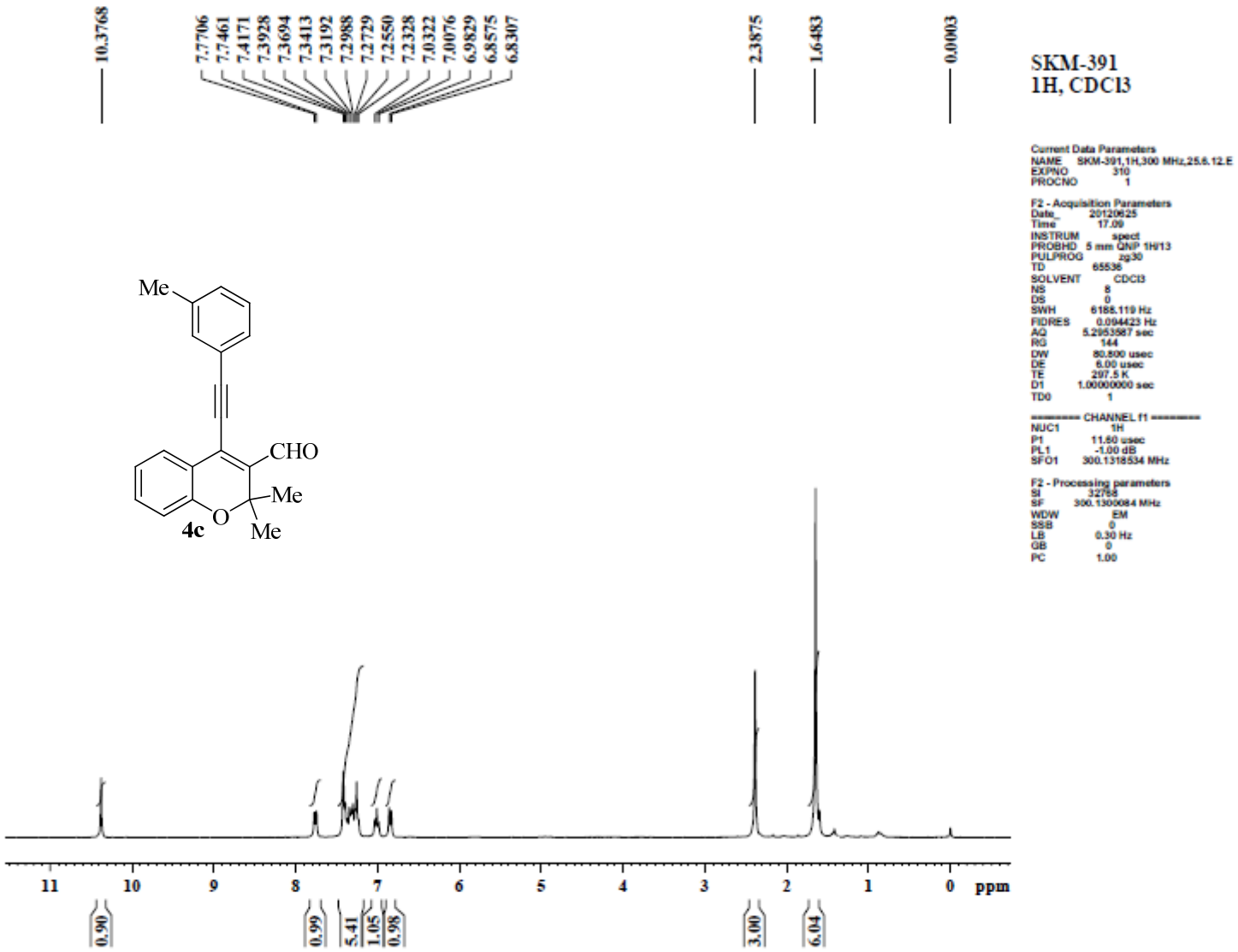


Figure 7: ^{1}H -NMR Spectrum of **4c.**

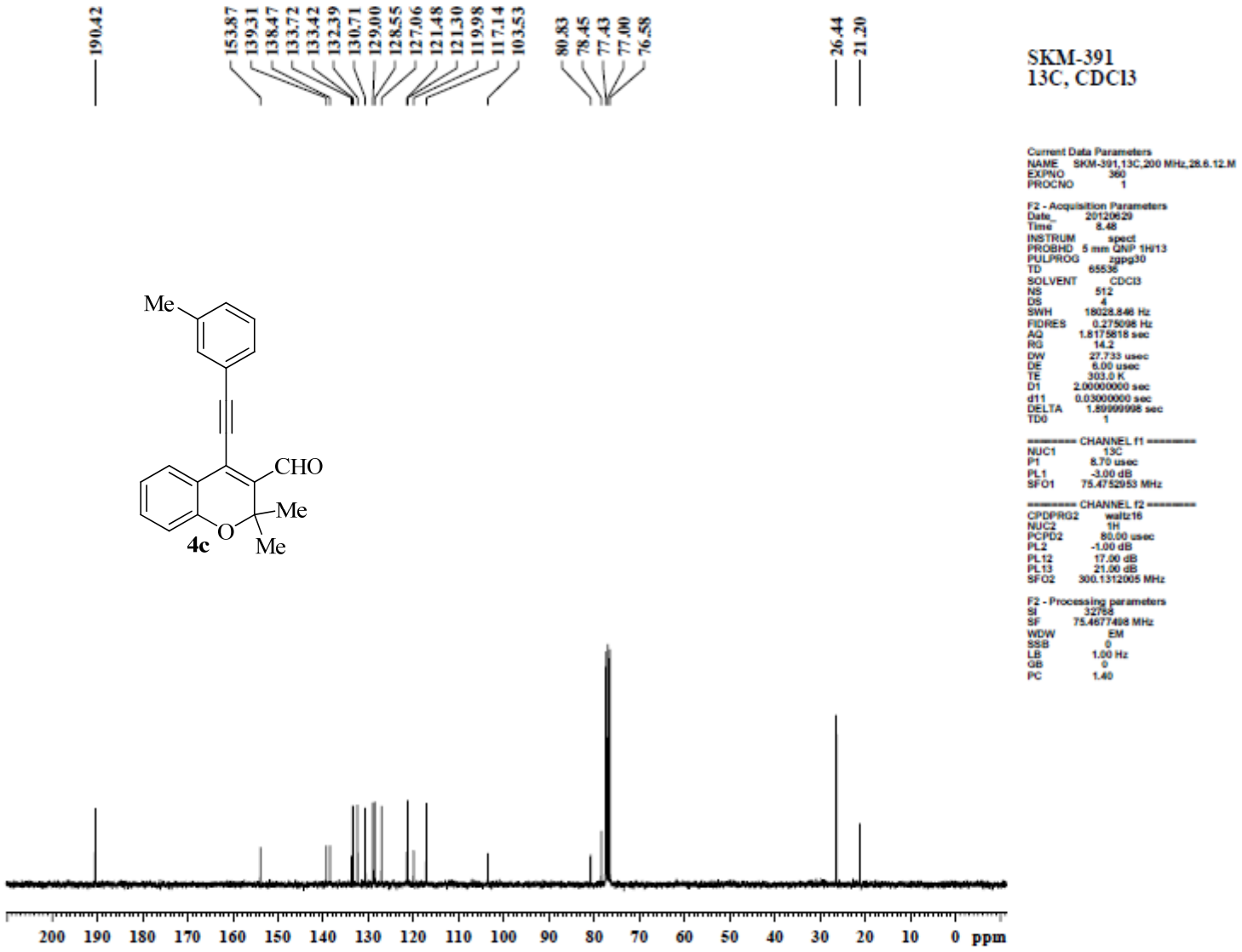


Figure 8: ^{13}C -NMR Spectrum of **4c.**

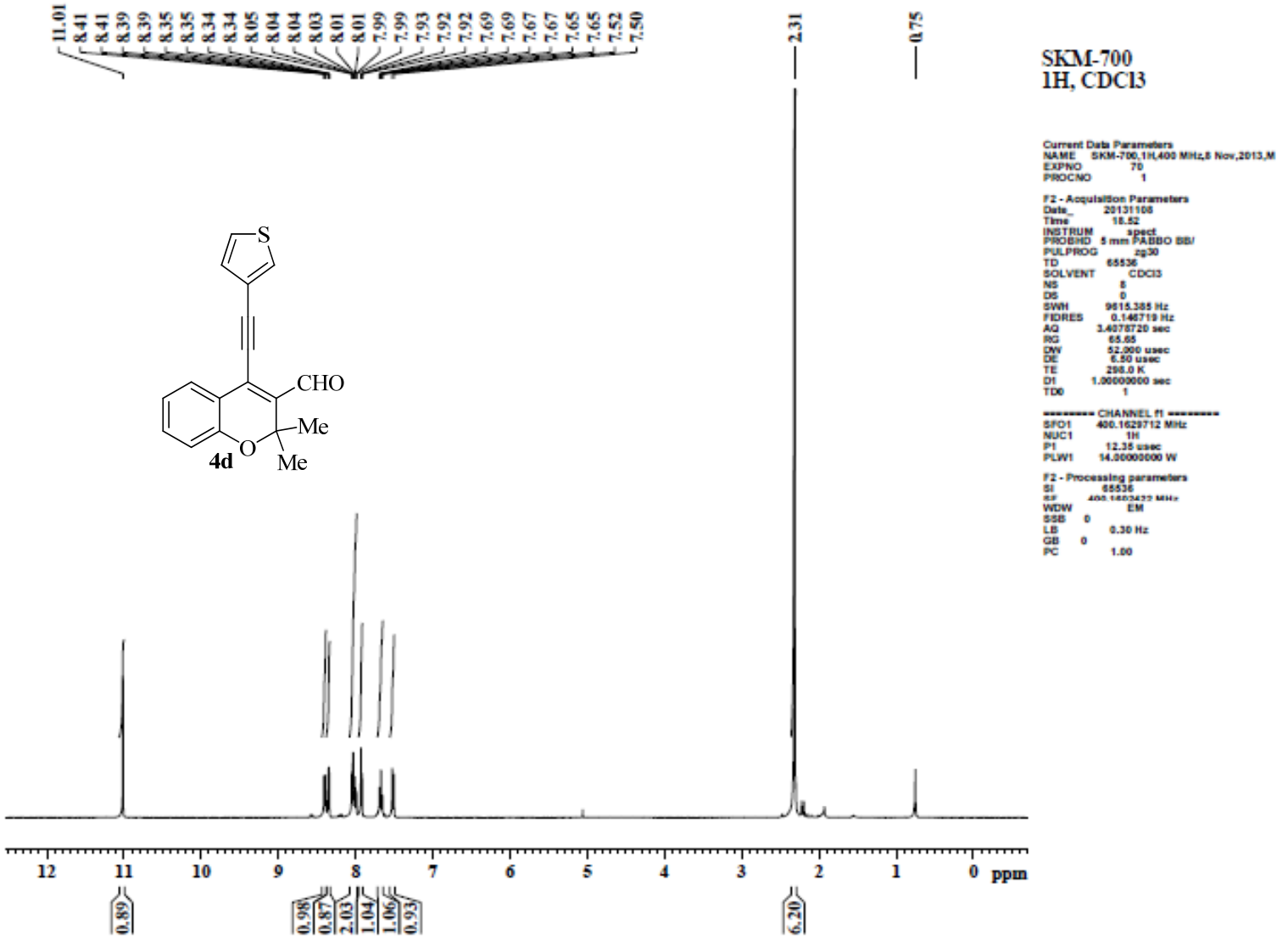


Figure 9: ^{1}H -NMR Spectrum of **4d.**

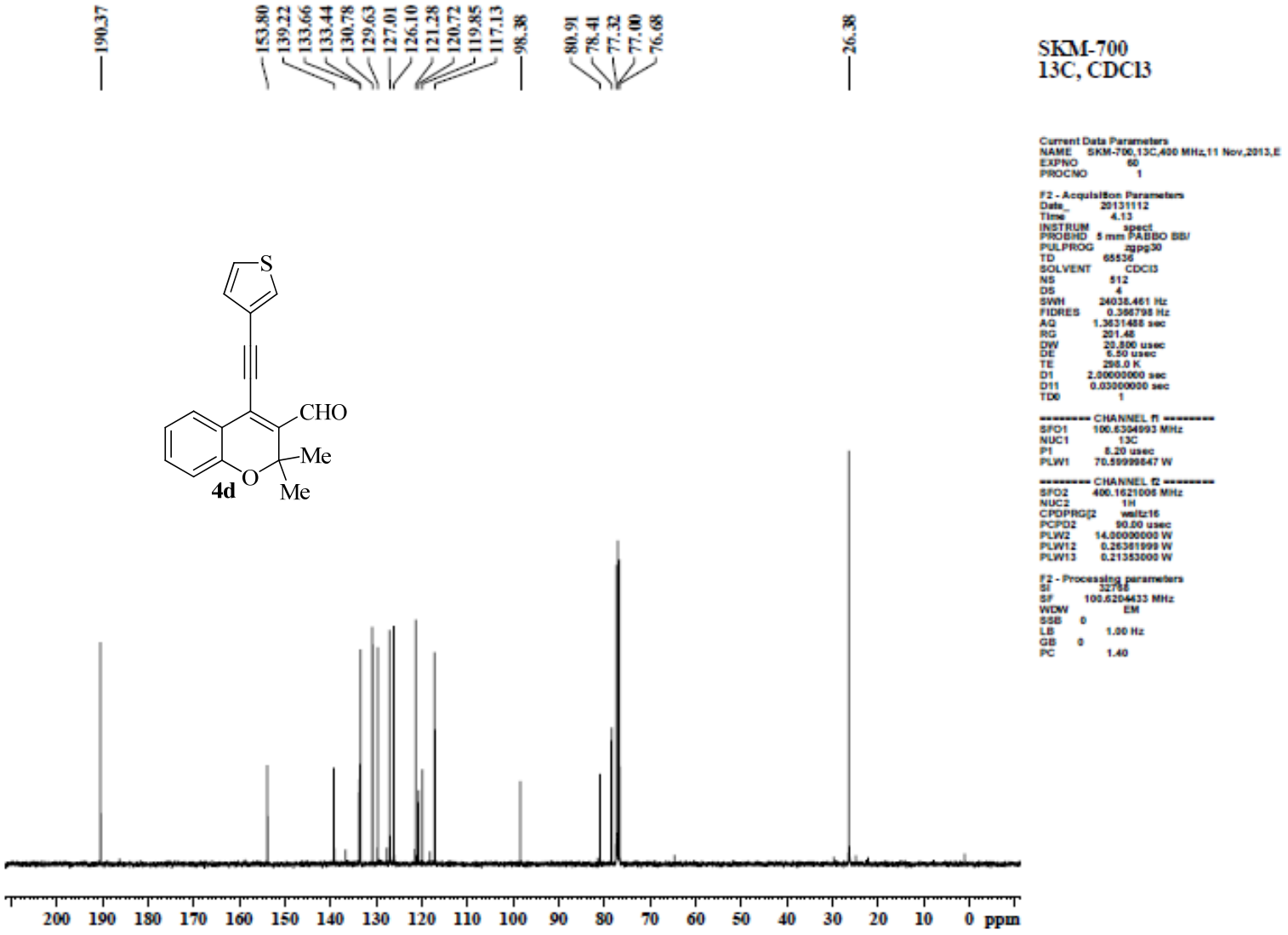


Figure 10: ^{13}C -NMR Spectrum of **4d.**

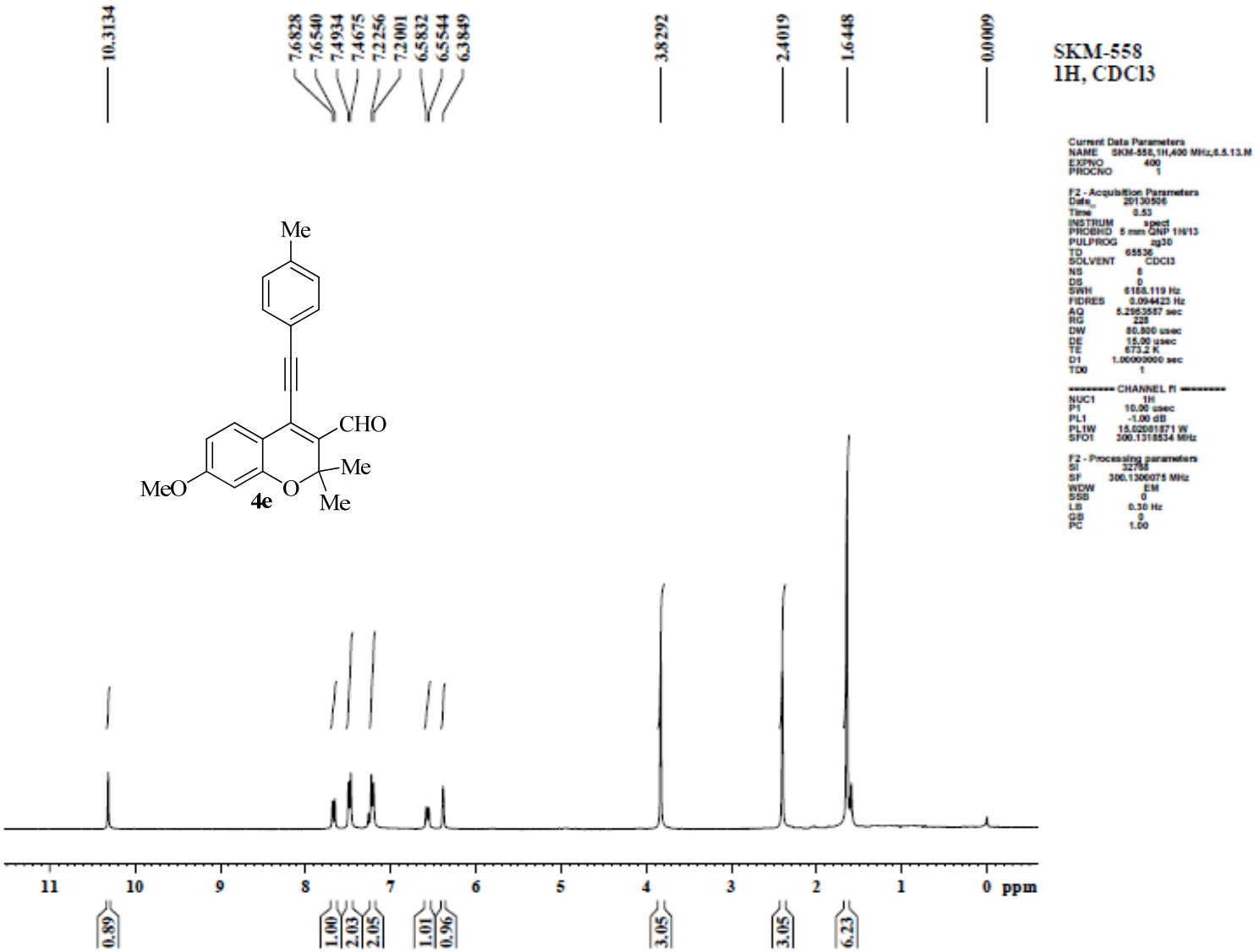


Figure 11: ^{1}H -NMR Spectrum of **4e.**

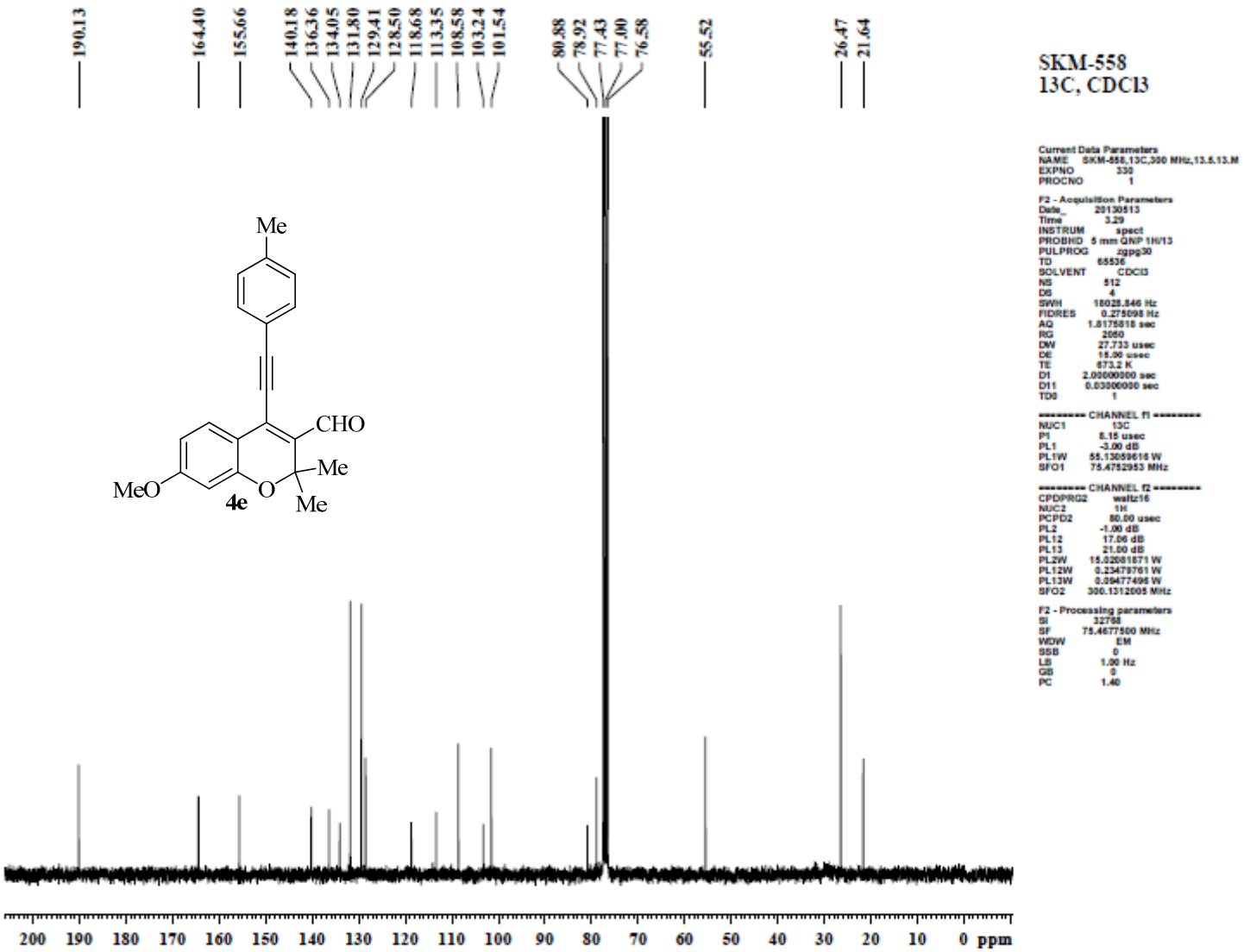


Figure 12: ^{13}C -NMR Spectrum of **4e.**

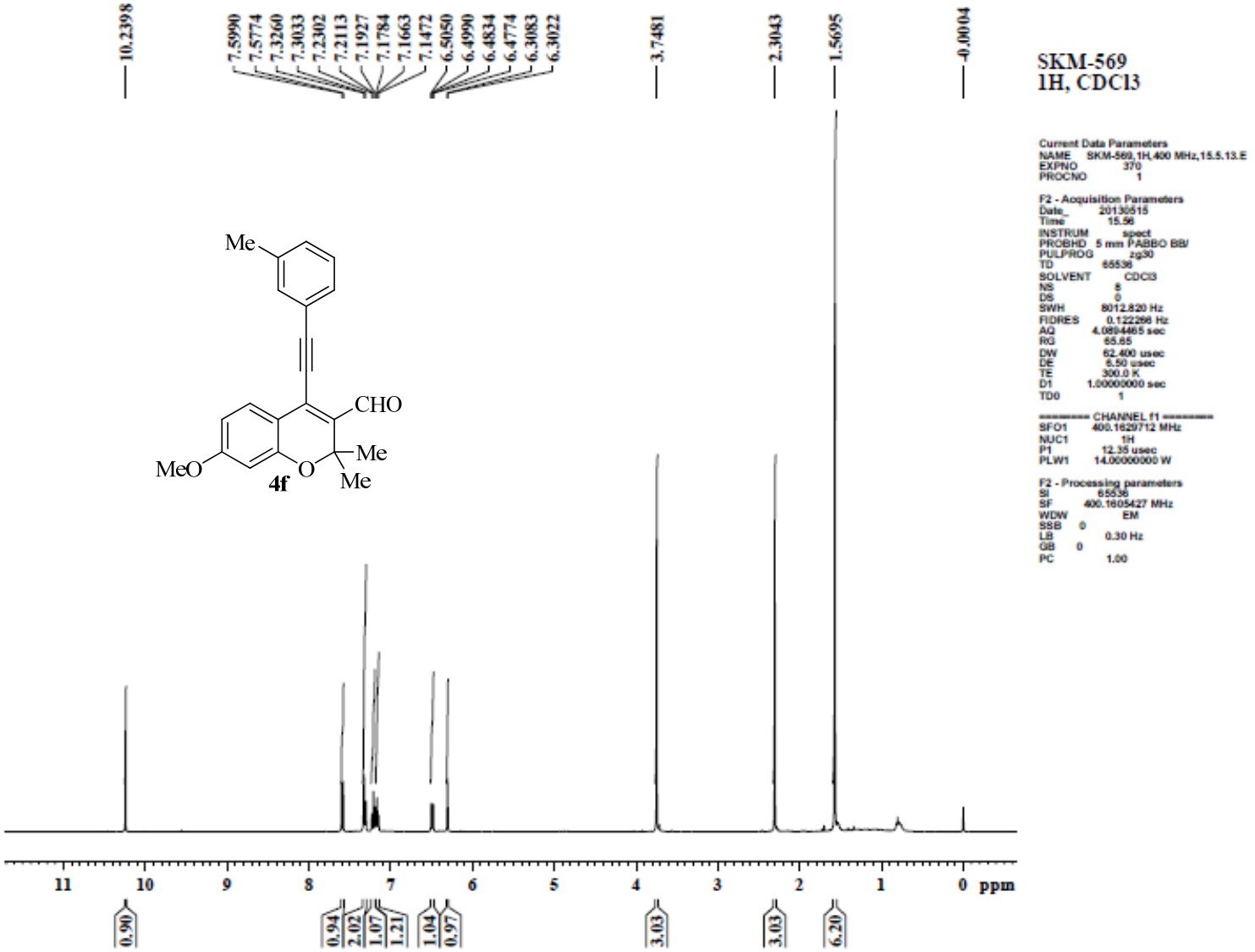


Figure 13: ^{1}H -NMR Spectrum of **4f.**

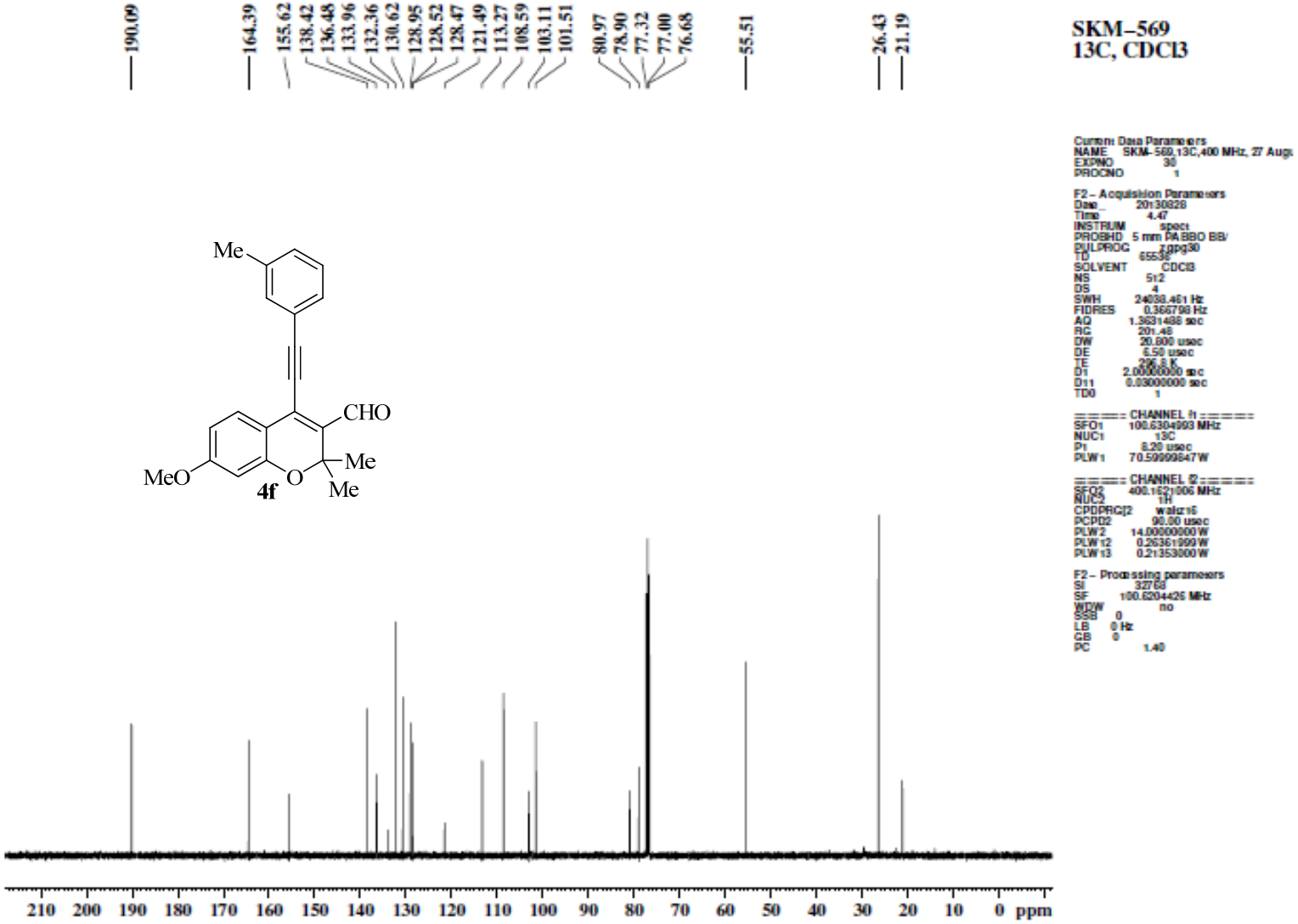


Figure 14: ^{13}C -NMR Spectrum of **4f.**

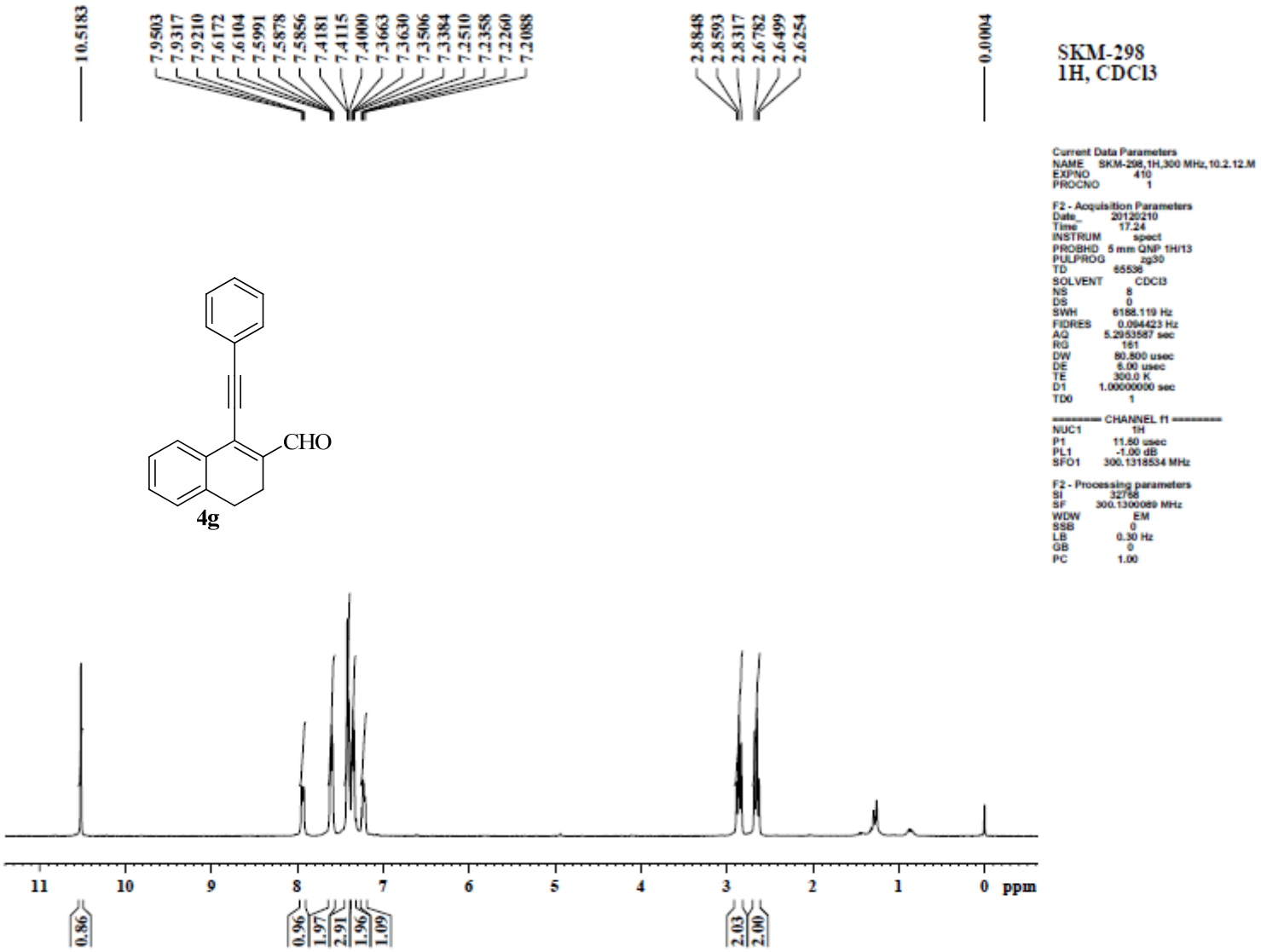


Figure 15: ^{1}H -NMR Spectrum of **4g.**

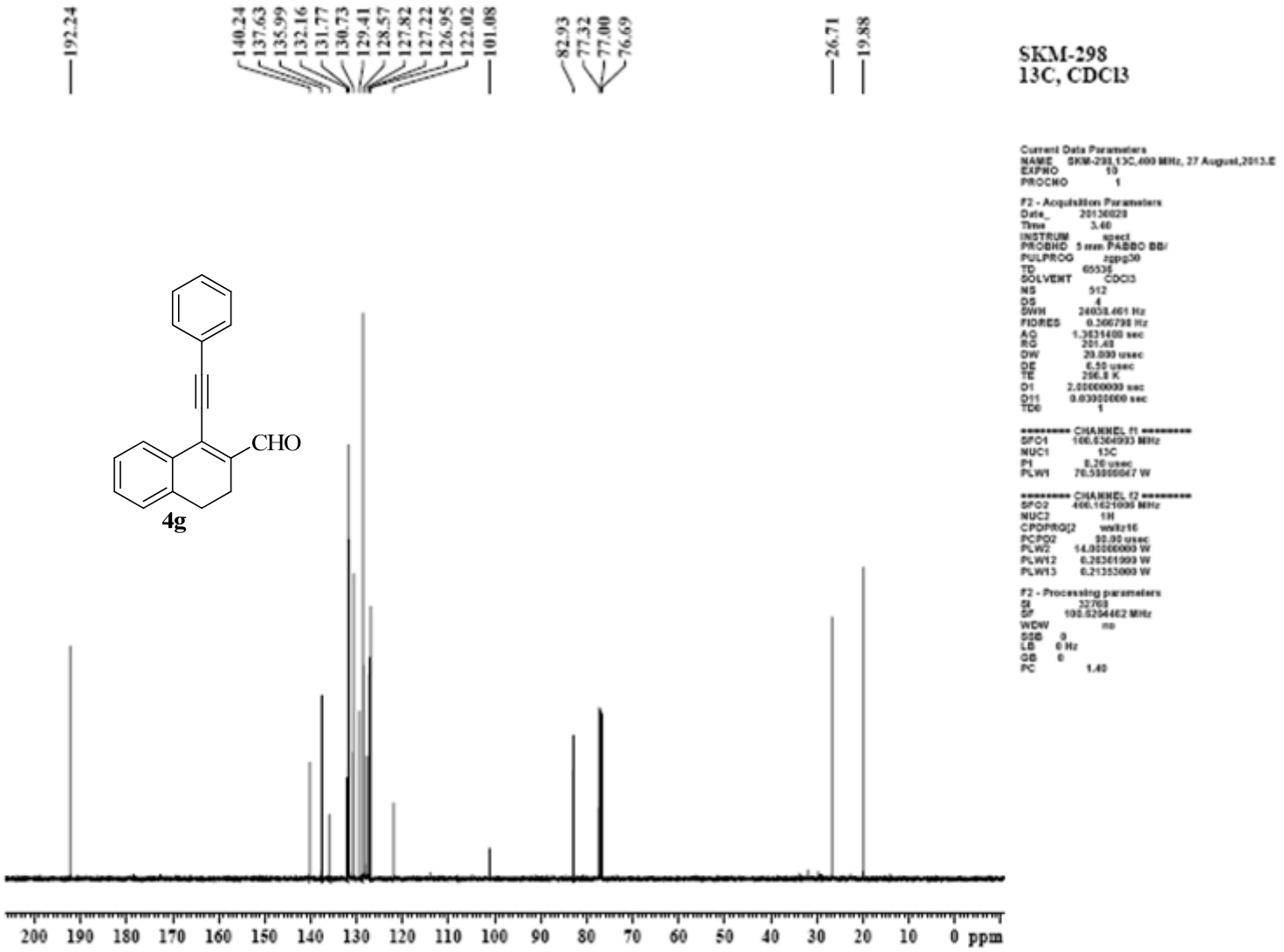


Figure 16: ^{13}C -NMR Spectrum of **4g.**

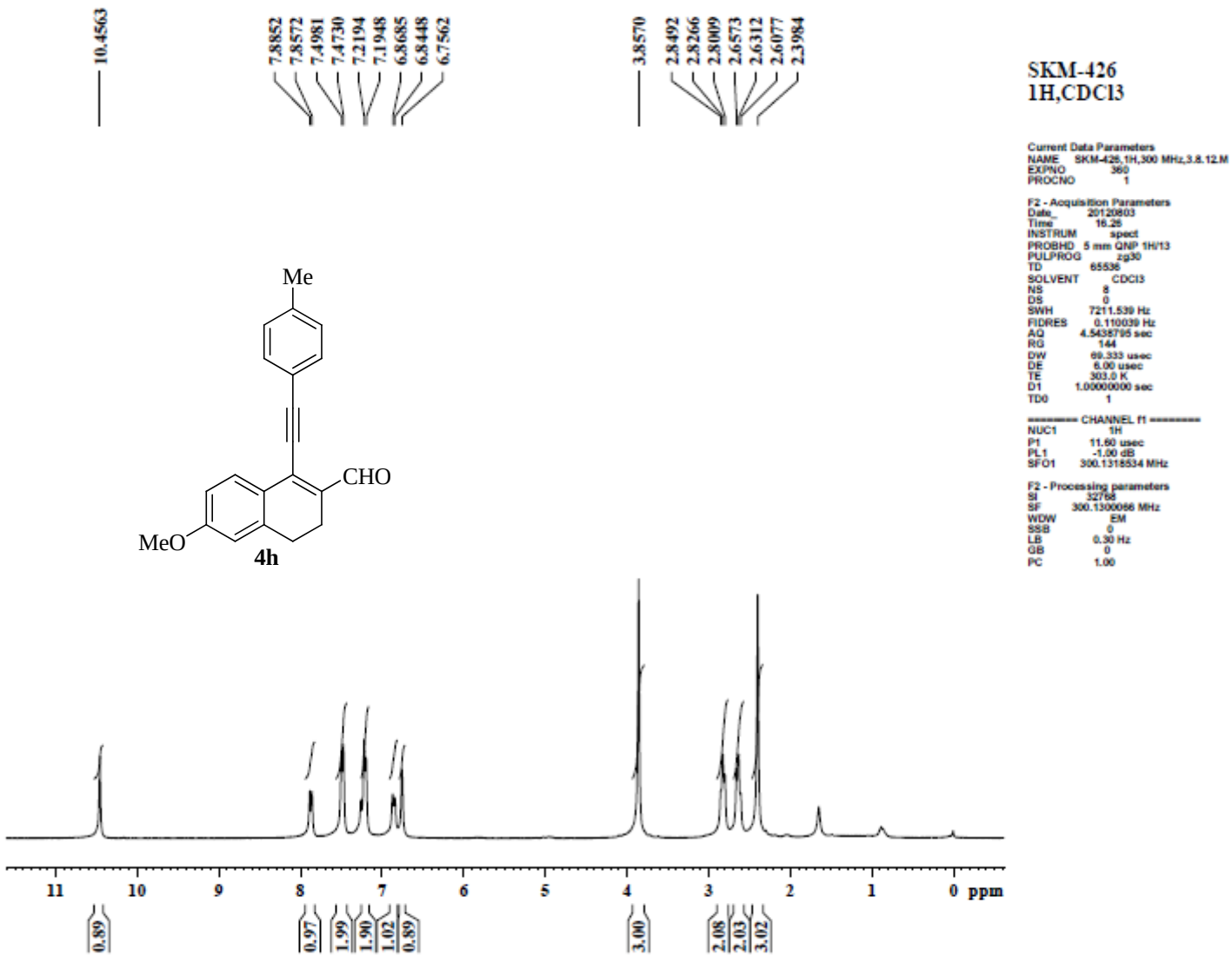


Figure 17: ^{1}H -NMR Spectrum of **4h.**

