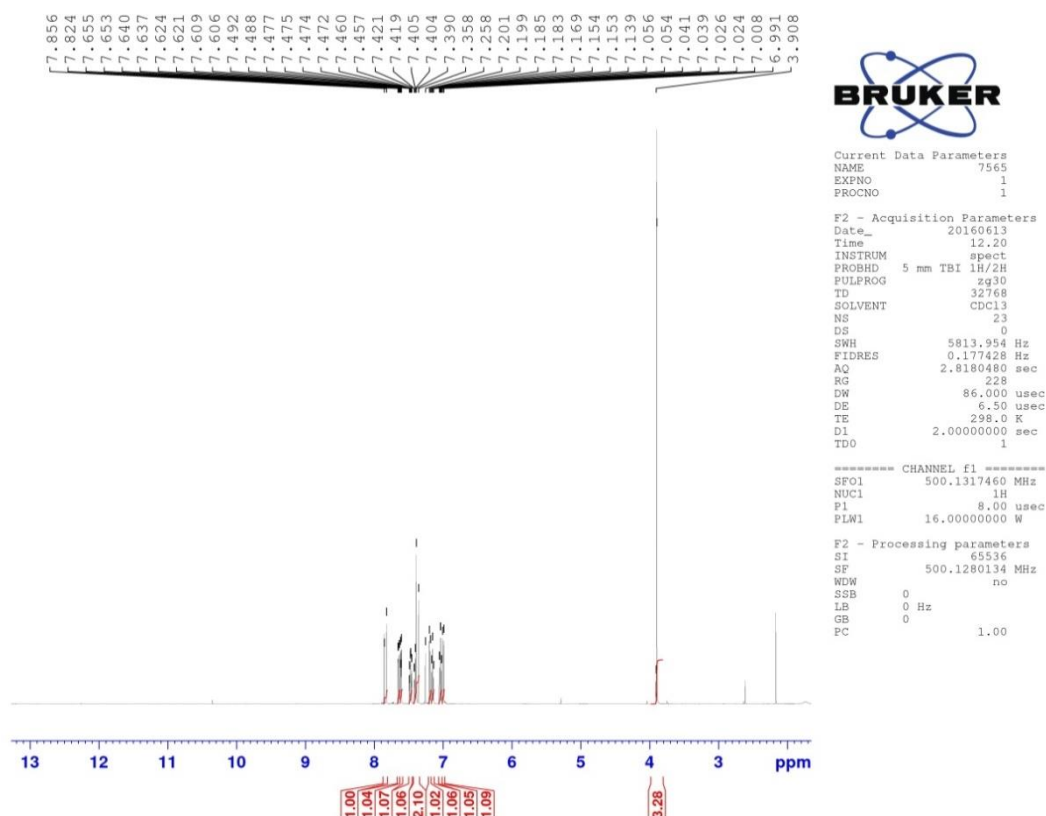
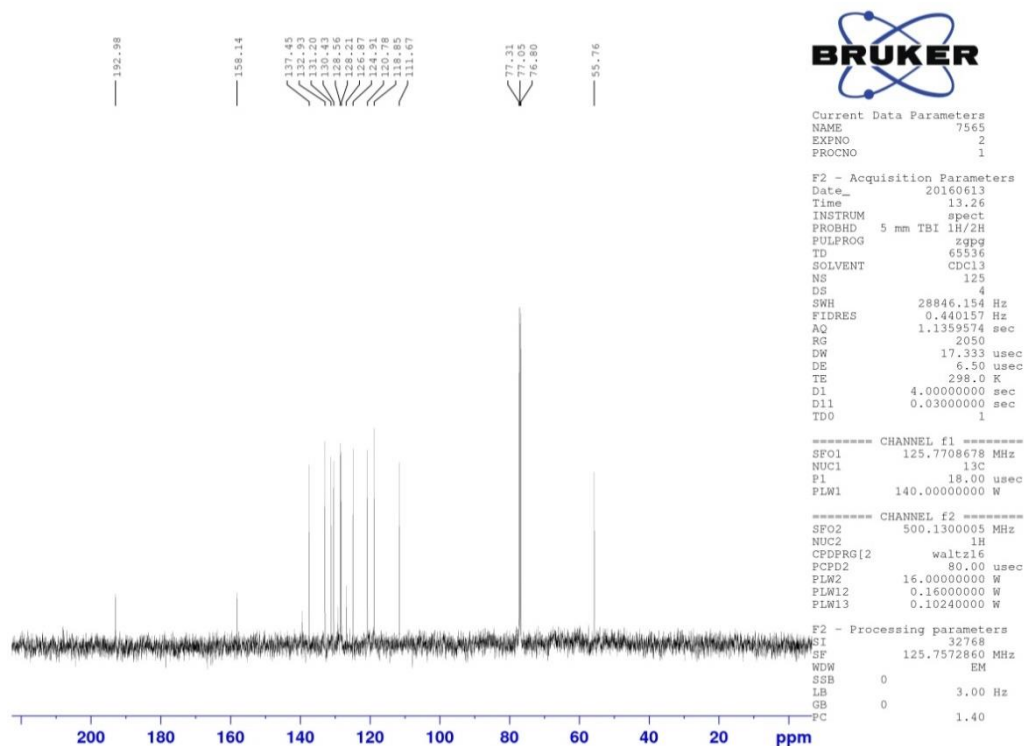


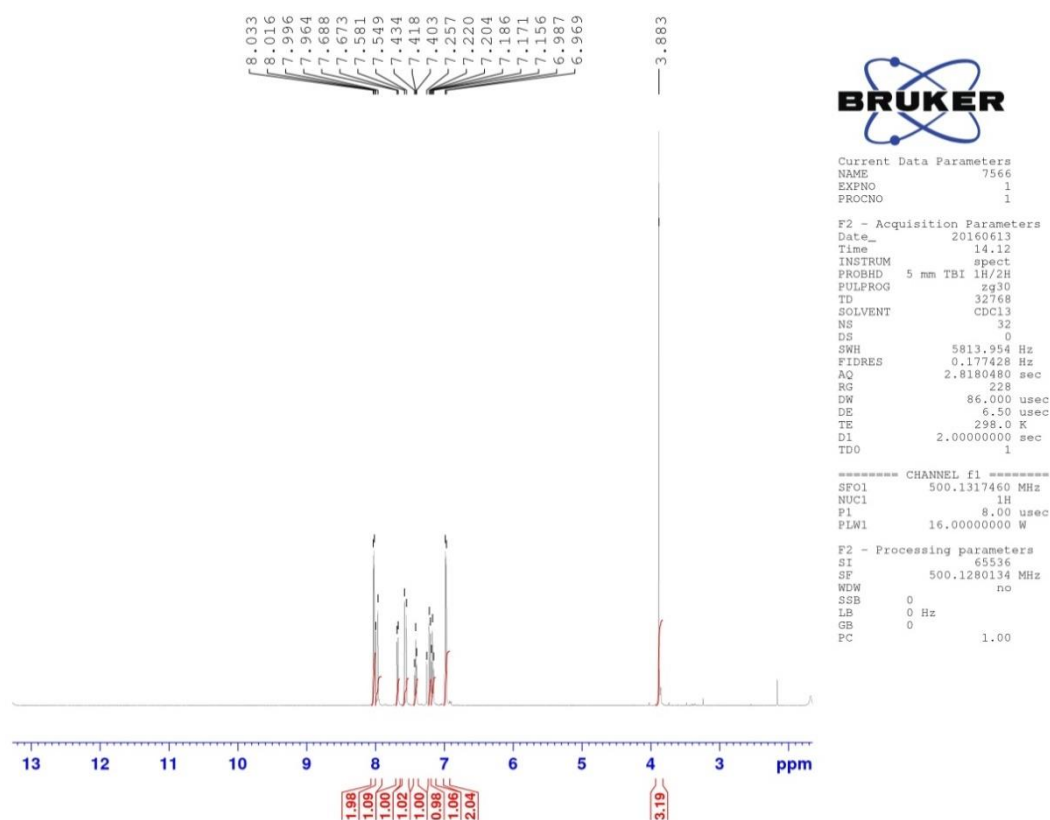
¹H-NMR spectra of 2a



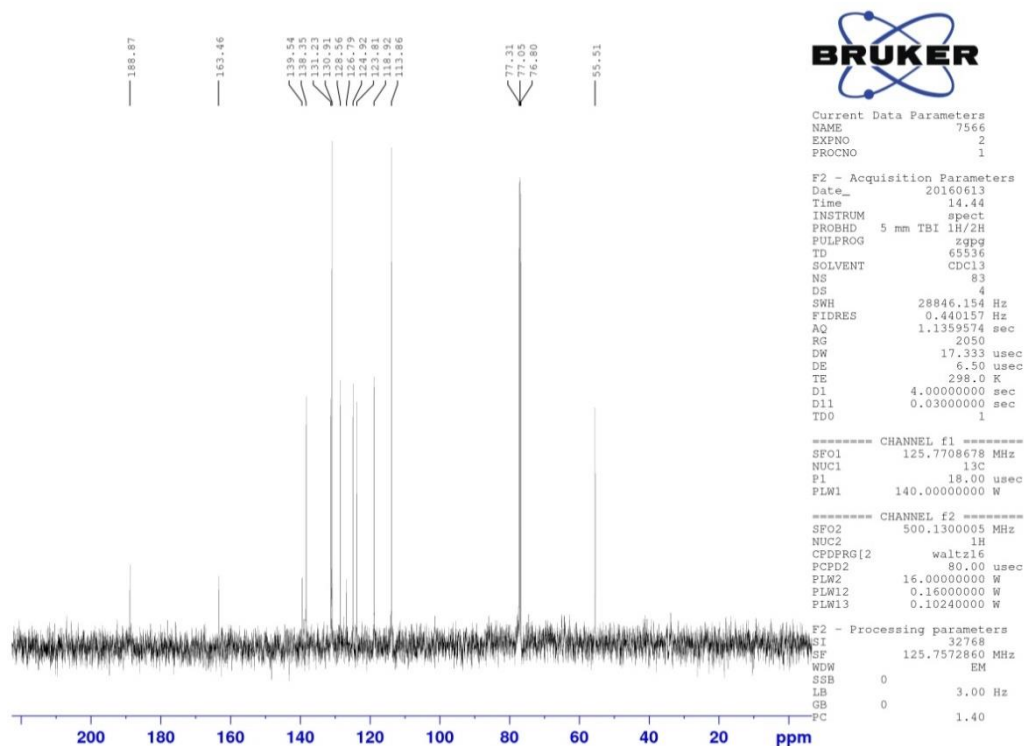
¹³C-NMR spectra of 2a



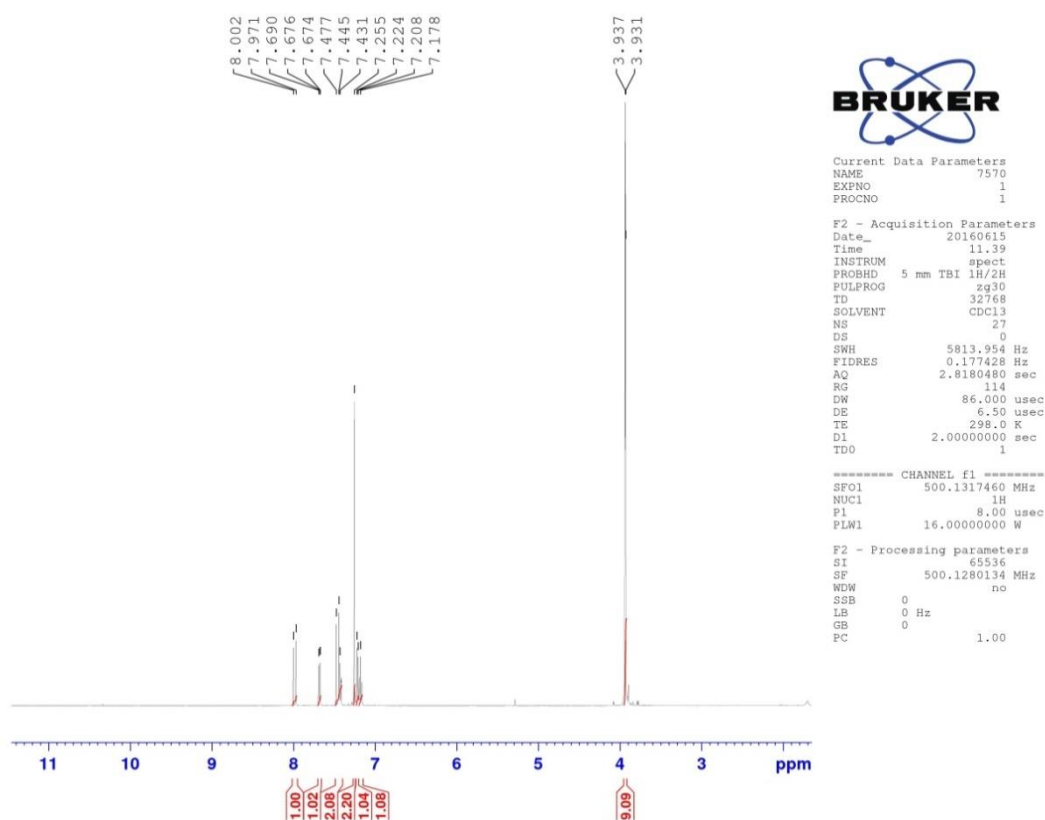
¹H-NMR spectra of **2b**



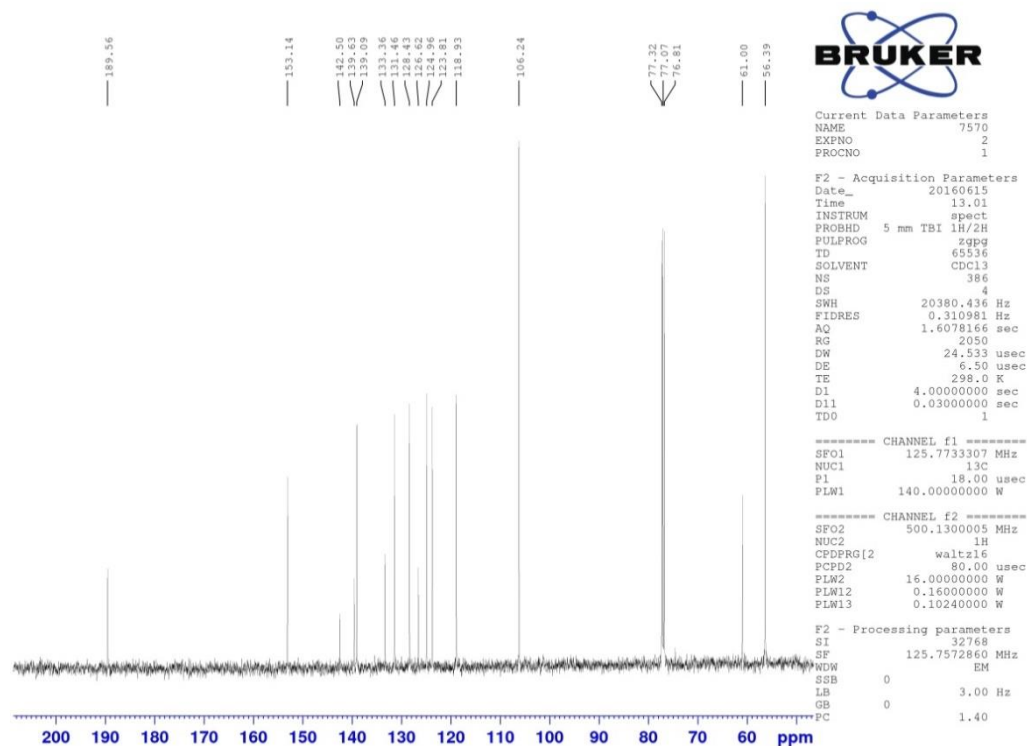
¹³C-NMR spectra of **2b**



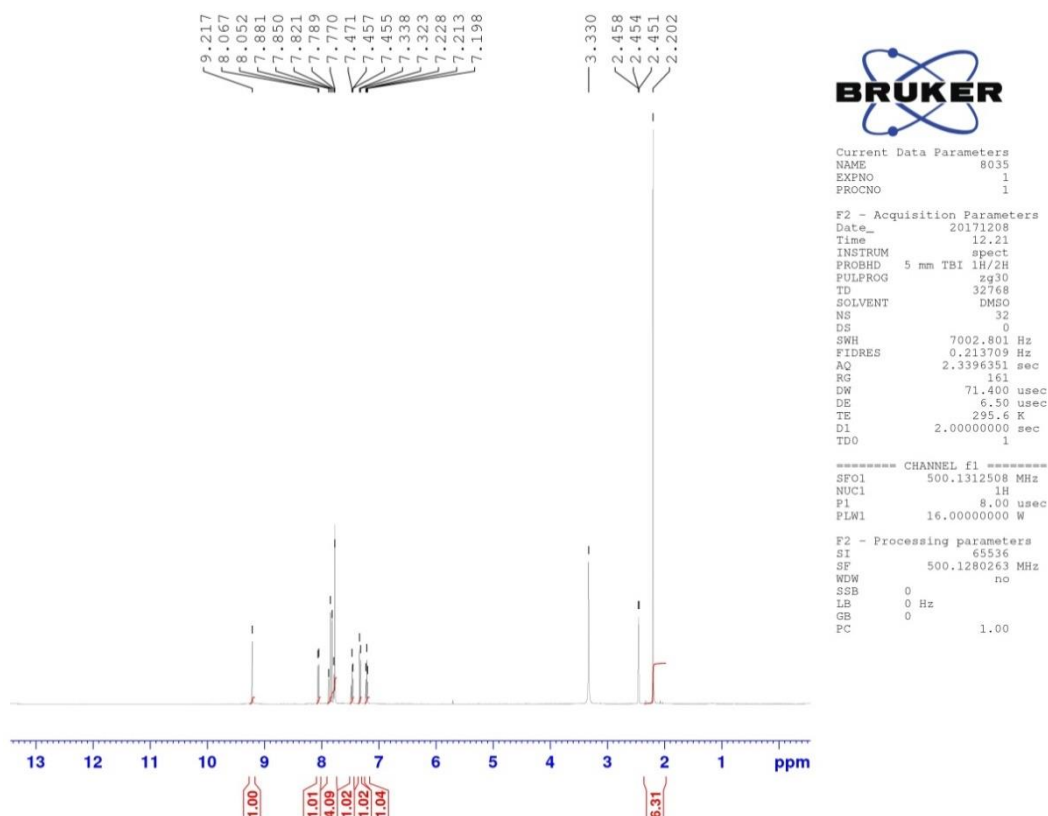
¹H-NMR spectra of 2c



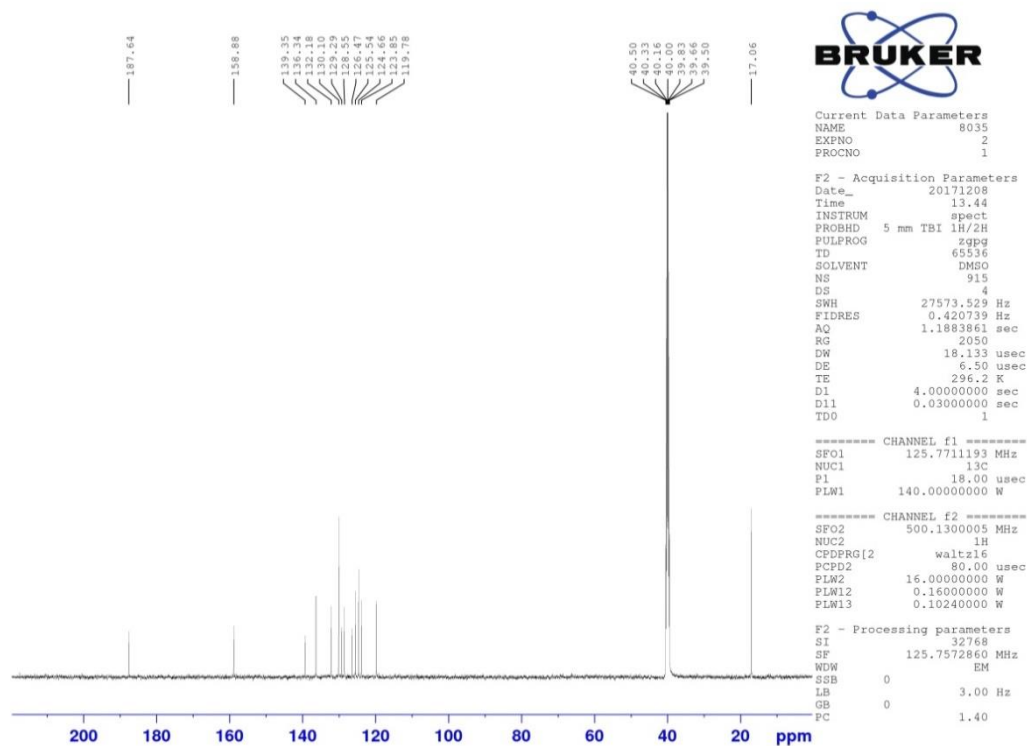
¹³C-NMR spectra of 2c



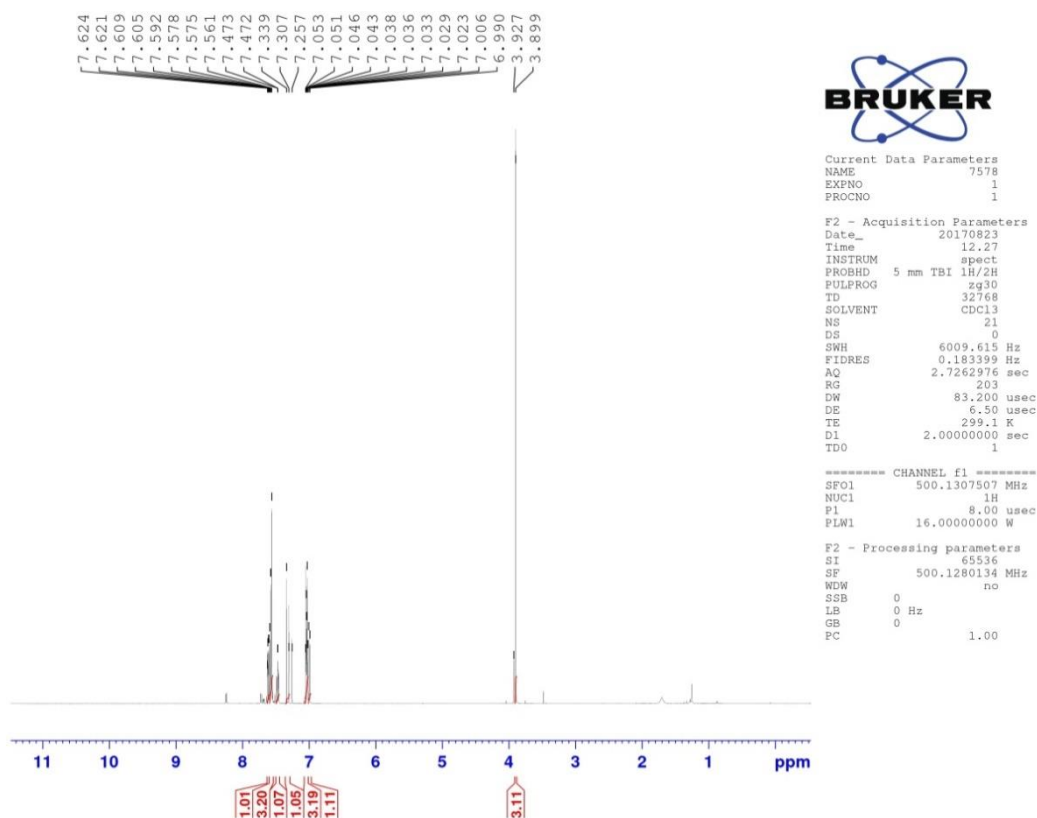
¹H-NMR spectra of **2d**



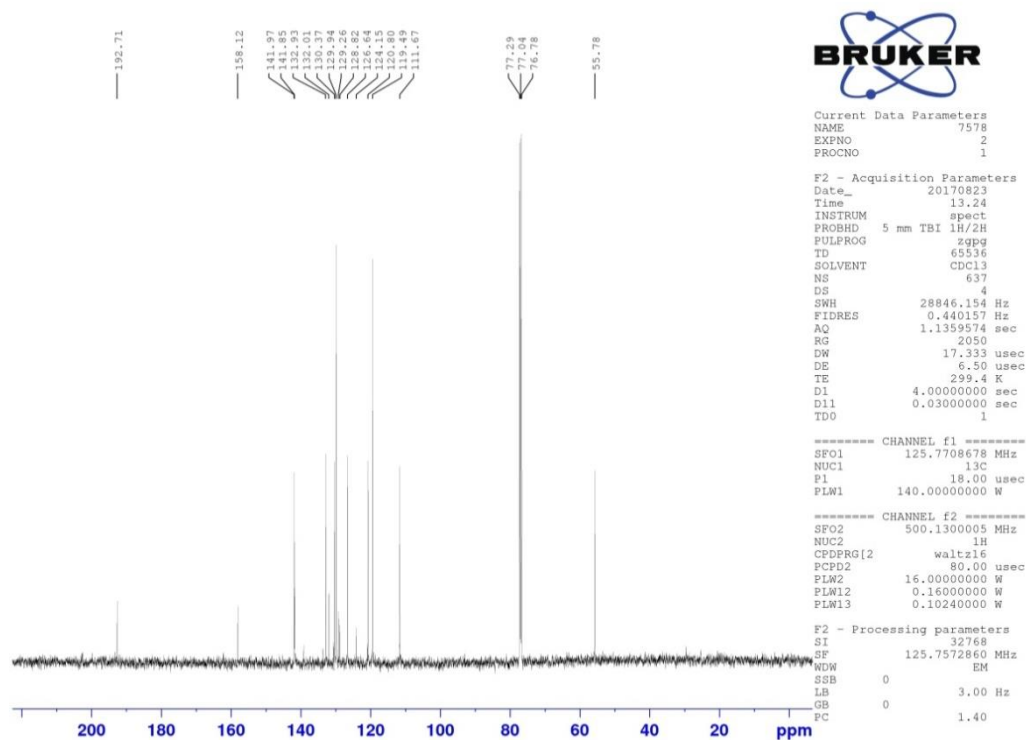