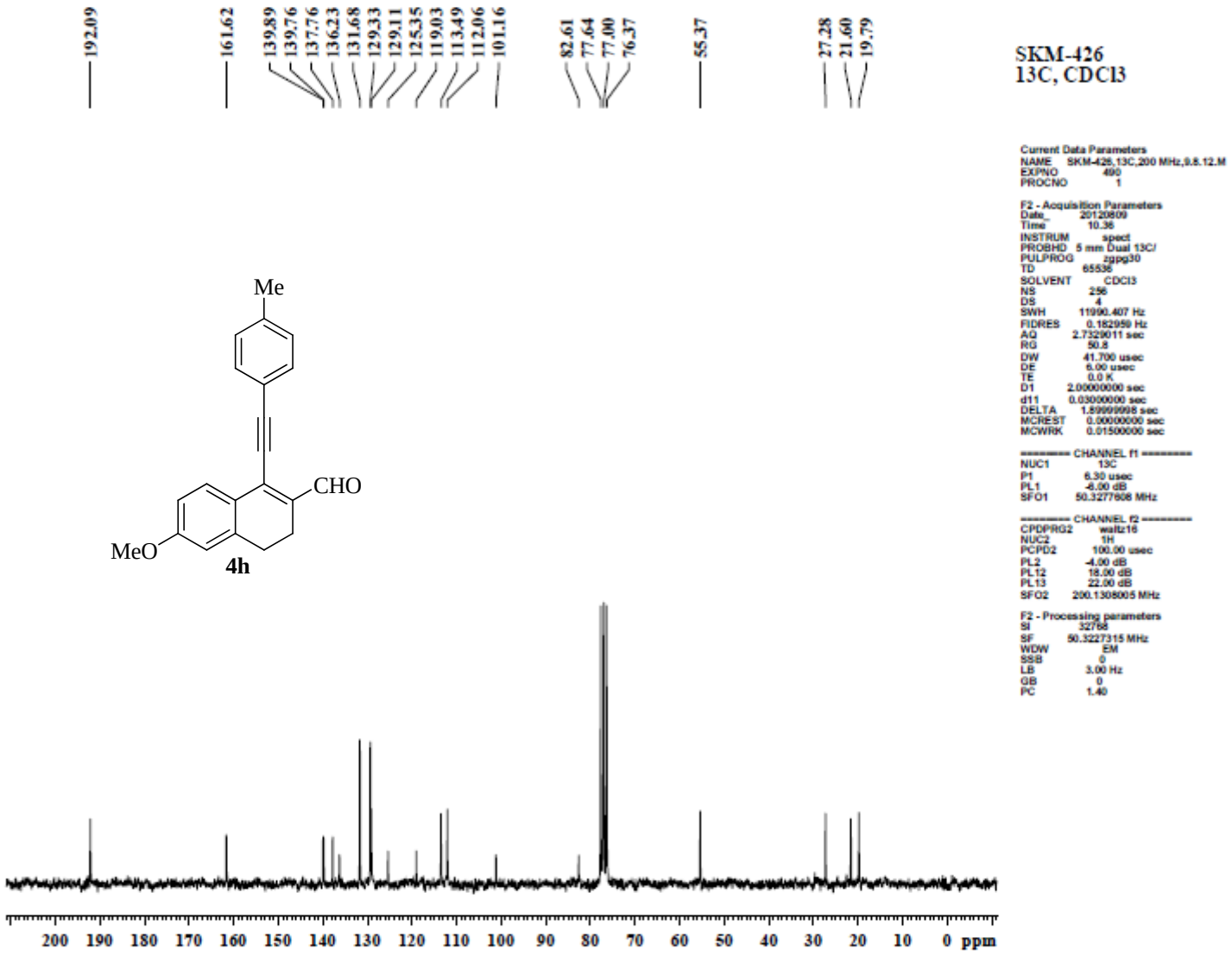


Figure 18: ^{13}C -NMR Spectrum of **4h.**

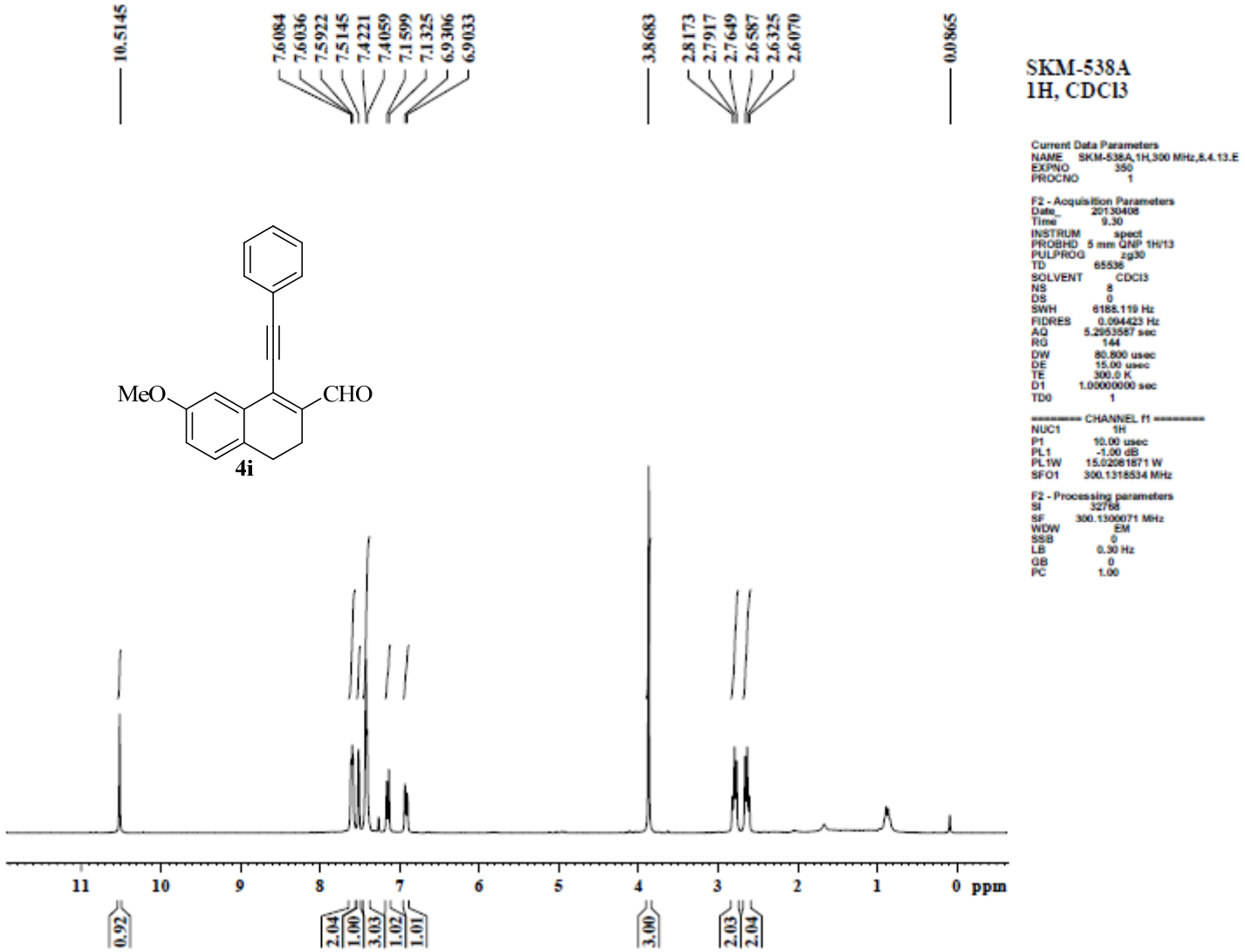


Figure 19: ^{1}H -NMR Spectrum of **4i.**

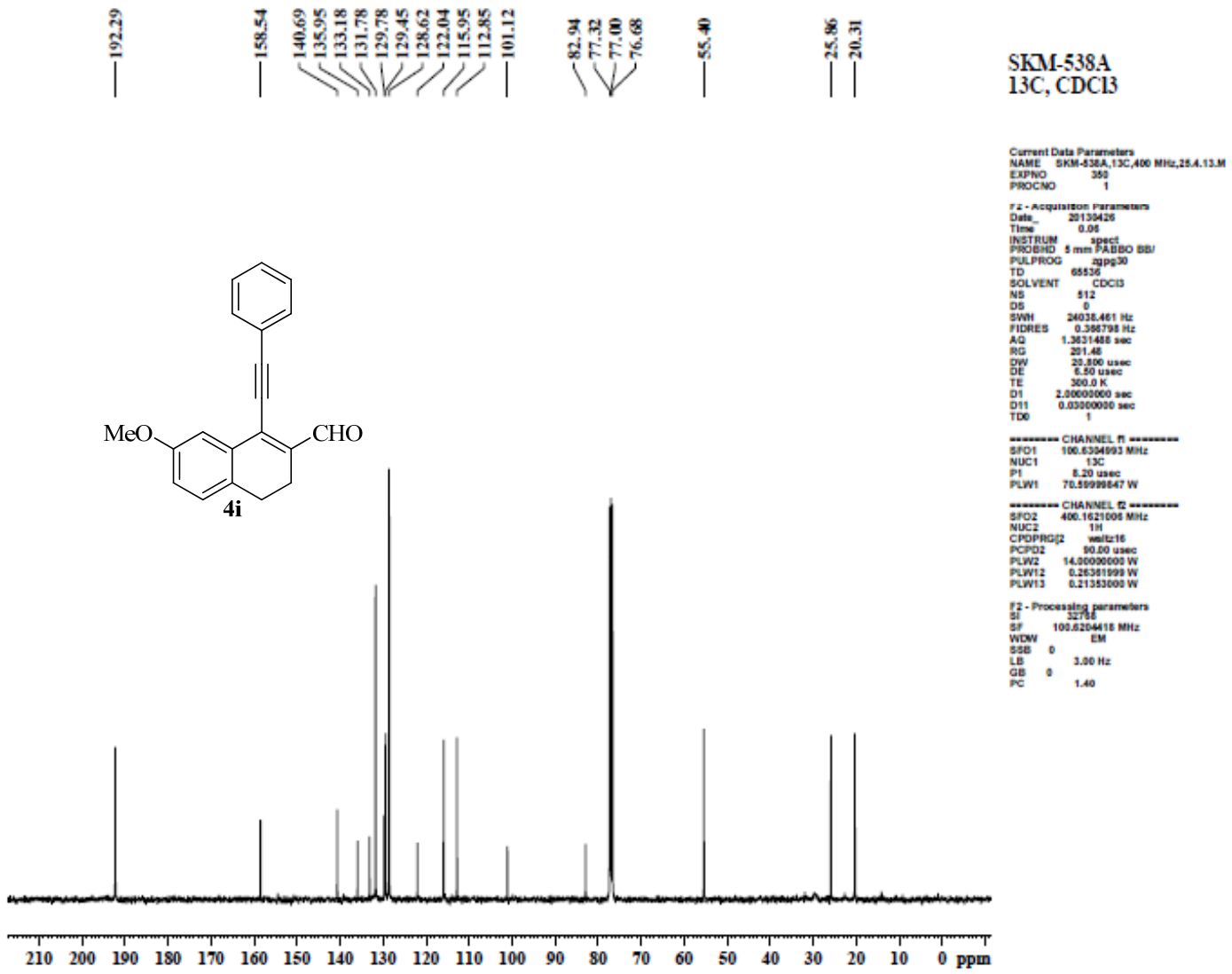


Figure 20: ^{13}C -NMR Spectrum of **4i.**

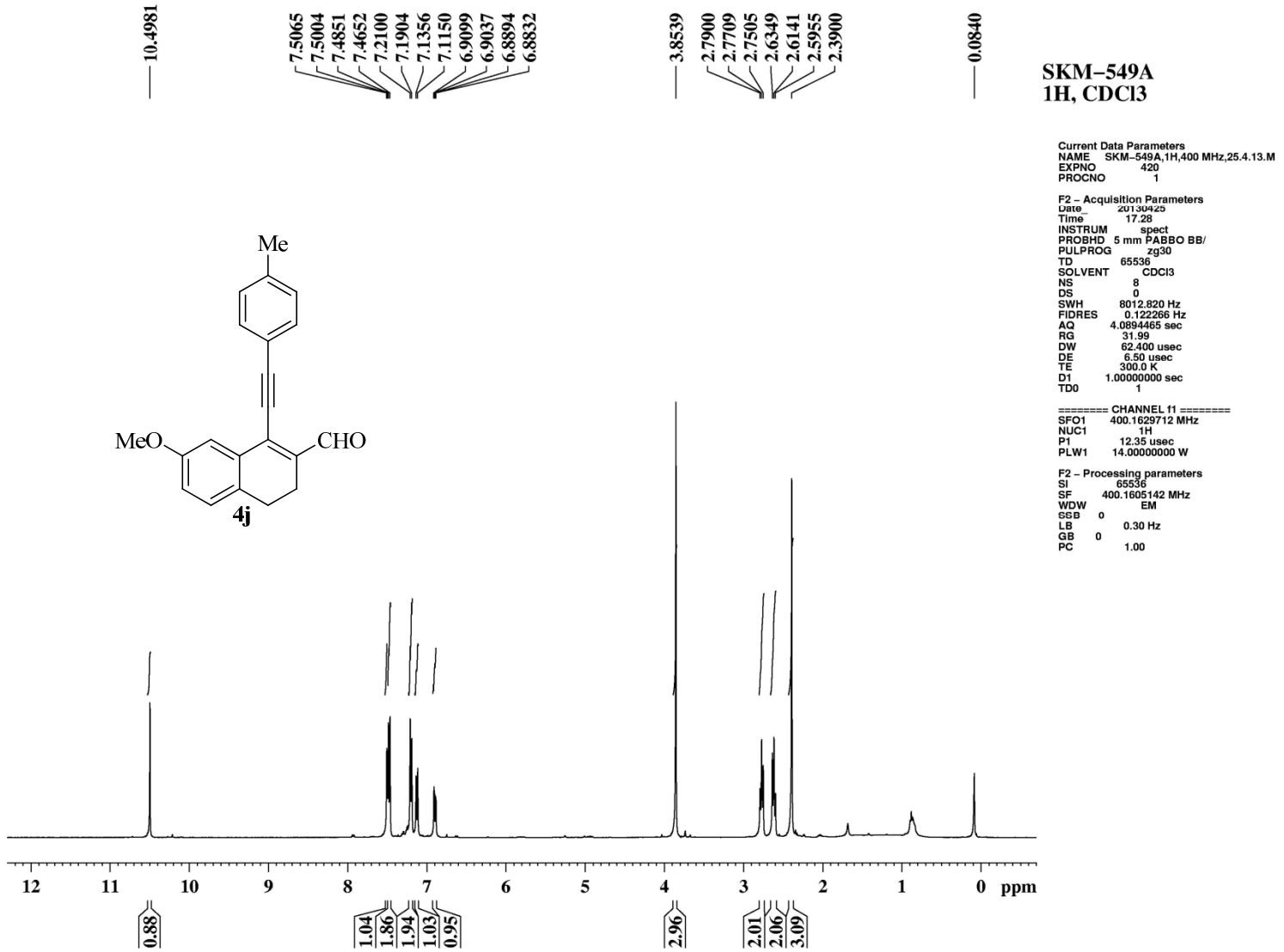


Figure 21: ^{1}H -NMR Spectrum of **4j.**

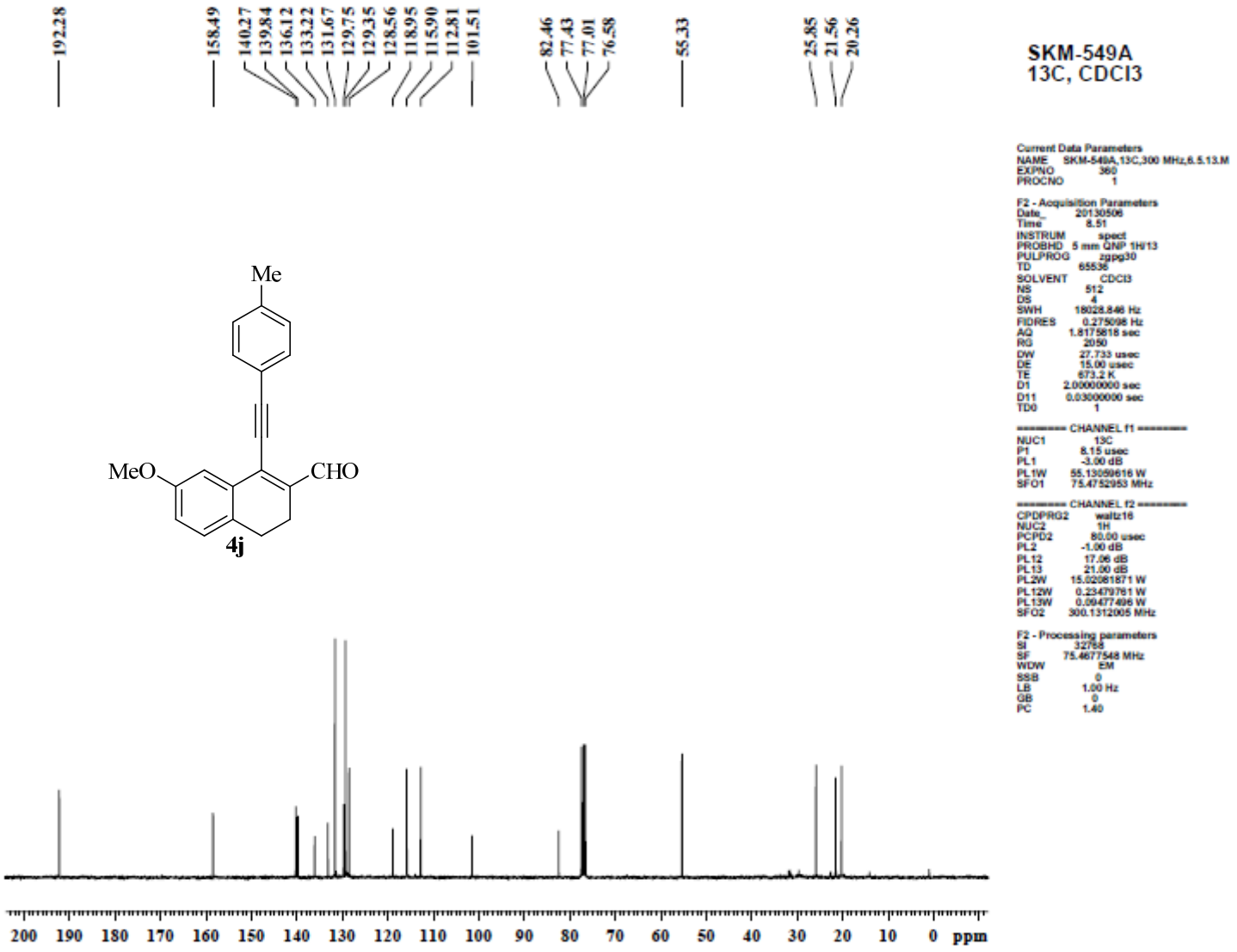


Figure 22: ^{13}C -NMR Spectrum of **4j.**

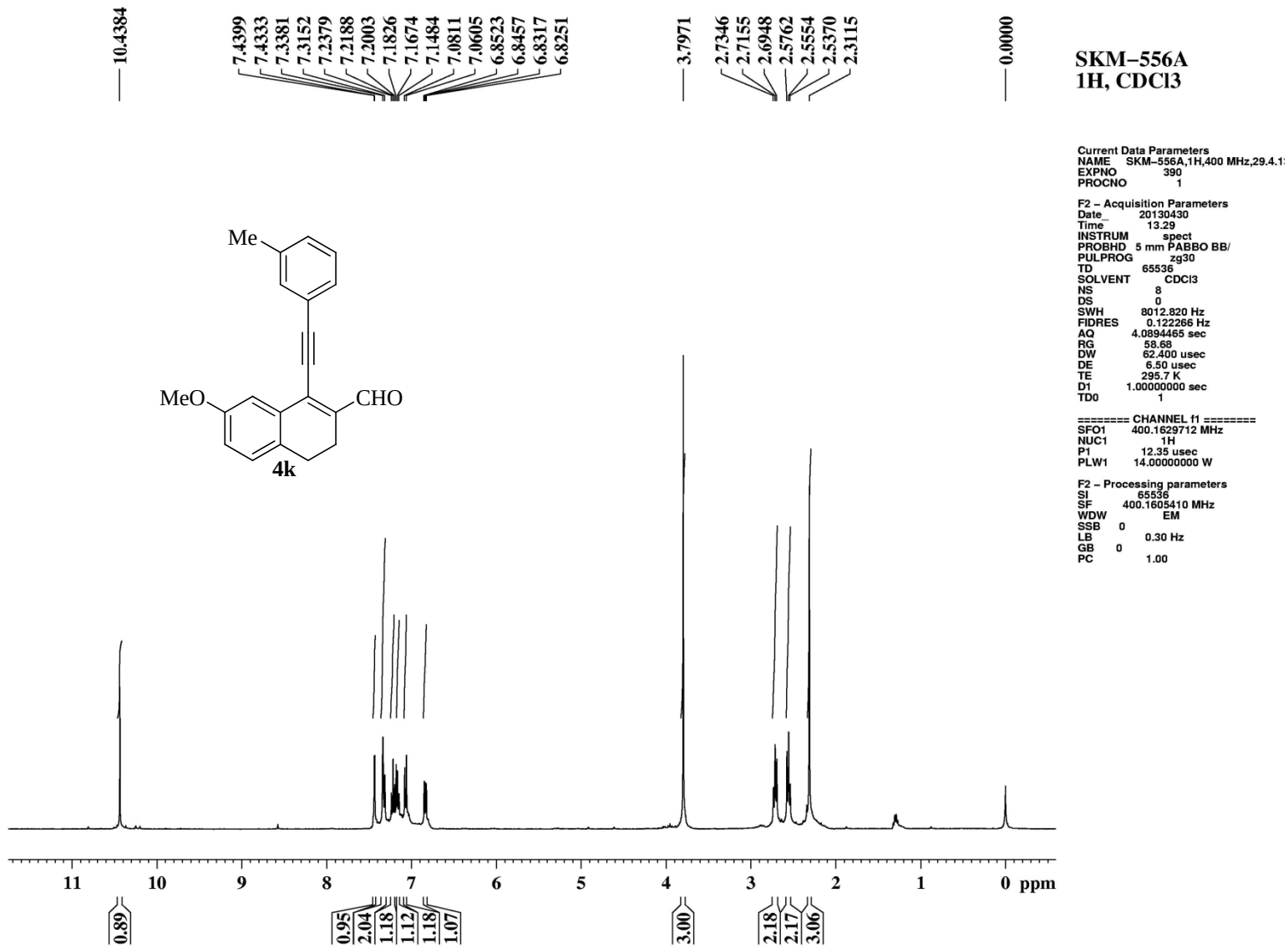


Figure 23: ^{1}H -NMR Spectrum of **4k.**

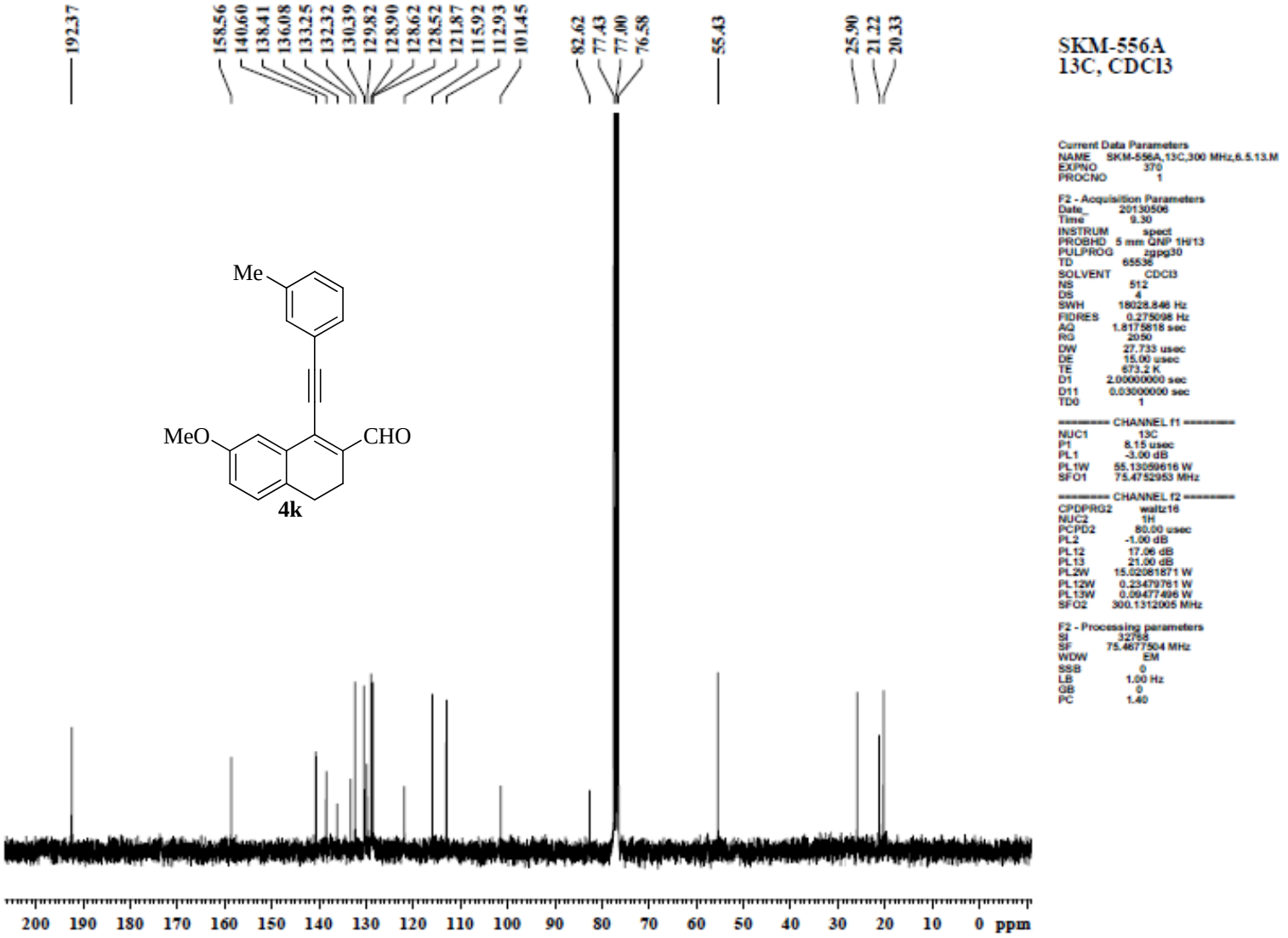


Figure 24: ^{13}C -NMR Spectrum of **4k.**

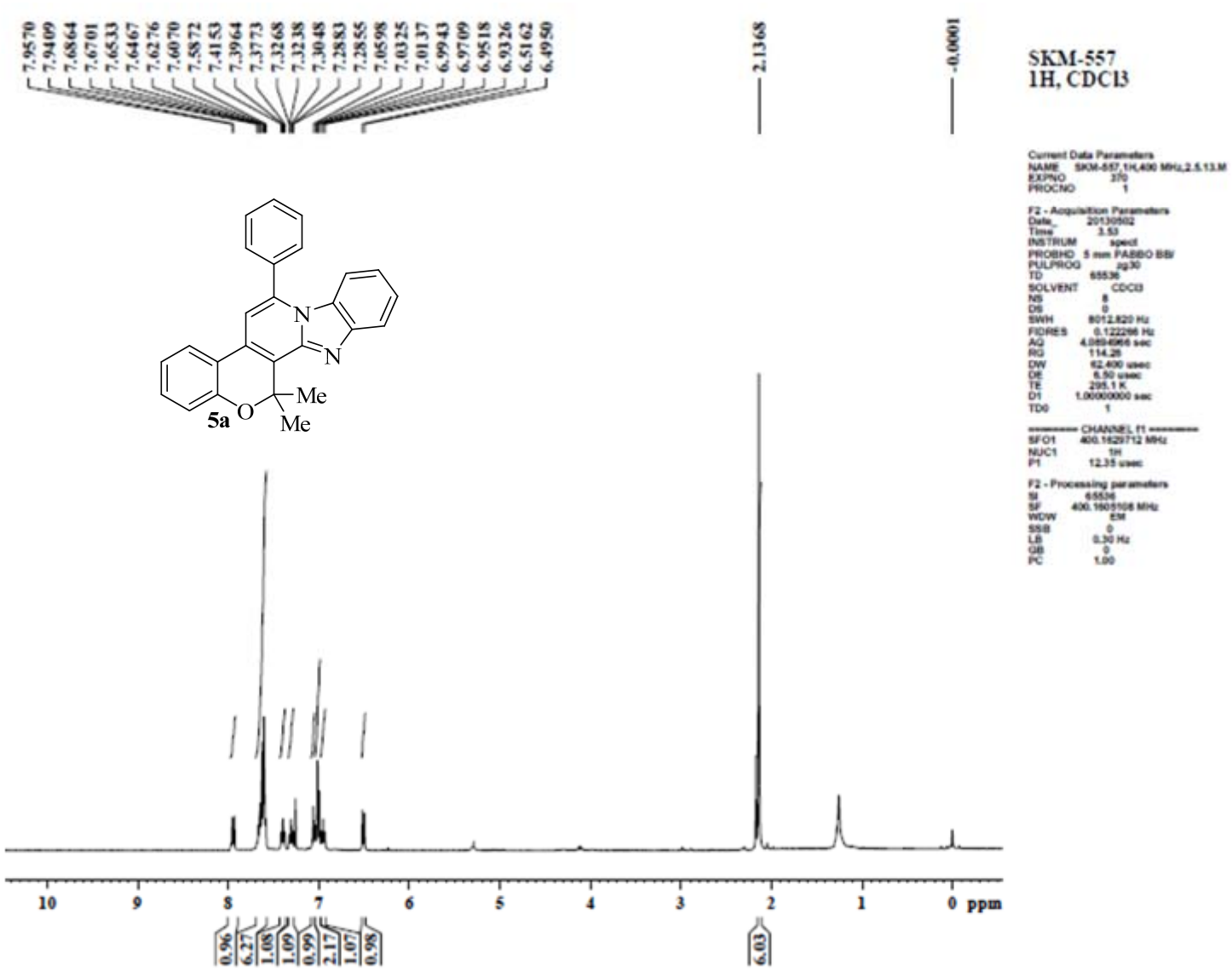


Figure 25: ^{1}H -NMR Spectrum of **5a.**

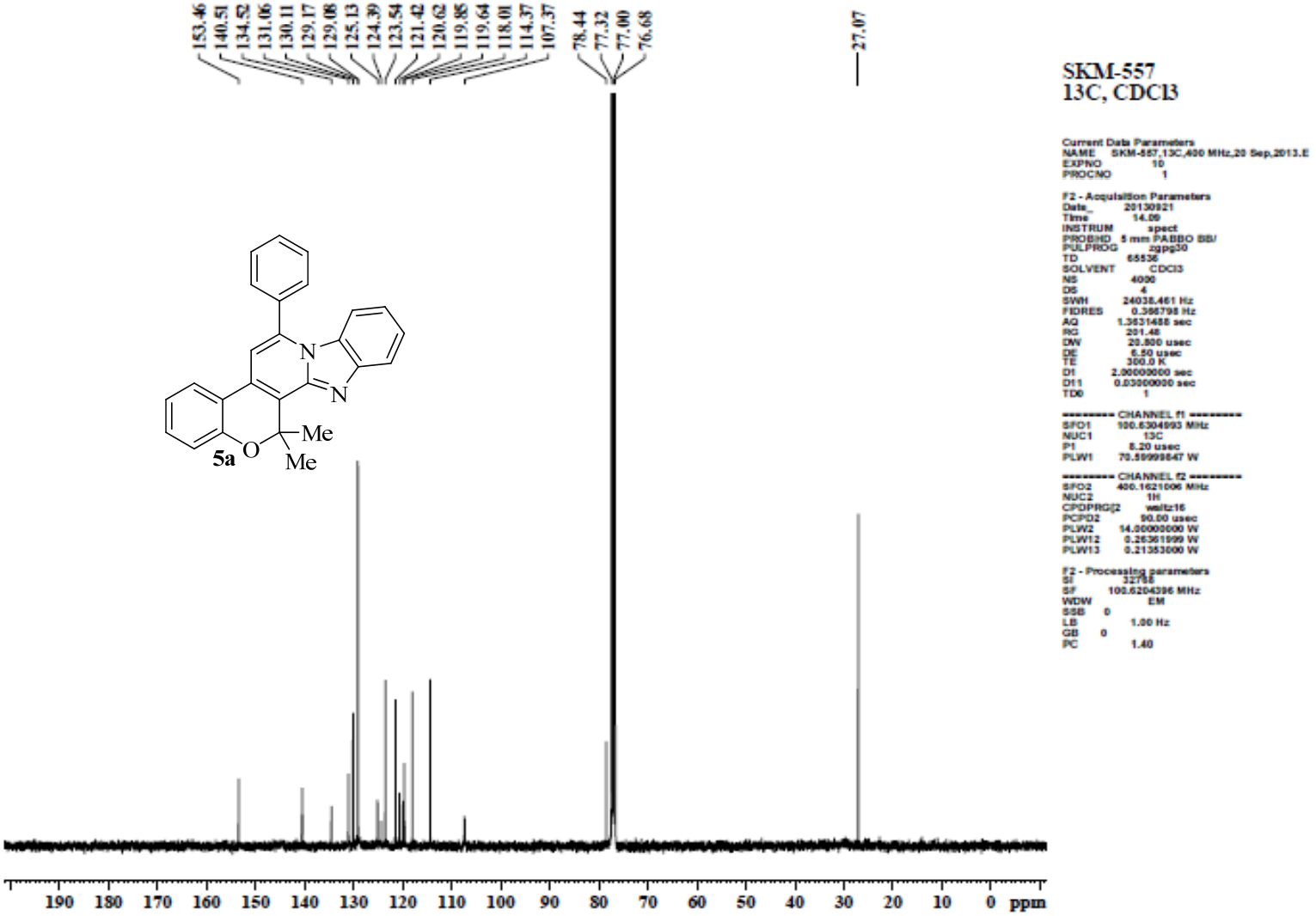
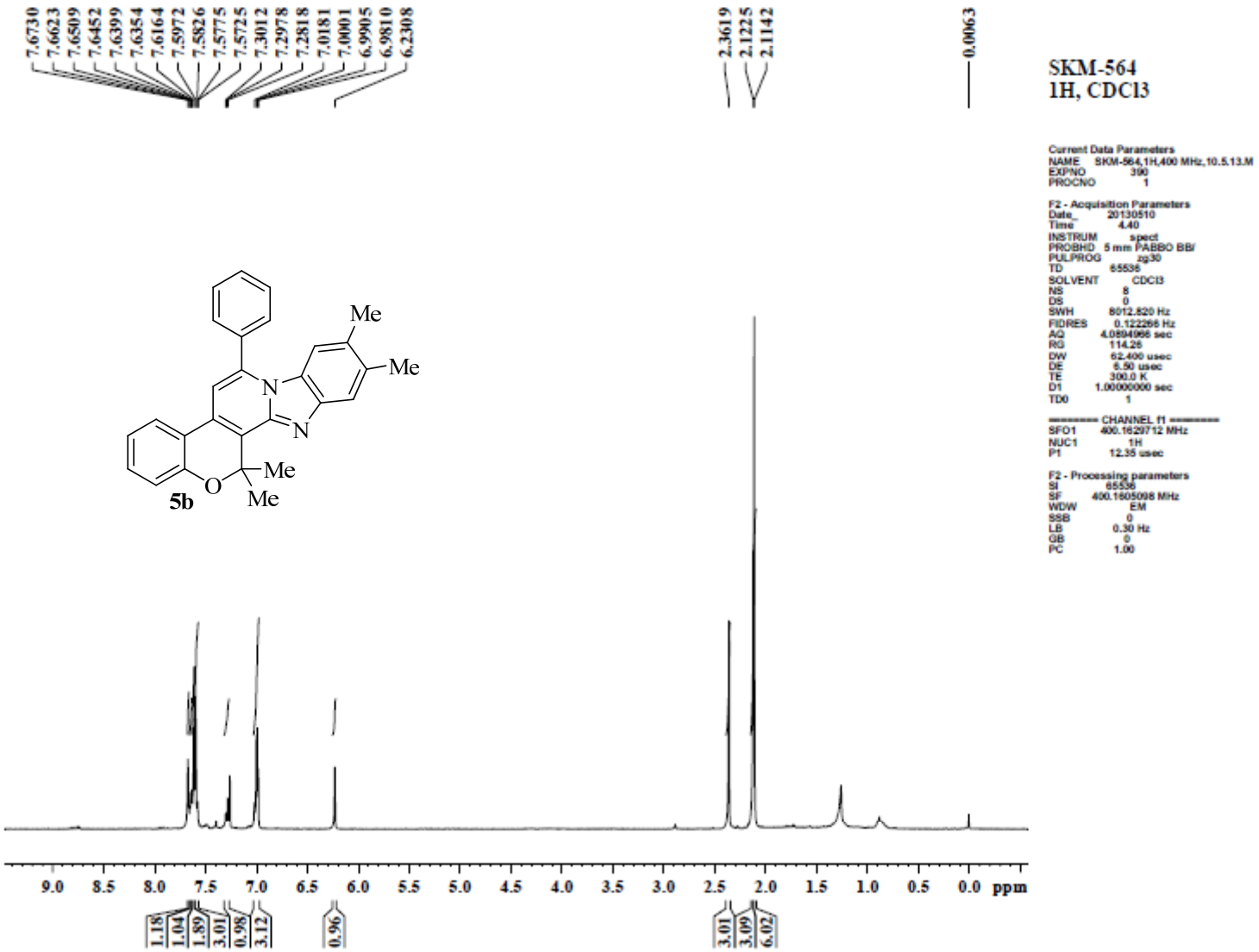


Figure 26: ^{13}C -NMR Spectrum of **5a.**



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PROCNO 1

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PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 8