¹³C-NMR spectra of **2d**



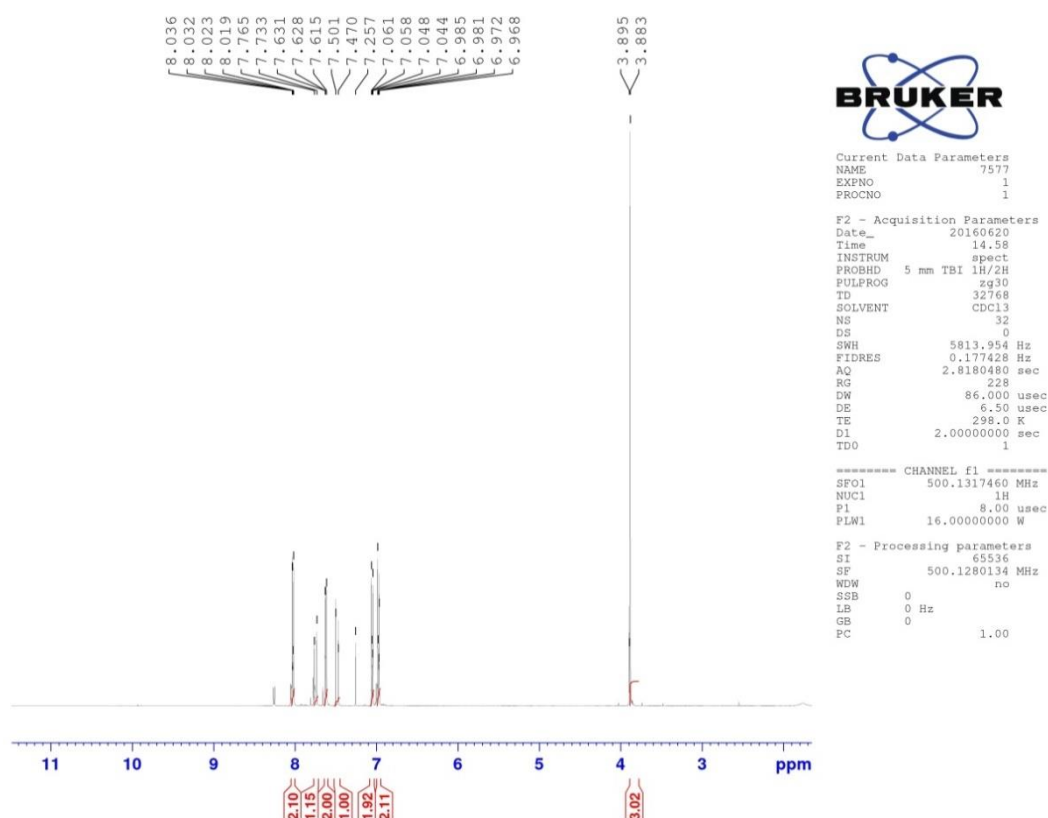
¹H-NMR spectra of **4a**



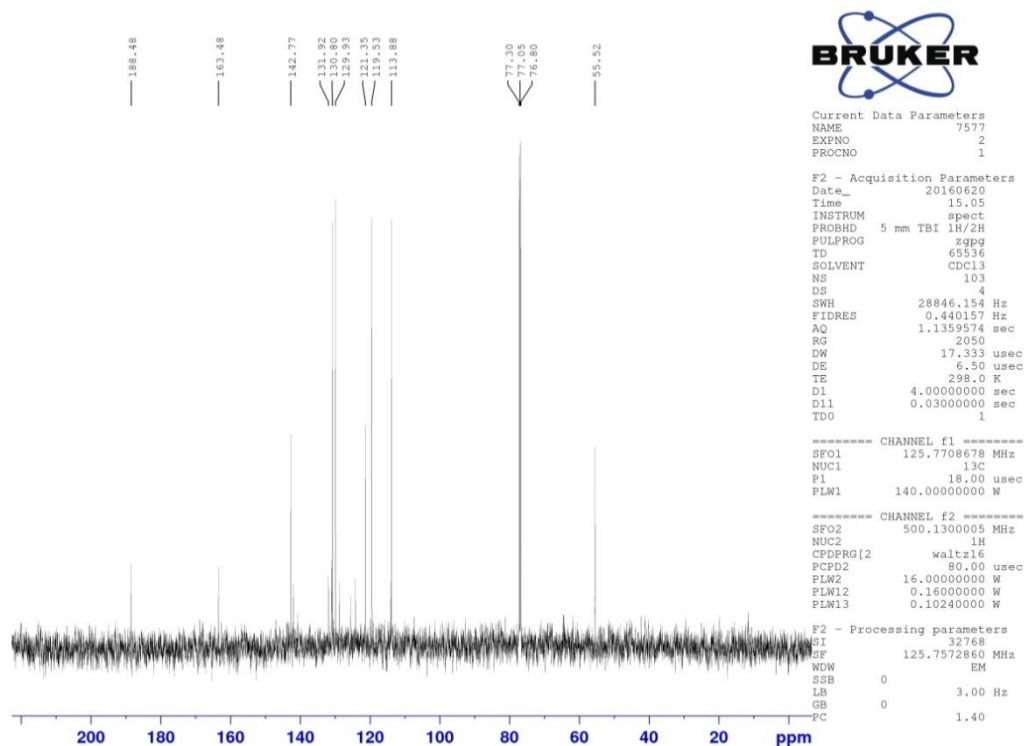
¹³C-NMR spectra of **4a**



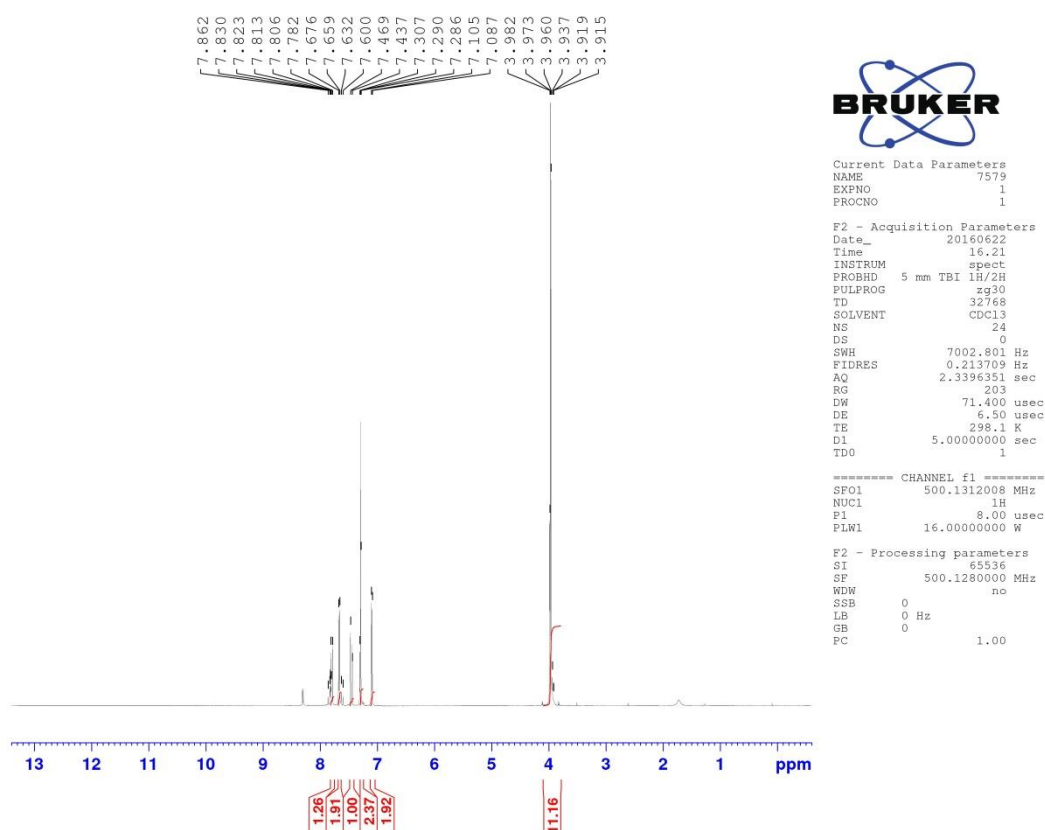
¹H-NMR spectra of **4b**



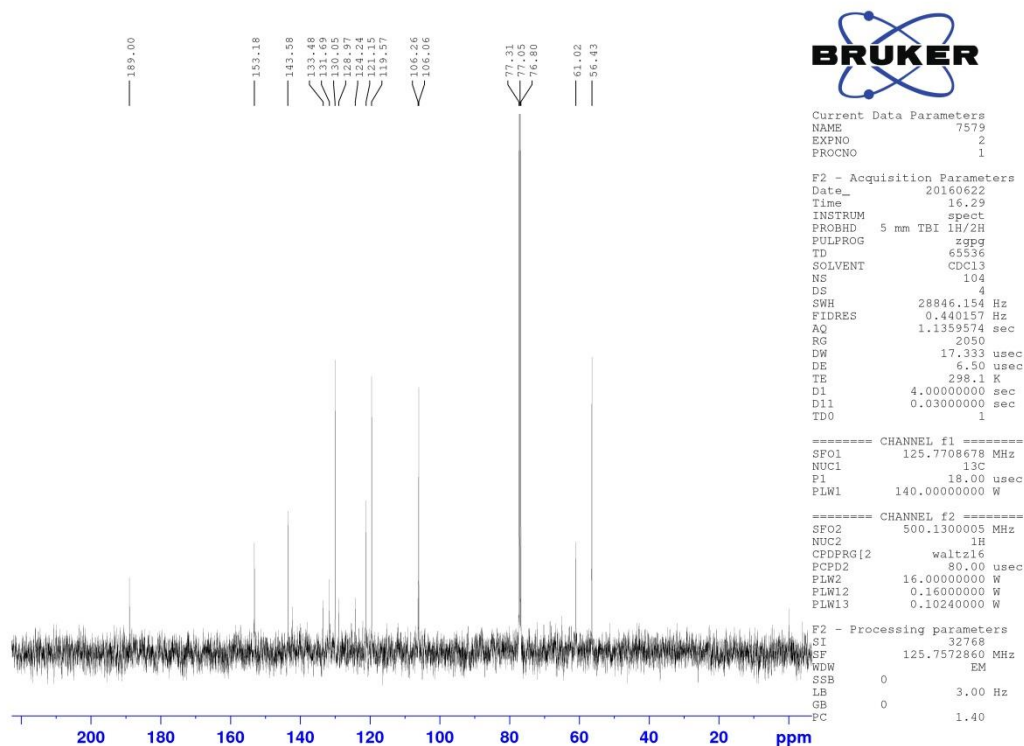
¹³C-NMR spectra of **4b**



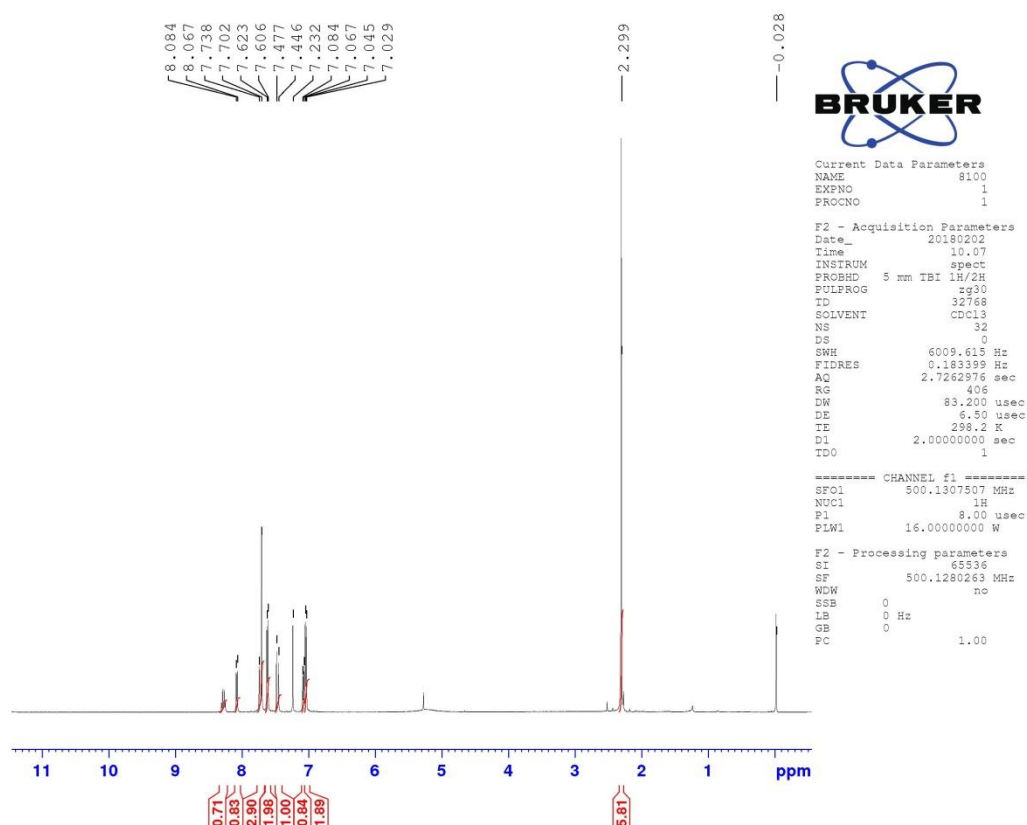
¹H-NMR spectra of 4c



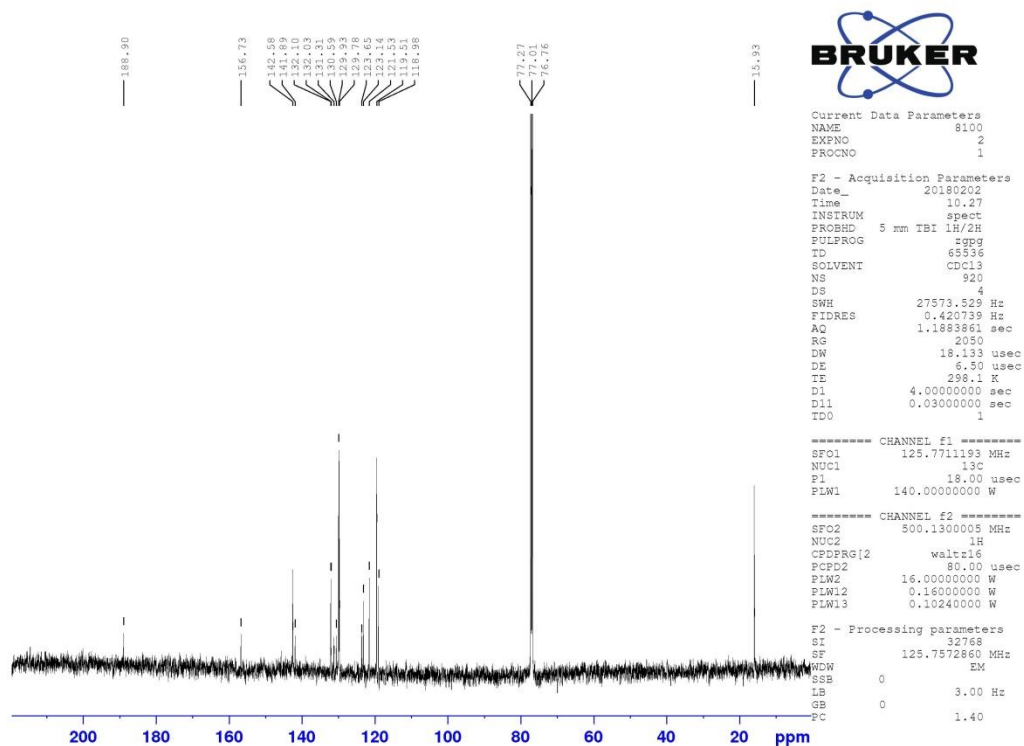
¹³C-NMR spectra of 4c

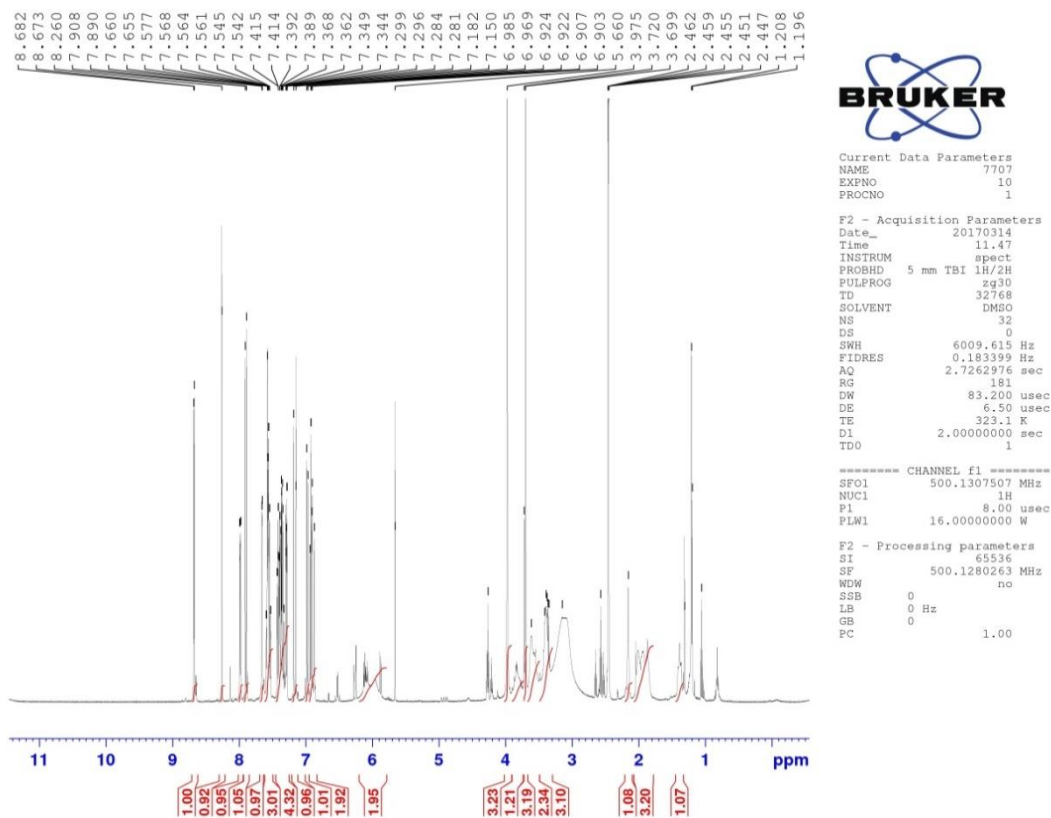
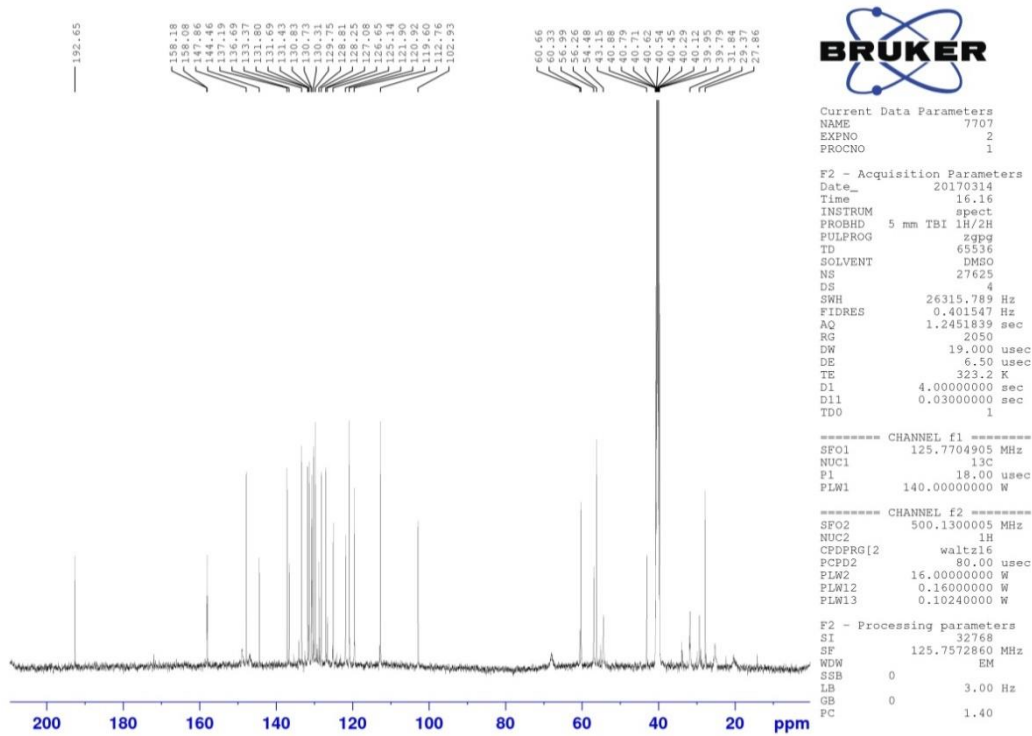