DS 0
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894966 sec
RG 114.26
DW 62.400 usec
DE 6.50 usec
TE 300.0 K
D1 1.00000000 sec
TD0 1

======== CHANNEL f1 ========
SFO1 400.1629712 MHz
NUC1 1H
P1 12.35 usec

F2 - Processing parameters
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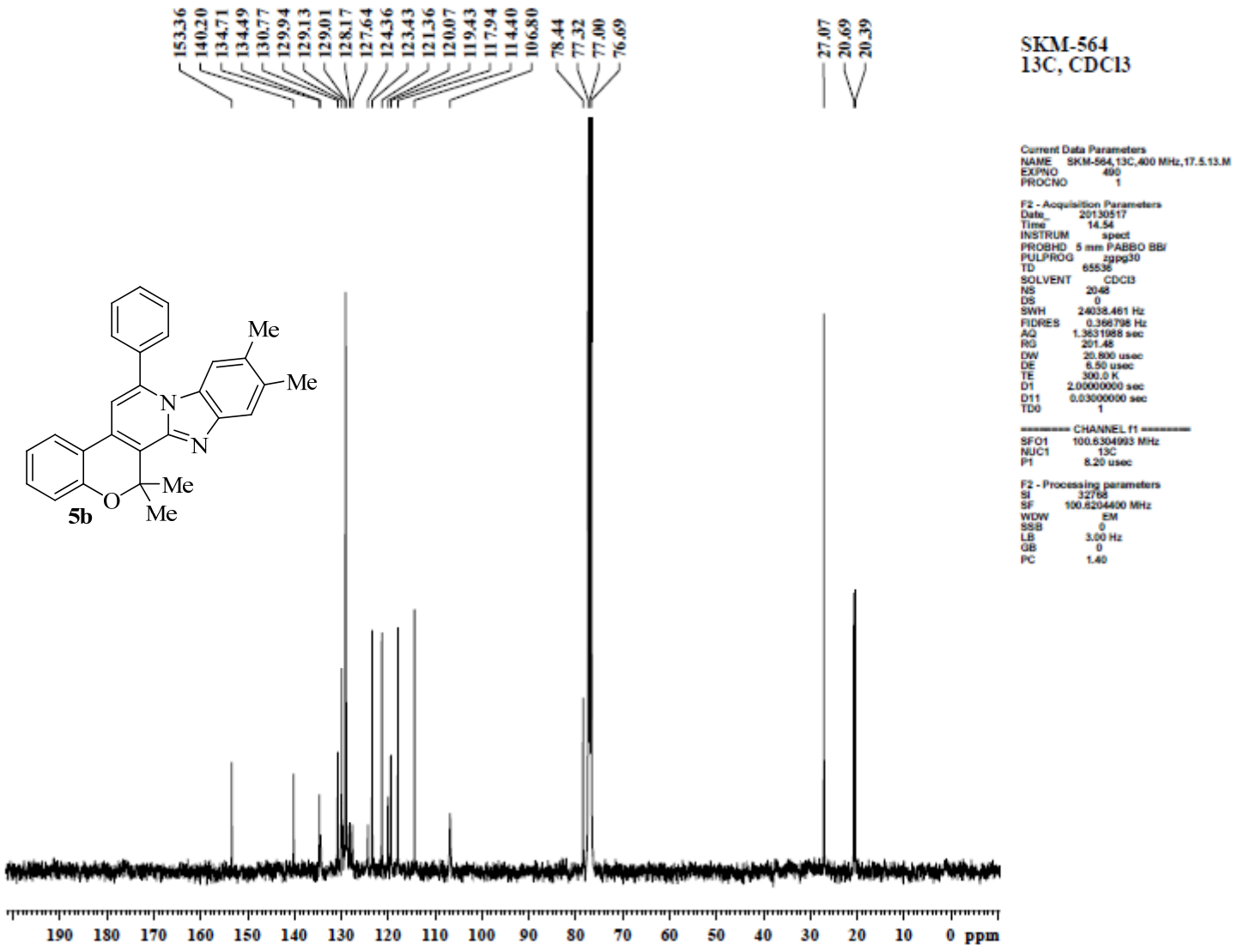
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

Figure 27: ^{1}H -NMR Spectrum of **5b.**



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FIDRES 0.366798 Hz
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RG 201.48
DW 20.800 usec
DE 6.50 usec
TE 300.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

======== CHANNEL f1 ========
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NUC1 13C
P1 8.20 usec

F2 - Processing parameters
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WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 1.40

Figure 28: ^{13}C -NMR Spectrum of **5b.**

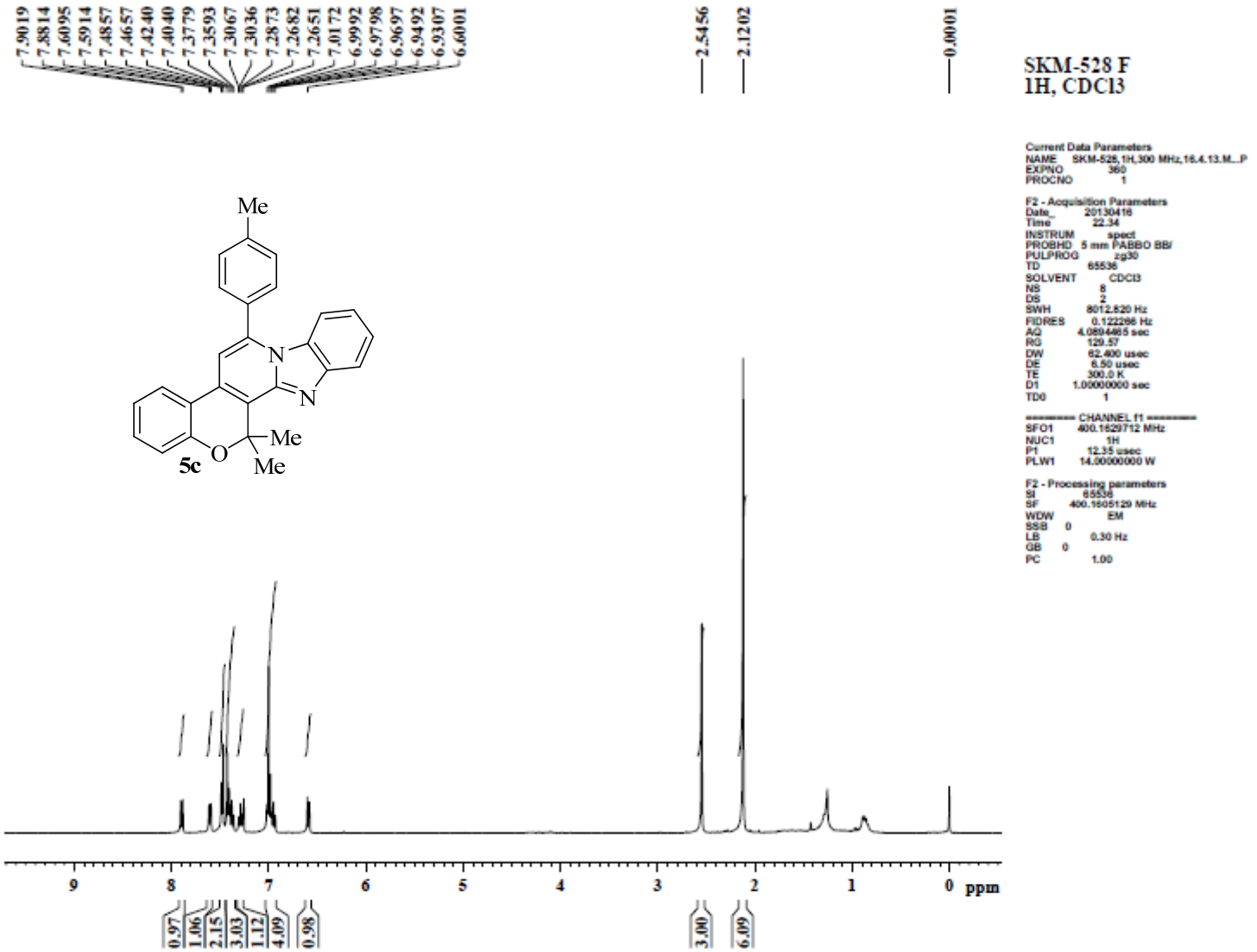

Figure 29: ^{1}H -NMR Spectrum of **5c.**

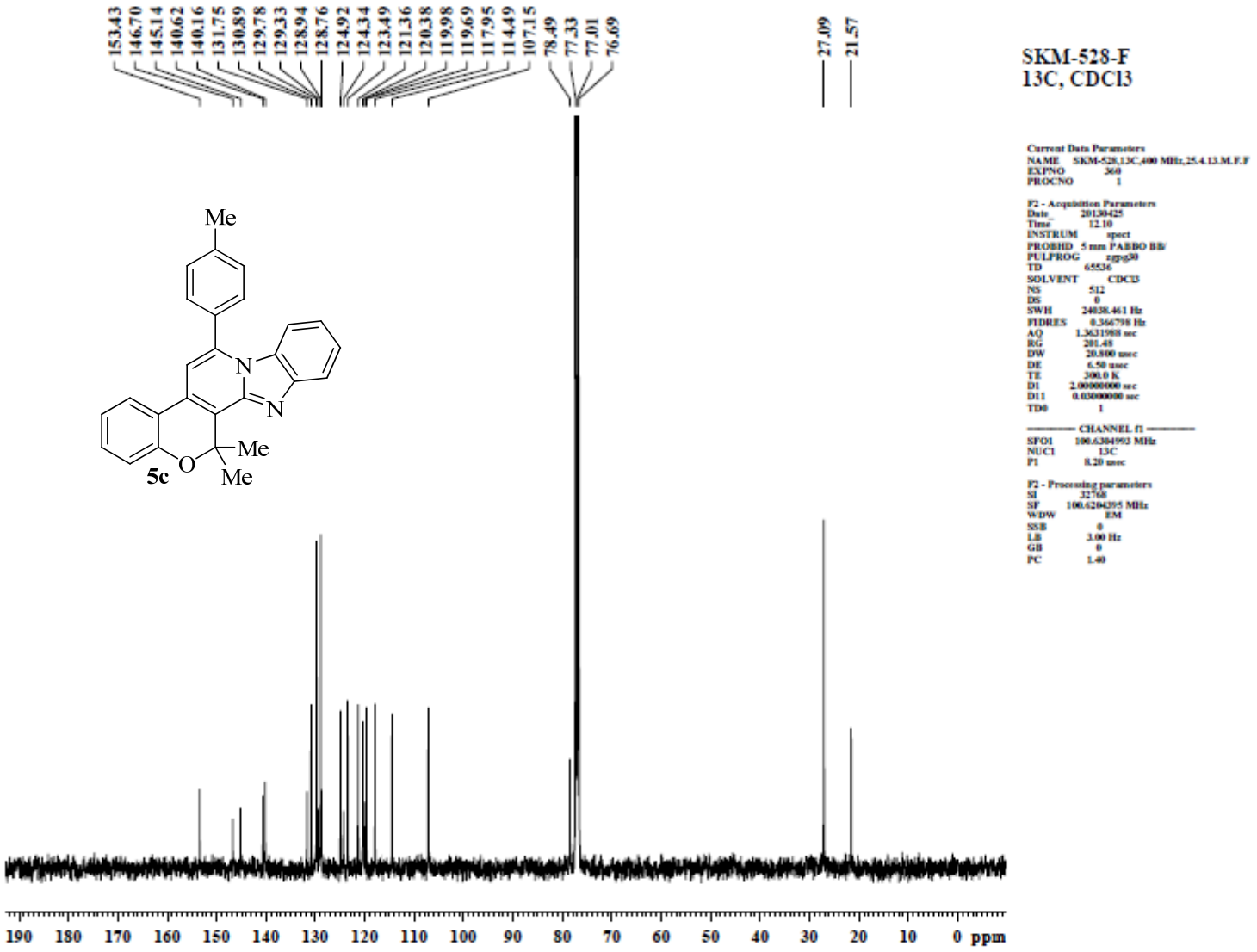

Figure 30: ^{13}C -NMR Spectrum of **5c.**

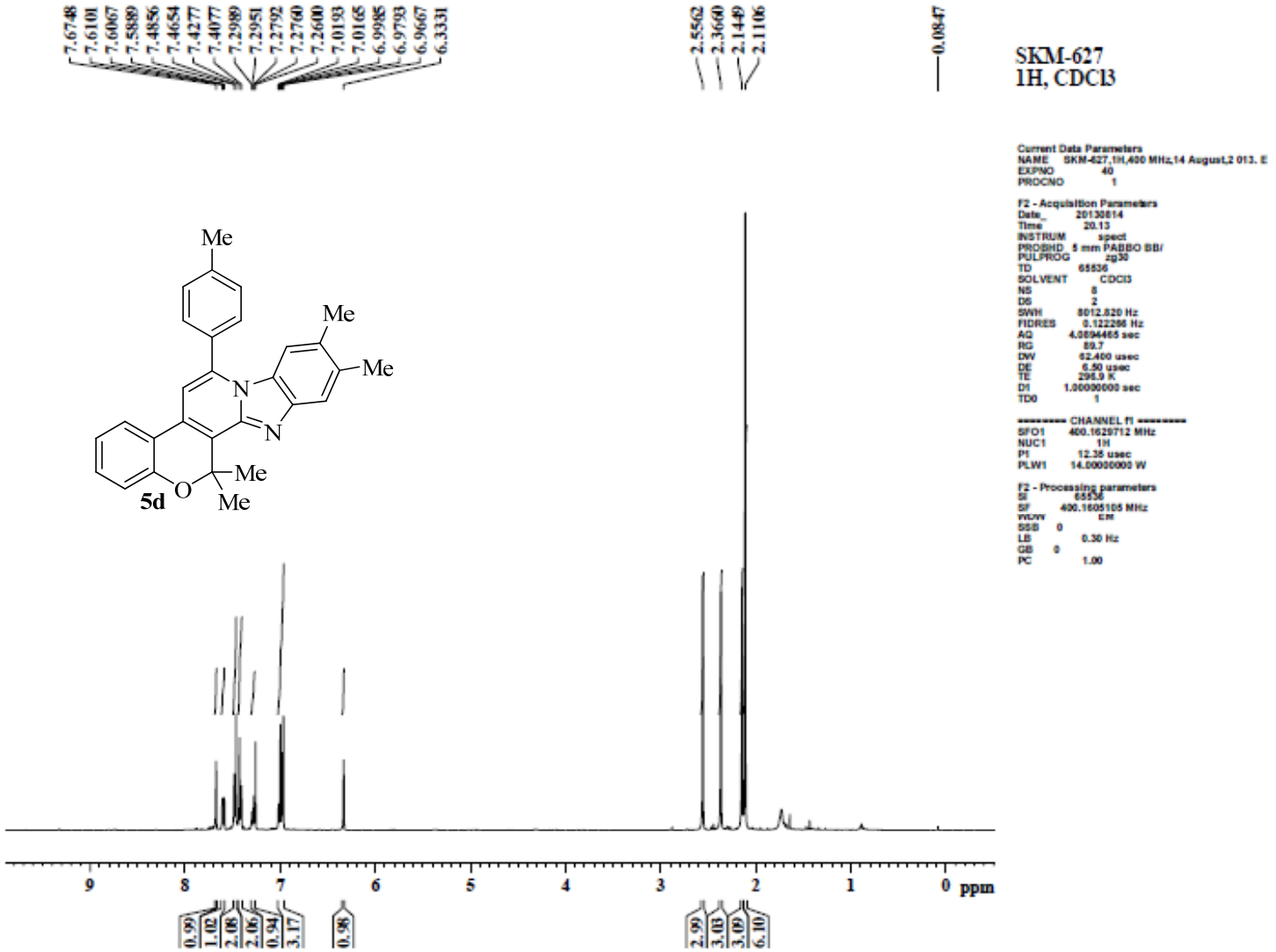

Figure 31: ^{1}H -NMR Spectrum of **5d.**

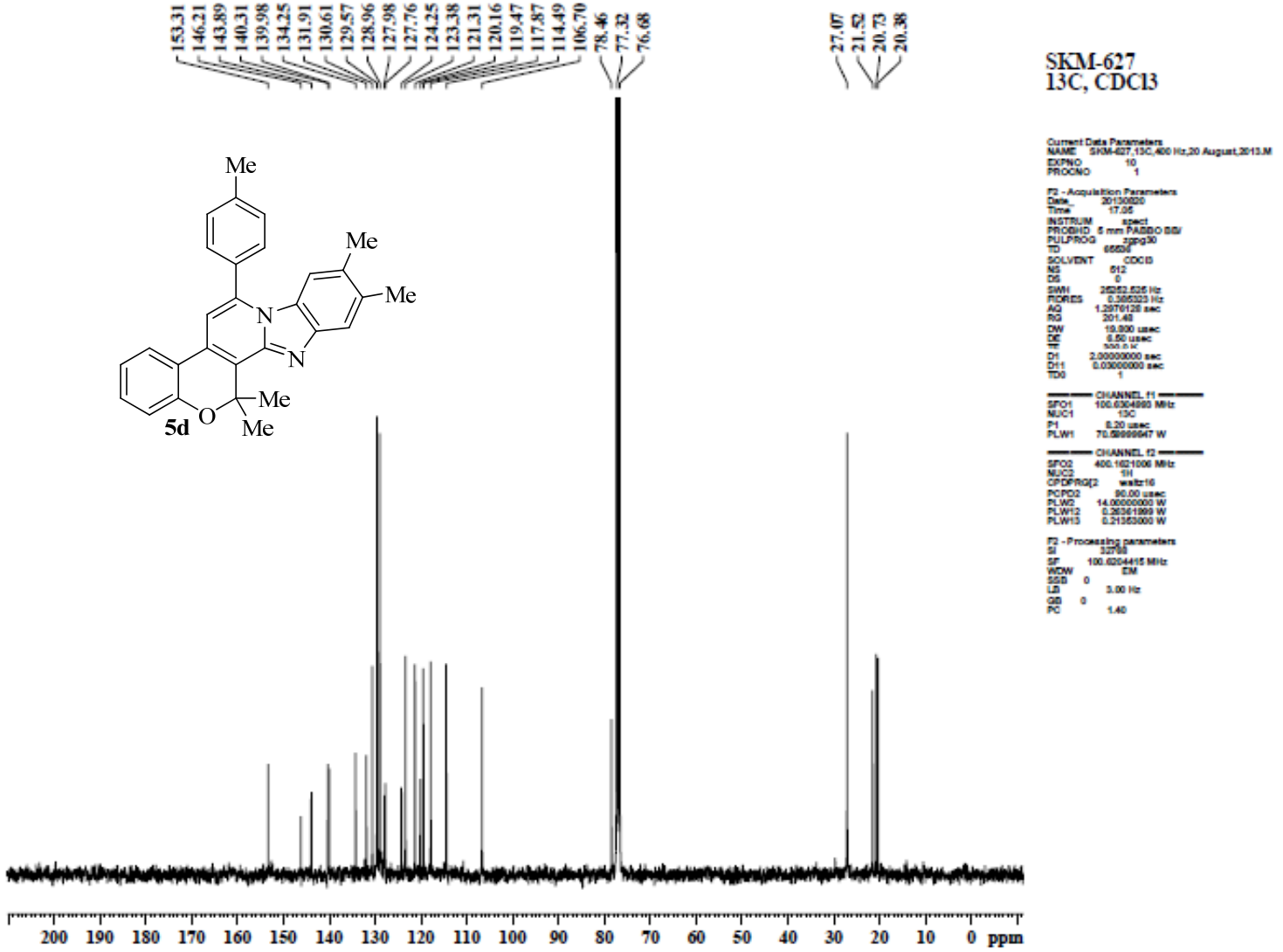

Figure 32: ^{13}C -NMR Spectrum of **5d.**

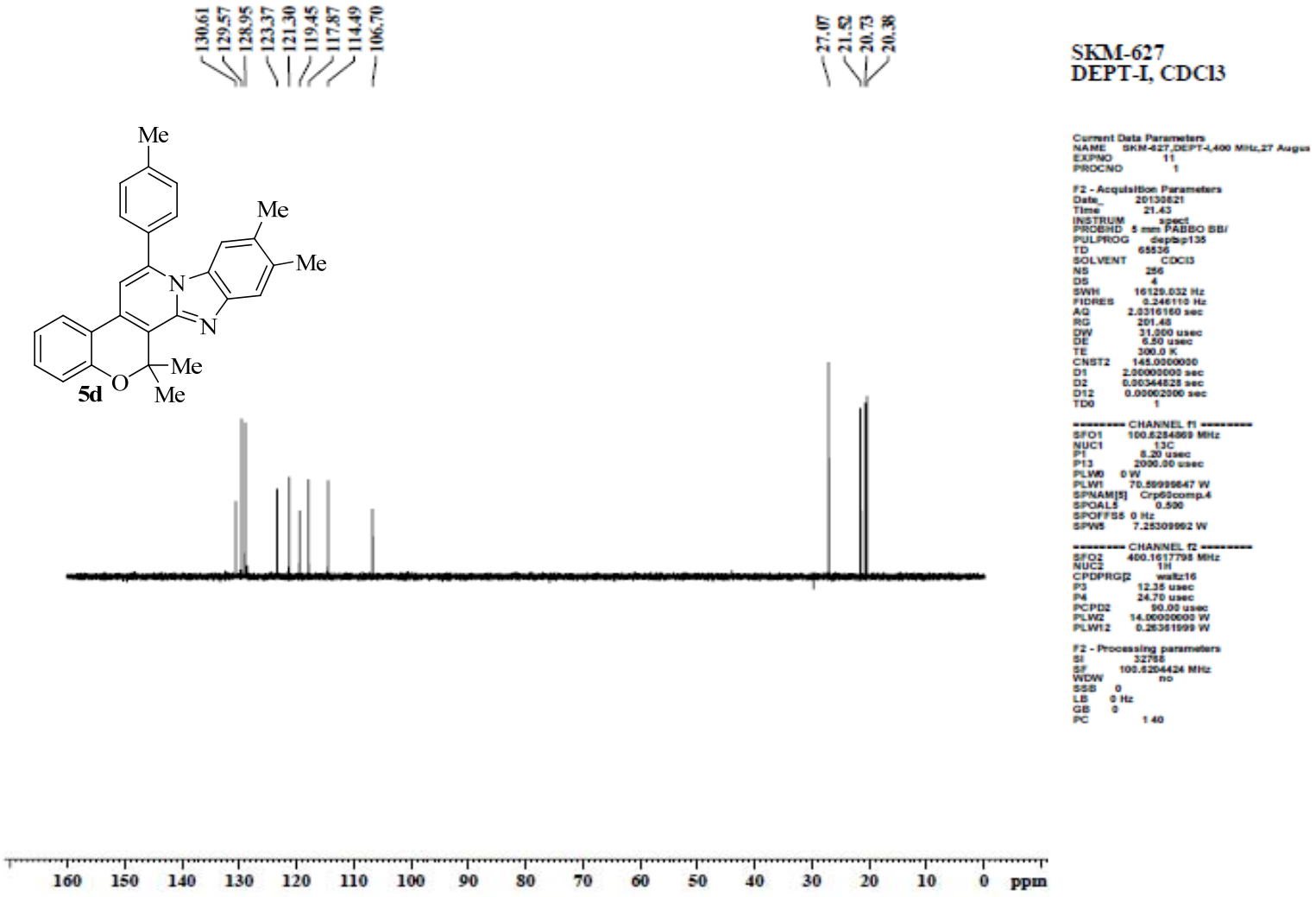

Figure 33: DEPT-I -Spectrum of **5d.**

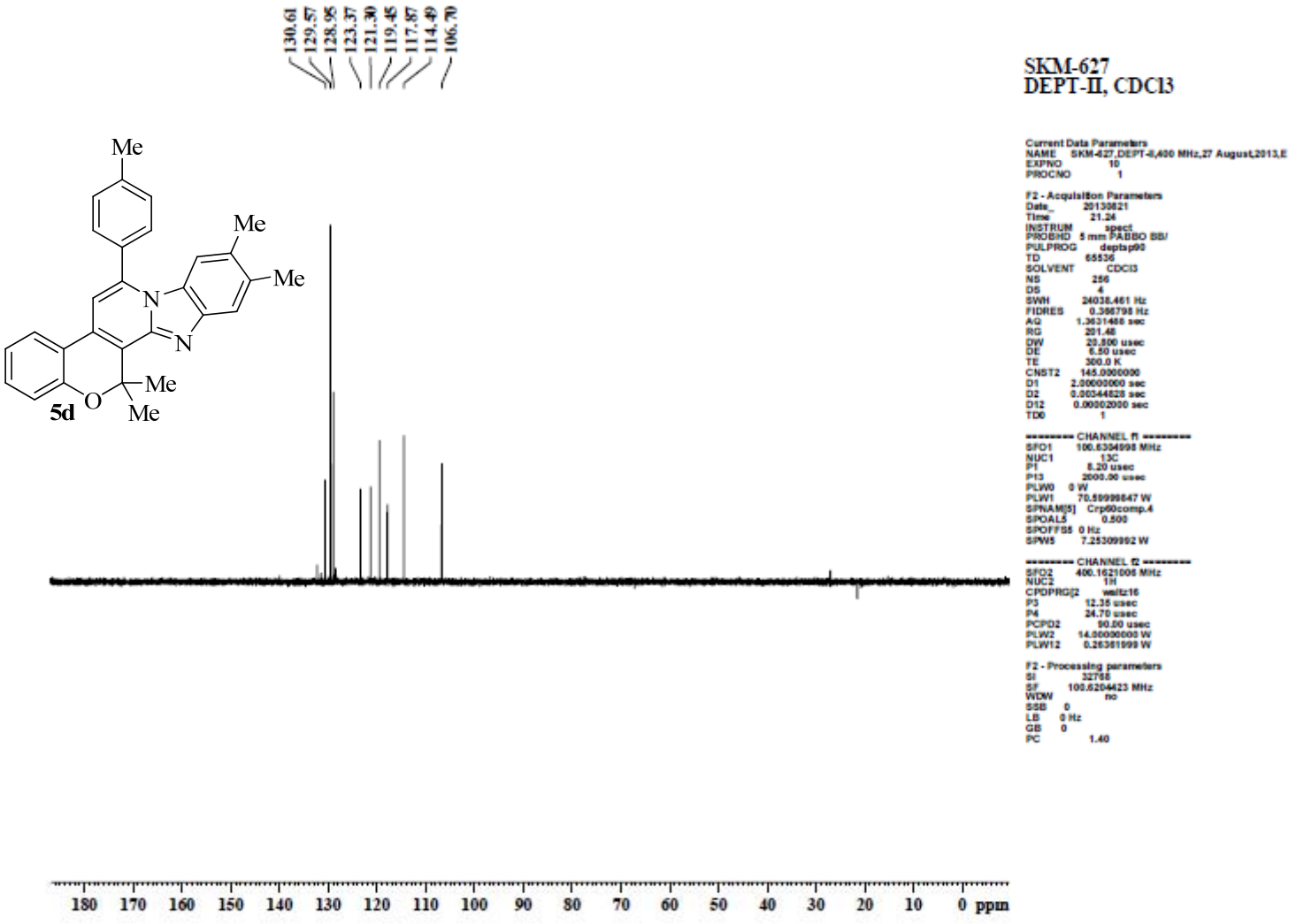

Figure 34: DEPT-II -Spectrum of **5d.**

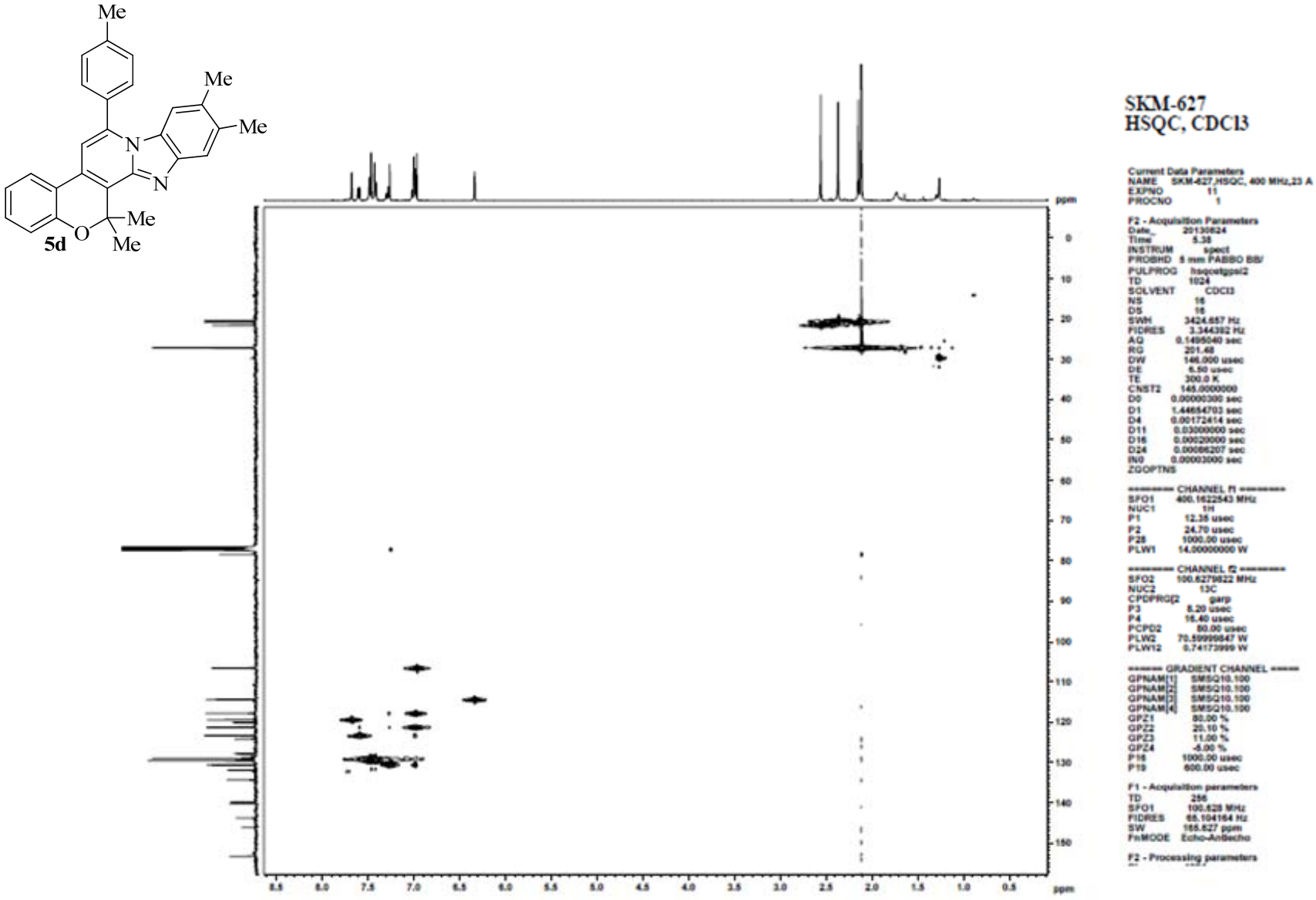

Figure 35: HSQC -Spectrum of **5d.**

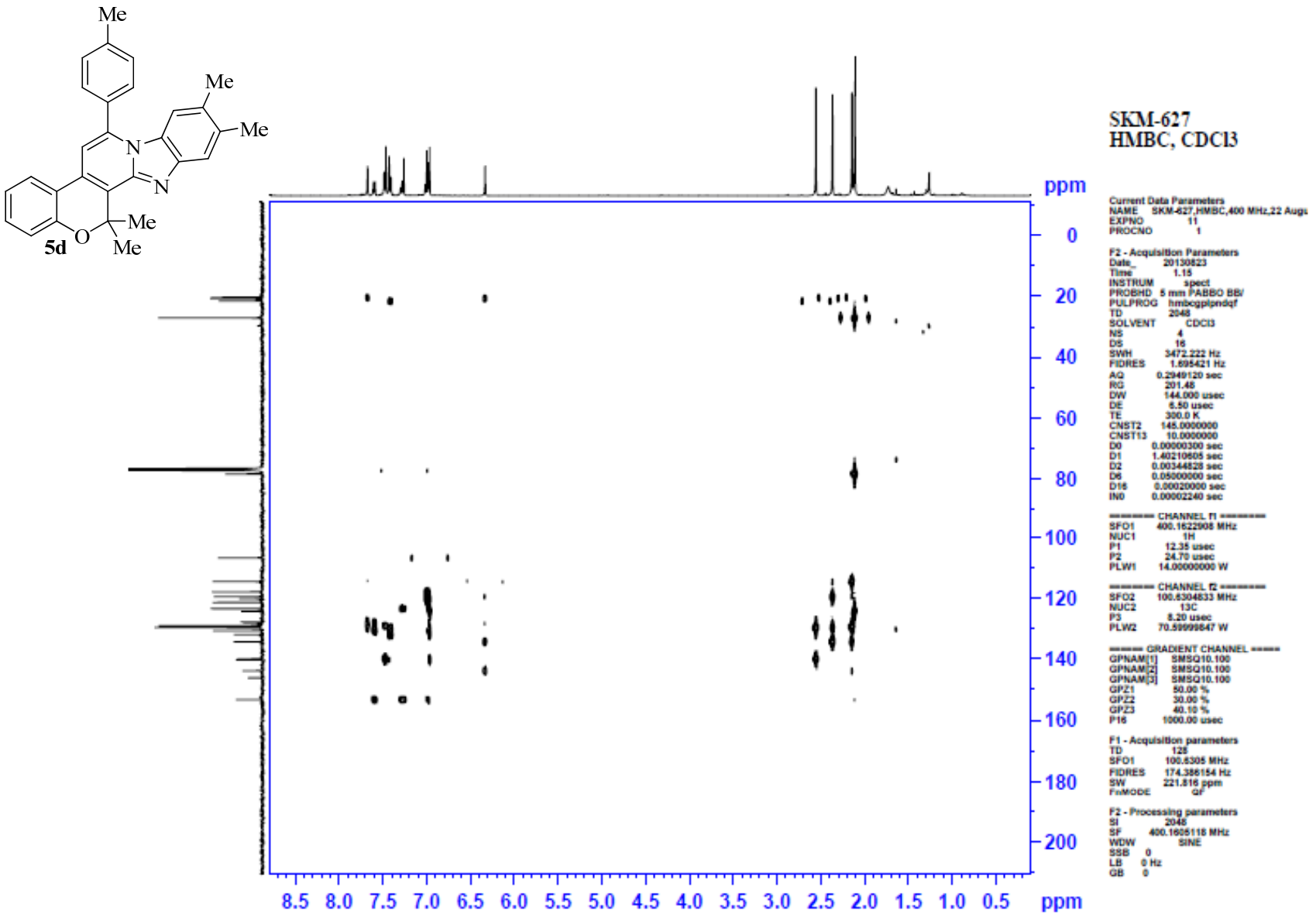

Figure 36: HMBC -Spectrum of **5d.**

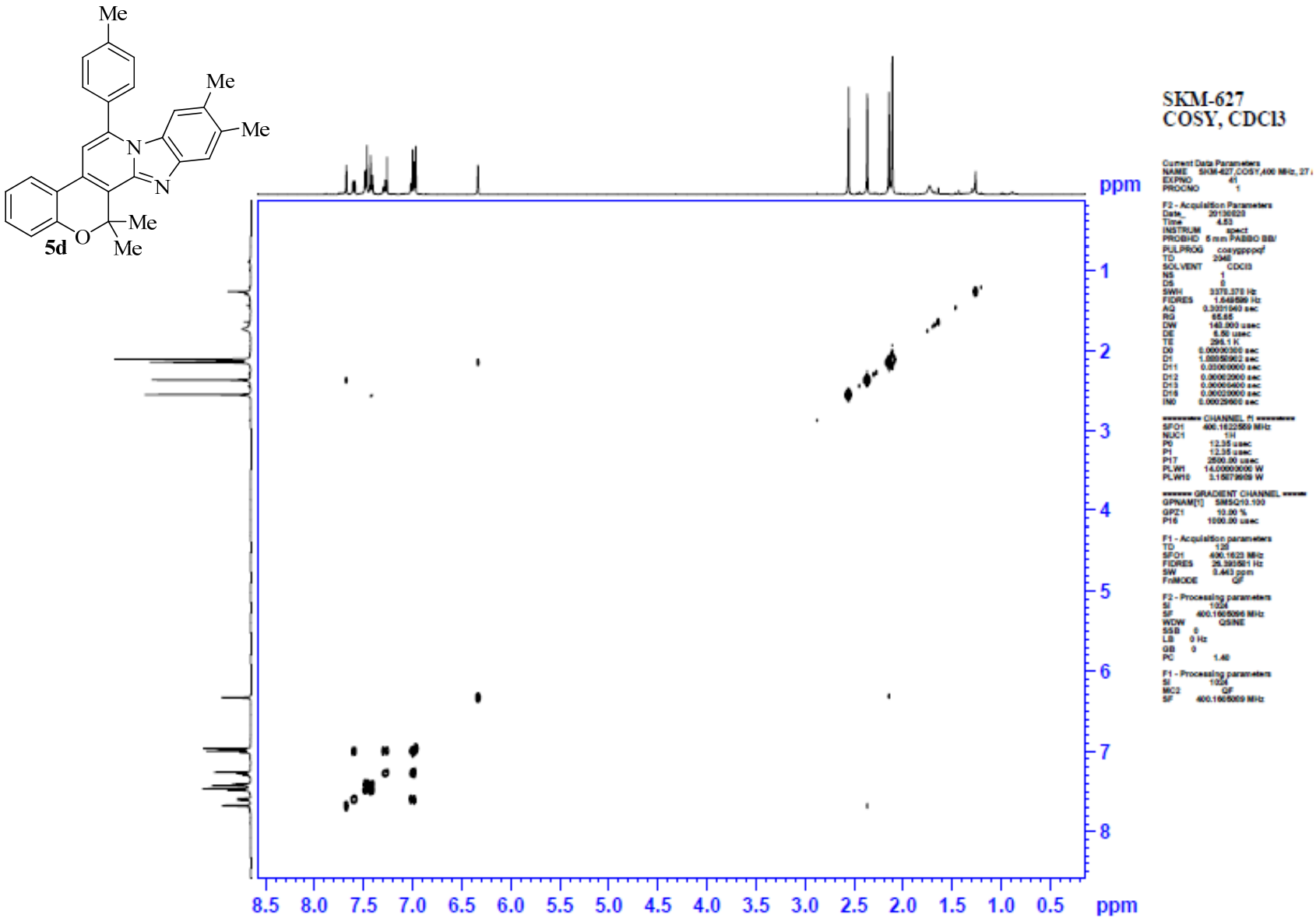