¹H-NMR spectra of **4d**

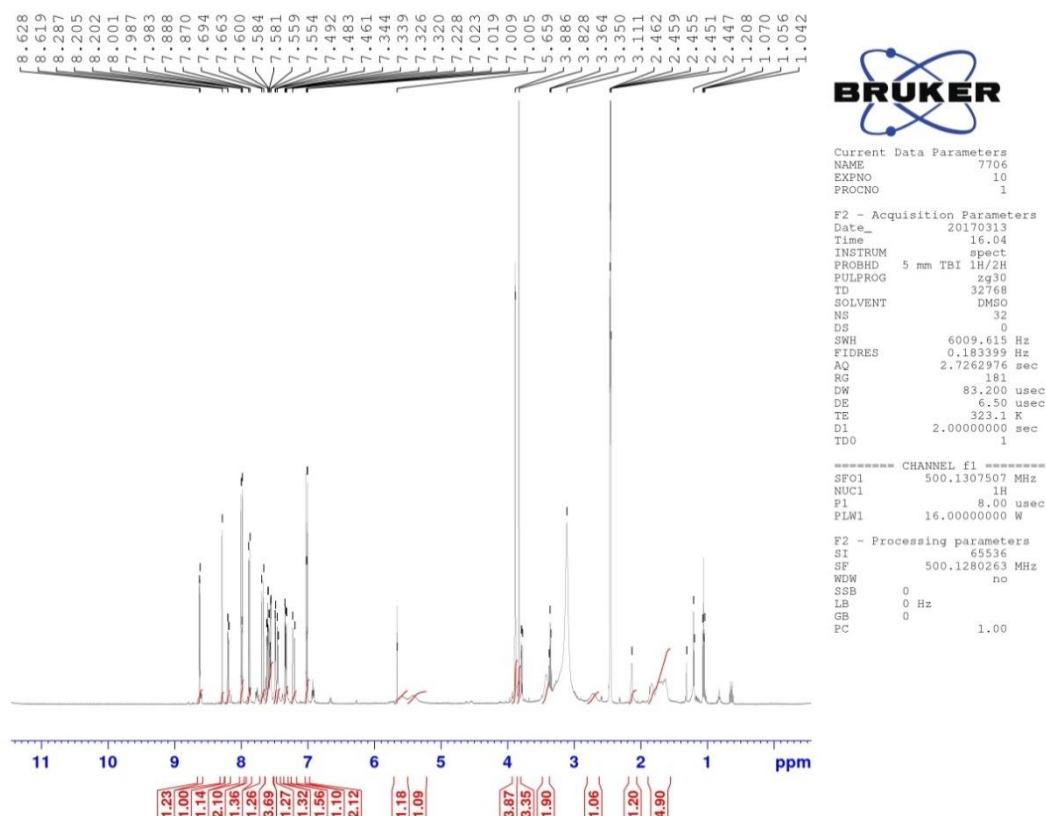


¹³C-NMR spectra of **4d**

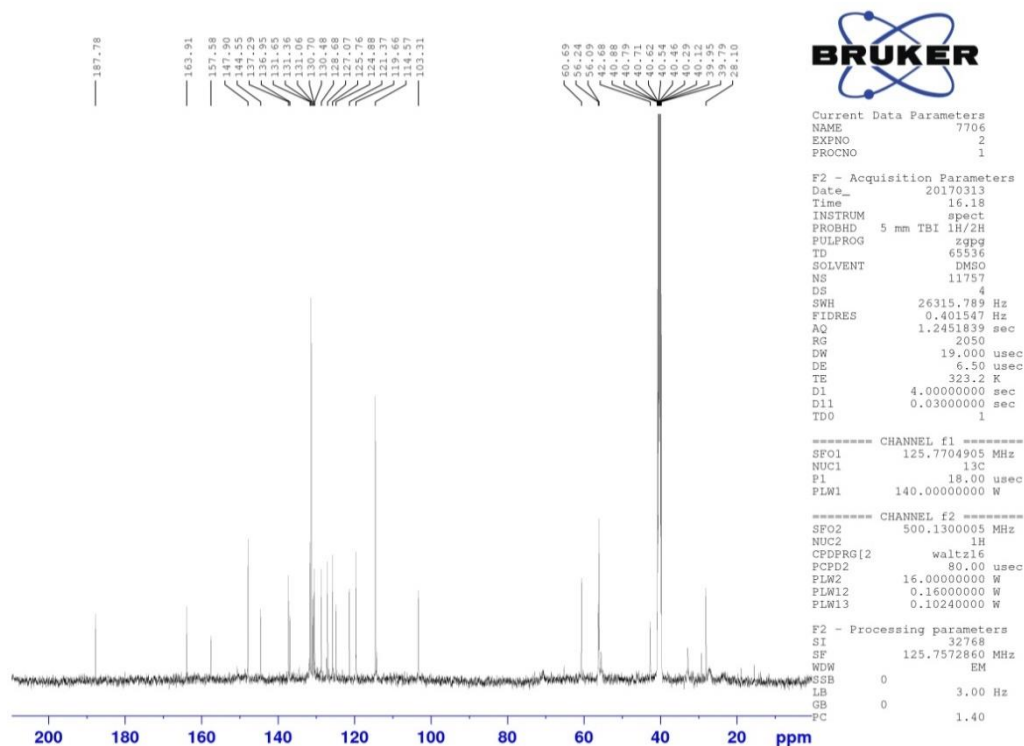


¹H-NMR spectra of **6a** ^{13}C -NMR spectra of **6a**

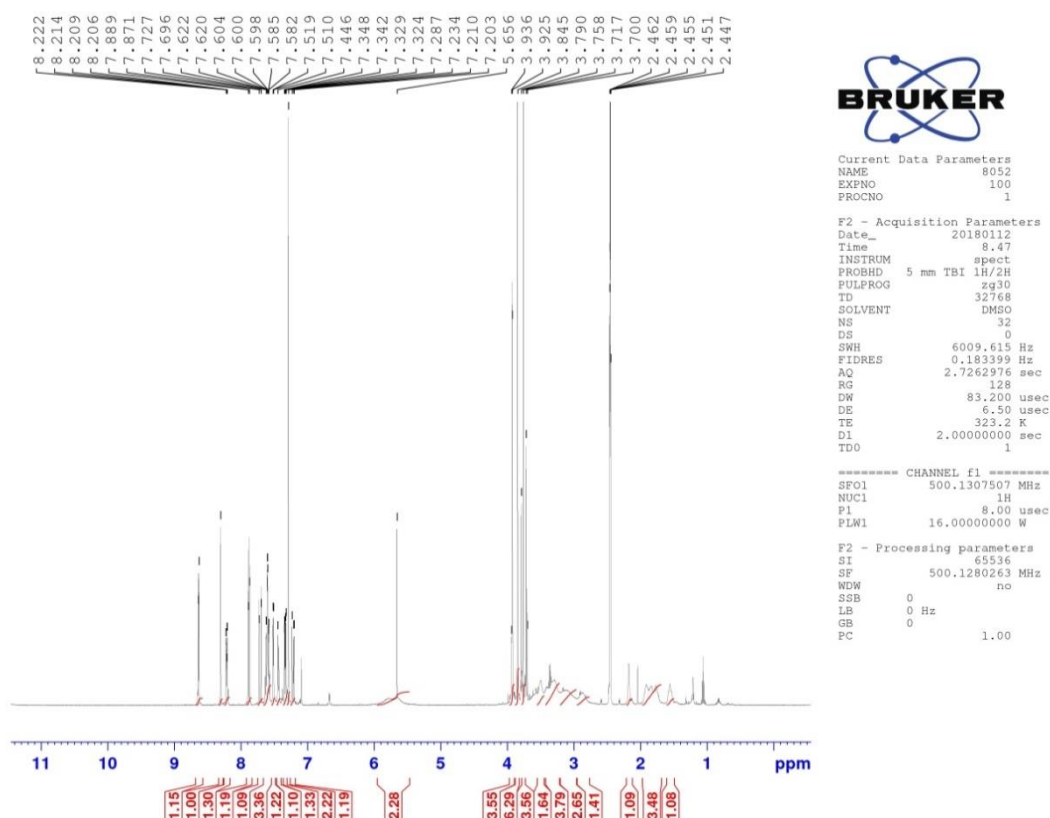
¹H-NMR spectra of **6b**



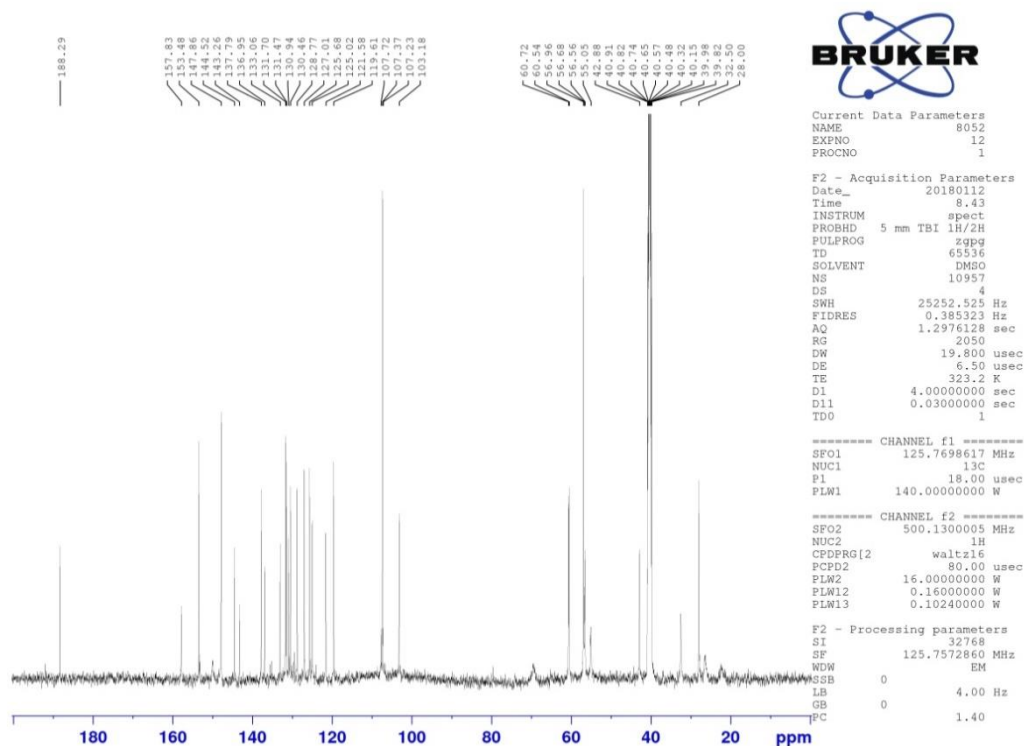
¹³C-NMR spectra of **6b**



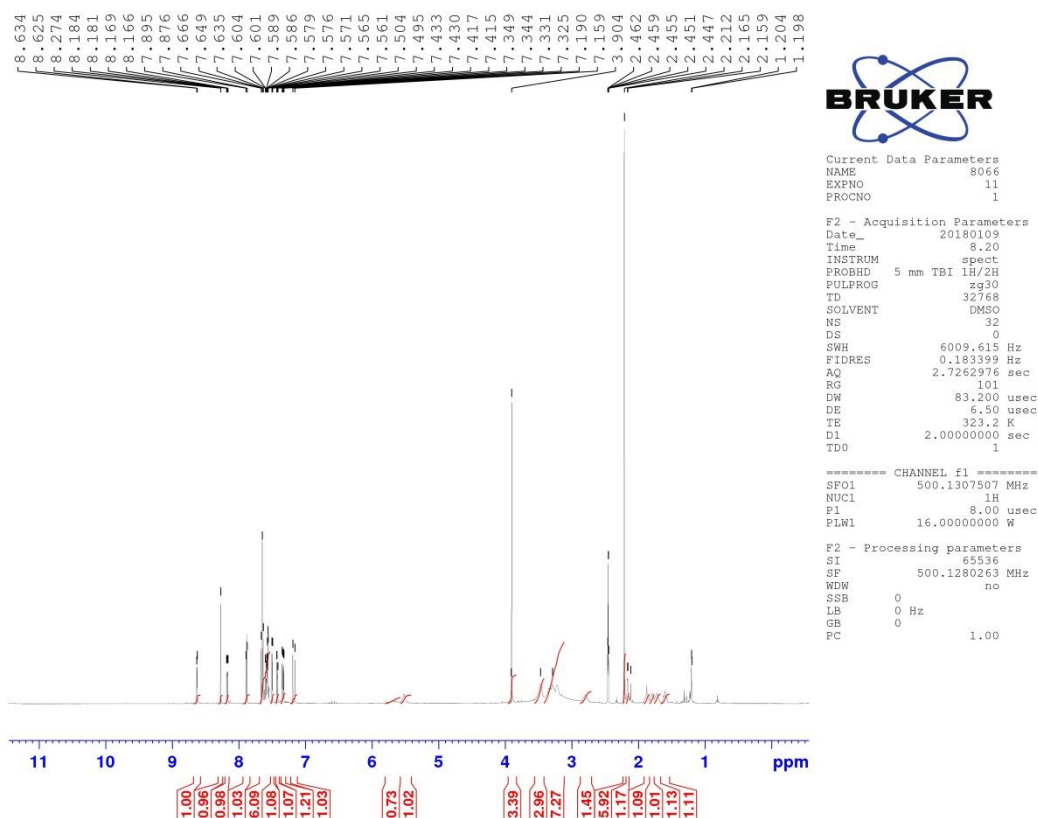
¹H-NMR spectra of **6c**



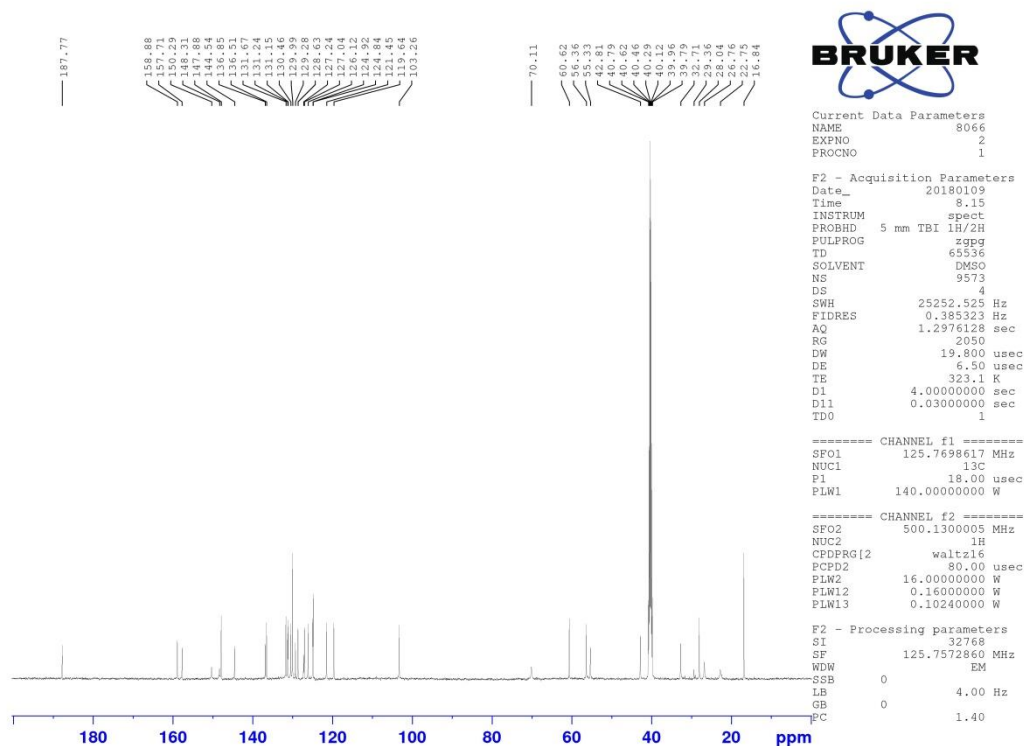
¹³C-NMR spectra of **6c**



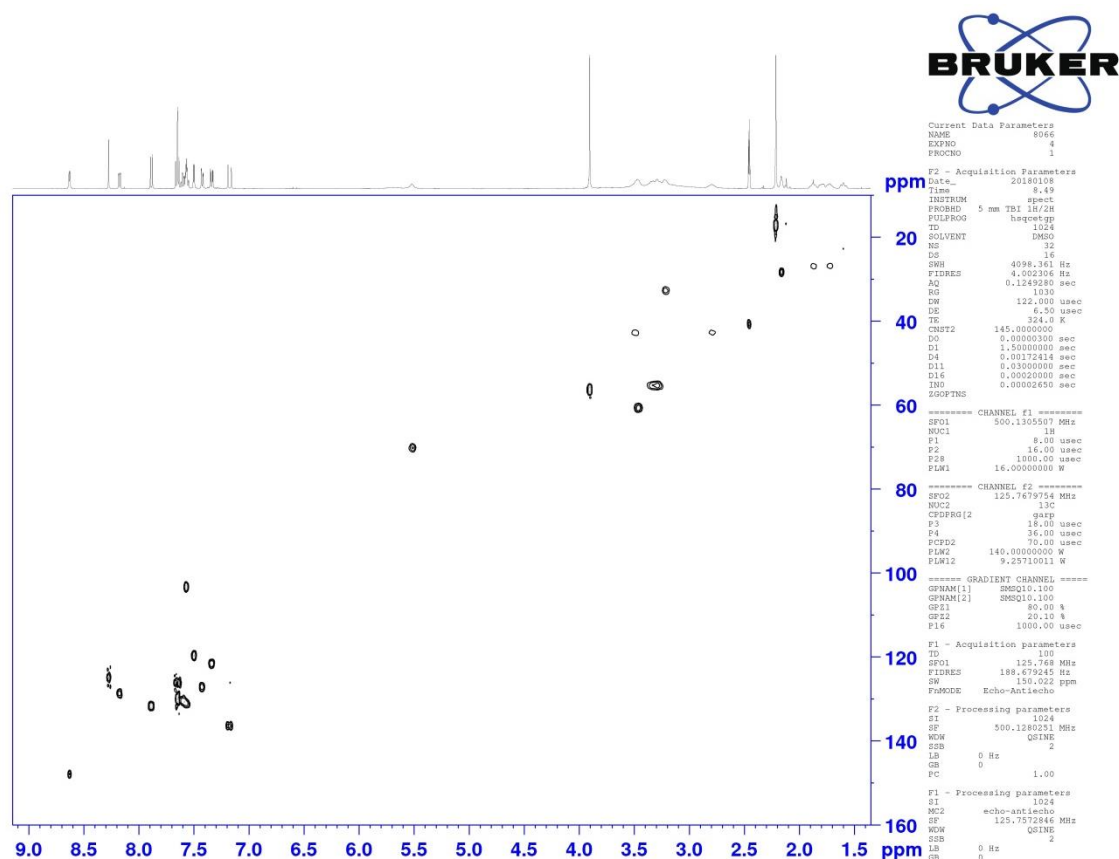
¹H-NMR spectra of **6d**



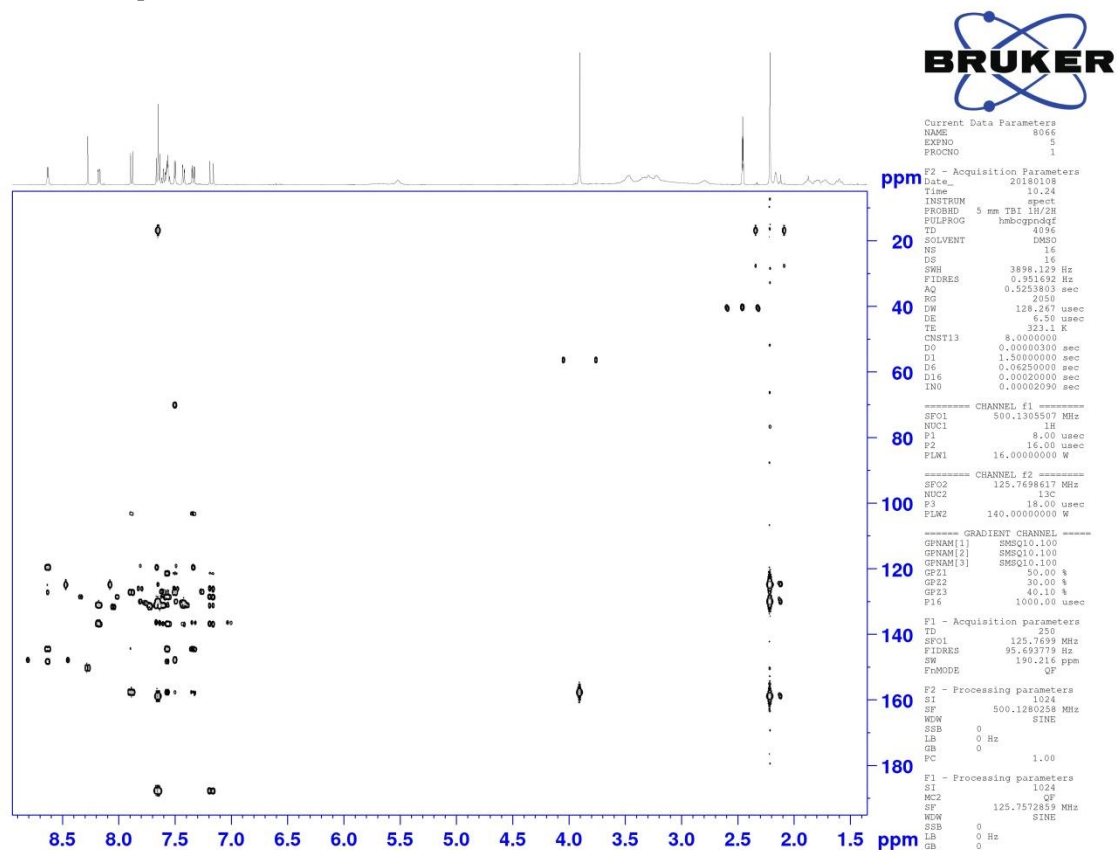
¹³C-NMR spectra of **6d**



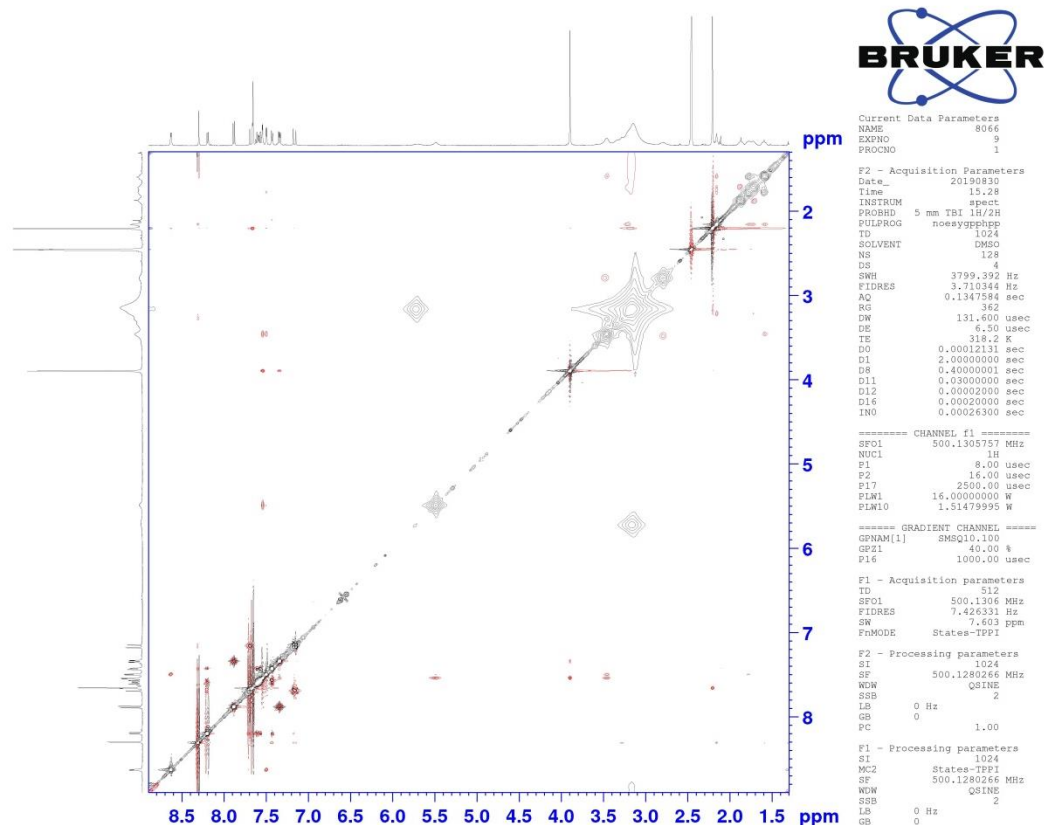
¹H-¹³C-HSQC spectra of **6d**



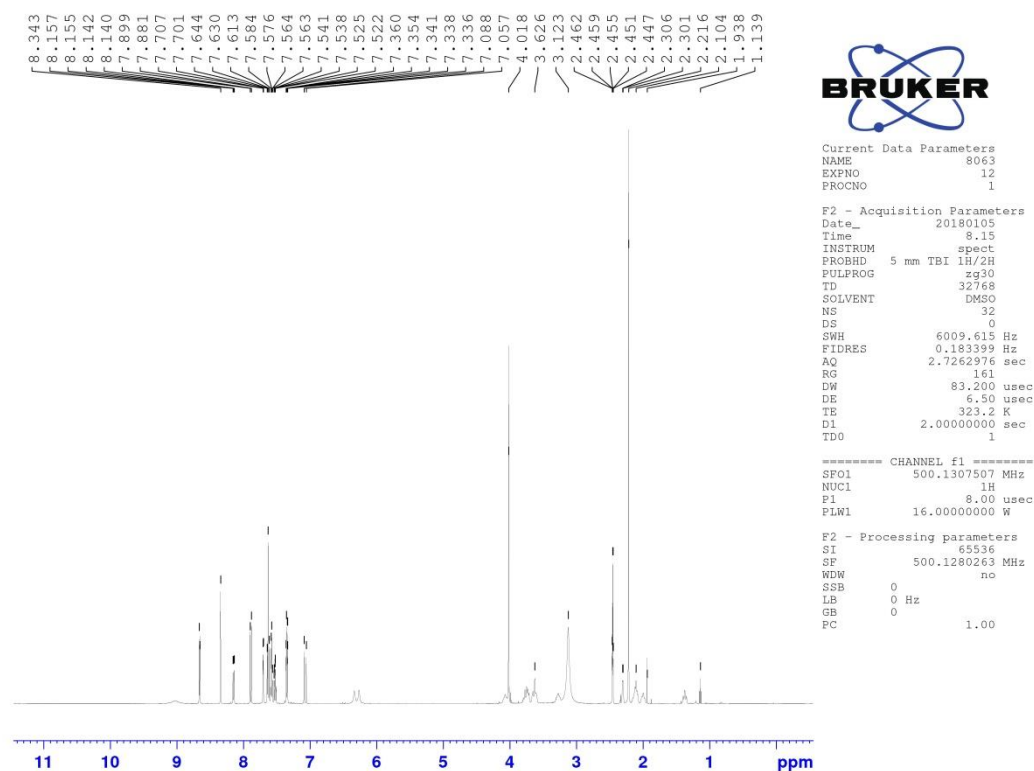
¹H-¹³C-HMBC spectra of **6d**



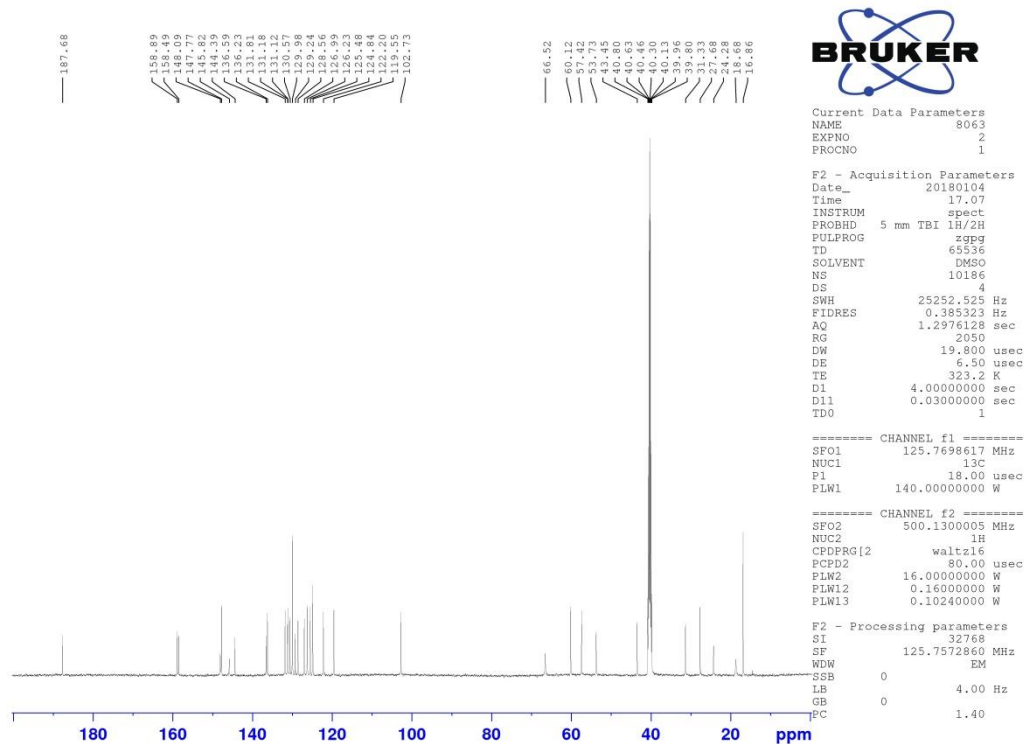
¹H-¹H-NOESY spectra of **6d**



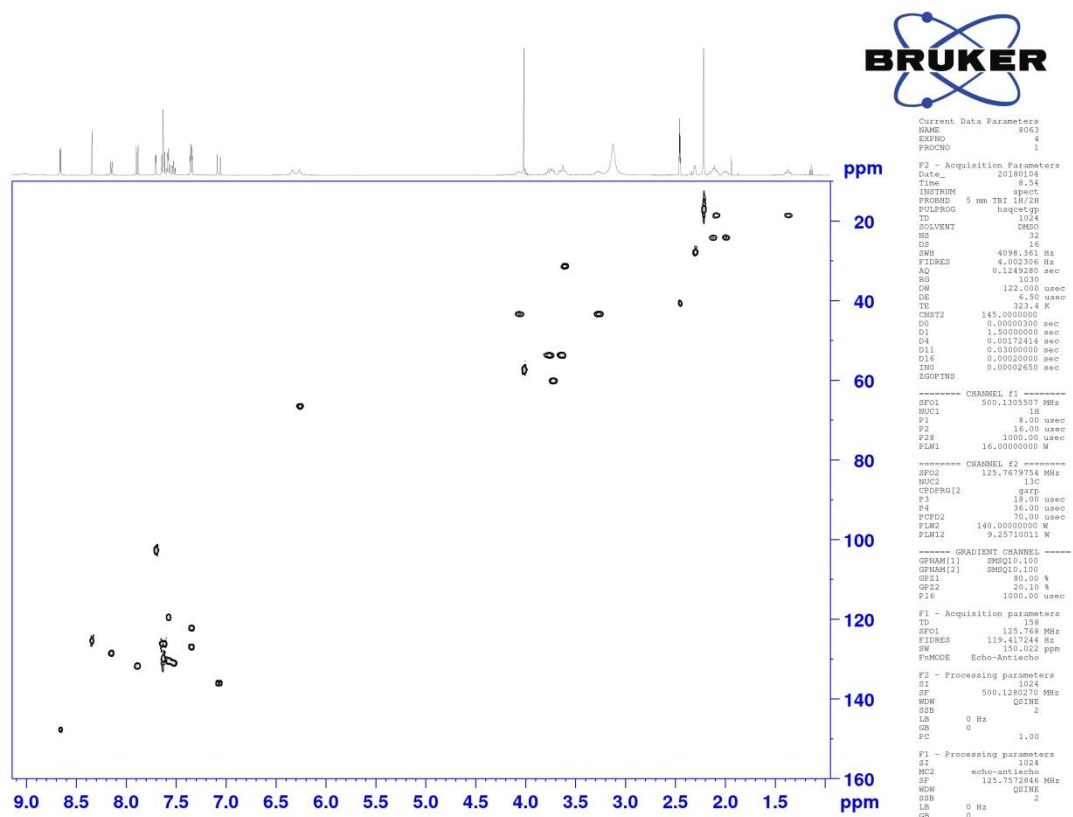
¹H-NMR spectra of **6*d**



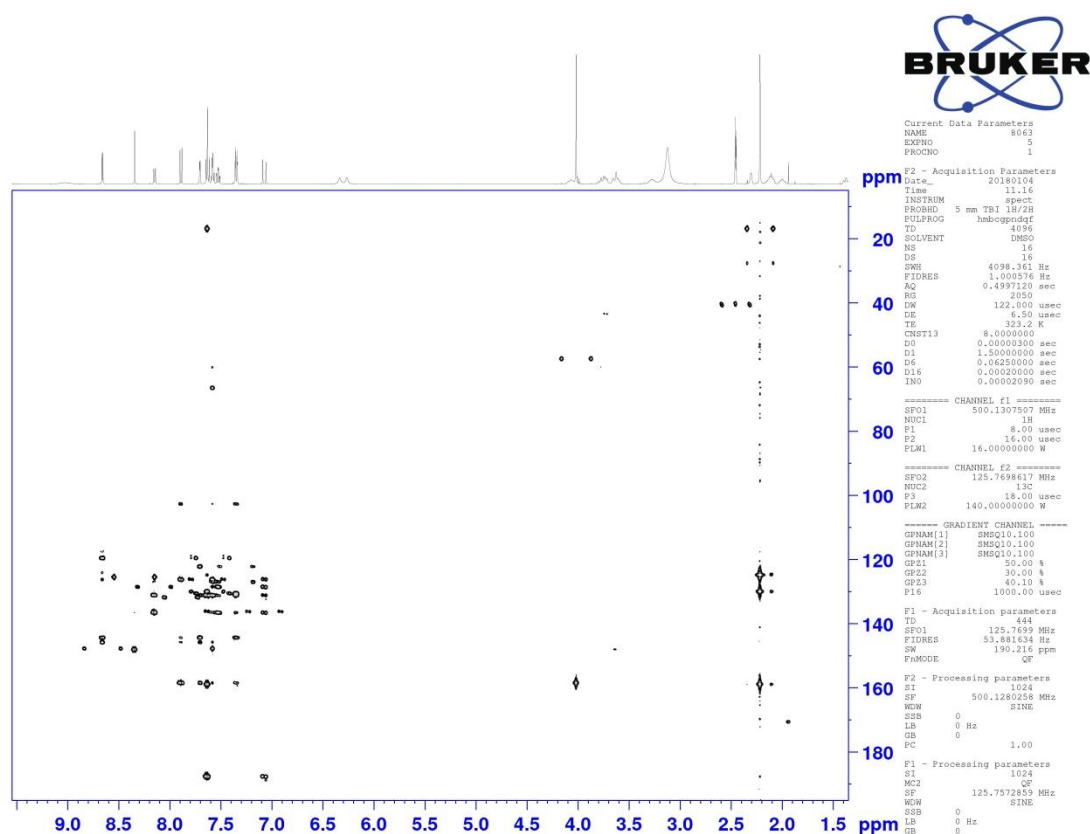
¹³C-NMR spectra of **6*d**



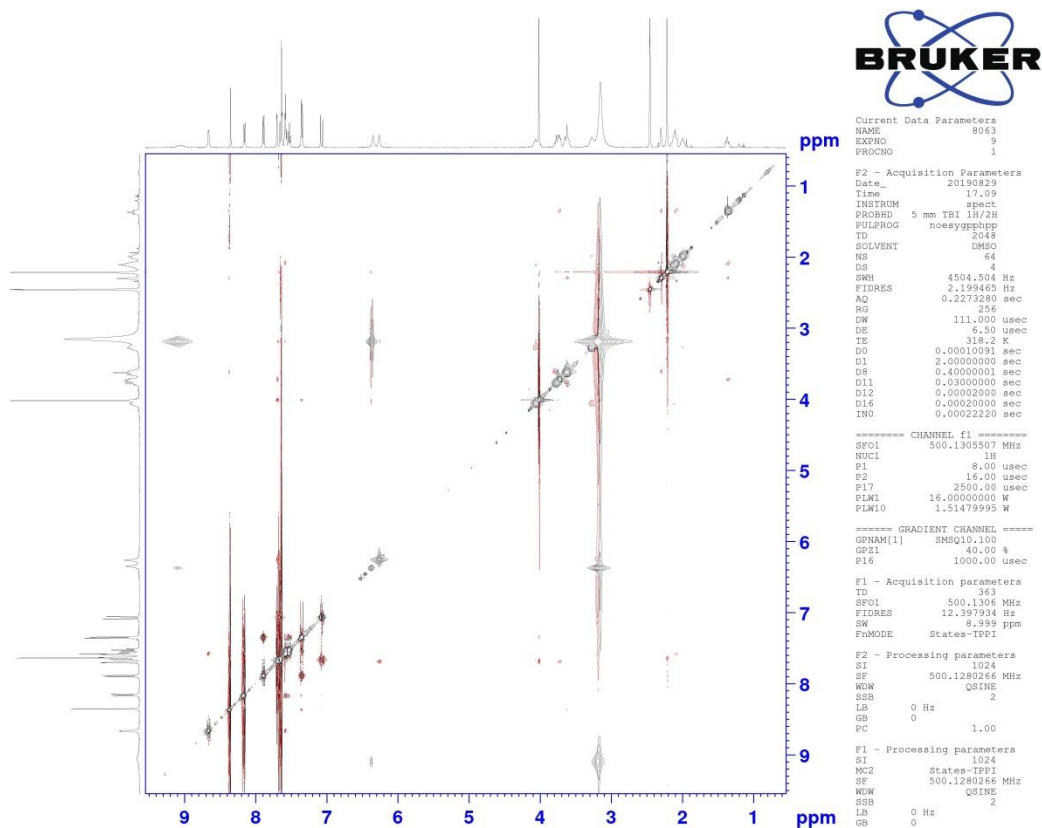
¹H-¹³C-HSQC spectra of **6d***



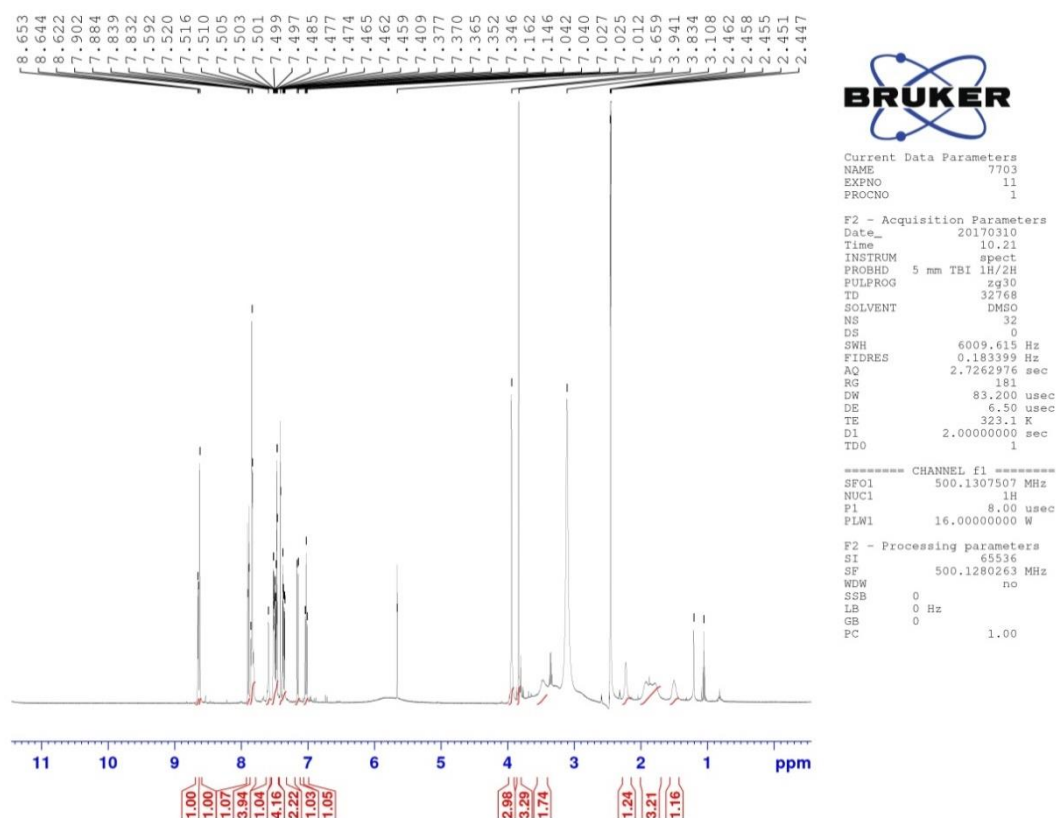
^1H - ^{13}C -HMBC spectra of **6d***



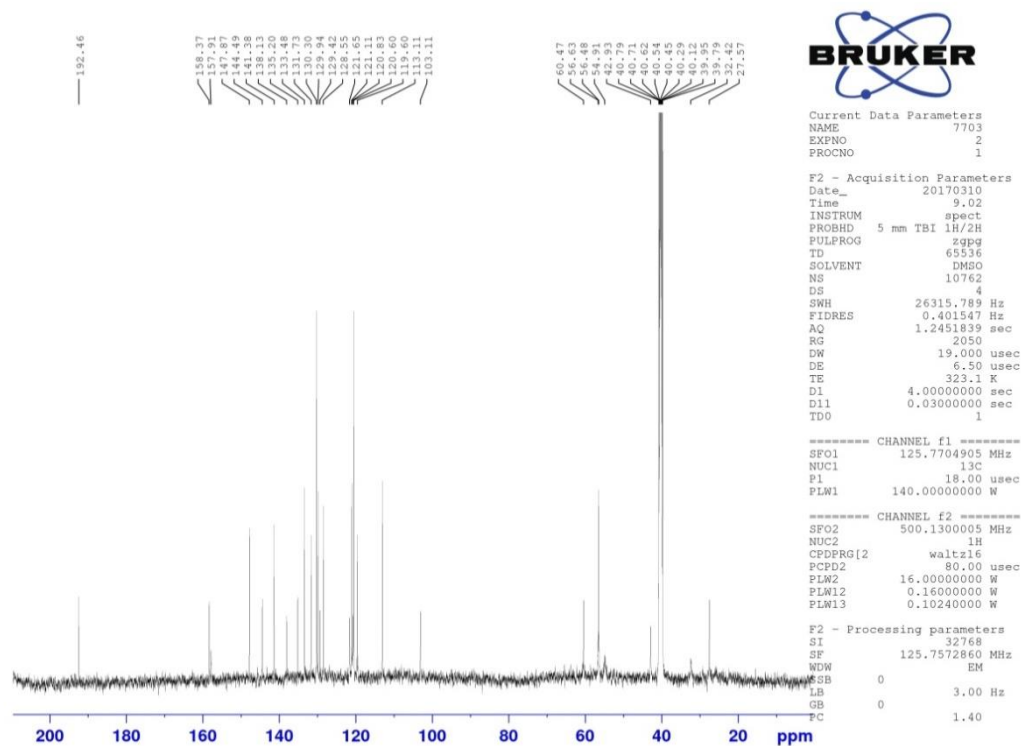