Figure 37: COSY -Spectrum of **5d.**

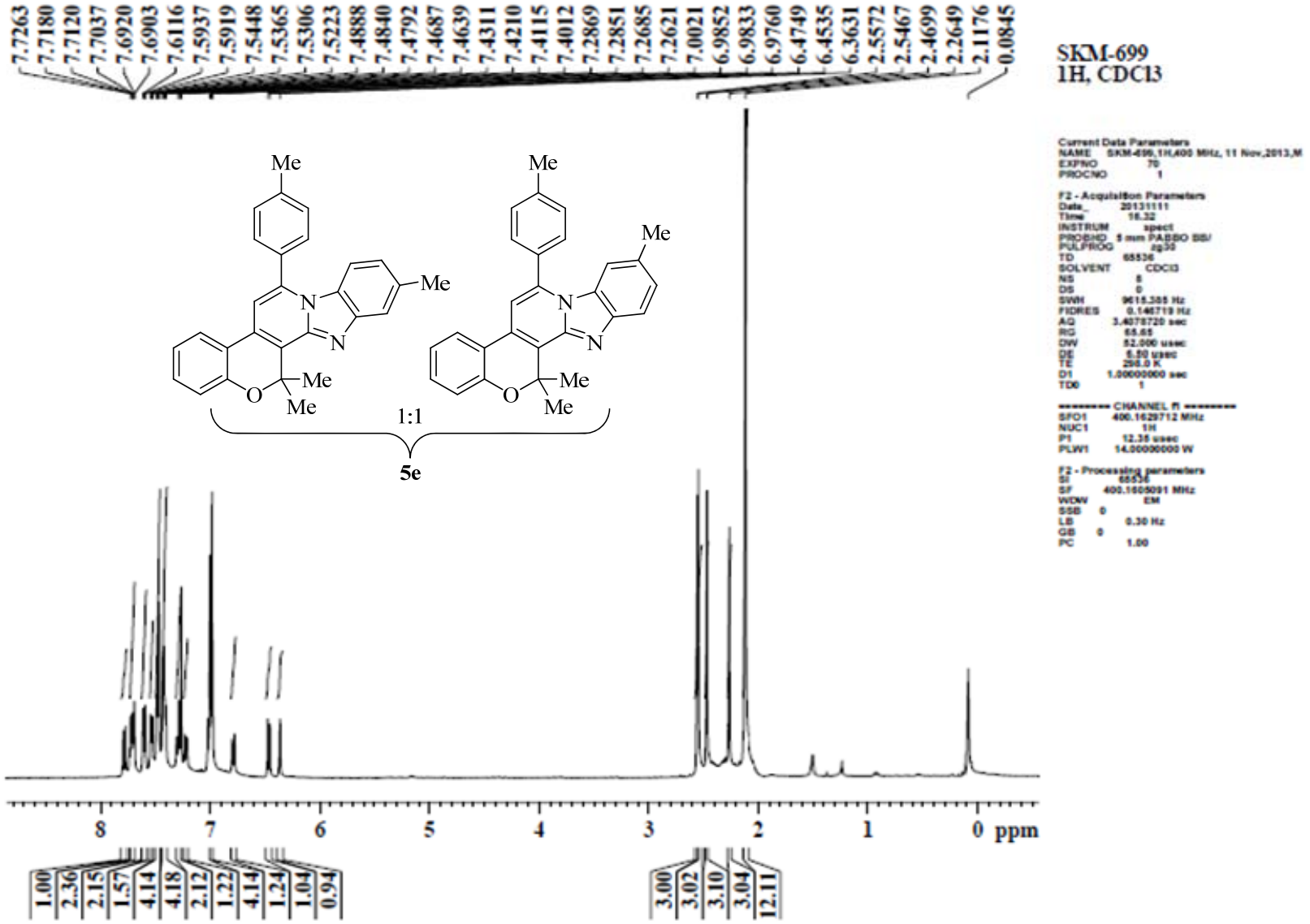

Figure 38: ^{1}H -NMR Spectrum of **5e.**

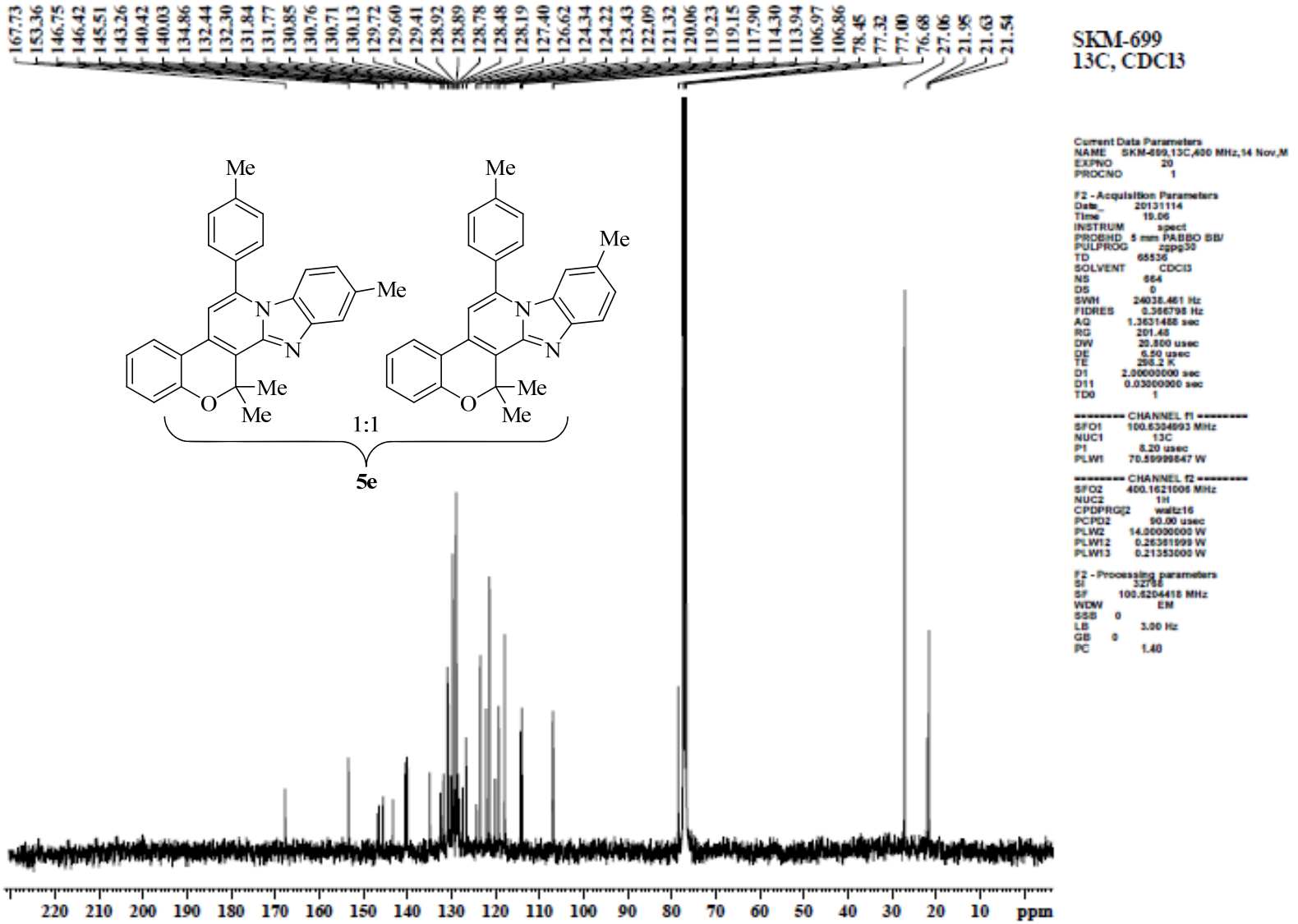

Figure 39: ^{13}C -NMR Spectrum of **5e.**

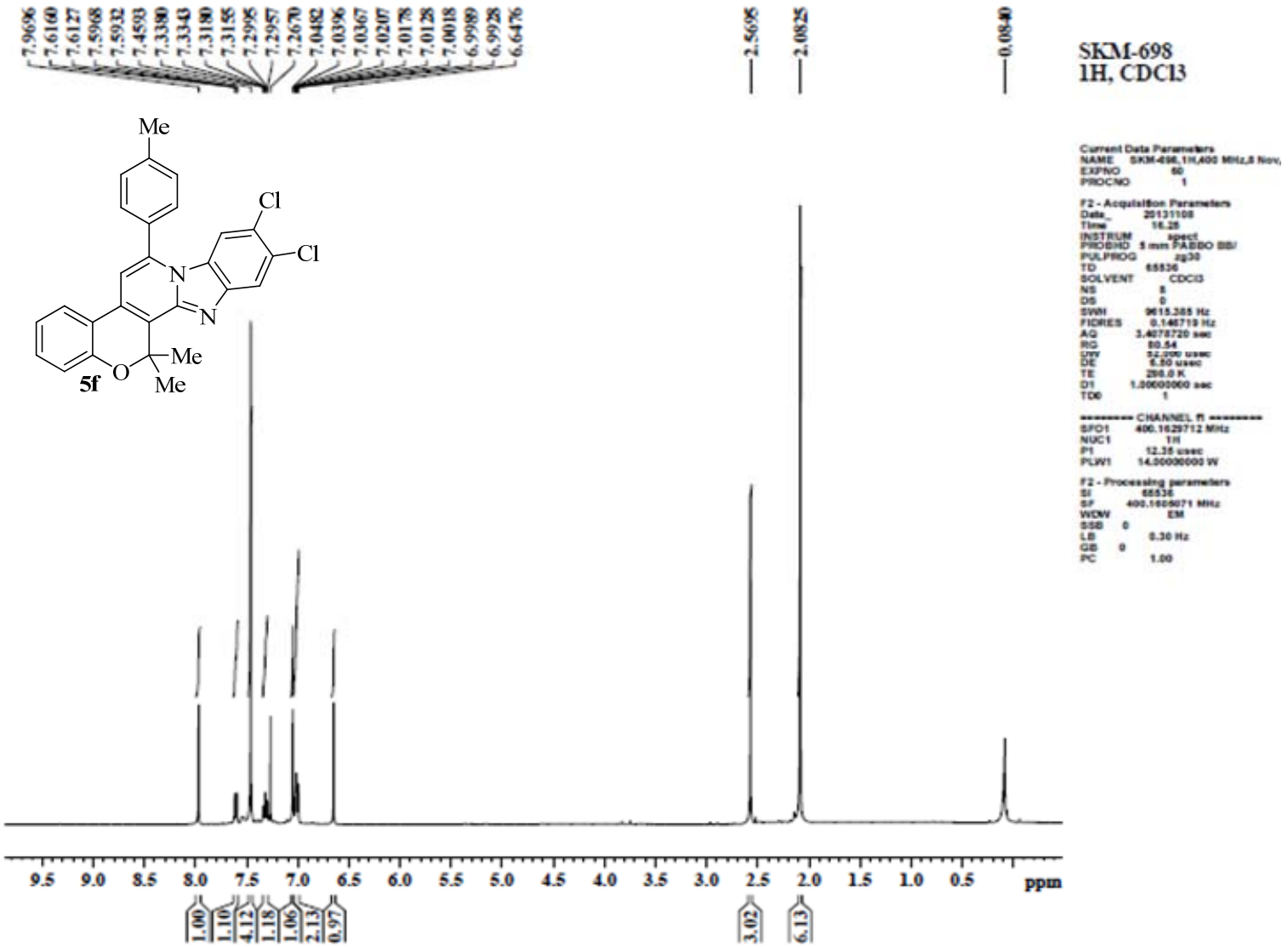

Figure 40: ^{1}H -NMR Spectrum of **5f.**

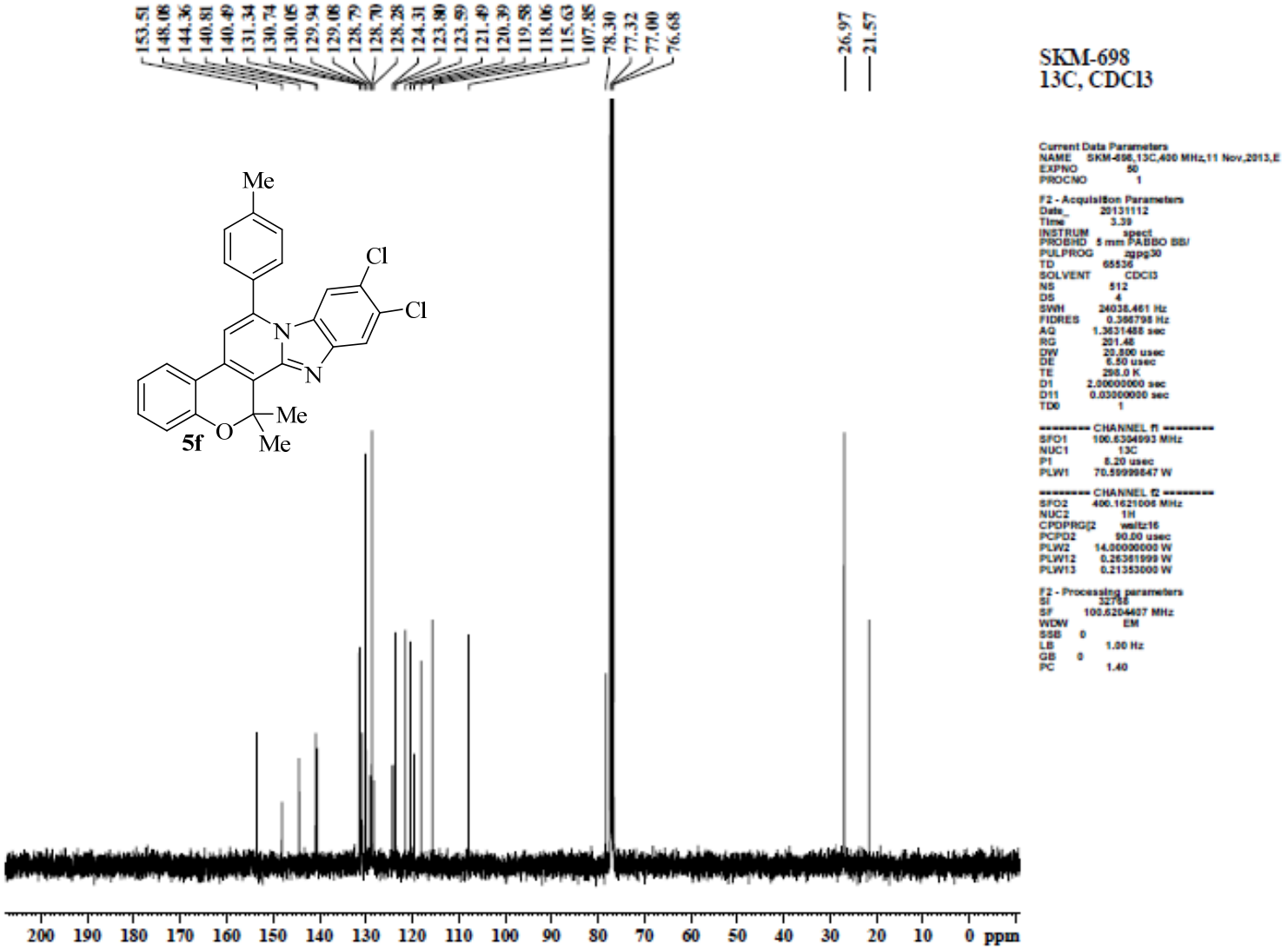

Figure 41: ^{13}C -NMR Spectrum of **5f.**

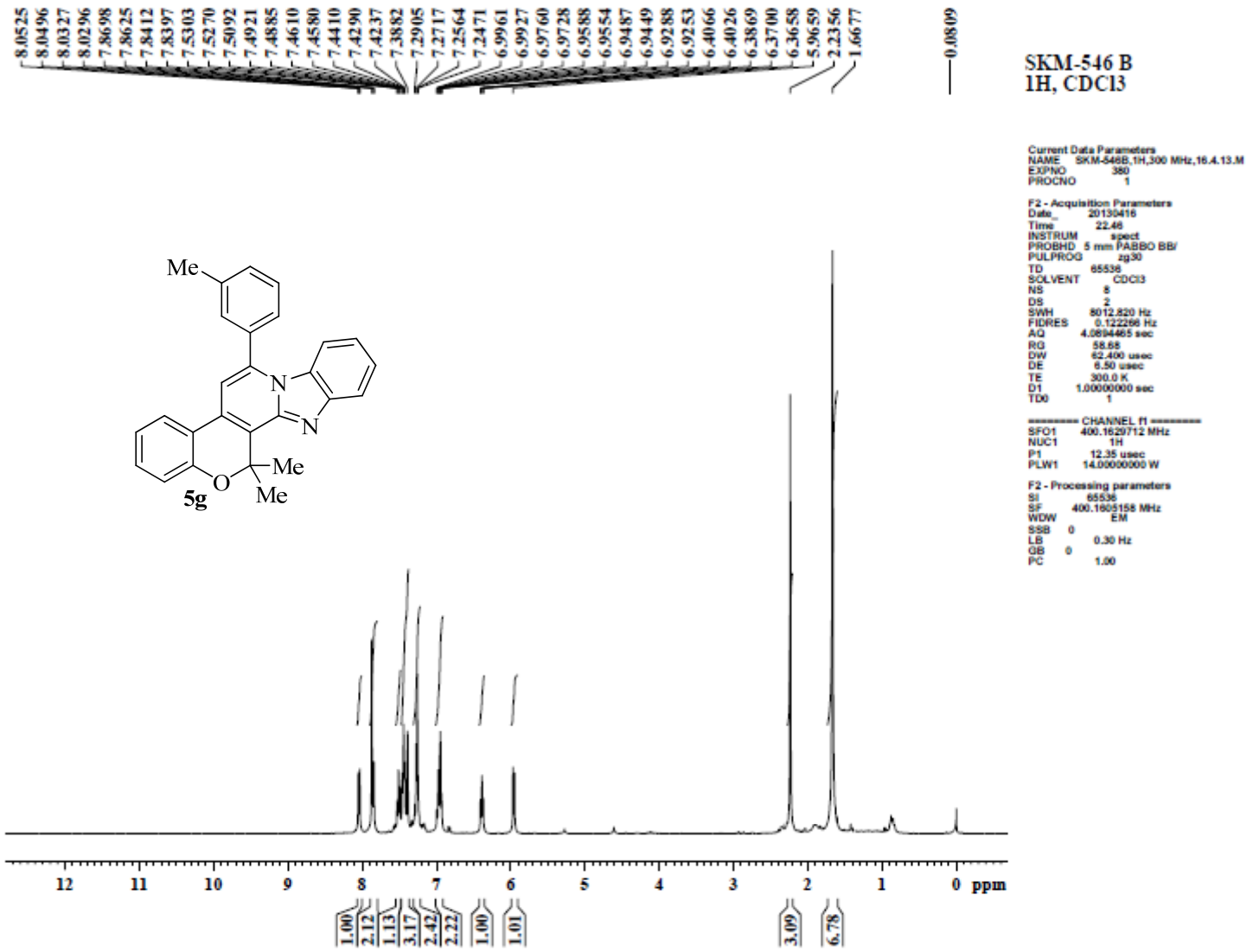

Figure 42: ^{1}H -NMR Spectrum of **5g.**

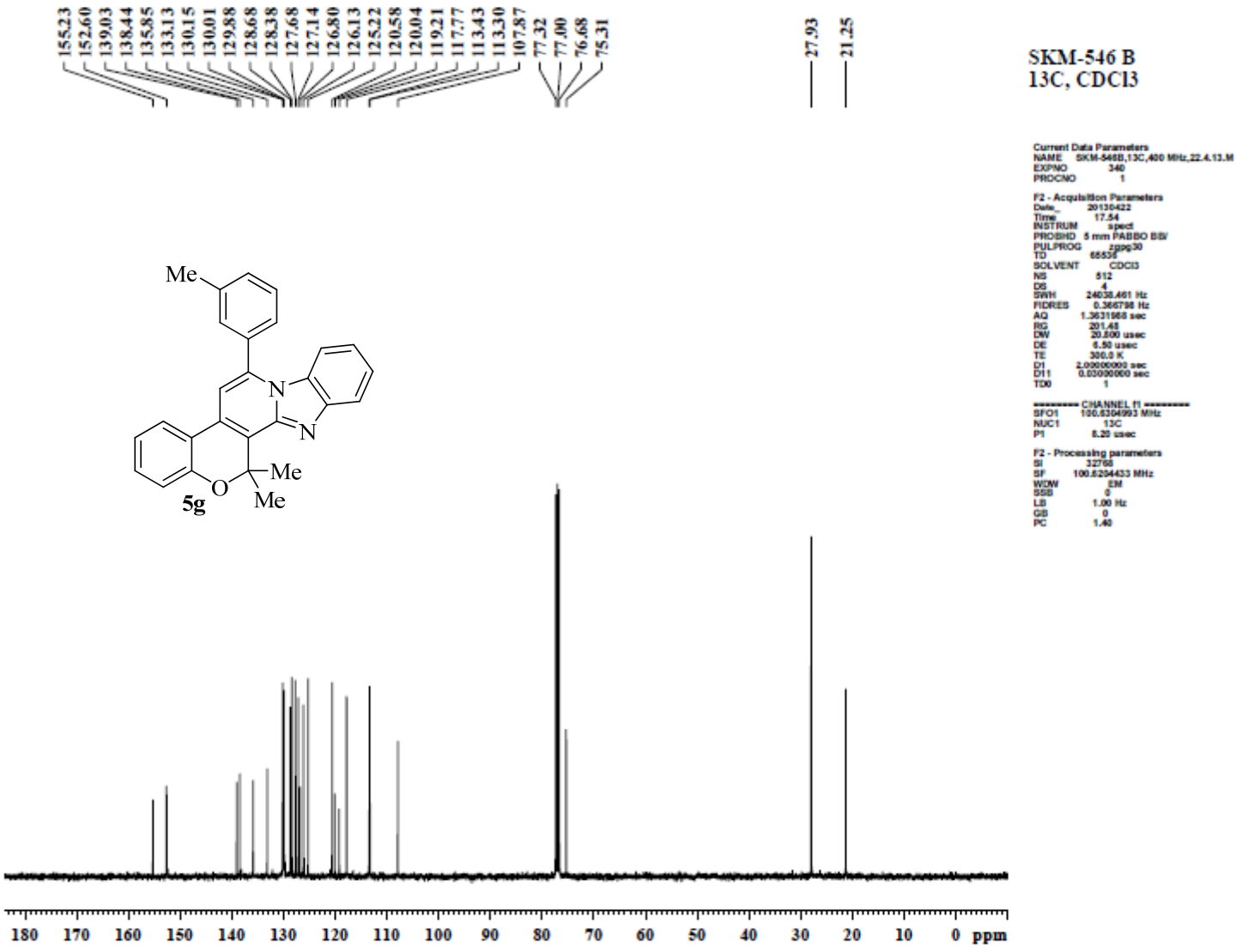

Figure 43: ^{13}C -NMR Spectrum of **5g.**

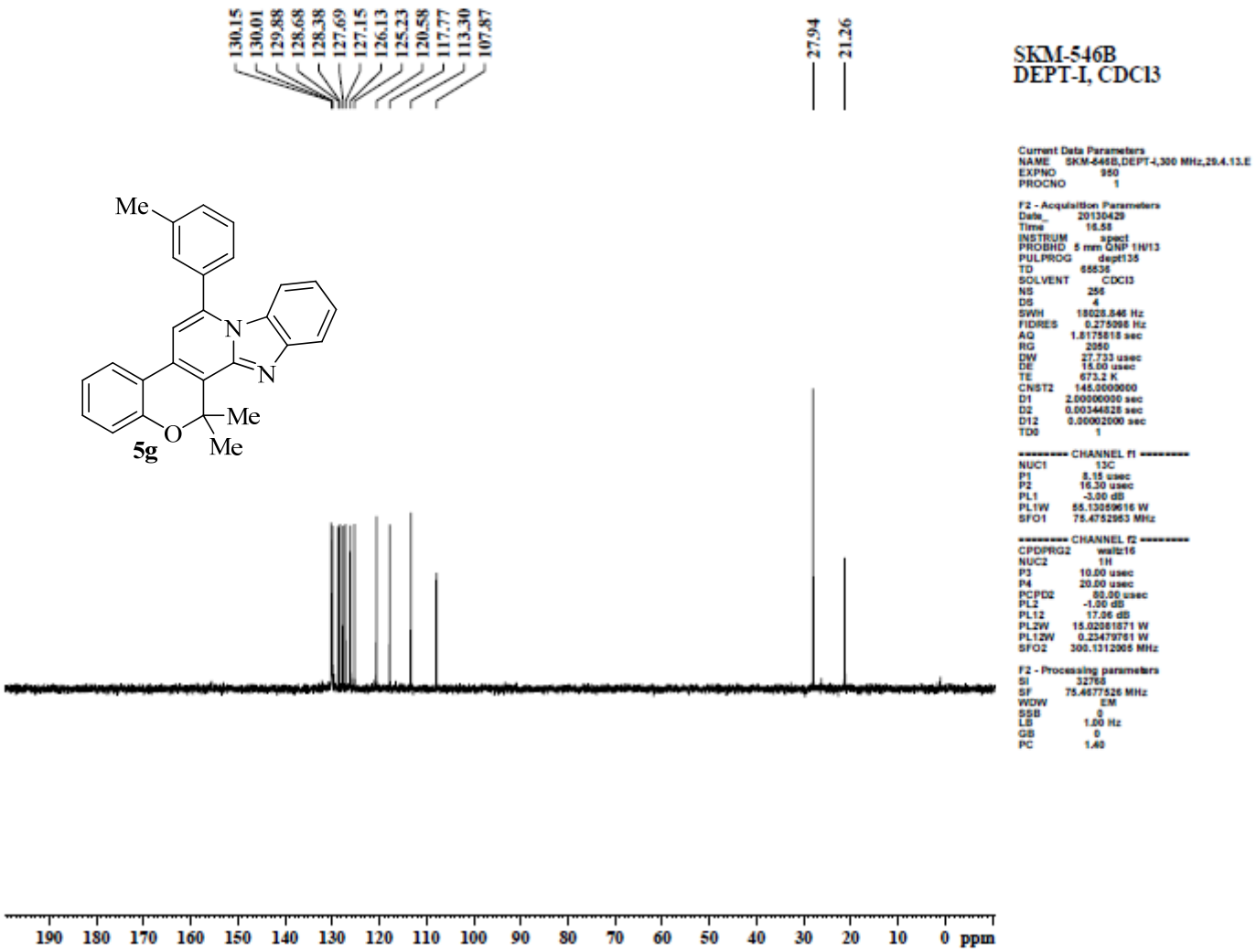

Figure 44: DEPT -I -Spectrum of **5g.**

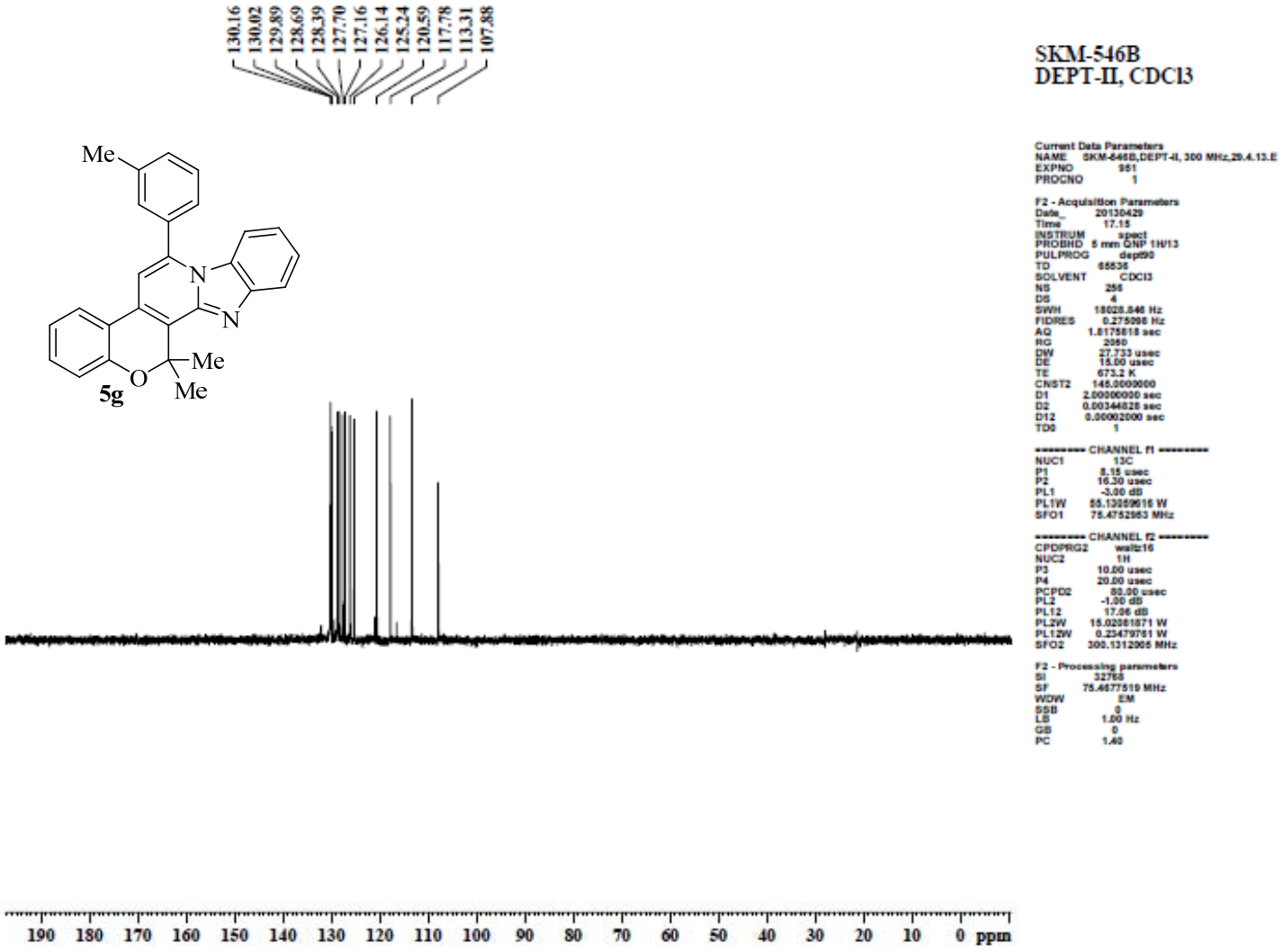

Figure 45: DEPT -II -Spectrum of **5g.**

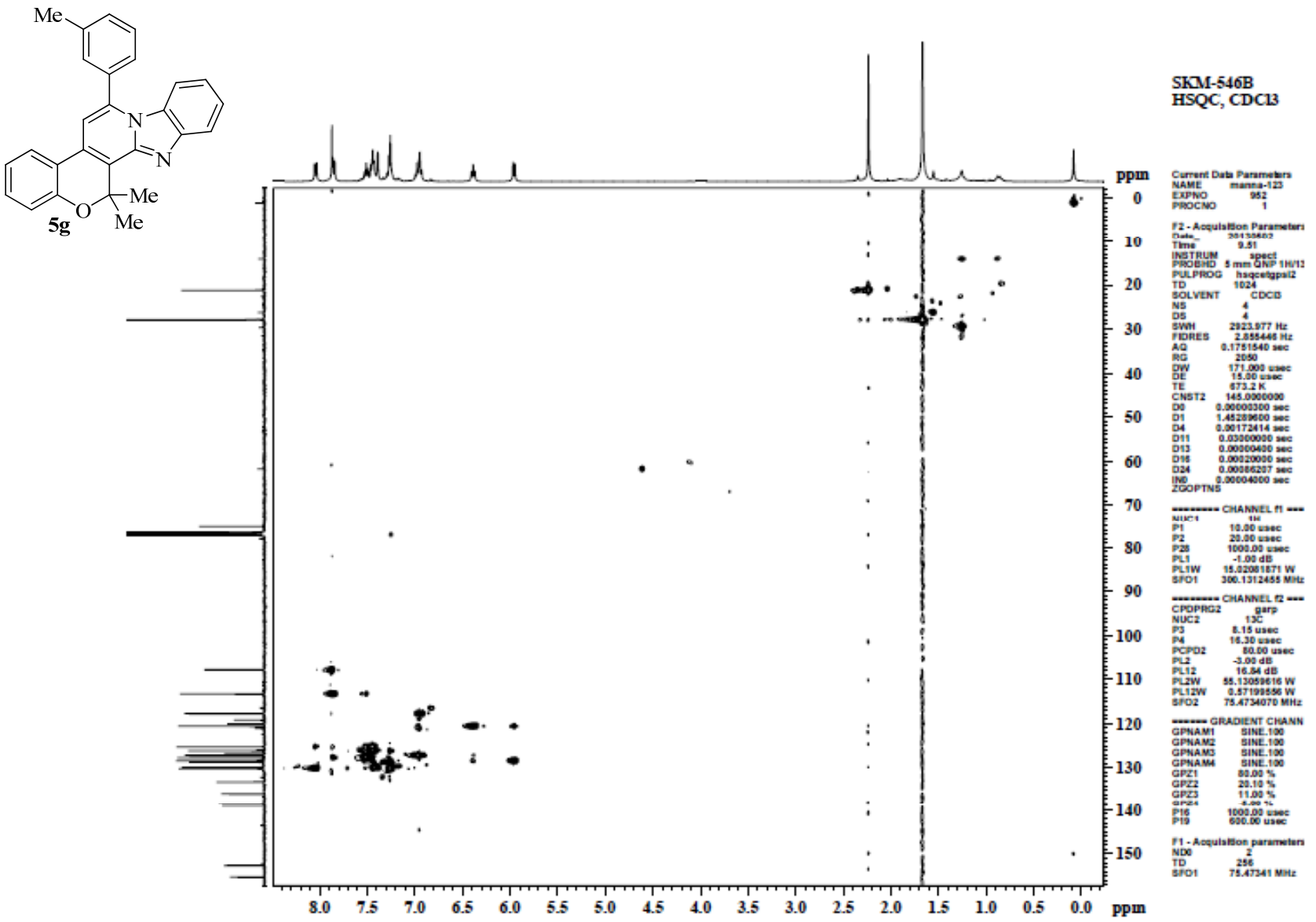

Figure 46: HSQC -Spectrum of **5g.**

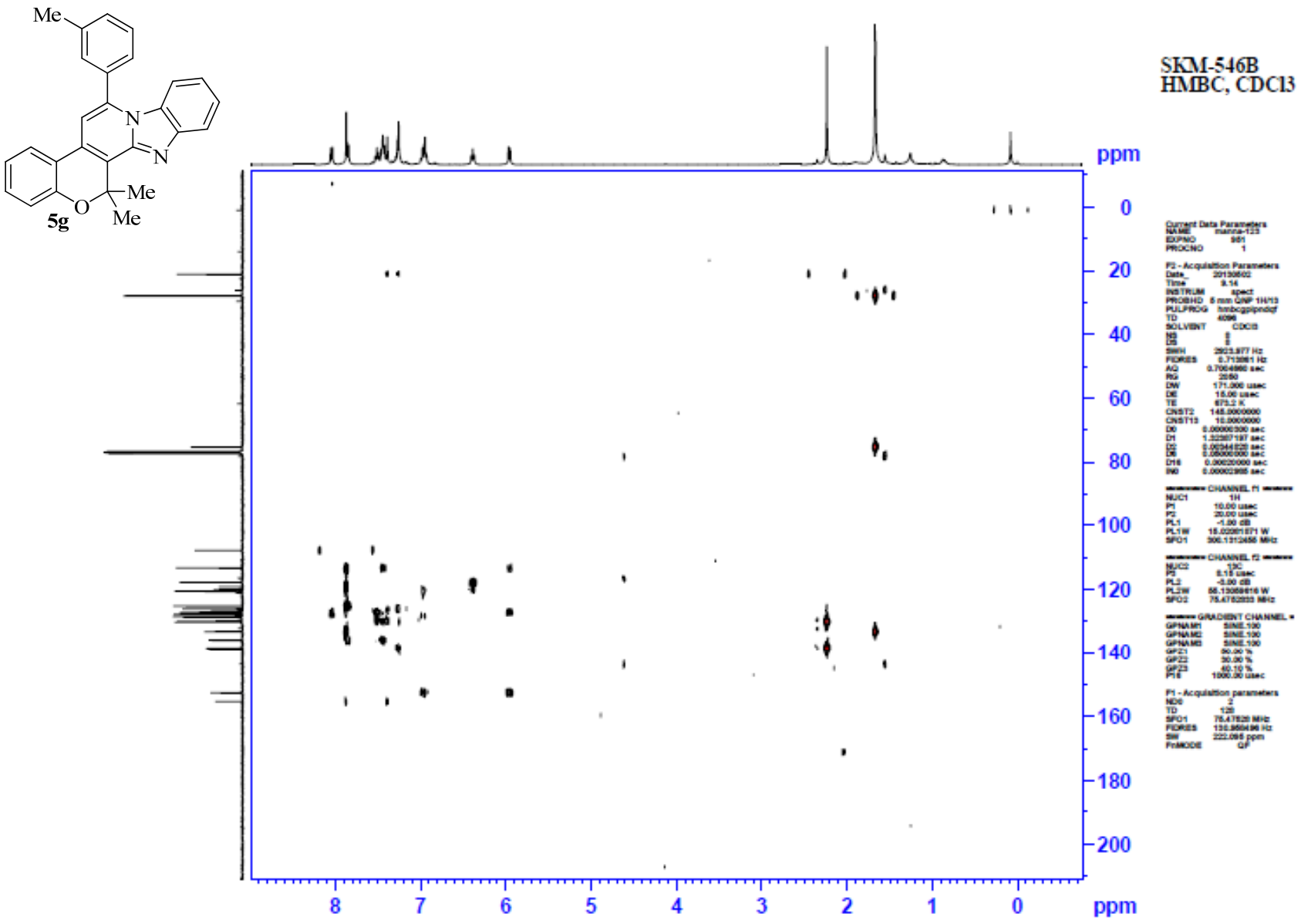

Figure 47: HMBC -Spectrum of **5g.**

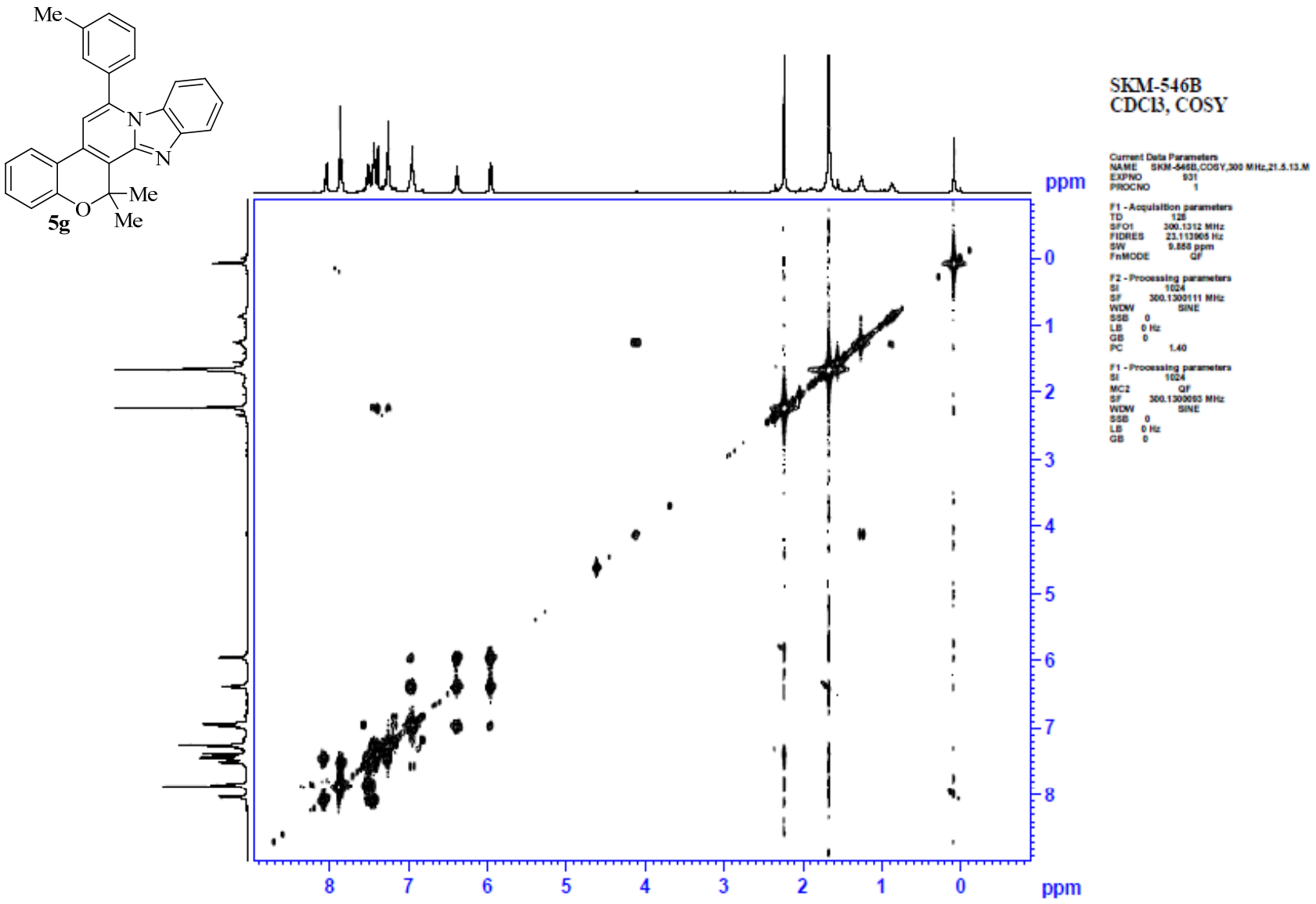

Figure 48: COSY -Spectrum of **5g.**

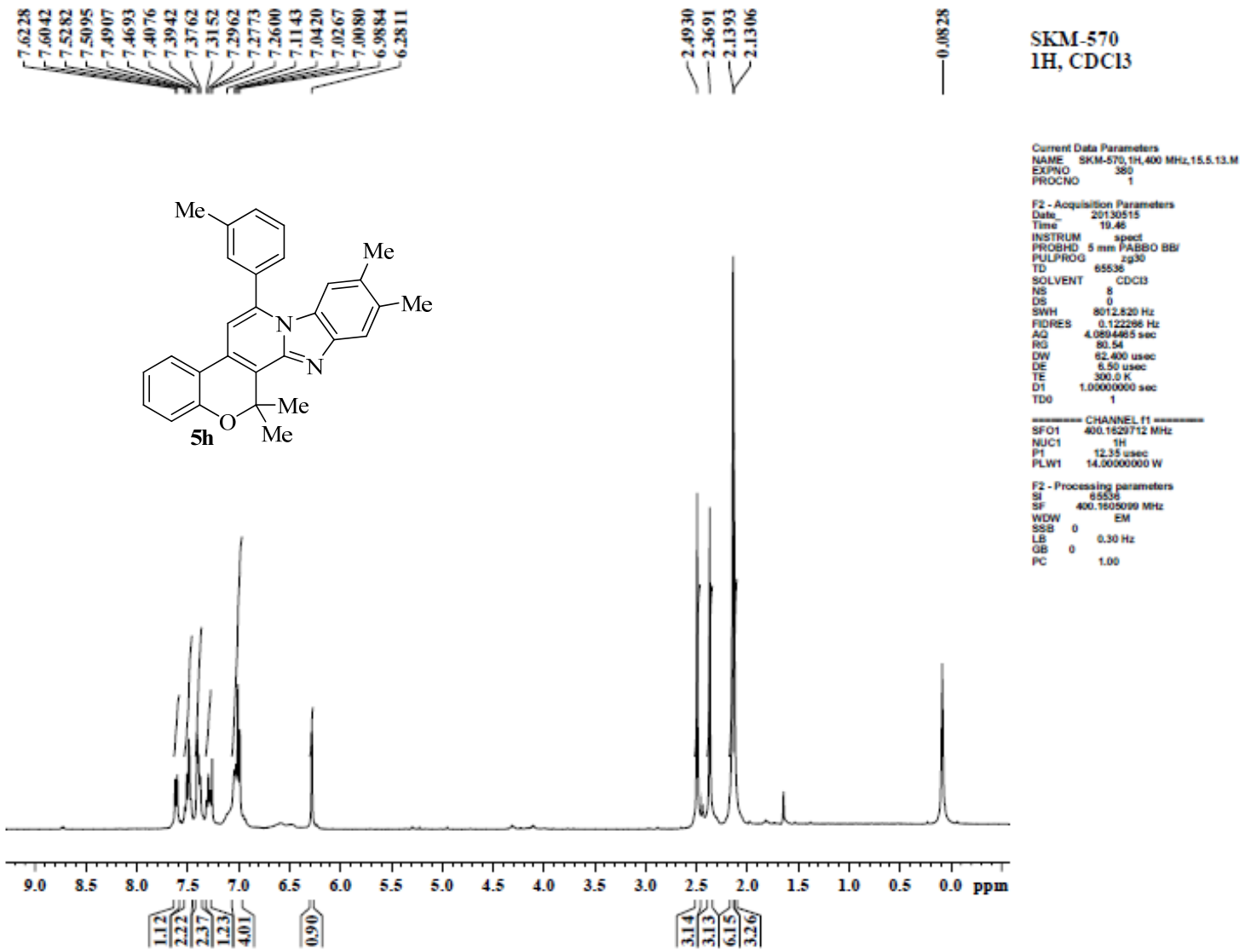

Figure 49: ^{1}H -NMR Spectrum of **5h.**

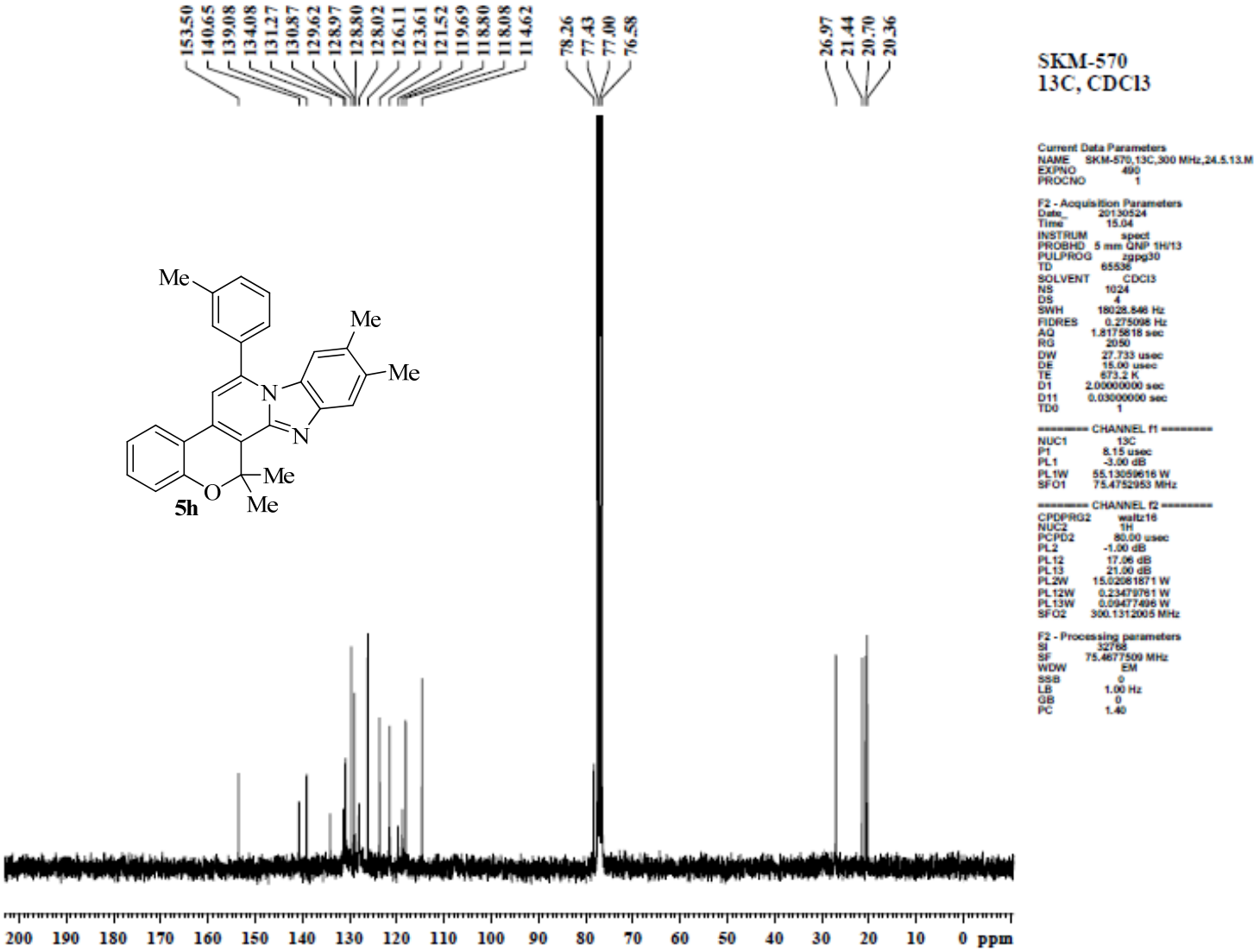

Figure 50: ^{13}C -NMR Spectrum of **5h.**

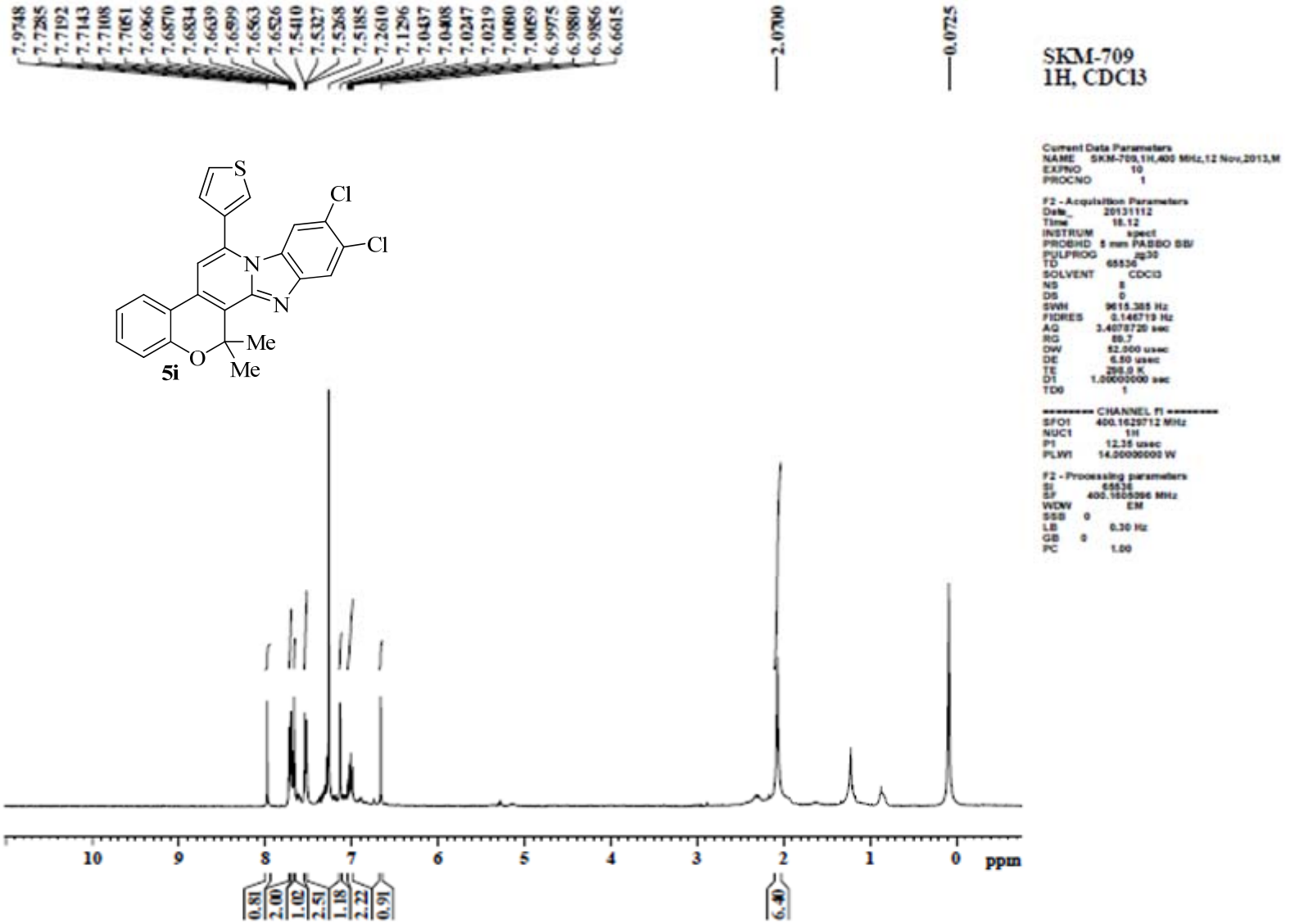

Figure 51: ^{1}H -NMR Spectrum of **5i.**

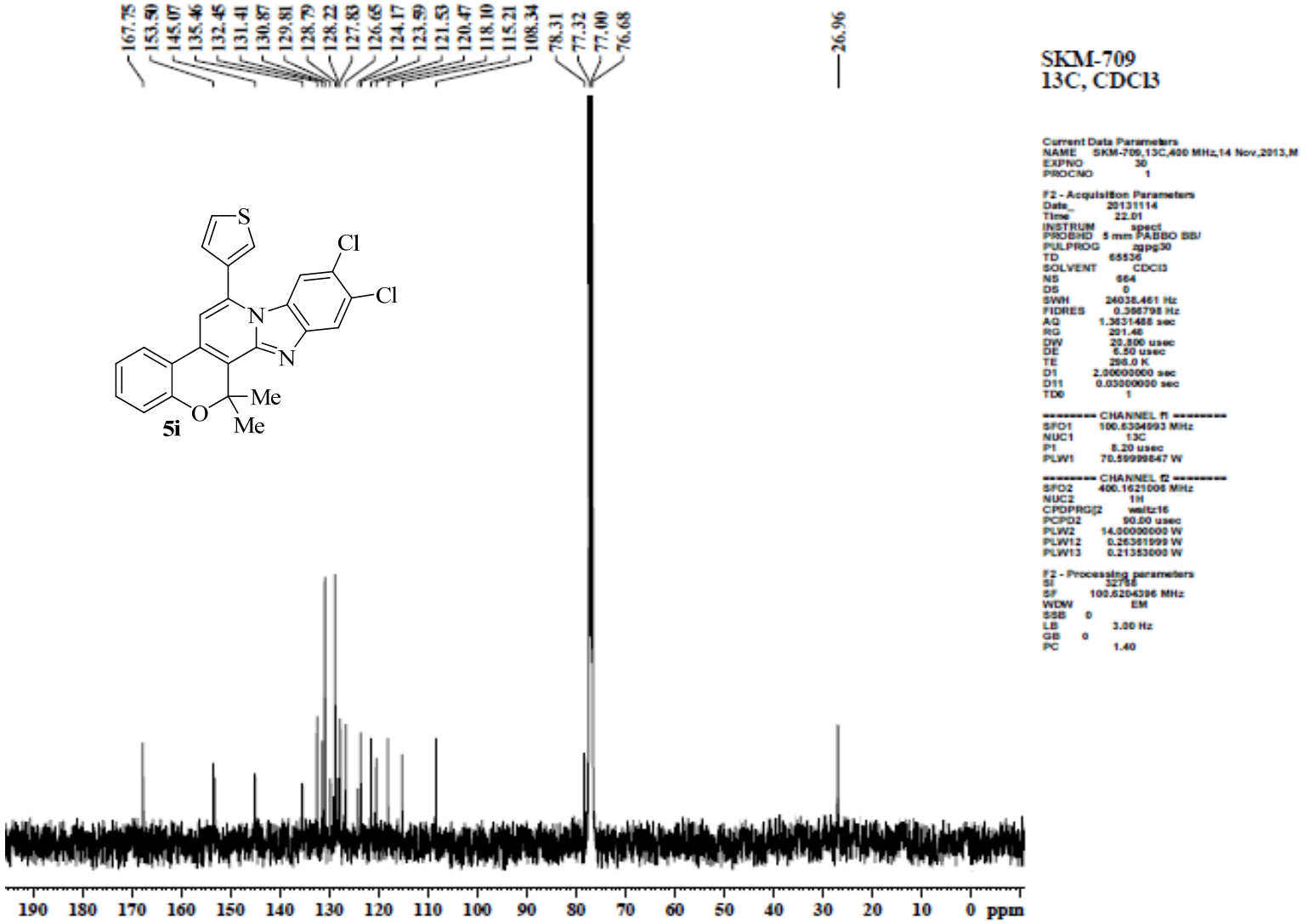

Figure 52: ^{13}C -NMR Spectrum of **5i.**

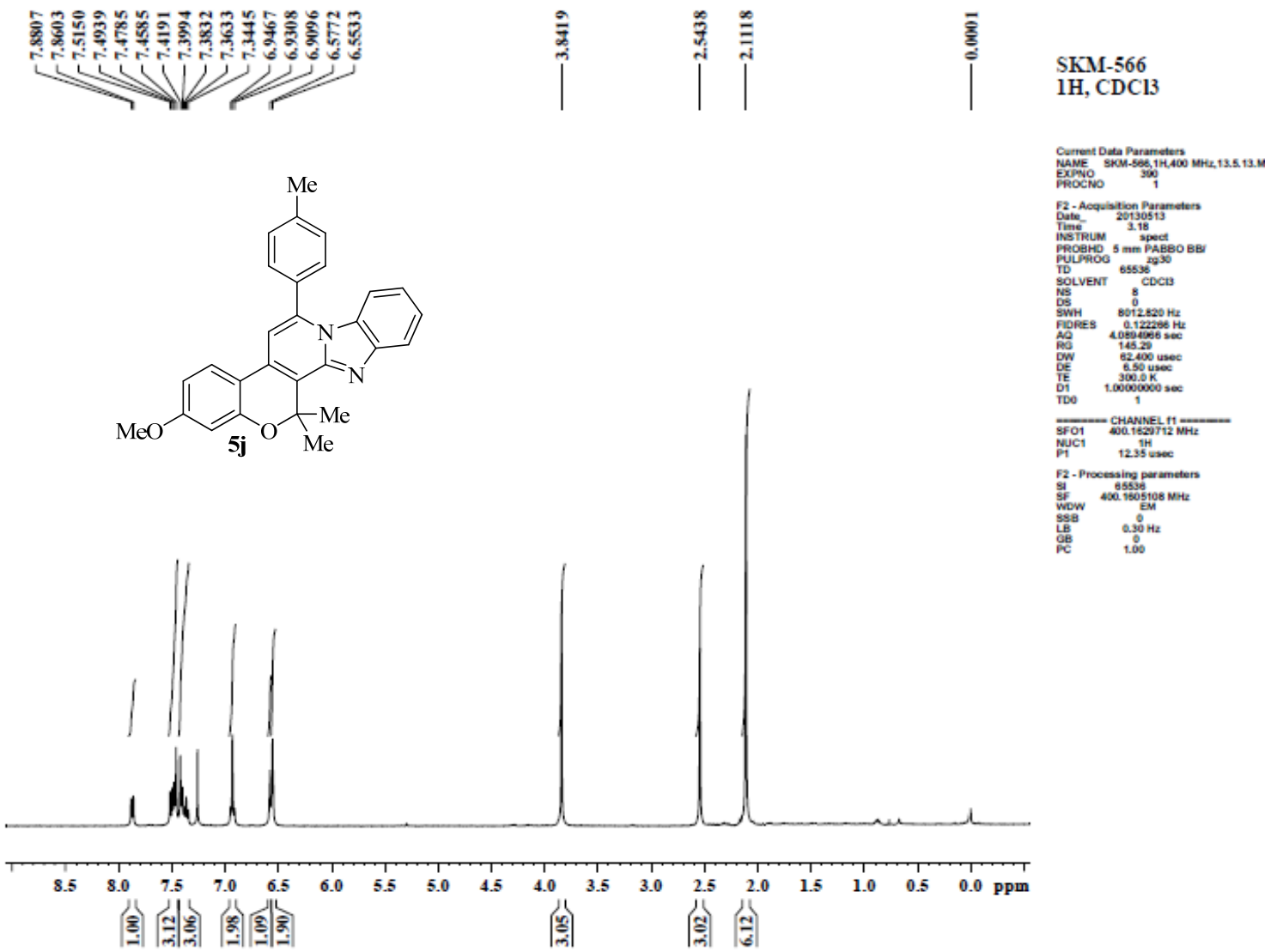

Figure 53: ^{1}H -NMR Spectrum of **5j.**

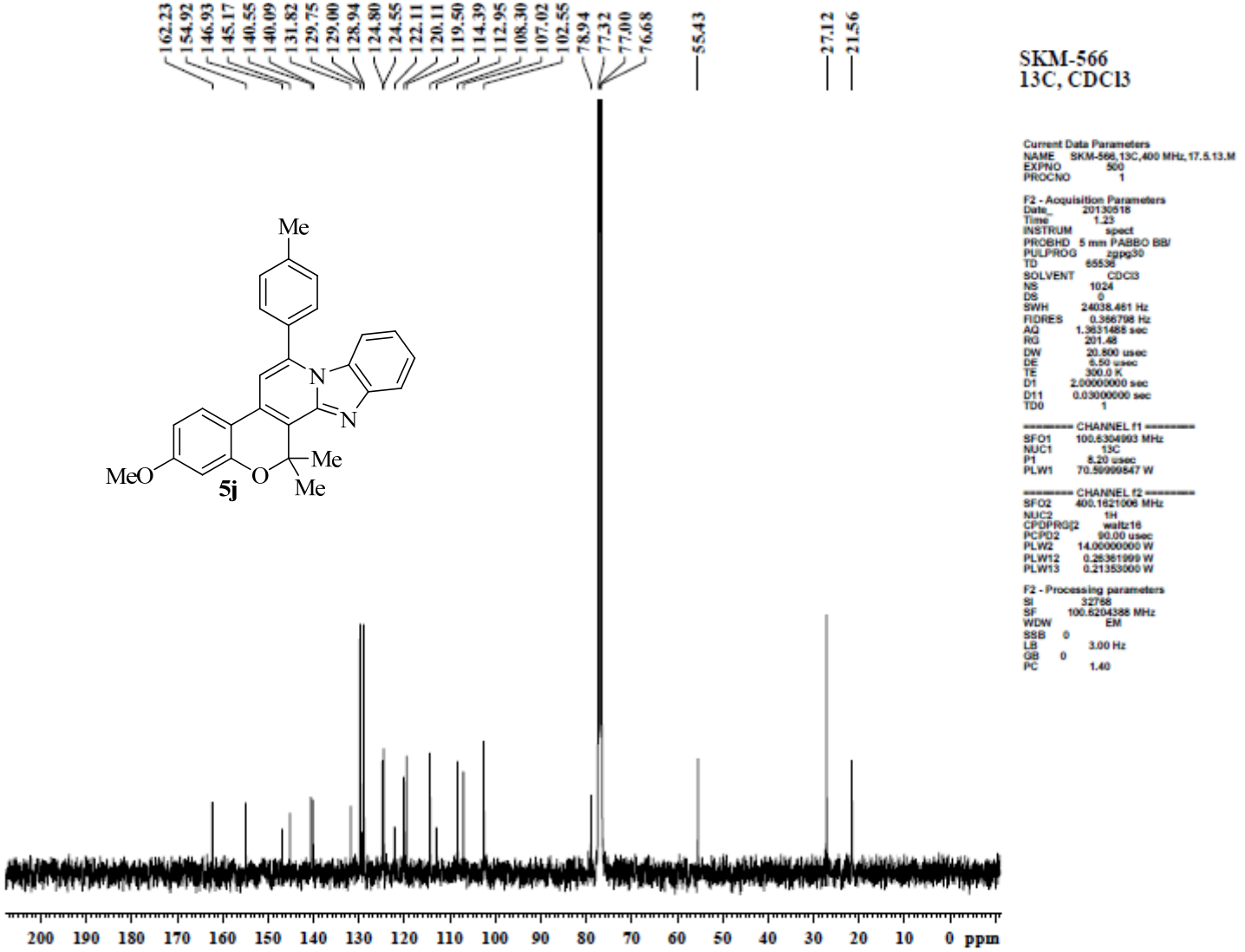

Figure 54: ^{13}C -NMR Spectrum of **5j.**

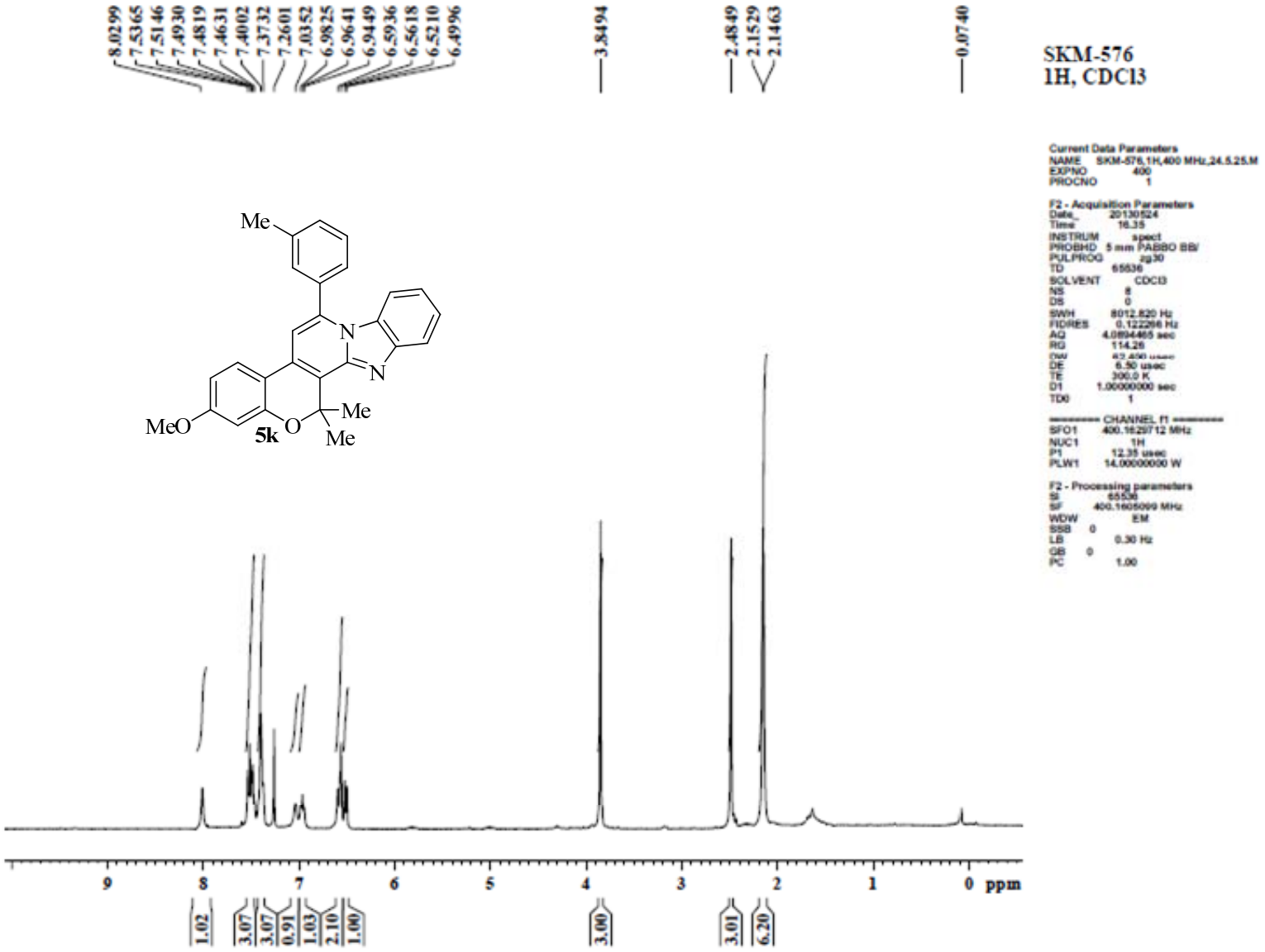

Figure 55: ^{1}H -NMR Spectrum of **5k.**