^1H - ^1H -NOESY spectra of **6d***



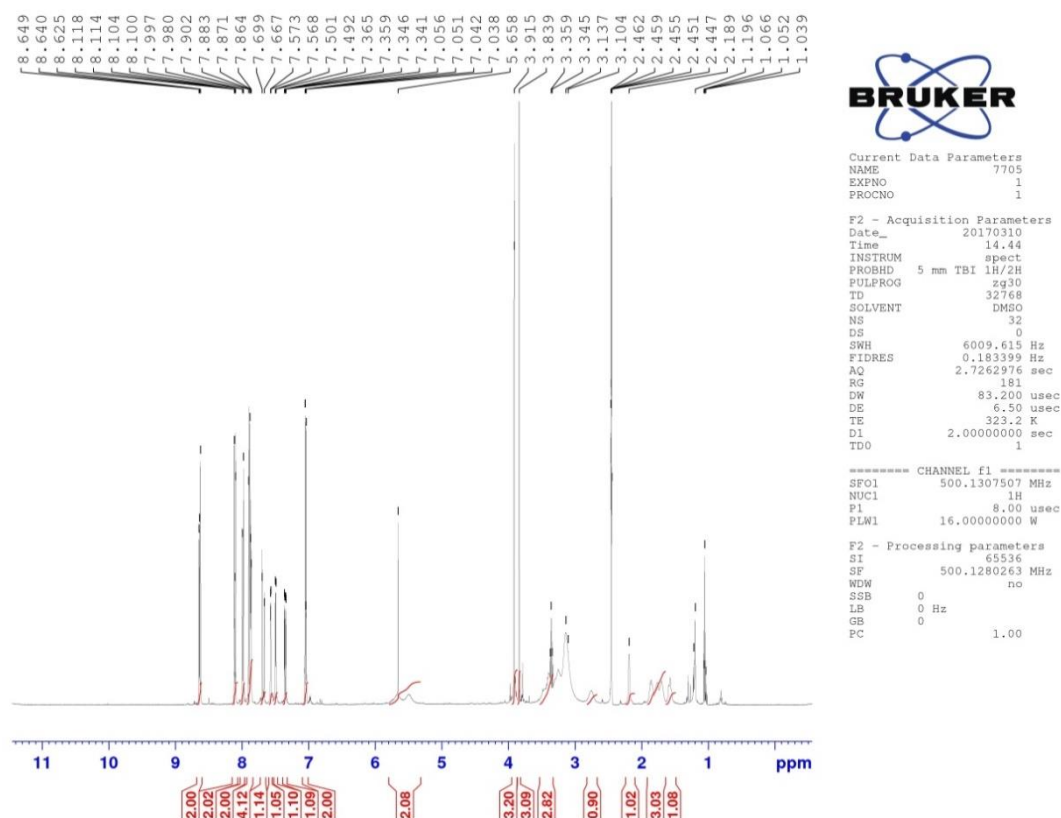
¹H-NMR spectra of 7a



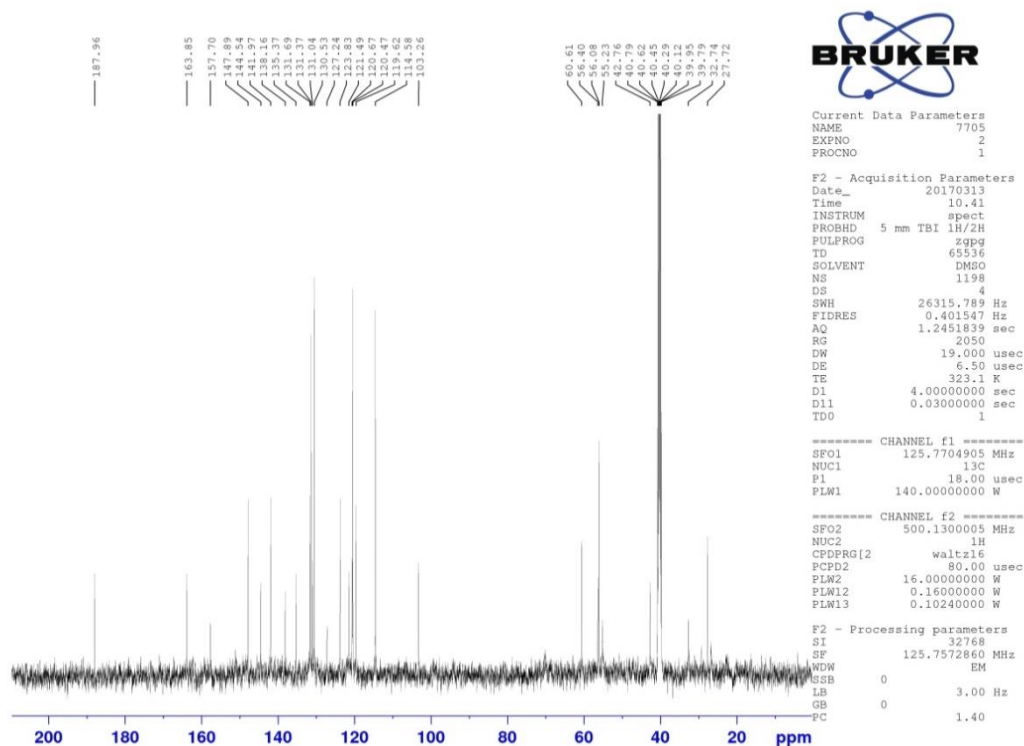
¹³C-NMR spectra of 7a



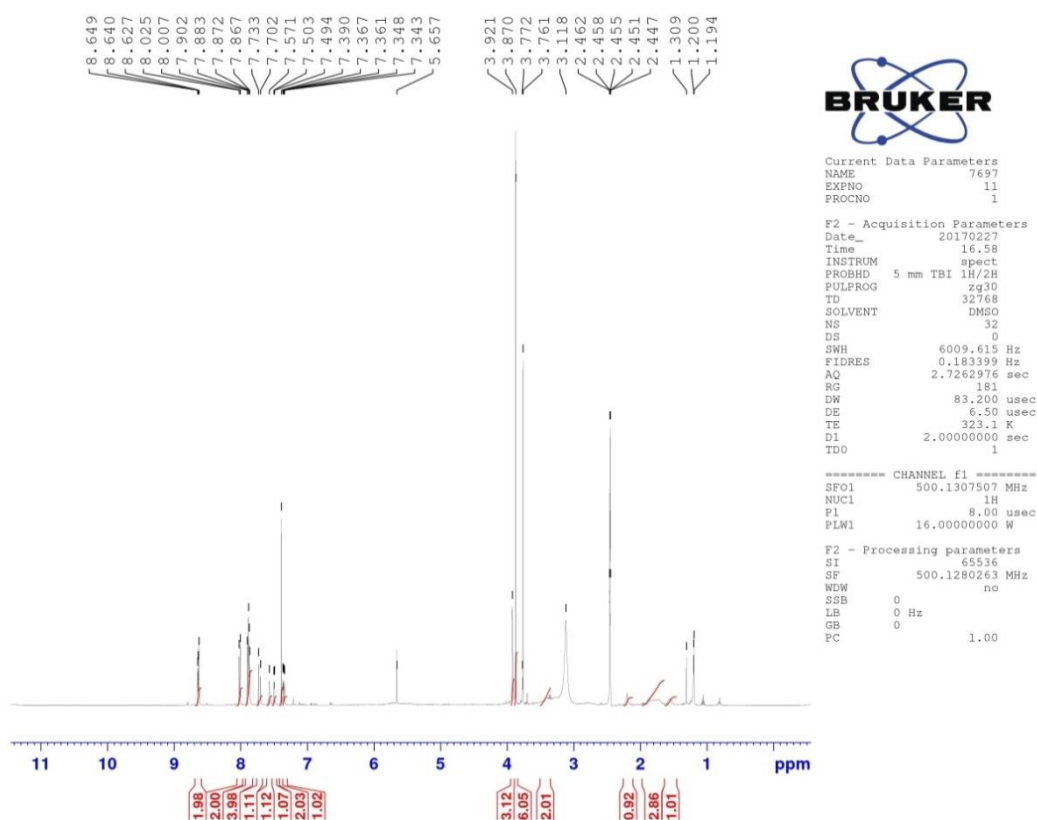
¹H-NMR spectra of **7b**



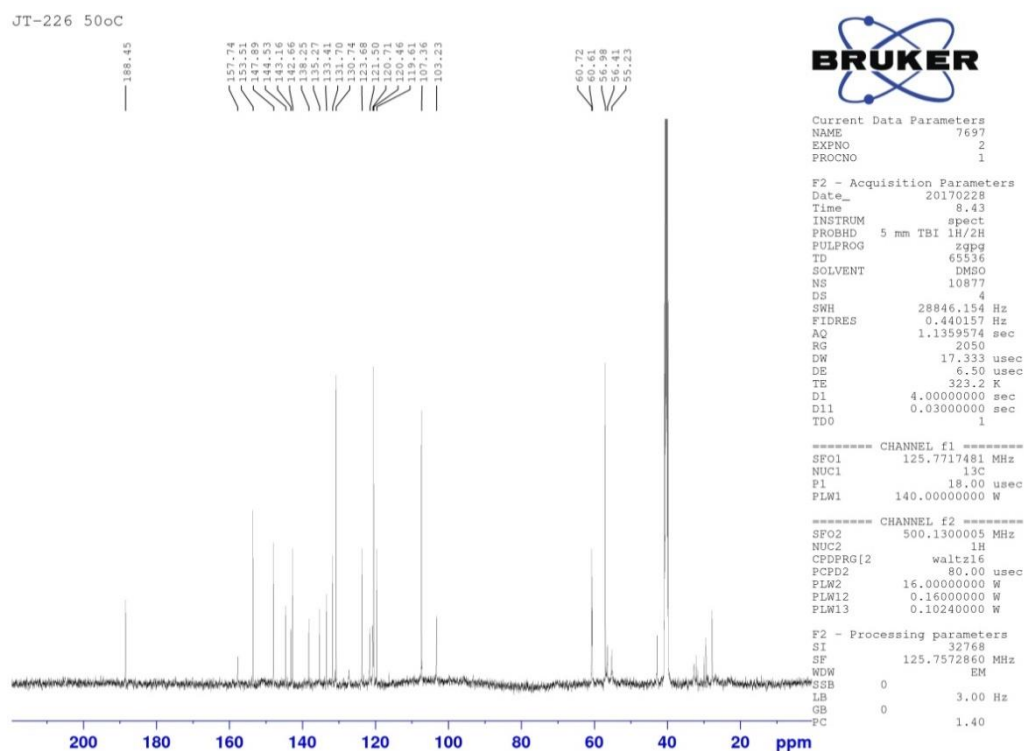
¹³C-NMR spectra of **7b**



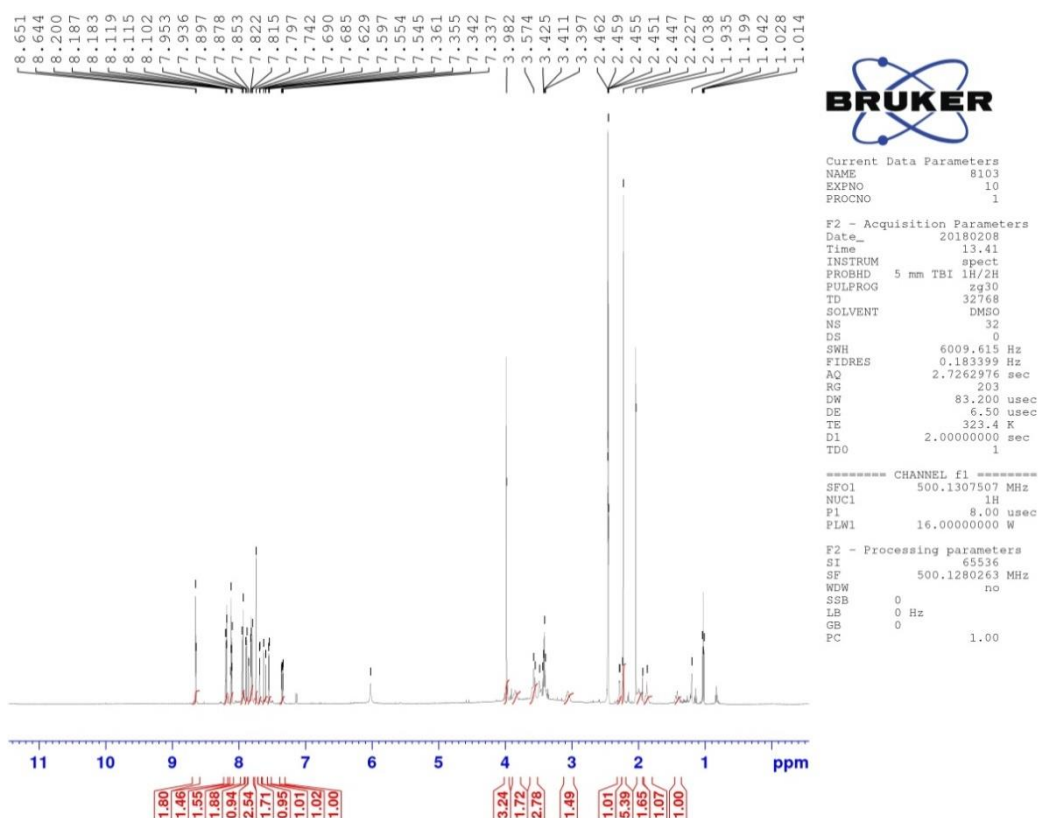
¹H-NMR spectra of 7c



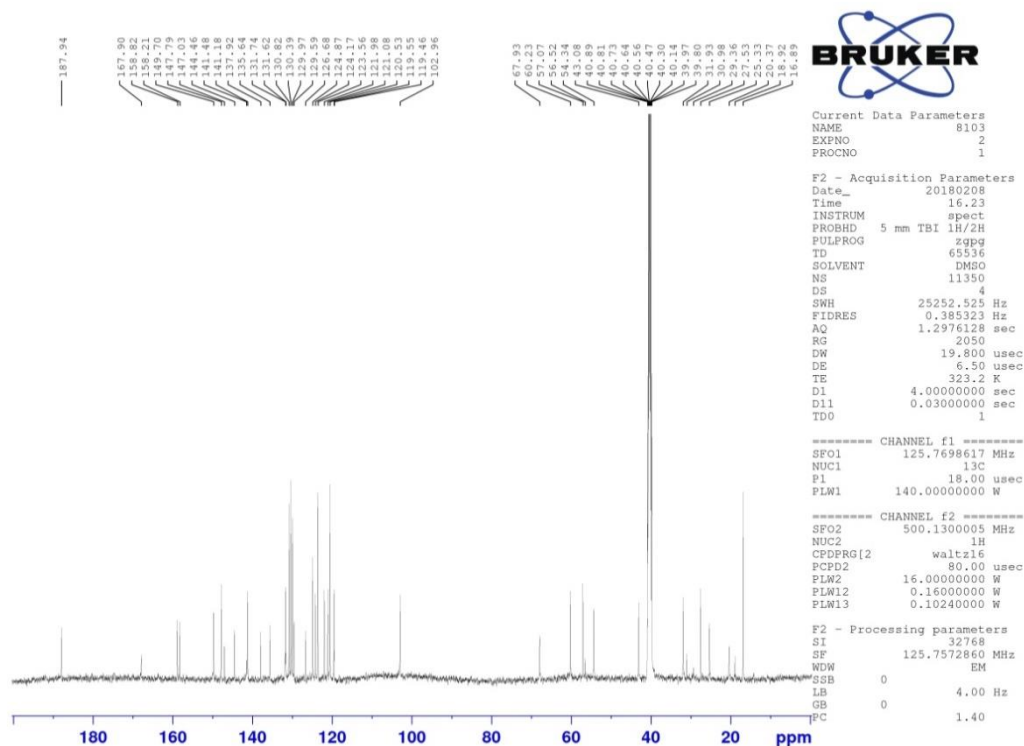
¹³C-NMR spectra of 7c



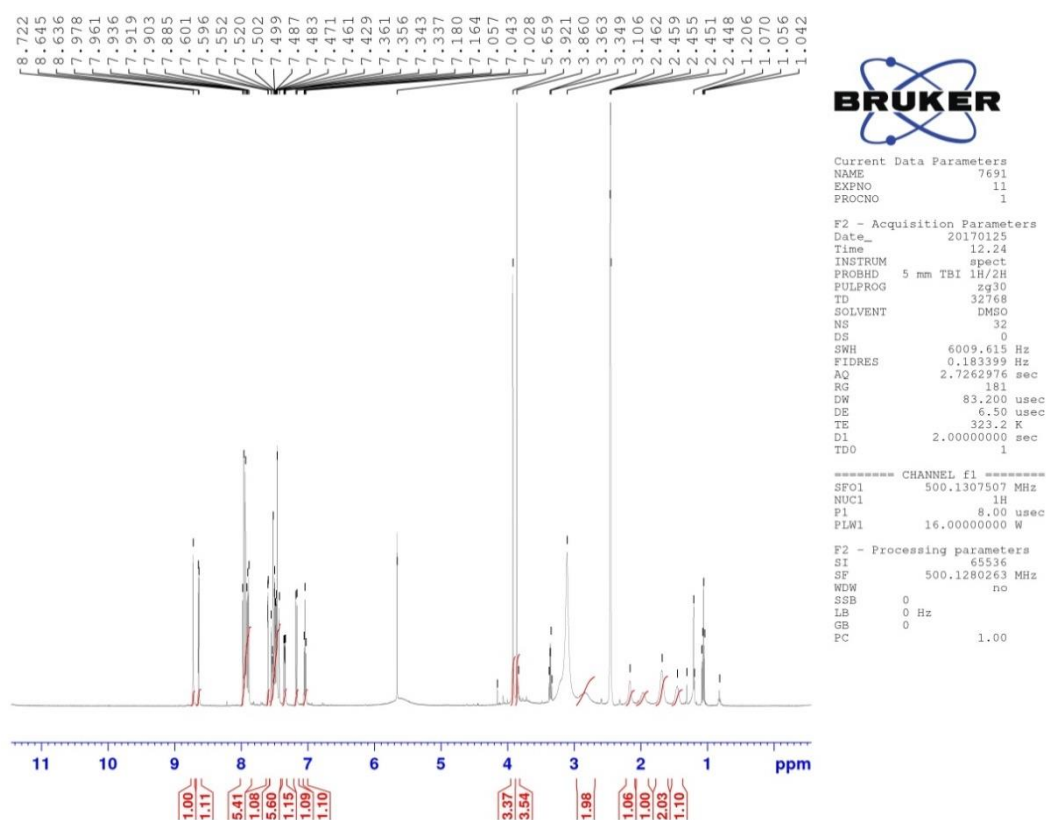
¹H-NMR spectra of **7d**



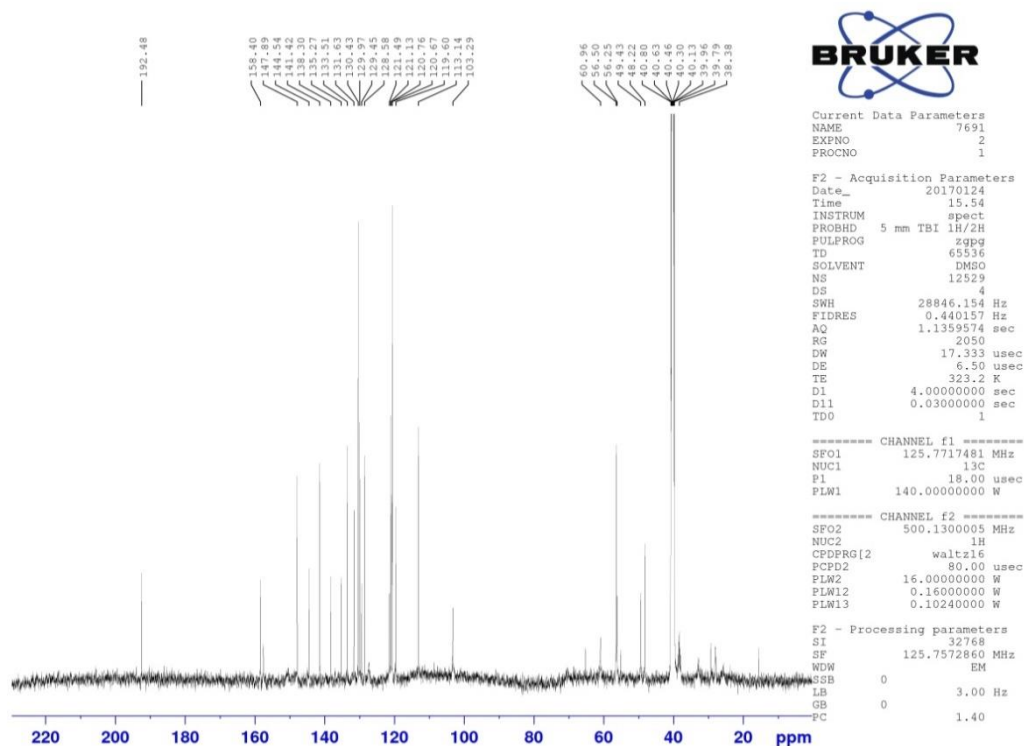
¹³C-NMR spectra of **7d**



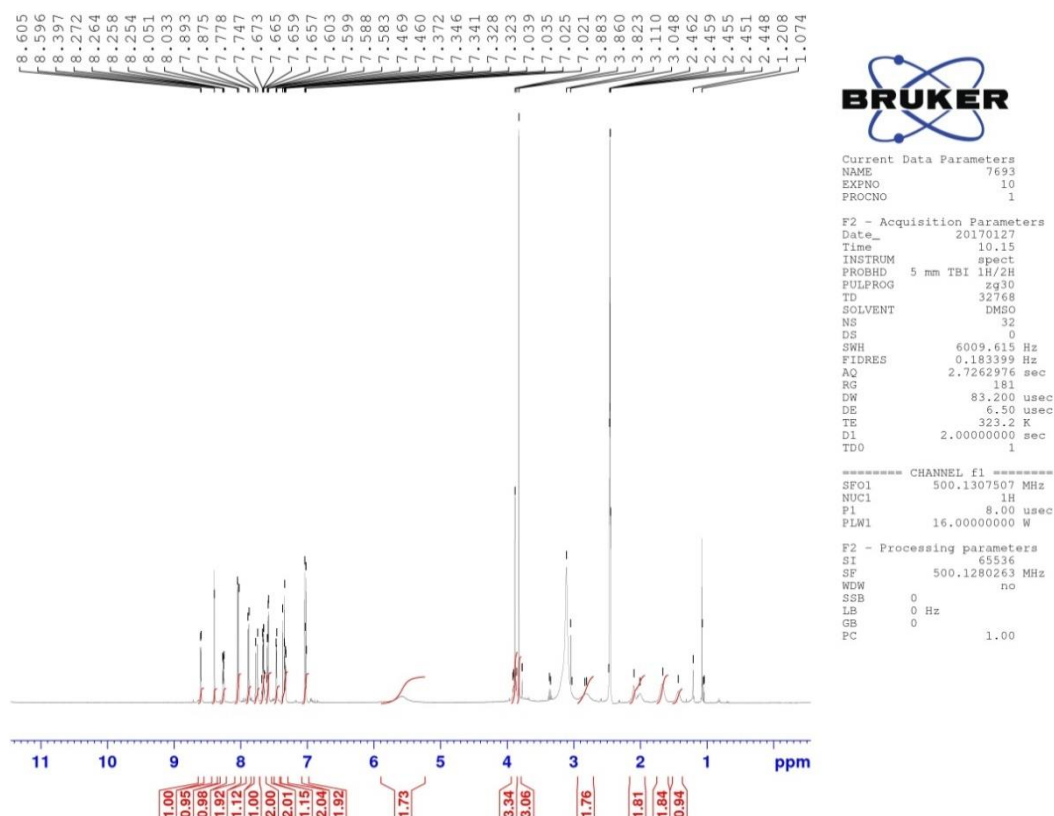
¹H-NMR spectra of **9a**



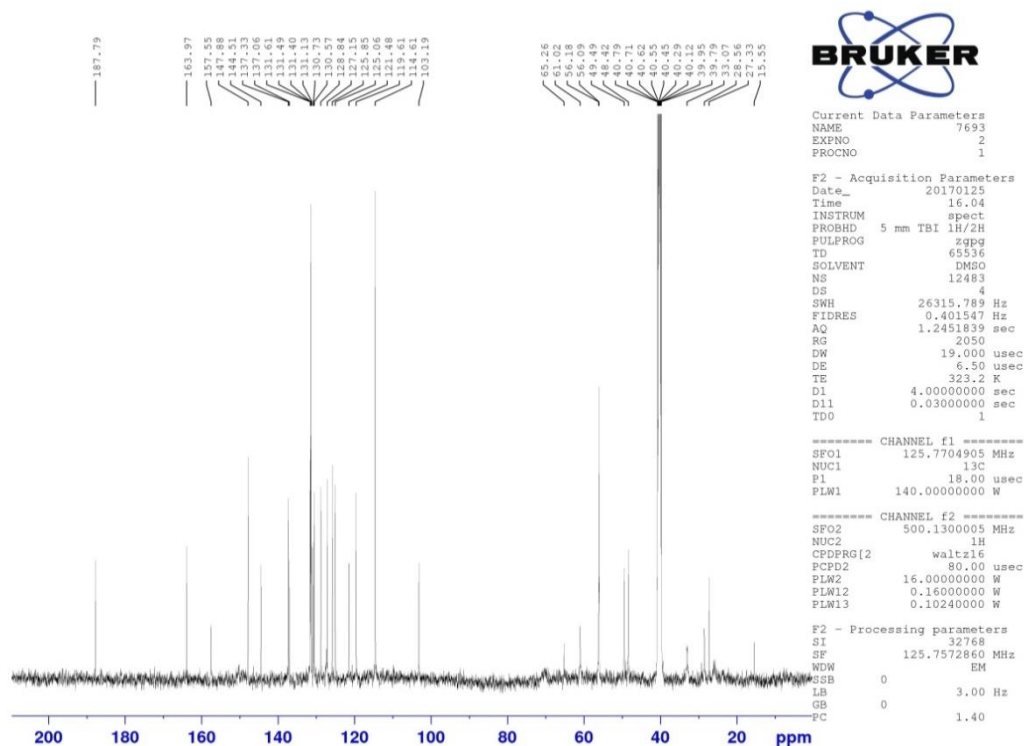
¹³C-NMR spectra of **9a**



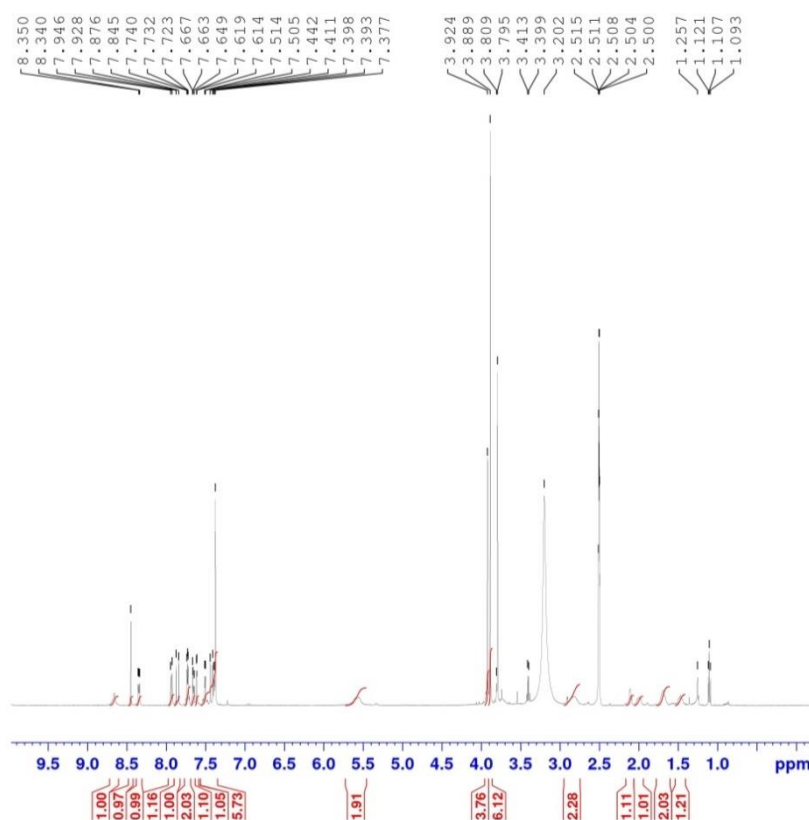
¹H-NMR spectra of **9b**



¹³C-NMR spectra of **9b**



¹H-NMR spectra of 9c



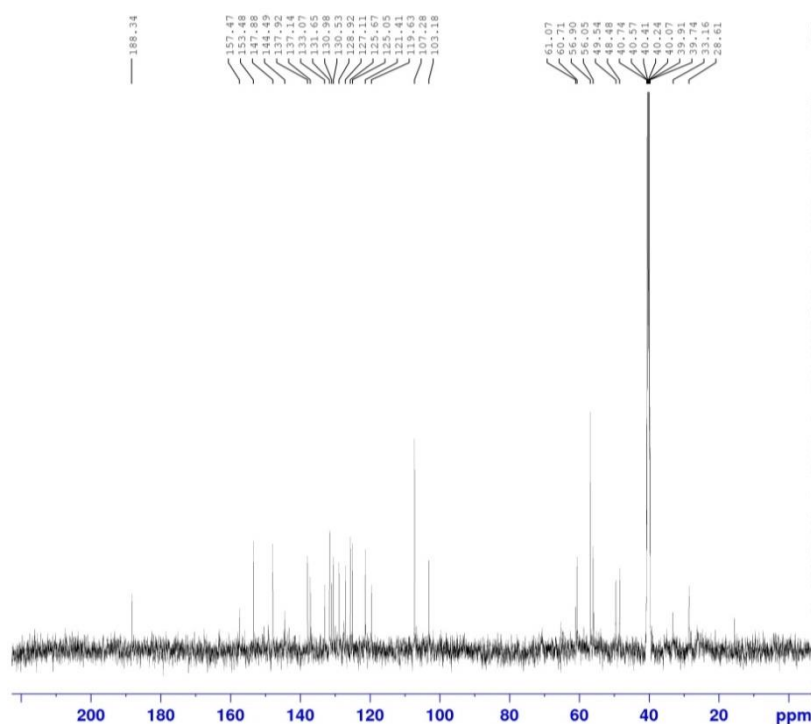
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 EXPNO 21
 PROCNO 1

F2 - Acquisition Parameters
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 PULPROG zg30
 TD 32768
 SOLVENT DMSO
 NS 32
 DS 0
 SWH 5081.301 Hz
 FIDRES 0.155069 Hz
 AQ 3.2243712 sec
 RG 128
 DW 98.400 usec