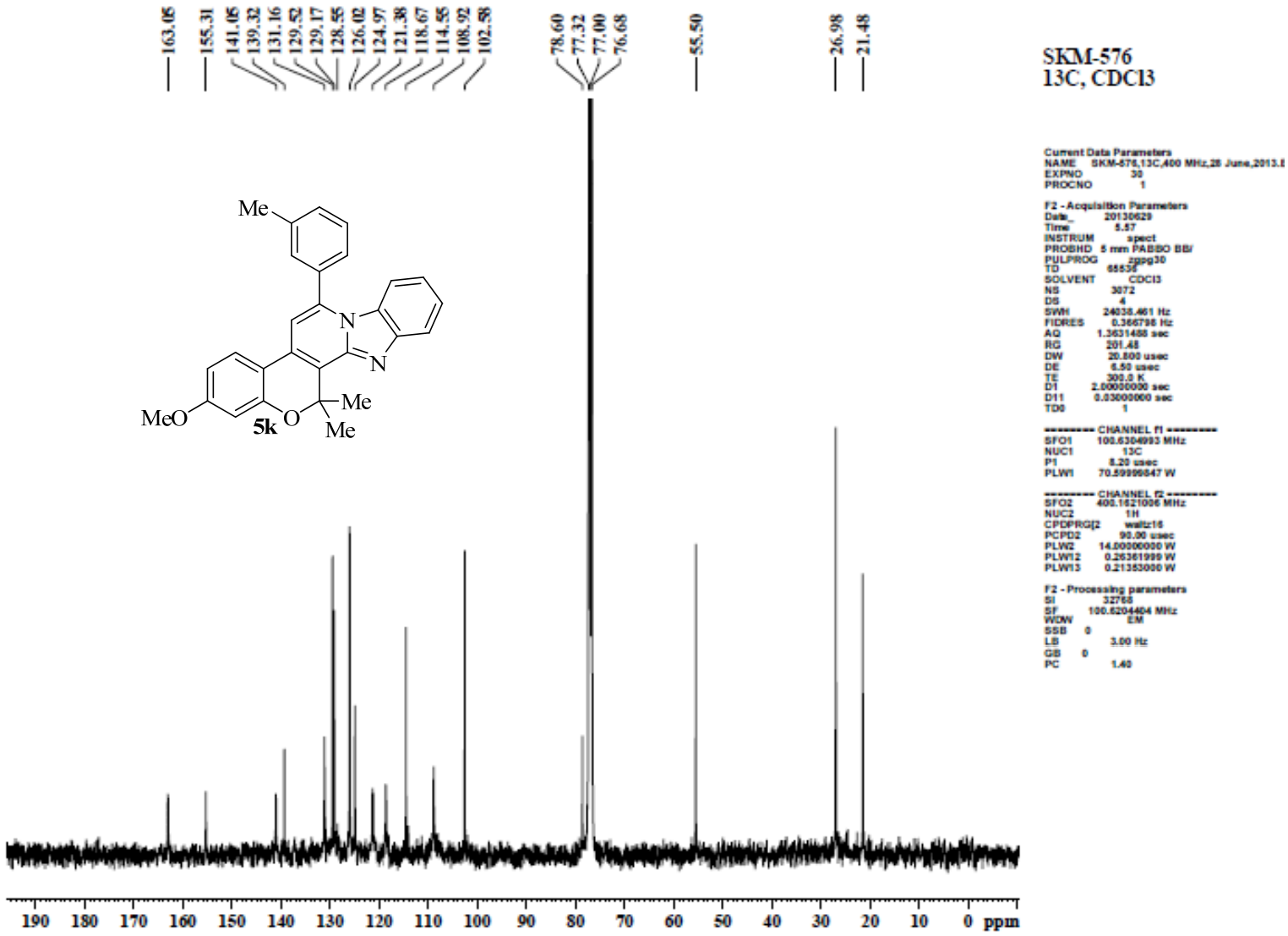

Figure 56: ^{13}C -NMR Spectrum of **5k.**

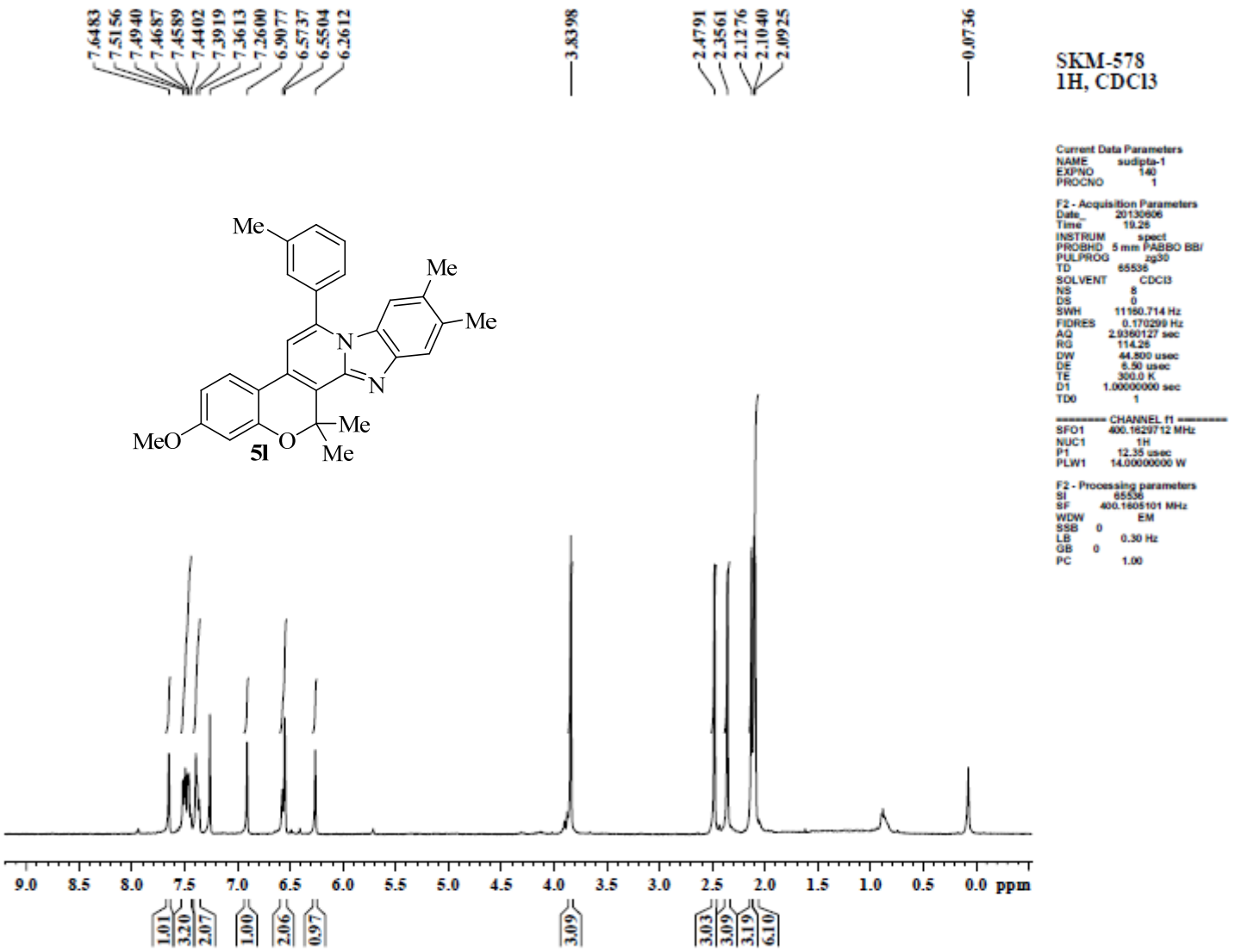

Figure 57: ^{1}H -NMR Spectrum of **5l.**

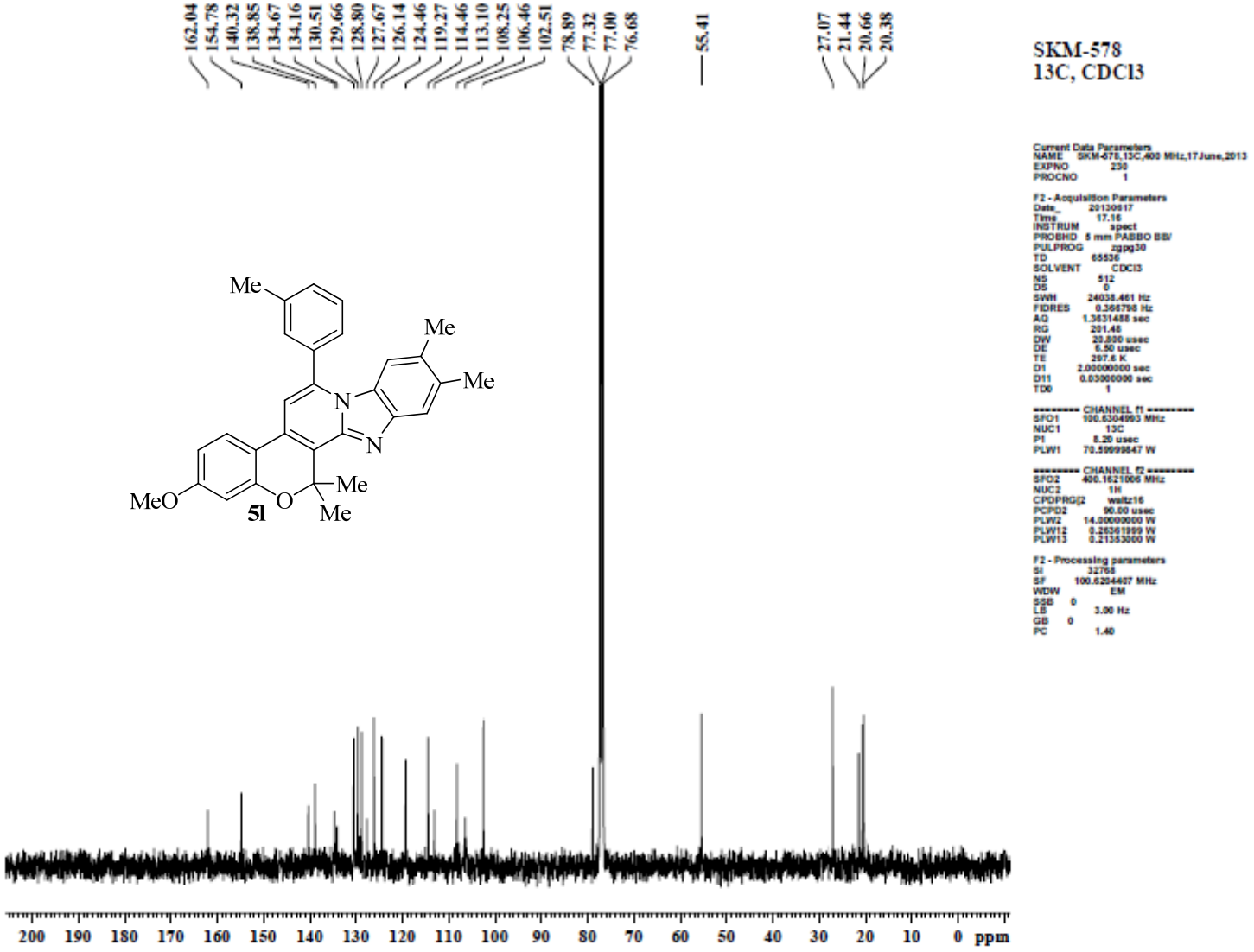

Figure 58: ^{13}C -NMR Spectrum of **5l.**

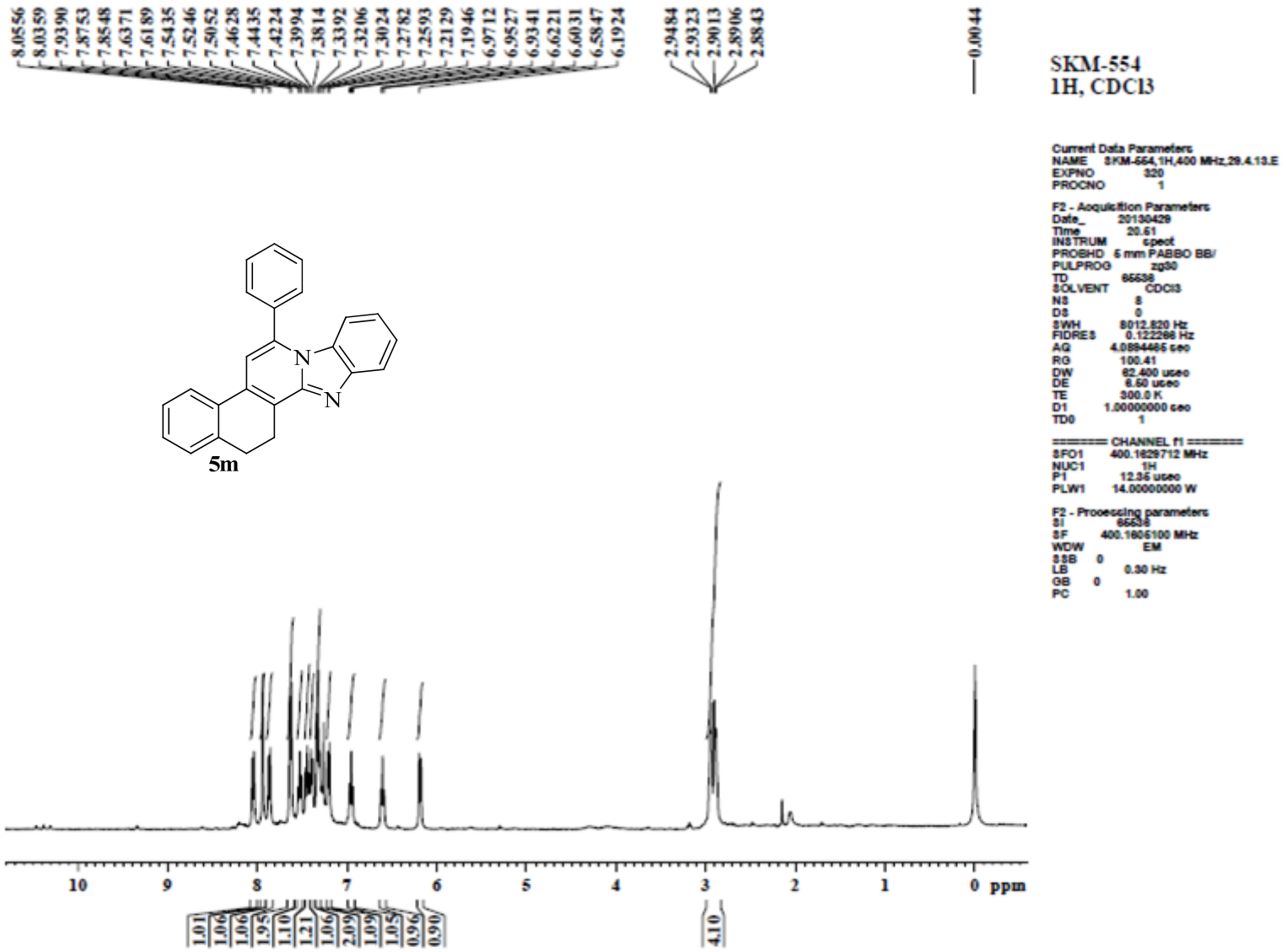

Figure 59: ^{1}H -NMR Spectrum of **5m.**

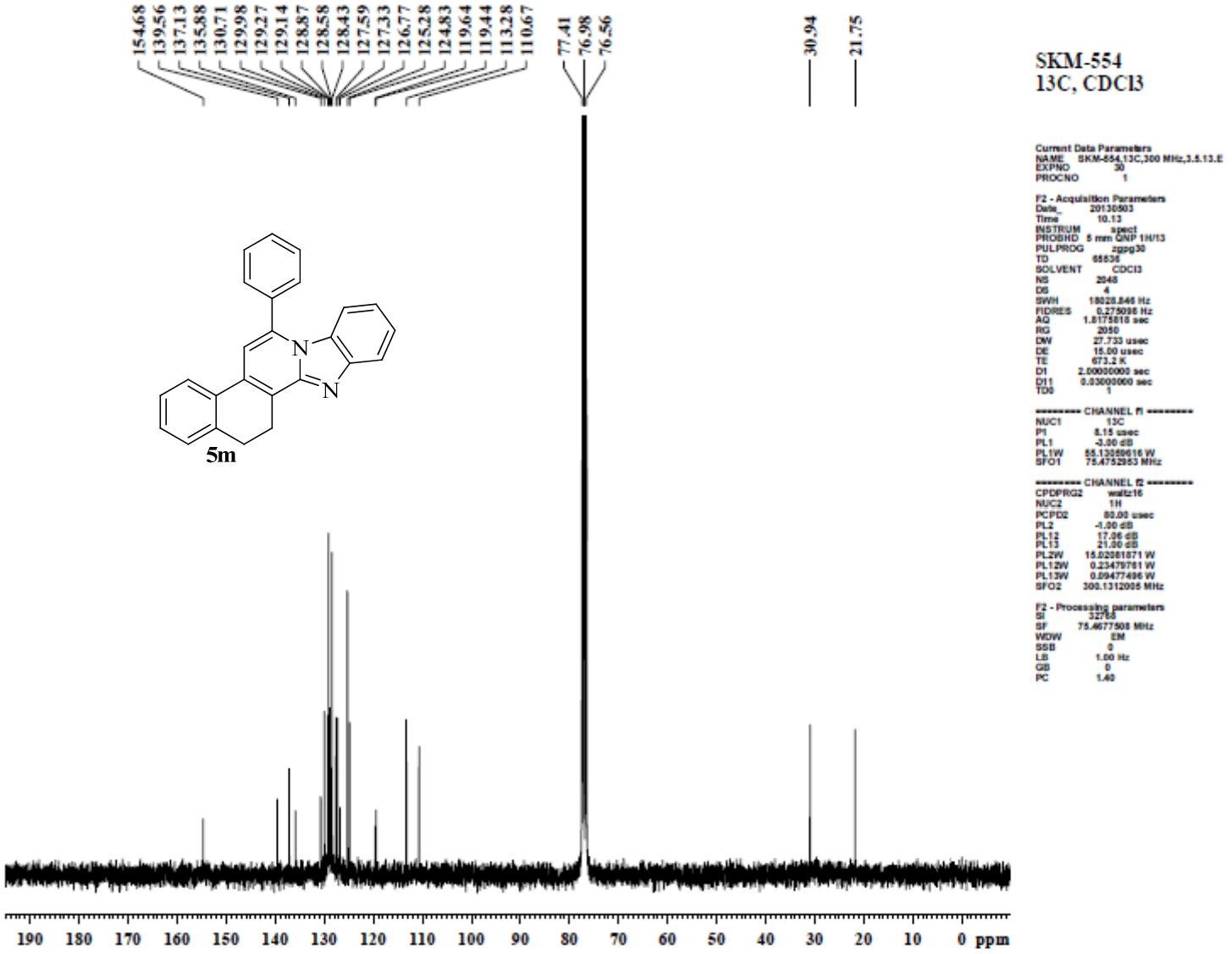

Figure 60: ^{13}C -NMR Spectrum of **5m.**

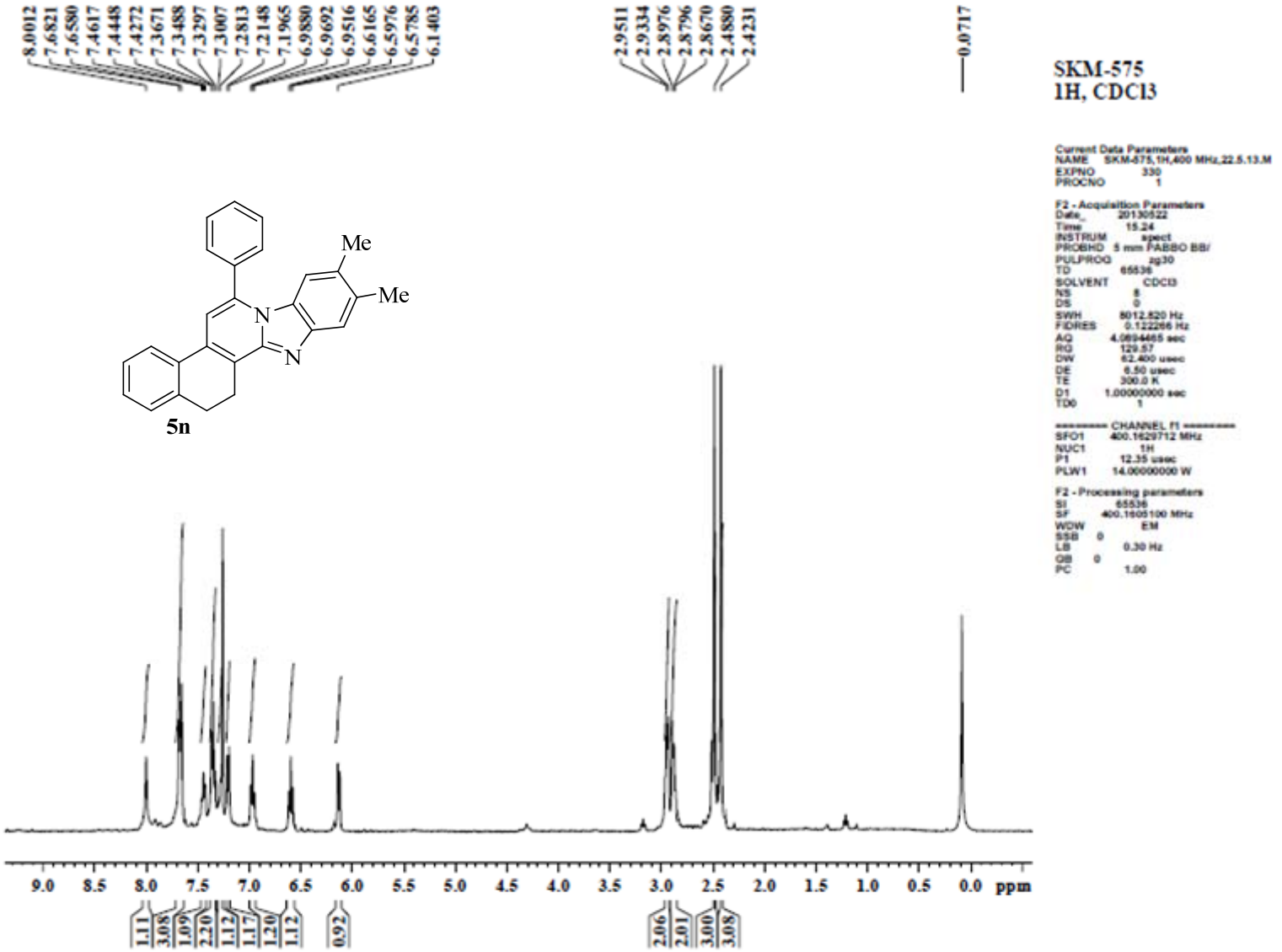

Figure 61: ^{1}H -NMR Spectrum of **5n.**

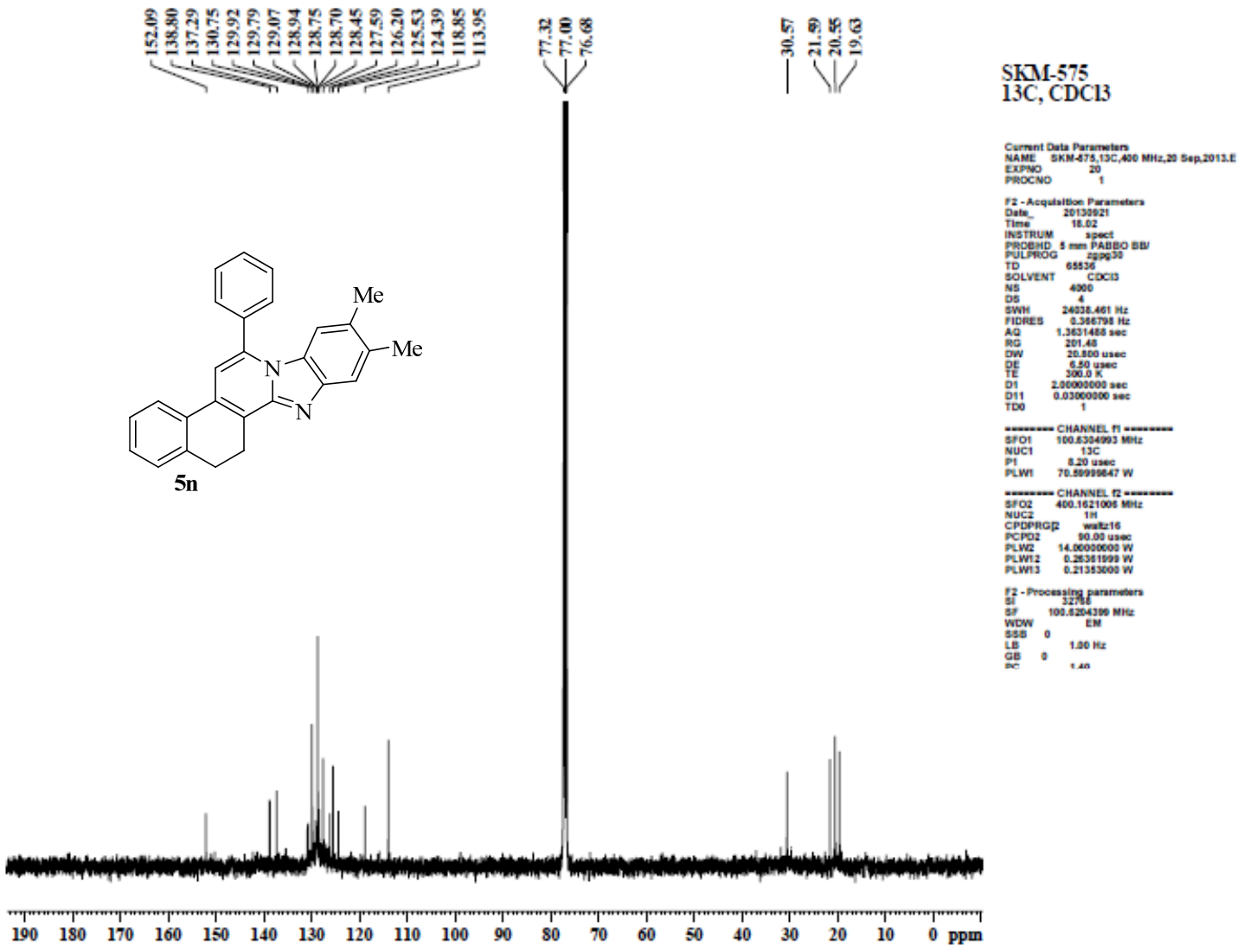

Figure 62: ^{13}C -NMR Spectrum of **5n.**

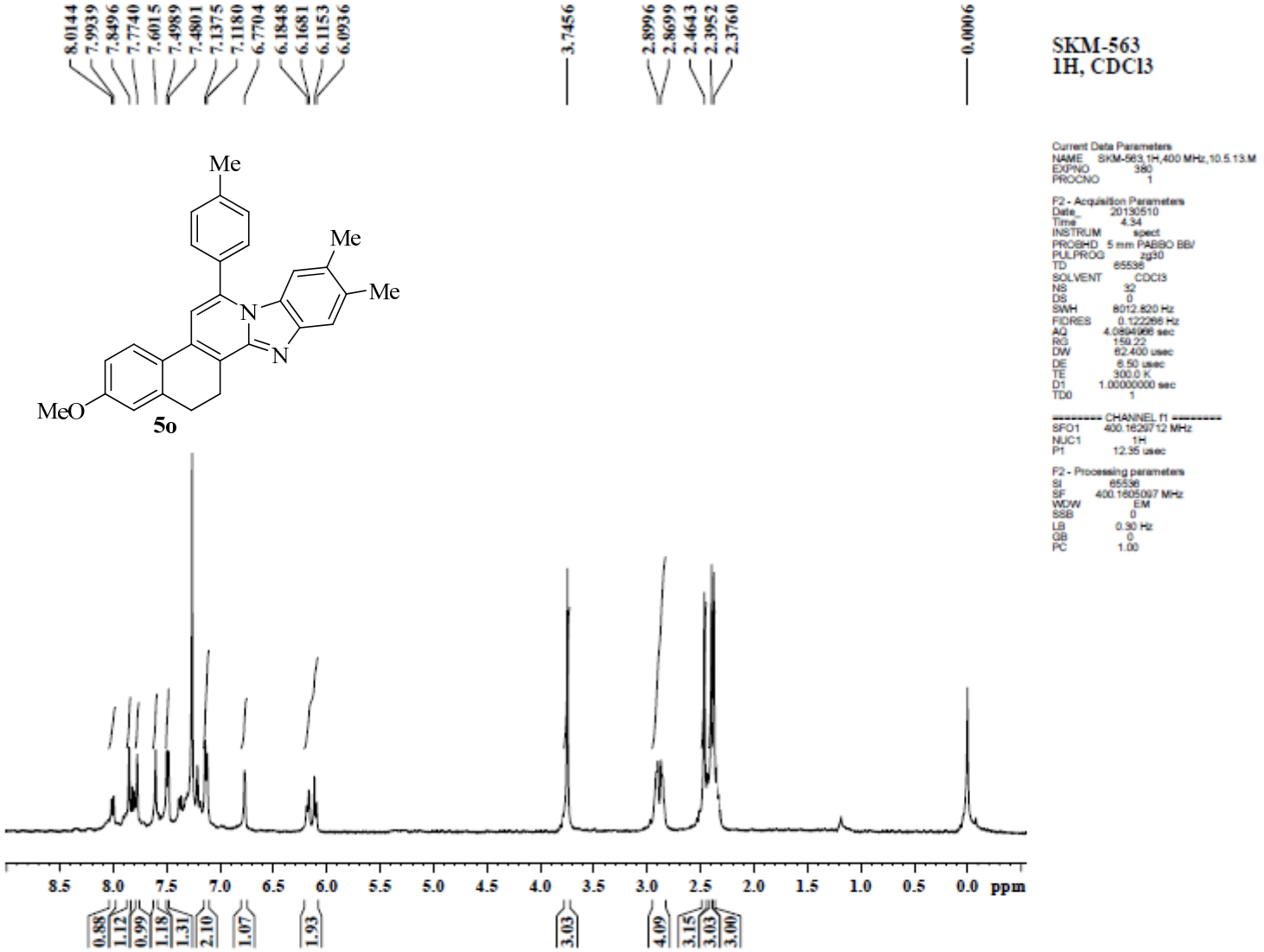

Figure 63: ^{1}H -NMR Spectrum of **5o.**

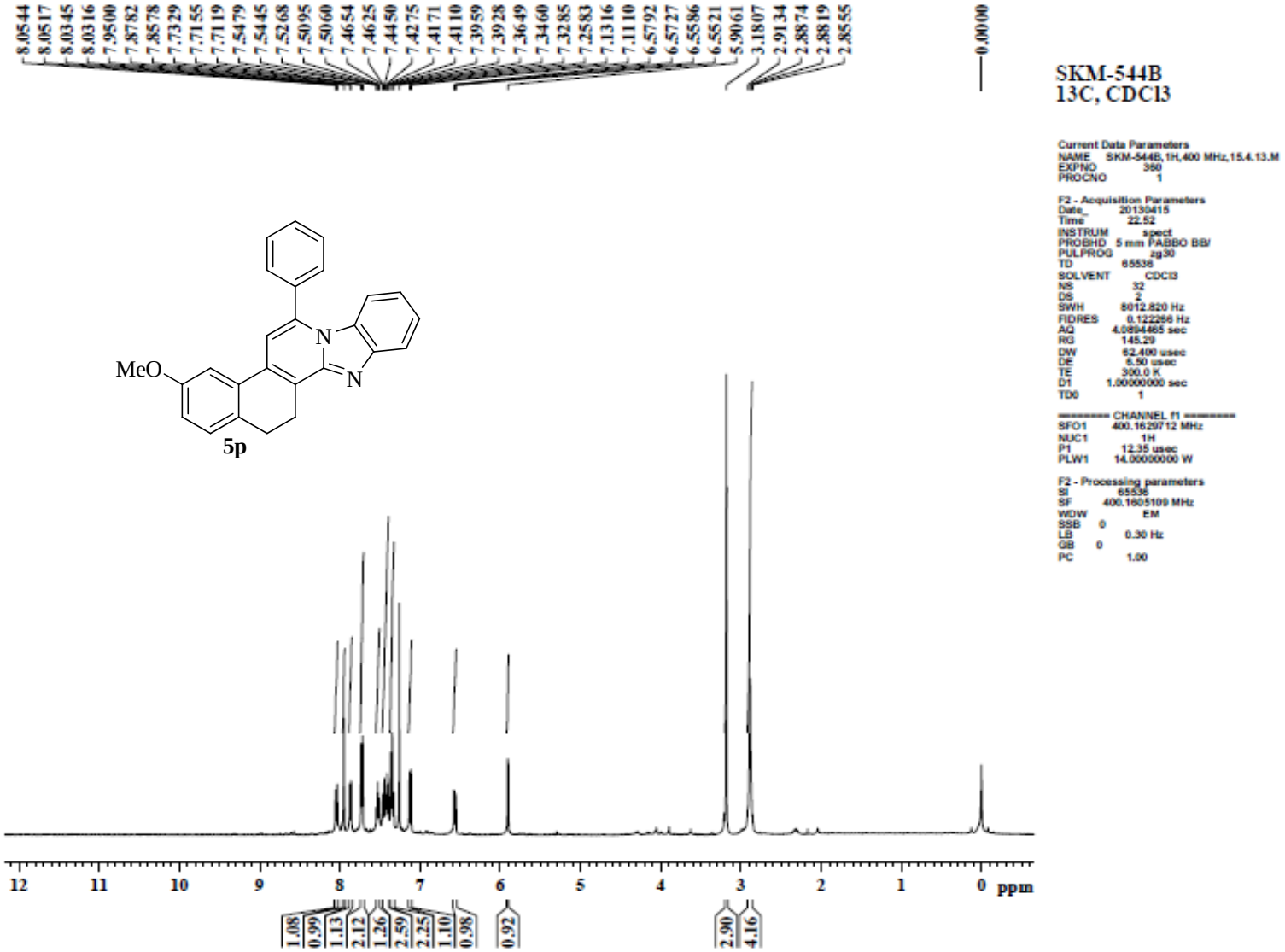

Figure 64: ^{1}H -NMR Spectrum of **5p.**