 DE 6.50 usec
 TE 323.1 K
 D1 2.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 SF01 500.1304465 MHz
 NUC1 1H
 P1 8.00 usec
 PLW1 16.00000000 W

F2 - Processing parameters
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 SF 500.1280000 MHz
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 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

¹³C-NMR spectra of 9c



Current Data Parameters
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 EXPNO 2
 PROCNO 1

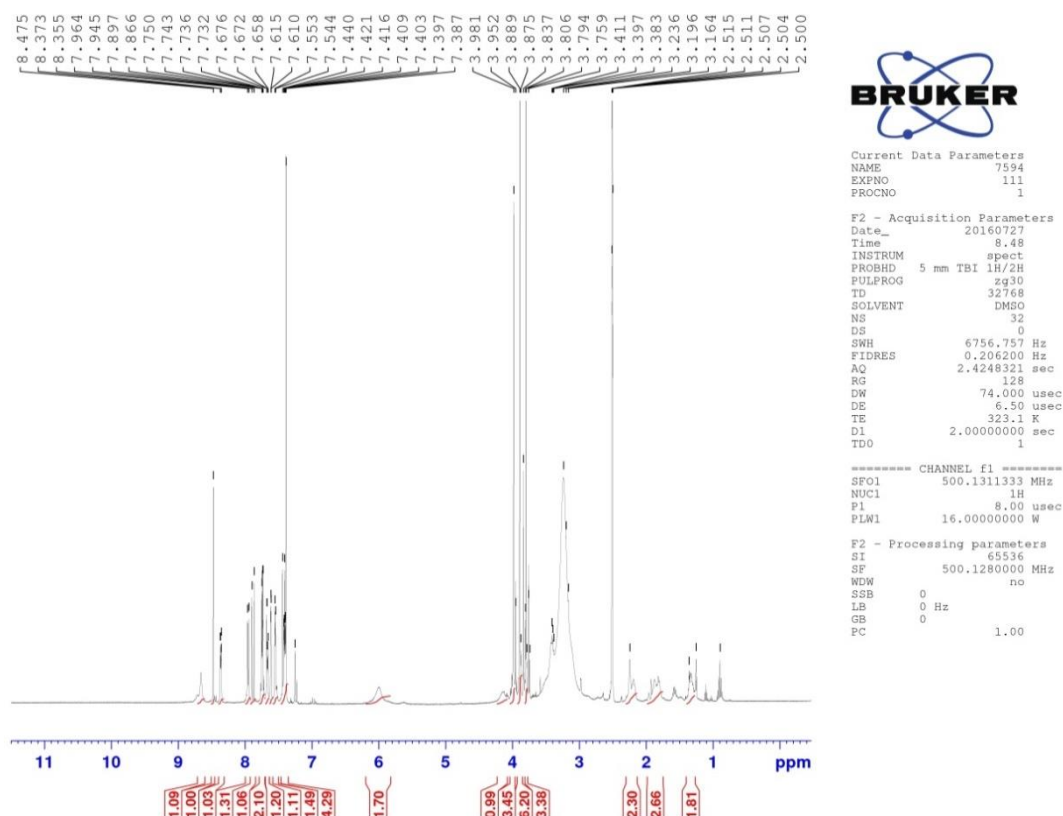
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 Time_ 14.58
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 PULPROG zgpg
 TD 65536
 SOLVENT DMSO
 NS 1600
 DS 4
 SWH 28846.154 Hz
 FIDRES 0.440157 Hz
 AQ 1.1359574 sec
 RG 2050
 DW 17.333 usec
 DE 6.50 usec
 TE 323.2 K
 D1 4.00000000 sec
 D11 0.03000000 sec
 TD0 1

===== CHANNEL f1 =====
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 NUC1 13C
 P1 18.00 usec
 PLW1 140.00000000 W

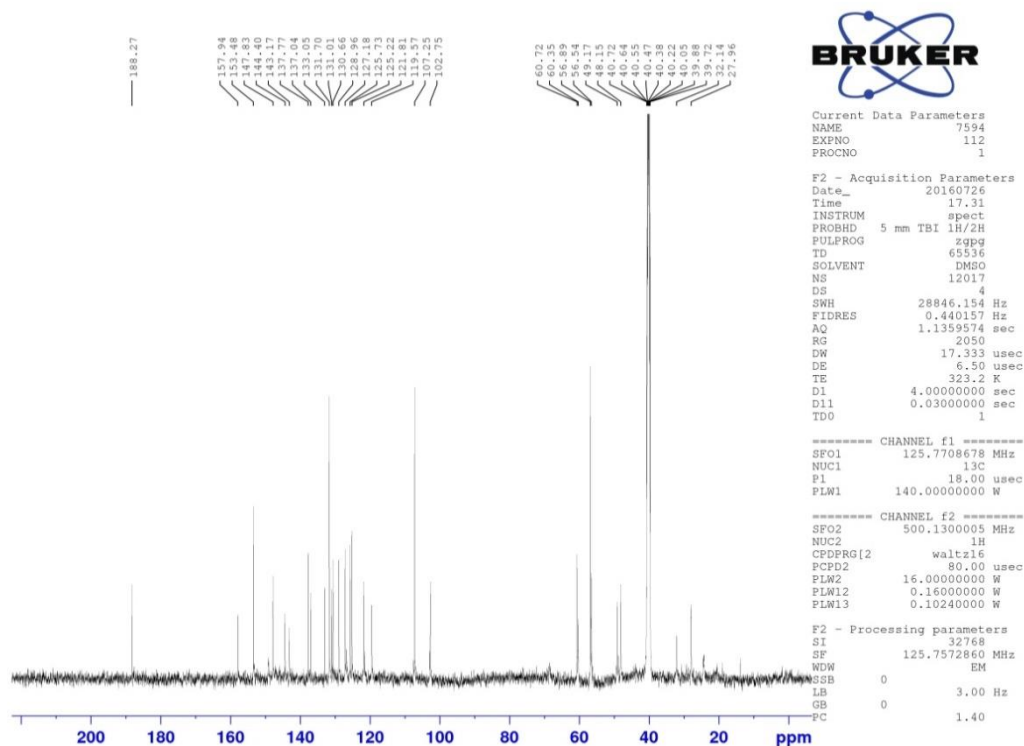
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 CPDPRG2 waltz16
 PCPD2 80.00 usec
 PLW2 16.00000000 W
 PLW12 0.16000000 W
 PLW13 0.10240000 W