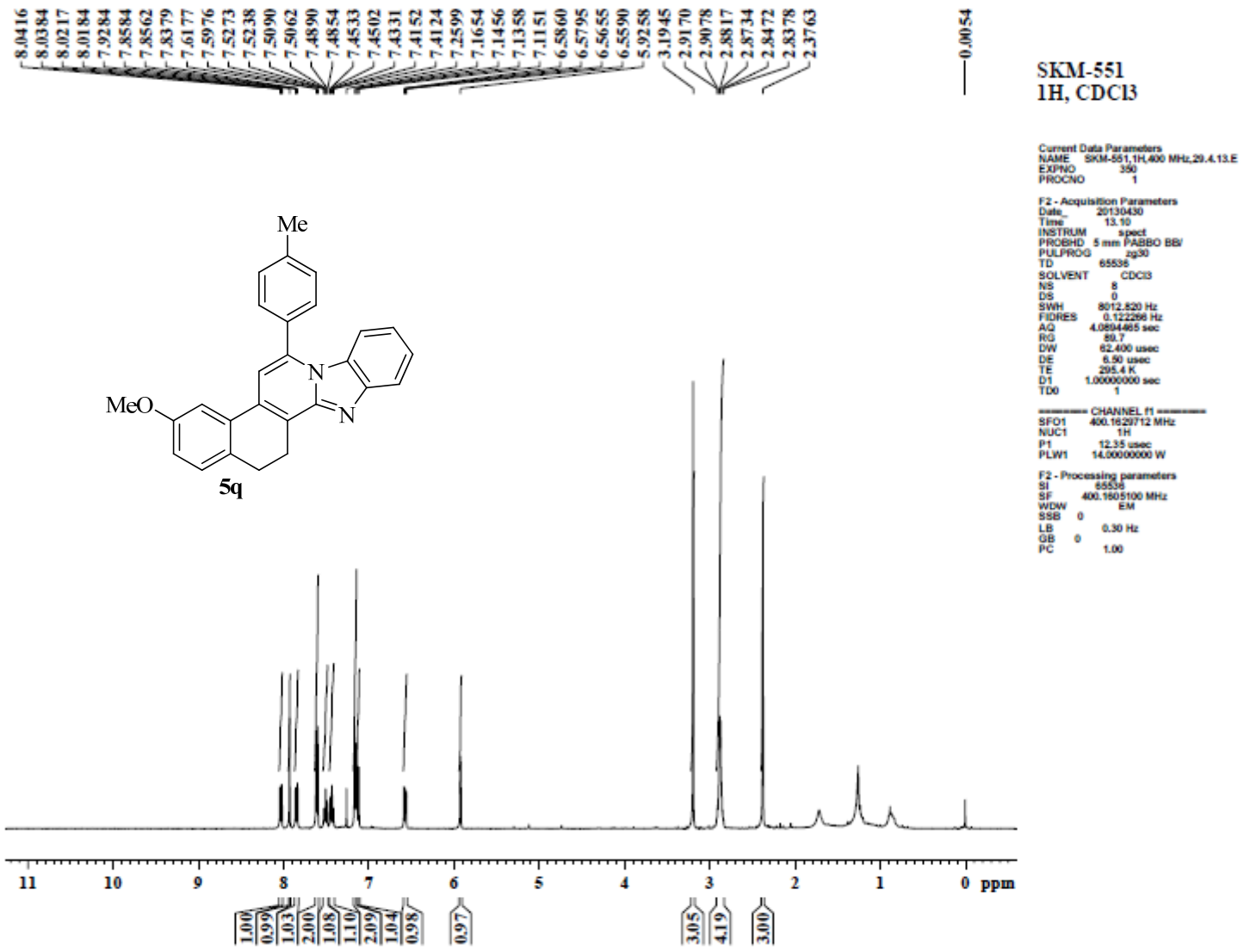

Figure 65: ^{1}H -NMR Spectrum of **5q.**

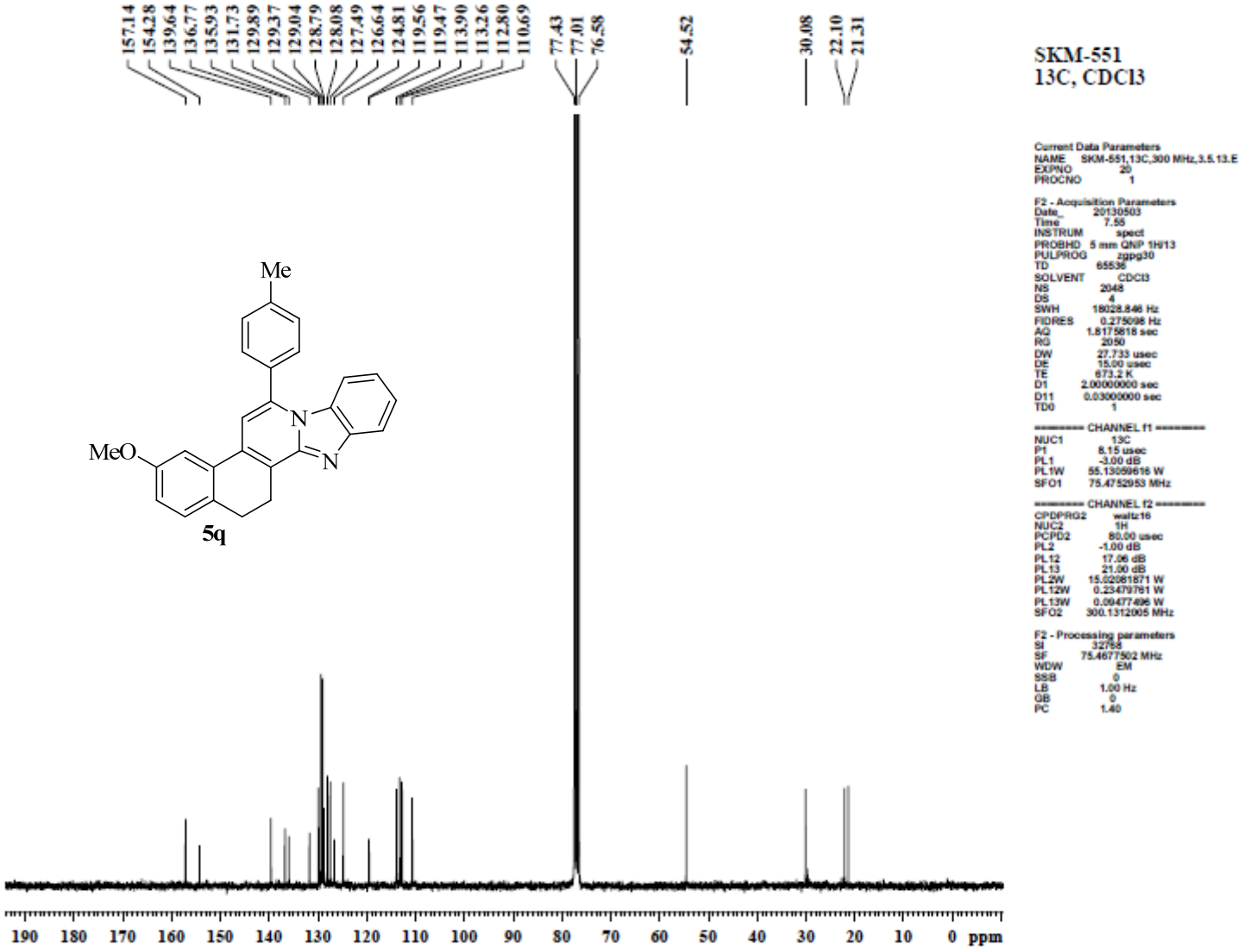

Figure 66: ^{13}C -NMR Spectrum of **5q.**

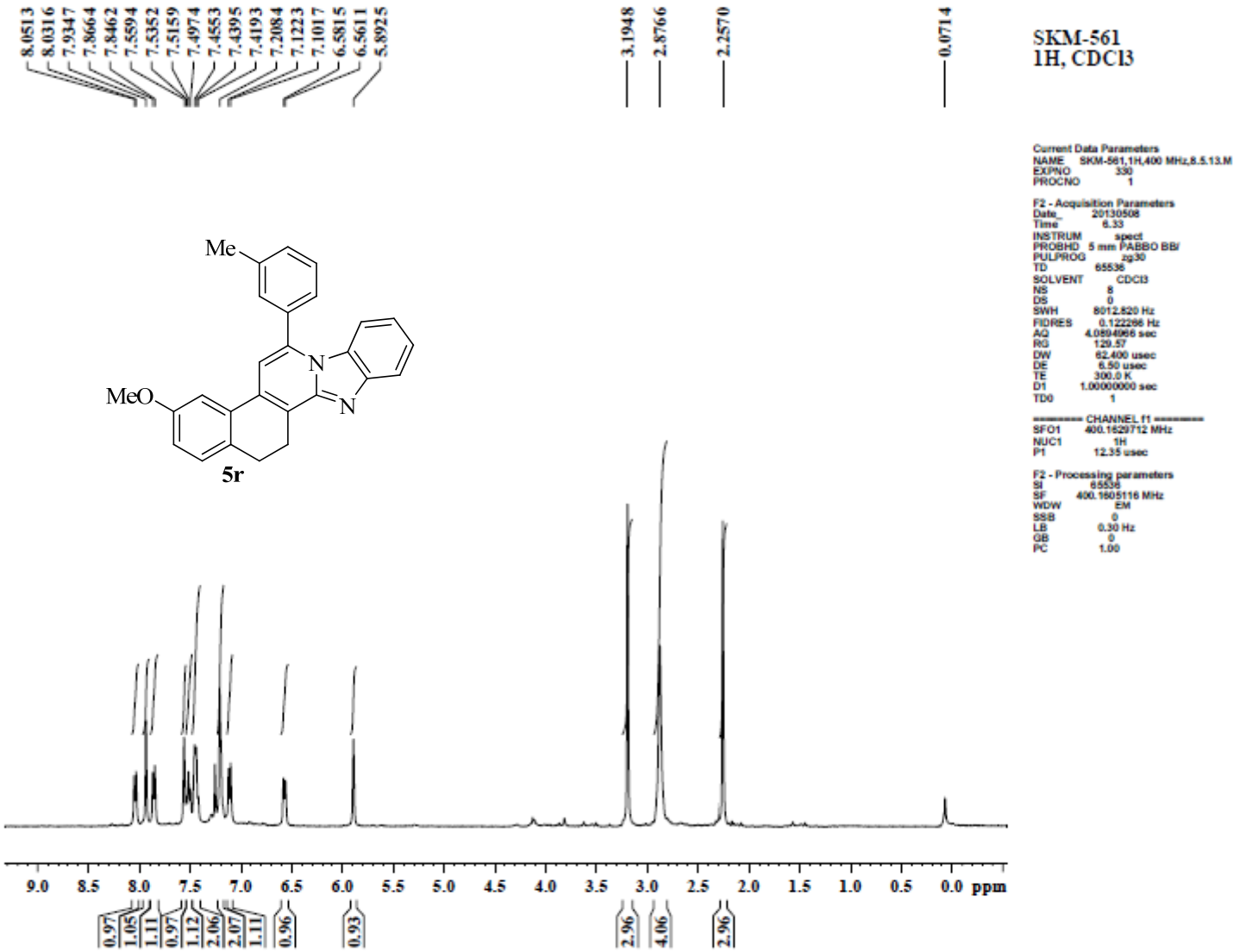

Figure 67: ^{1}H -NMR Spectrum of **5r.**

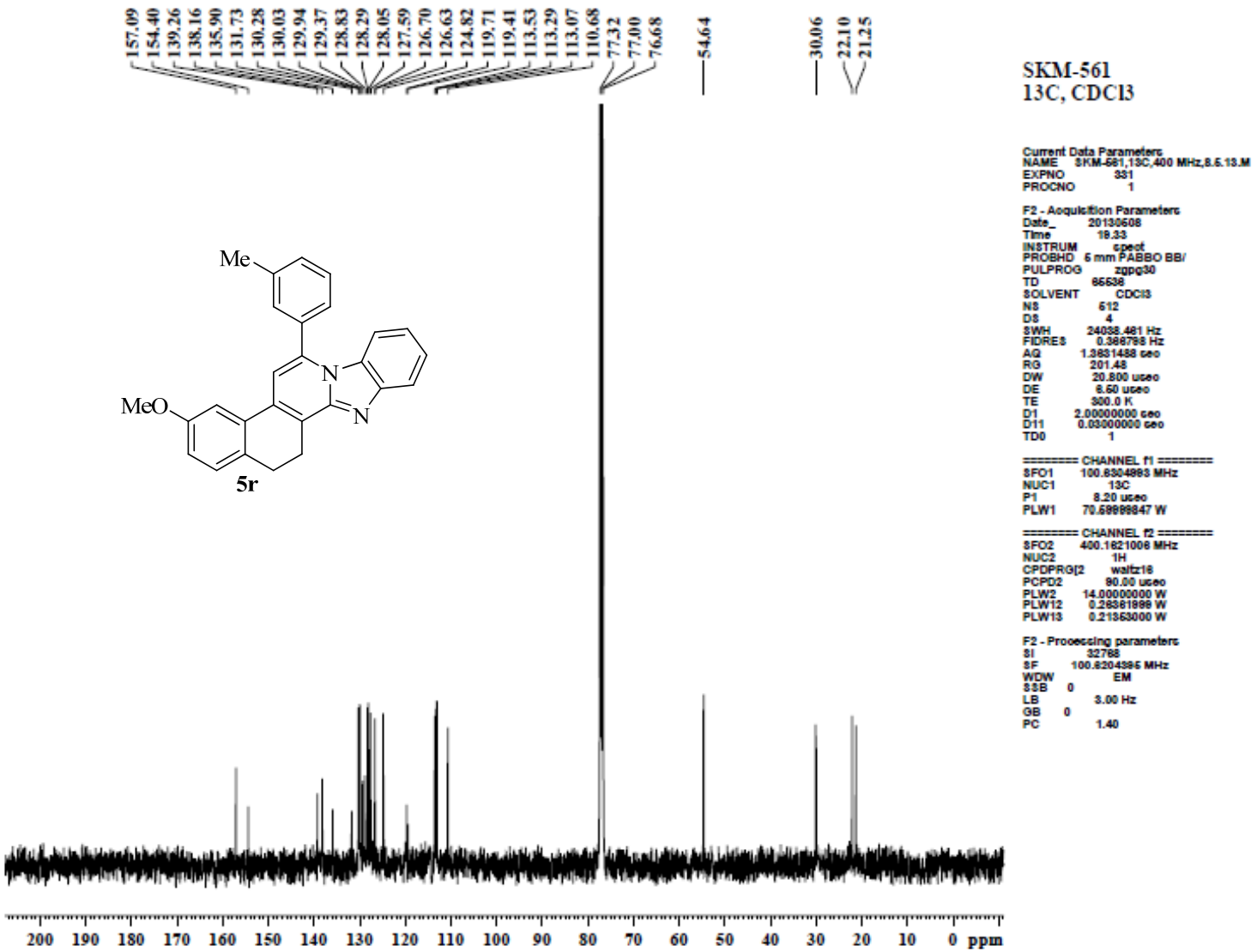

Figure 68: ^{13}C -NMR Spectrum of **5r.**

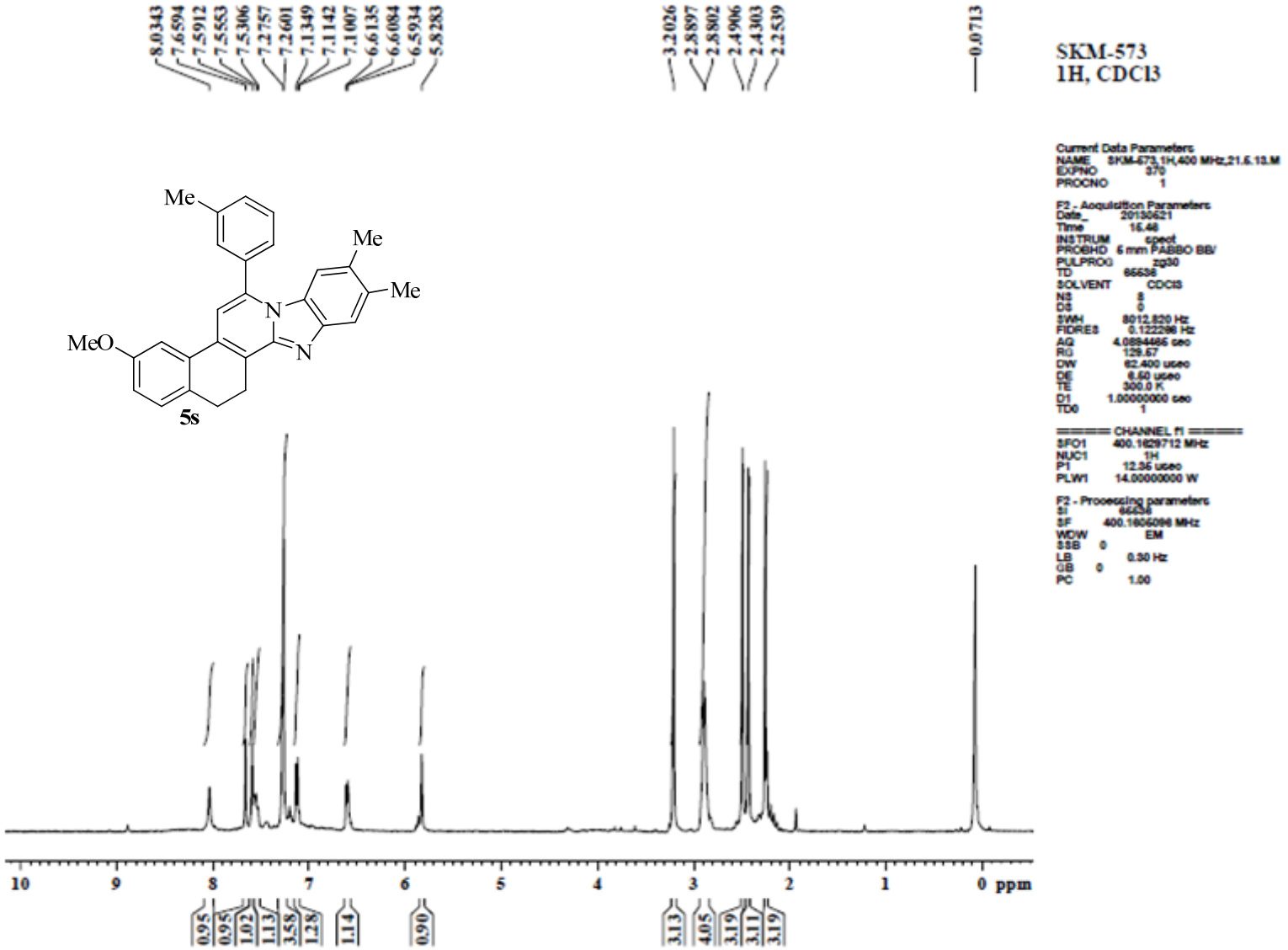

Figure 69: ^{1}H -NMR Spectrum of **5s.**

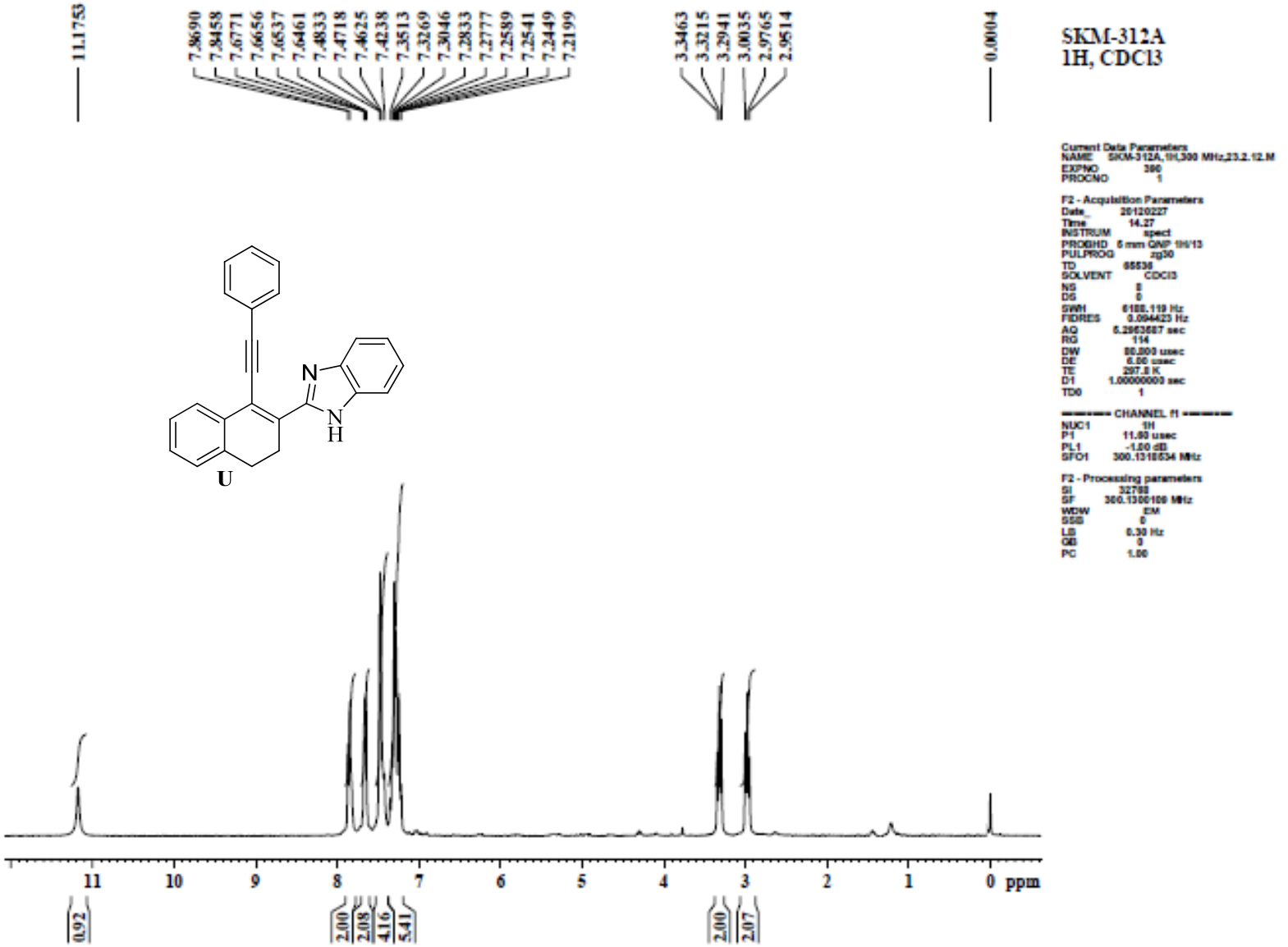

Figure 70: ^{1}H -NMR Spectrum of **U.**

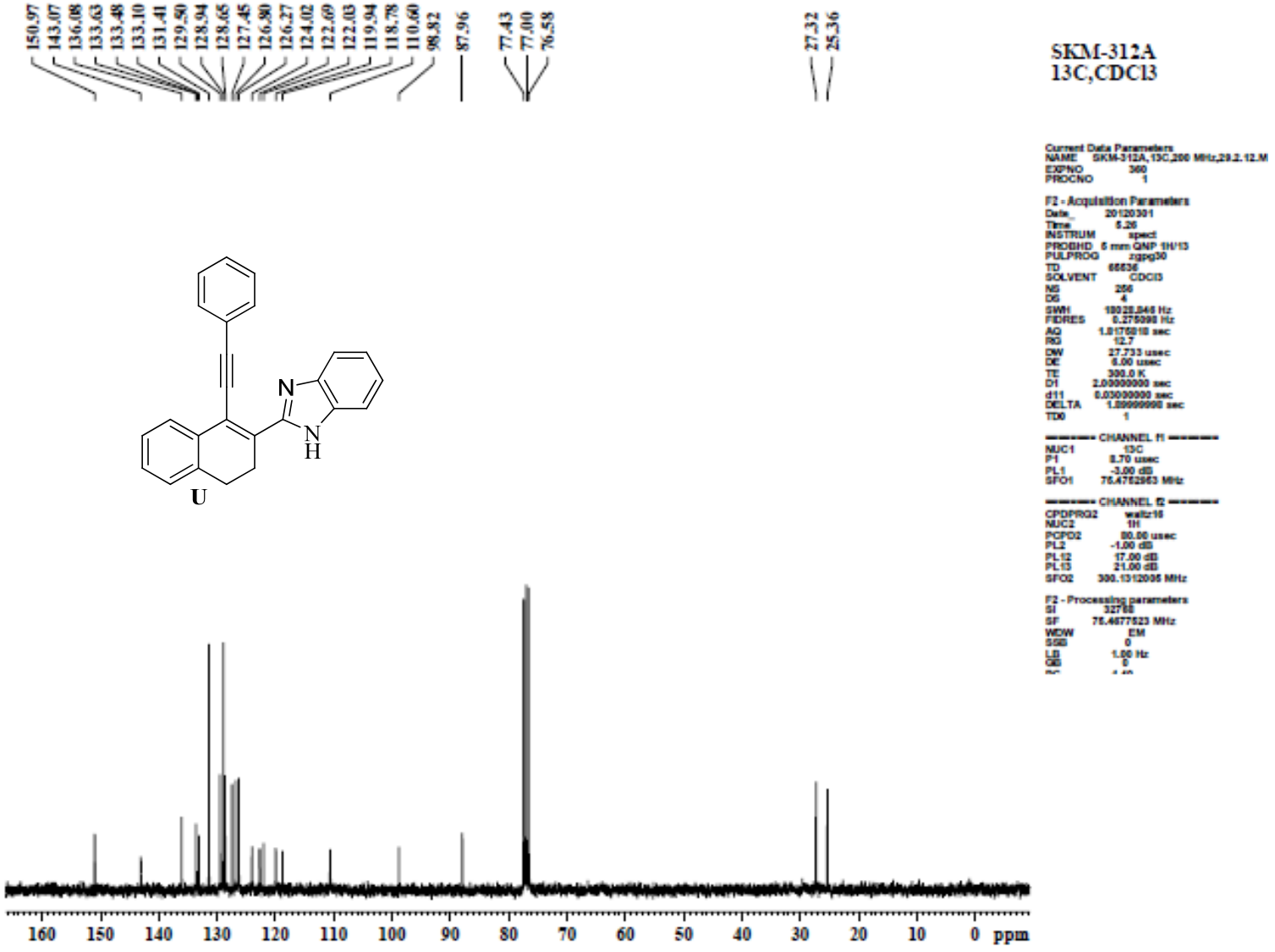

Figure 71: ^{13}C -NMR Spectrum of **U.**

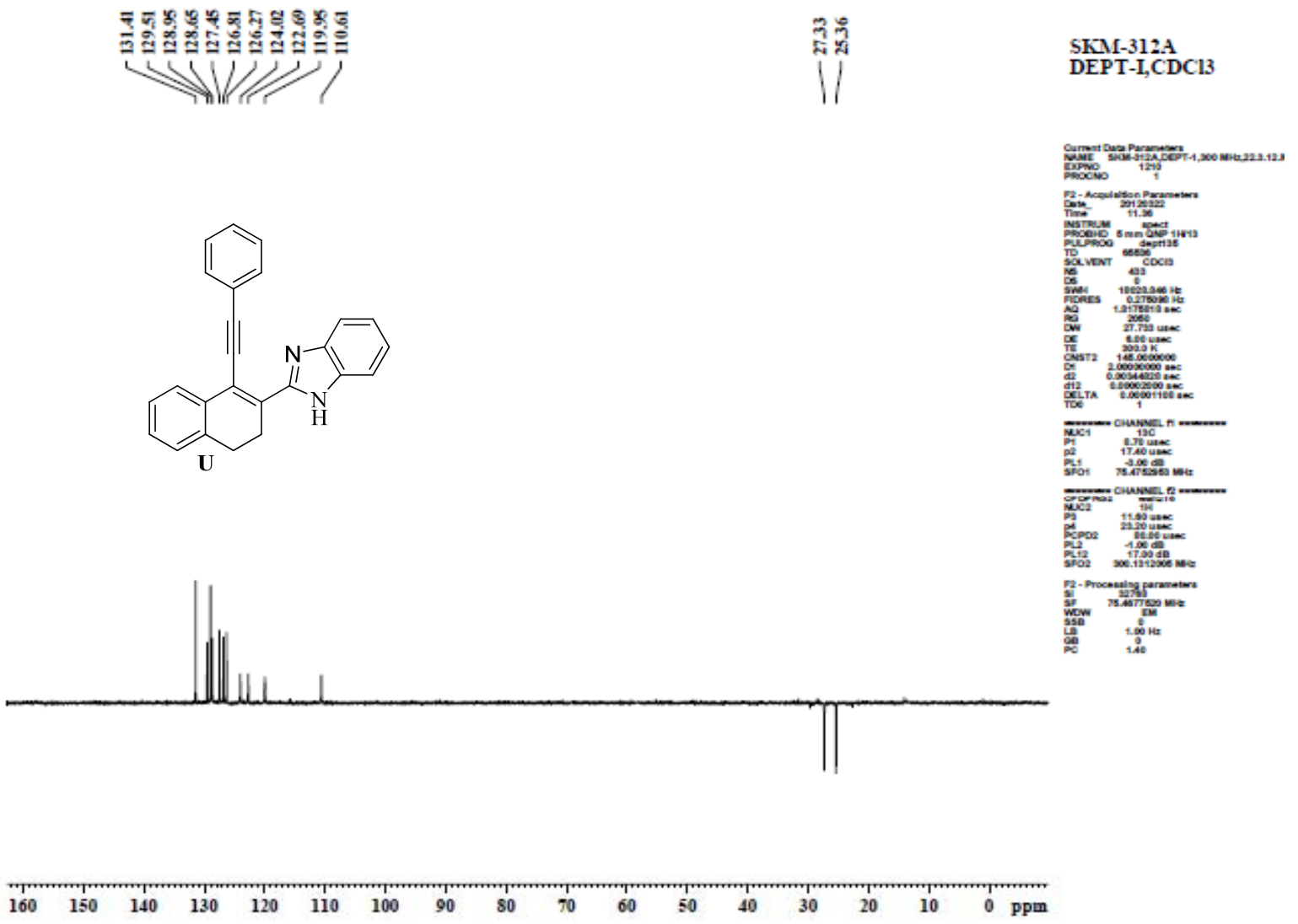

Figure 72: DEPT-I -Spectrum of **U.**

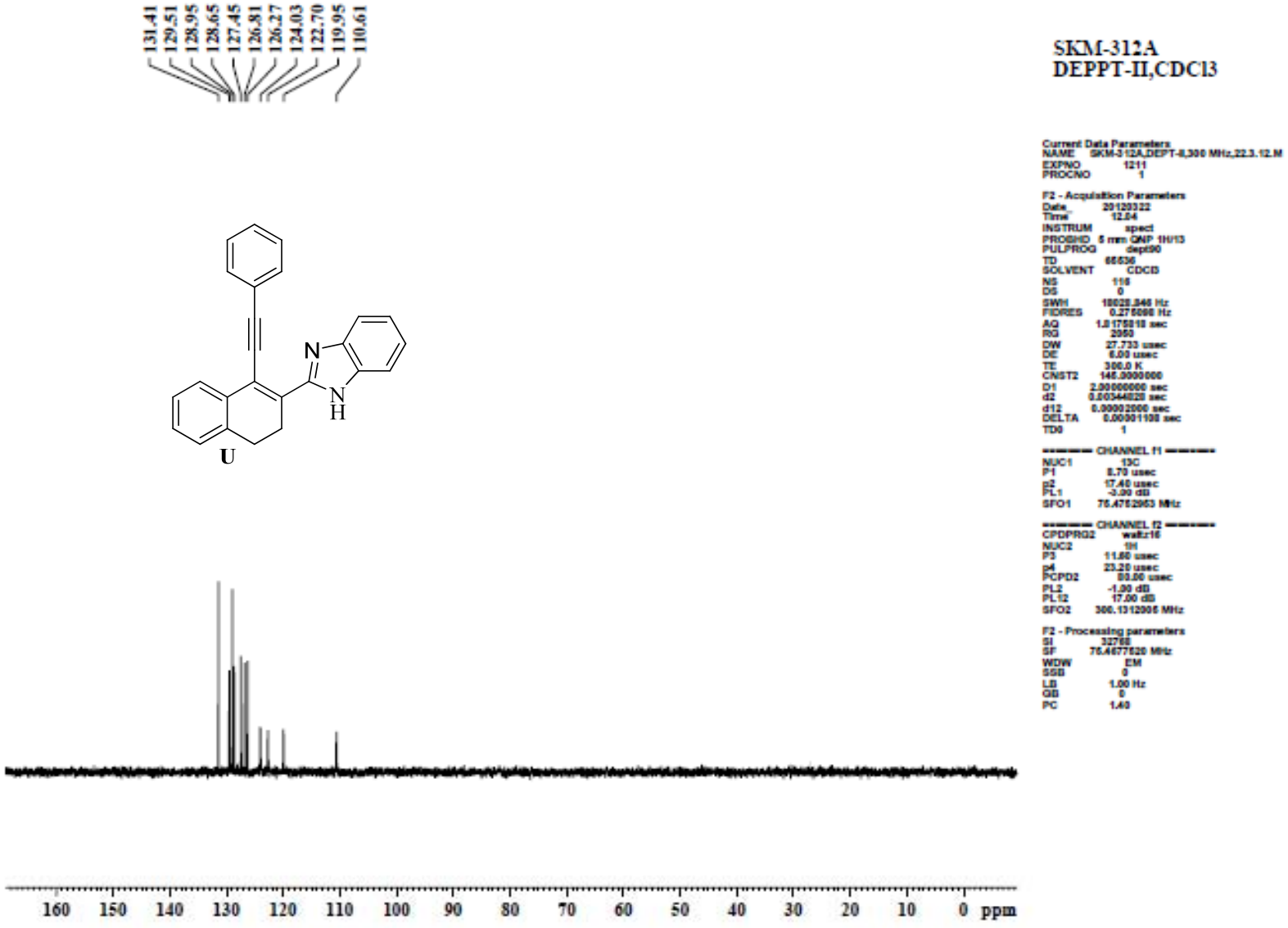

Figure 73: DEPT-II -Spectrum of **U.**