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

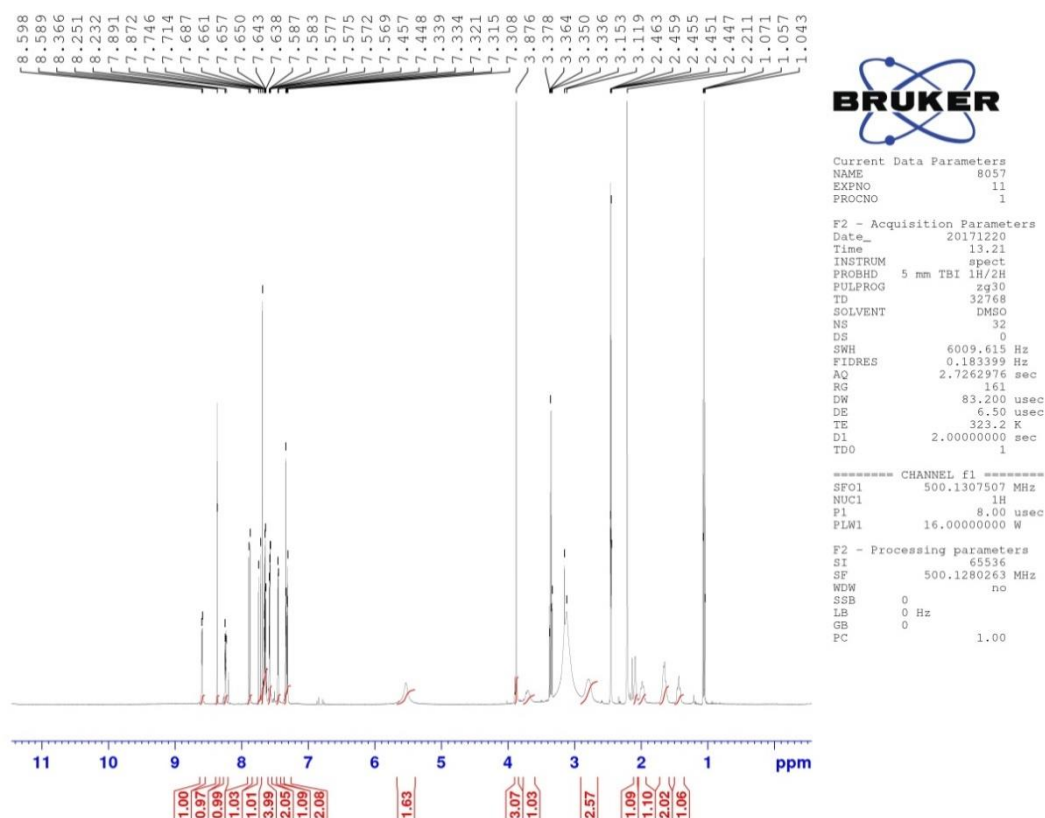
¹H-NMR spectra of 9*c



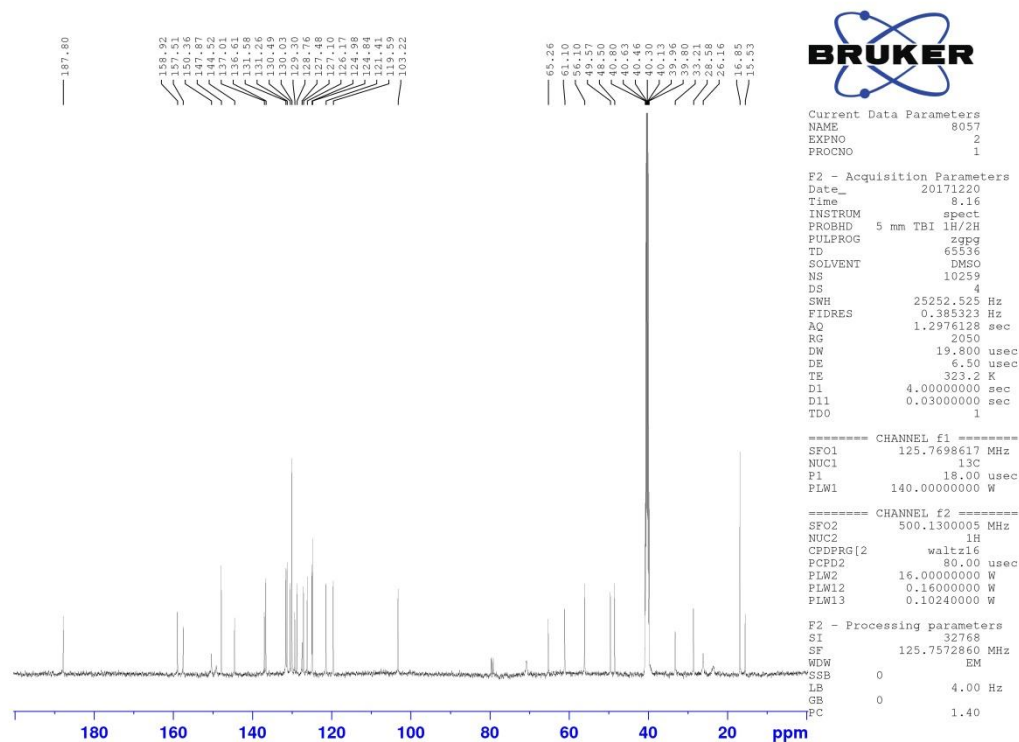
¹³C-NMR spectra of 9*c



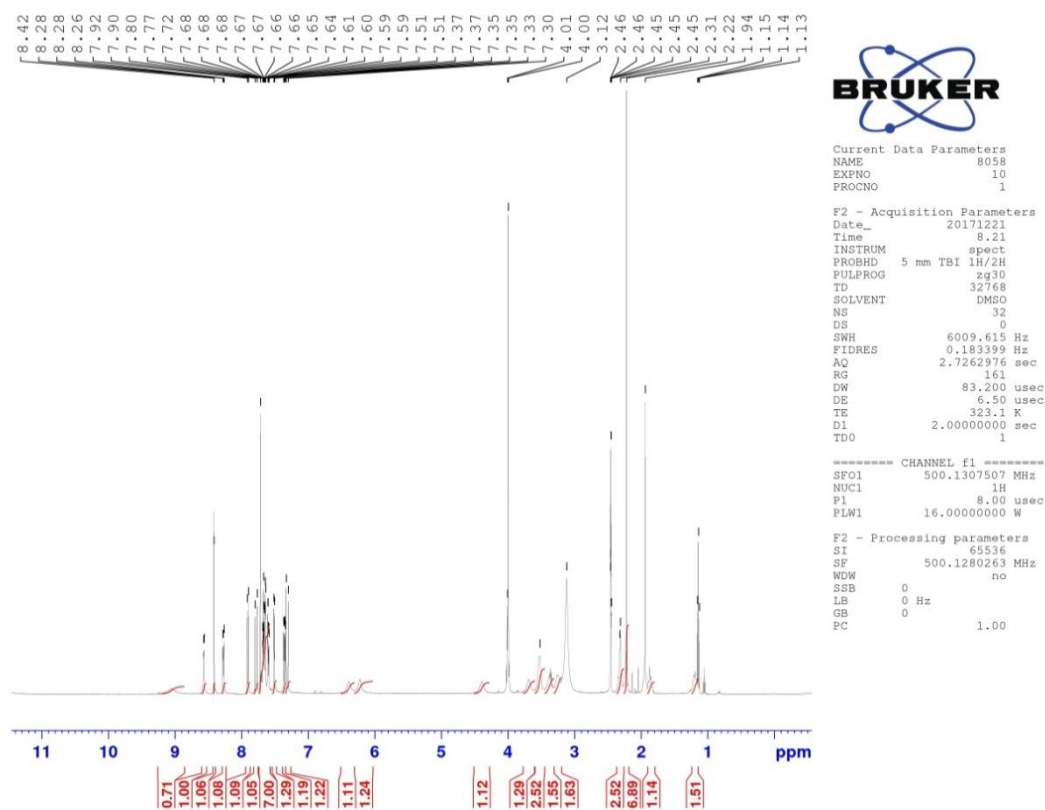
¹H-NMR spectra of **9d**



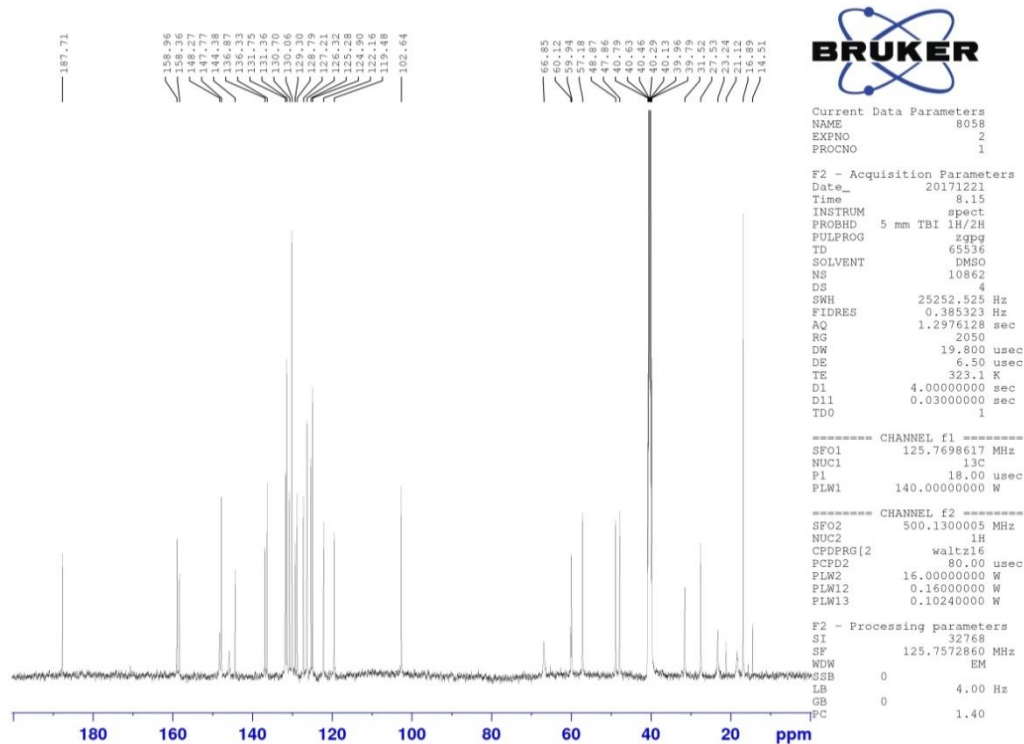
¹³C-NMR spectra of **9d**



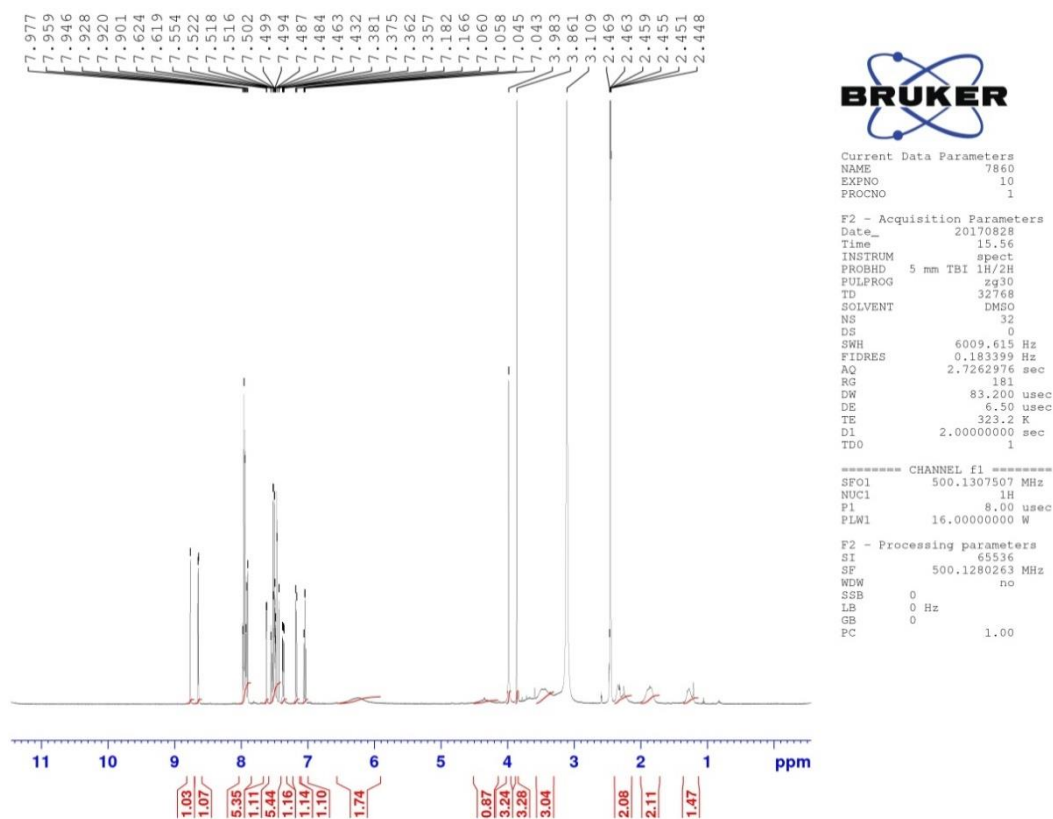
¹H-NMR spectra of **9*d**



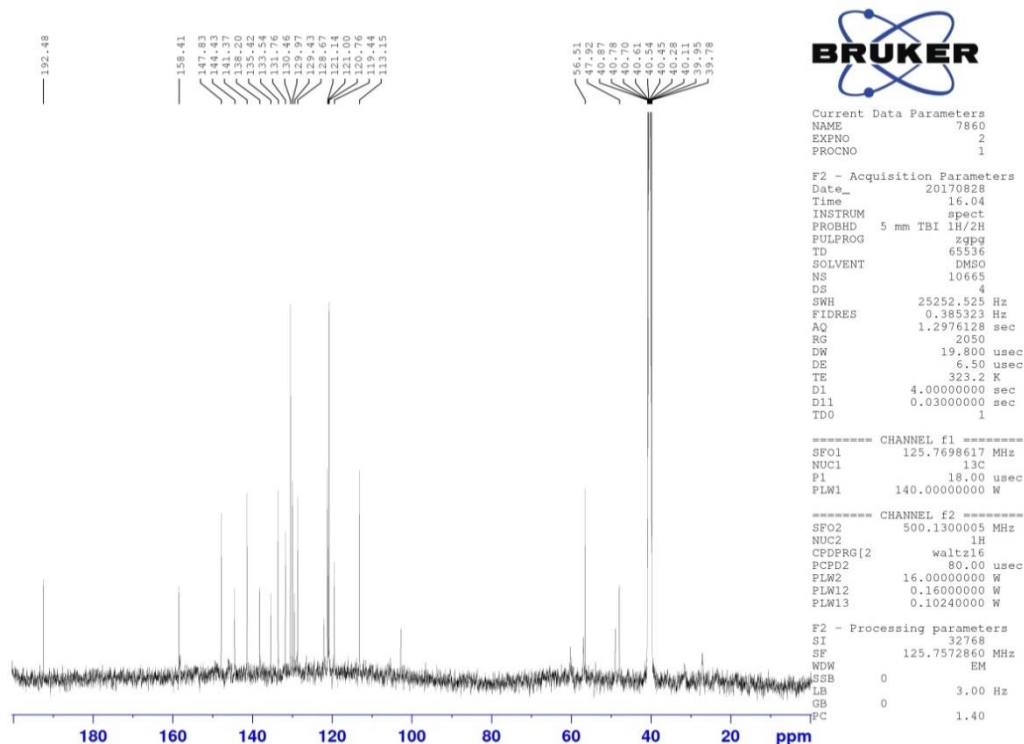
¹³C-NMR spectra of **9*d**



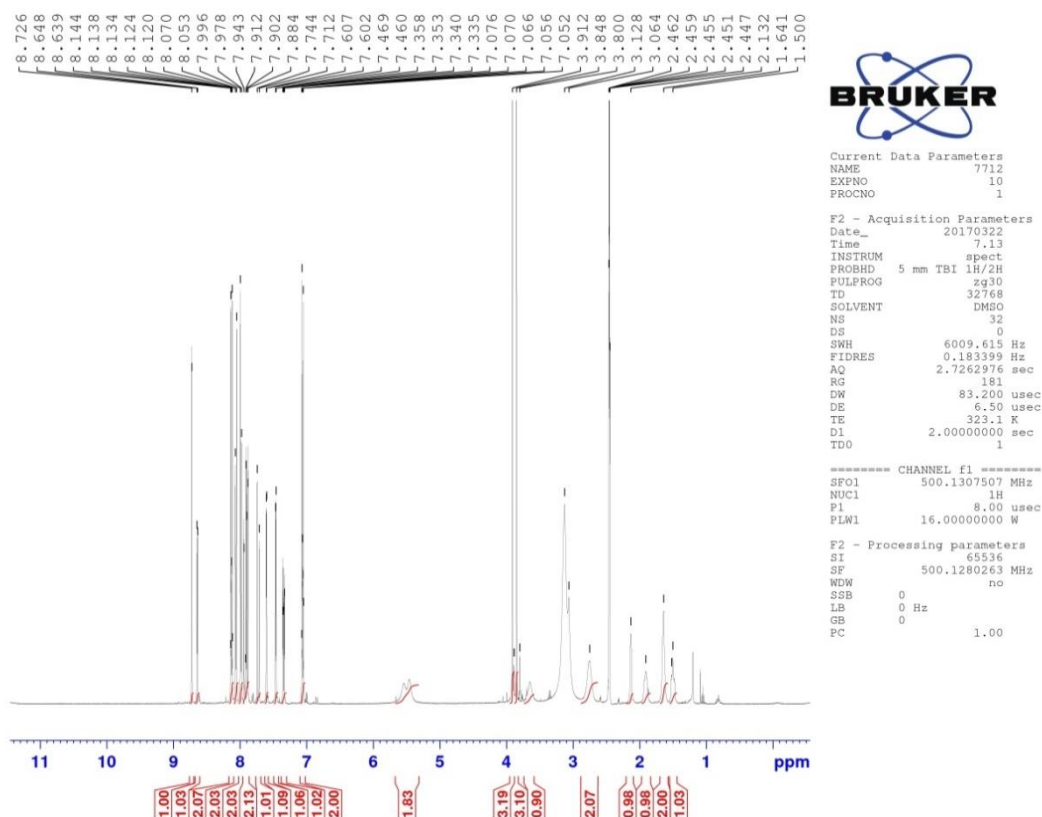
^1H -NMR spectra of **10a**



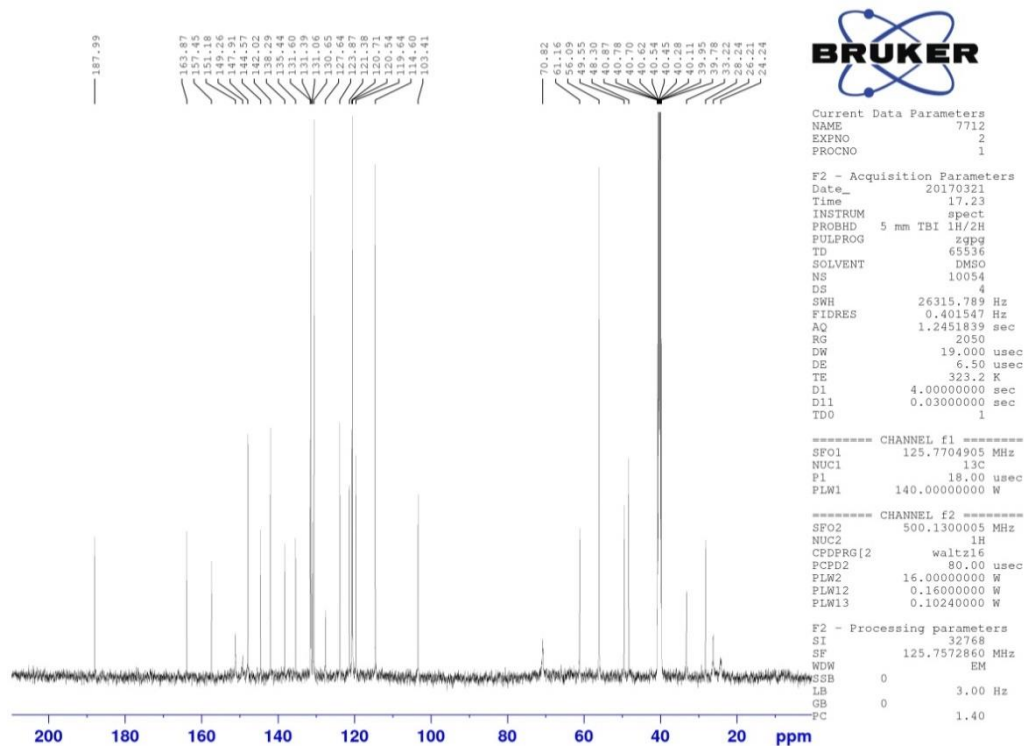
^{13}C -NMR spectra of **10a**



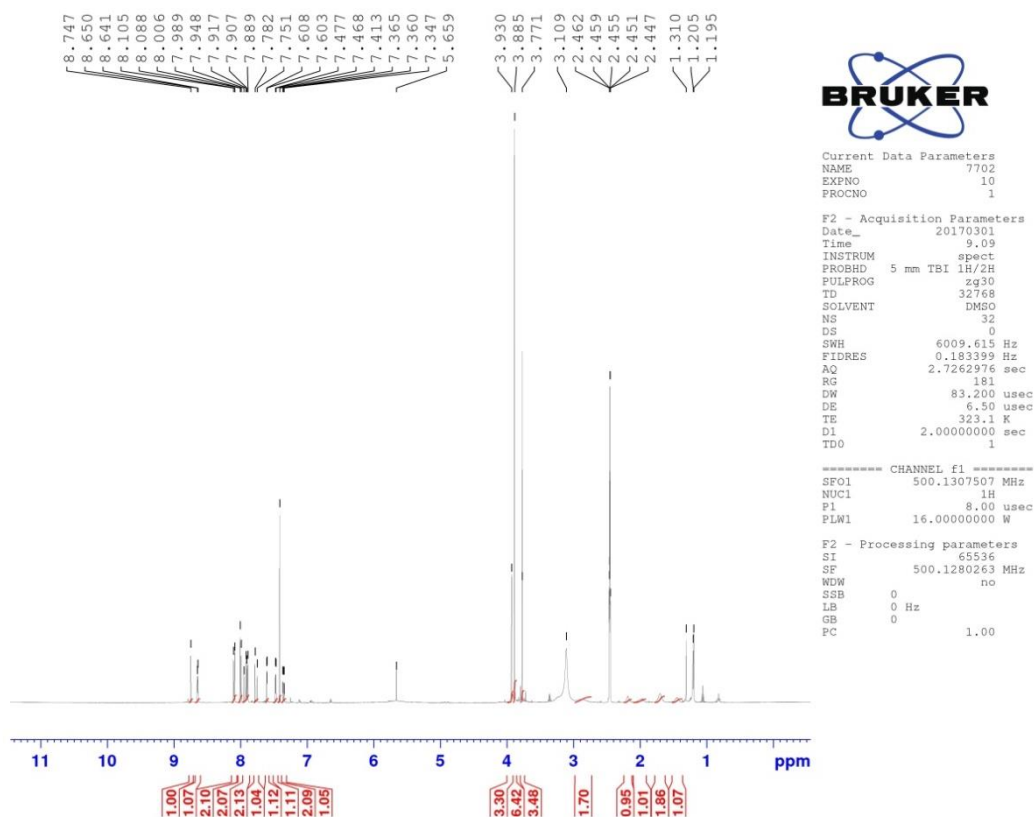
^1H -NMR spectra of **10b**



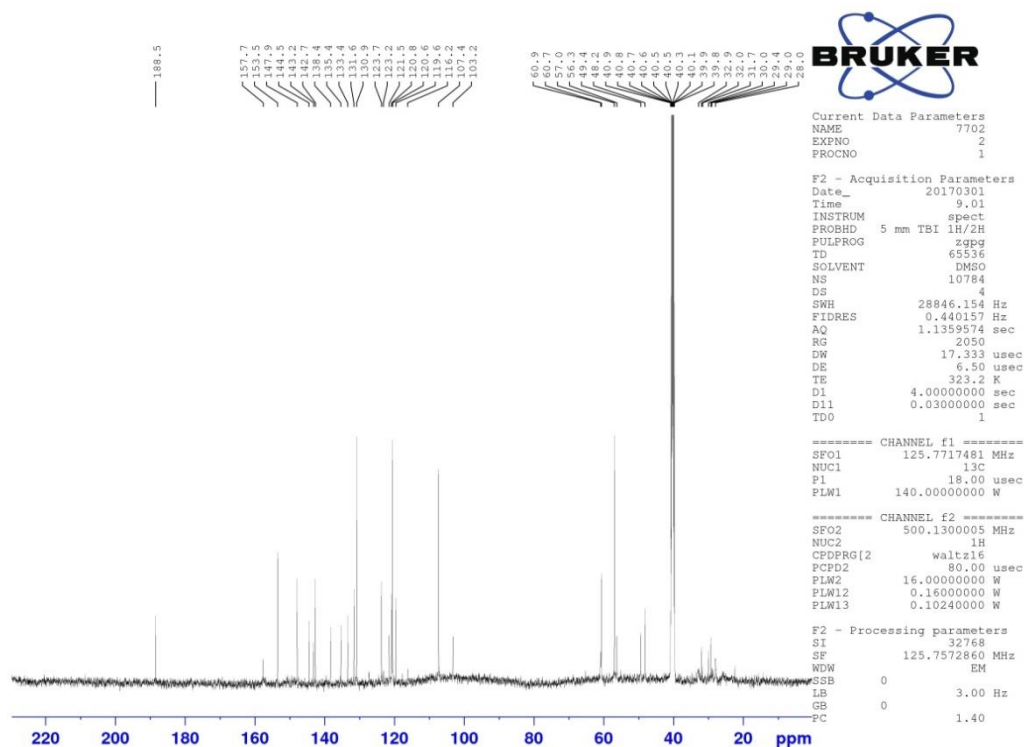
^{13}C -NMR spectra of **10b**



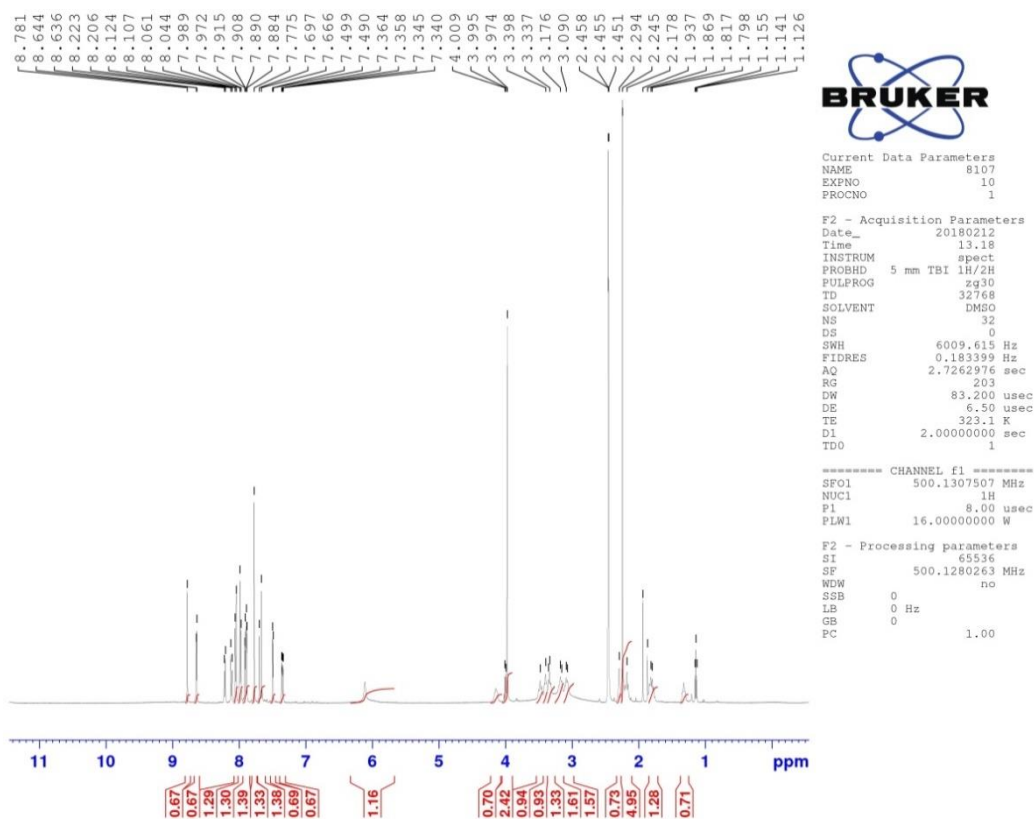
¹H-NMR spectra of **10c**



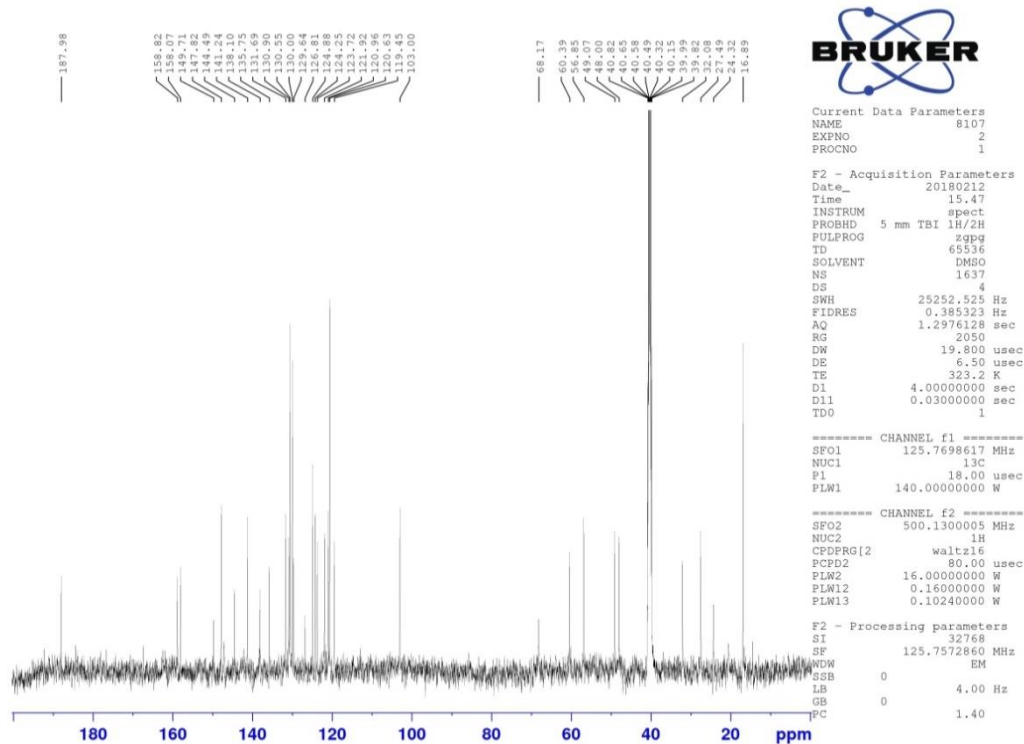
¹³C-NMR spectra of **10c**



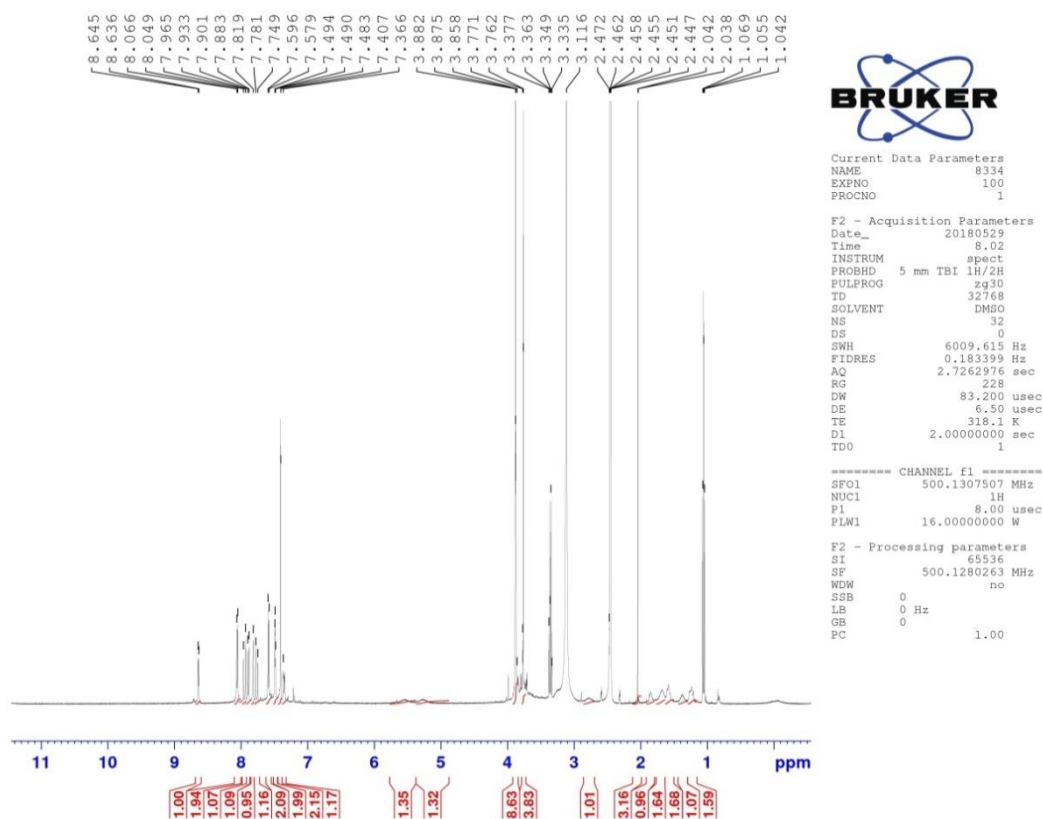
^1H -NMR spectra of **10d**



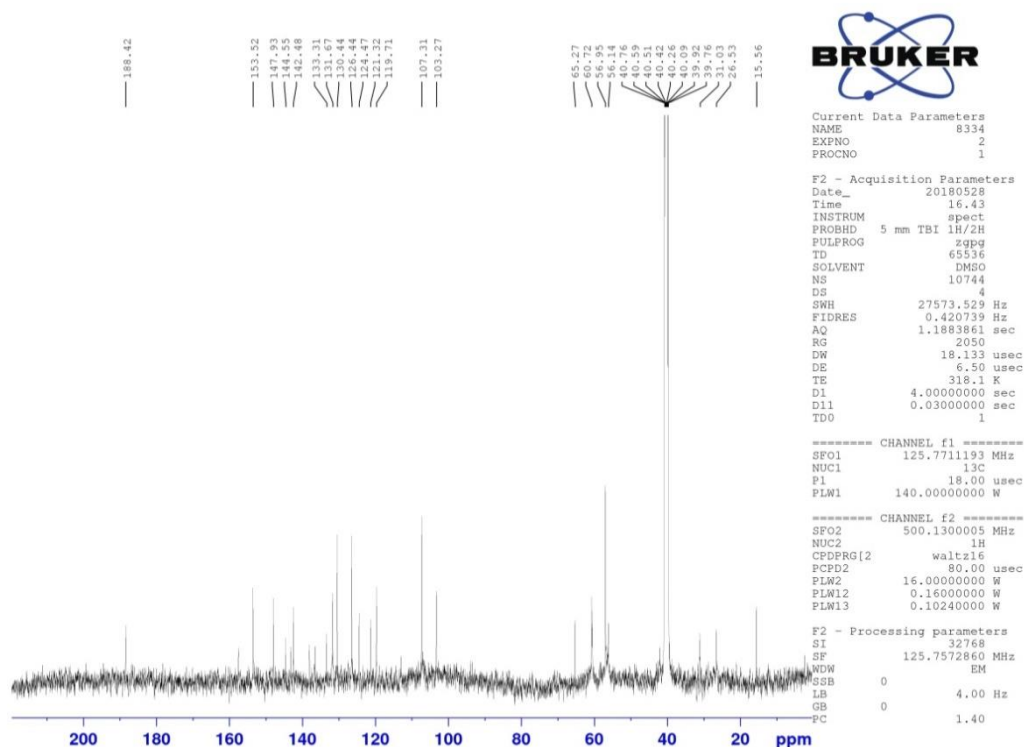
^{13}C -NMR spectra of **10d**



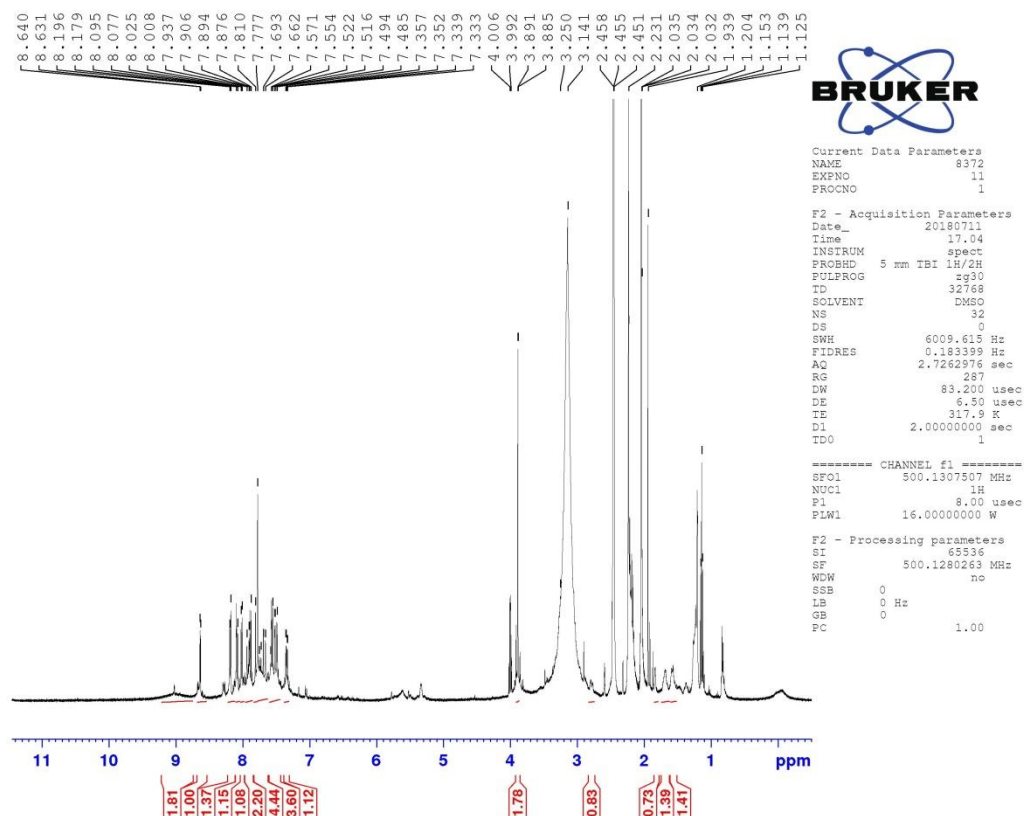
^1H -NMR spectra of **11c**



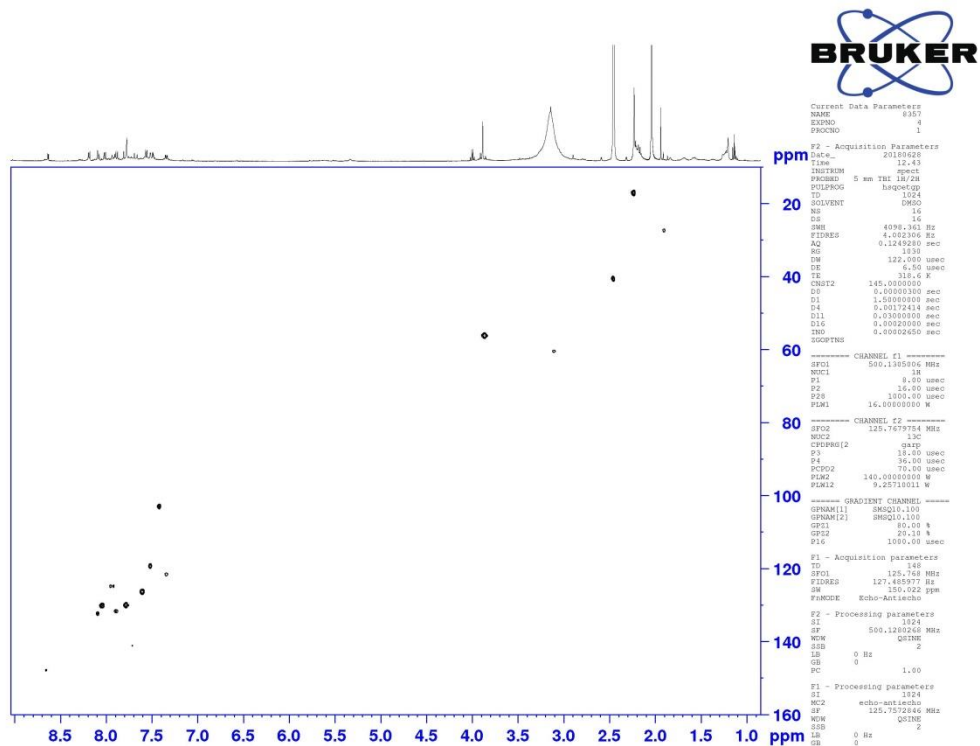
^{13}C -NMR spectra of **11c**



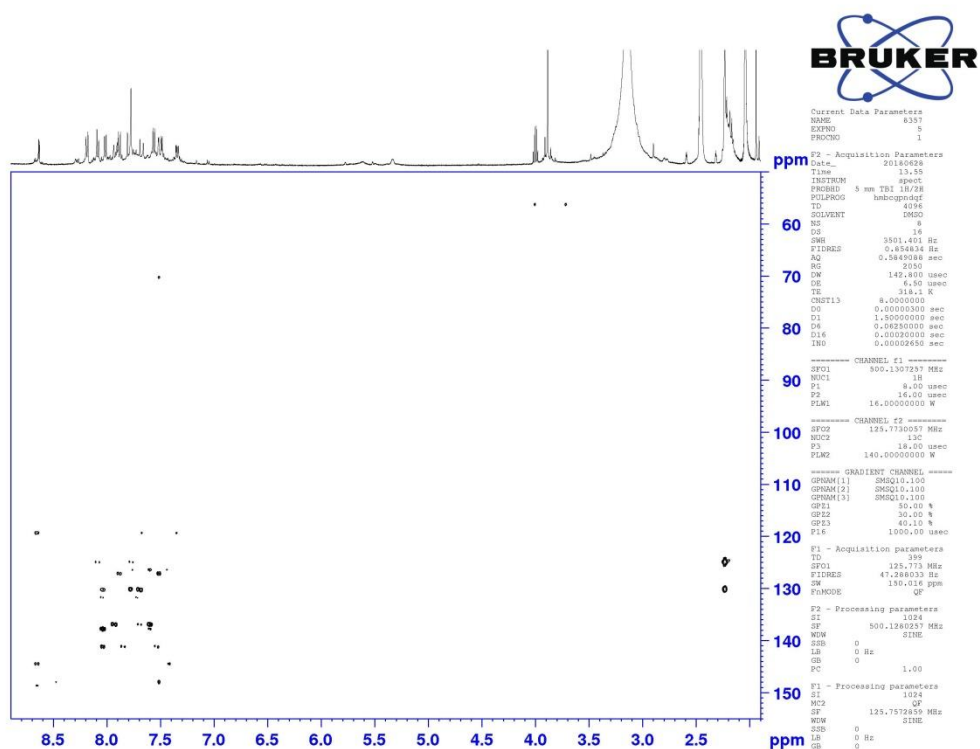
^1H -NMR spectra of **11d**



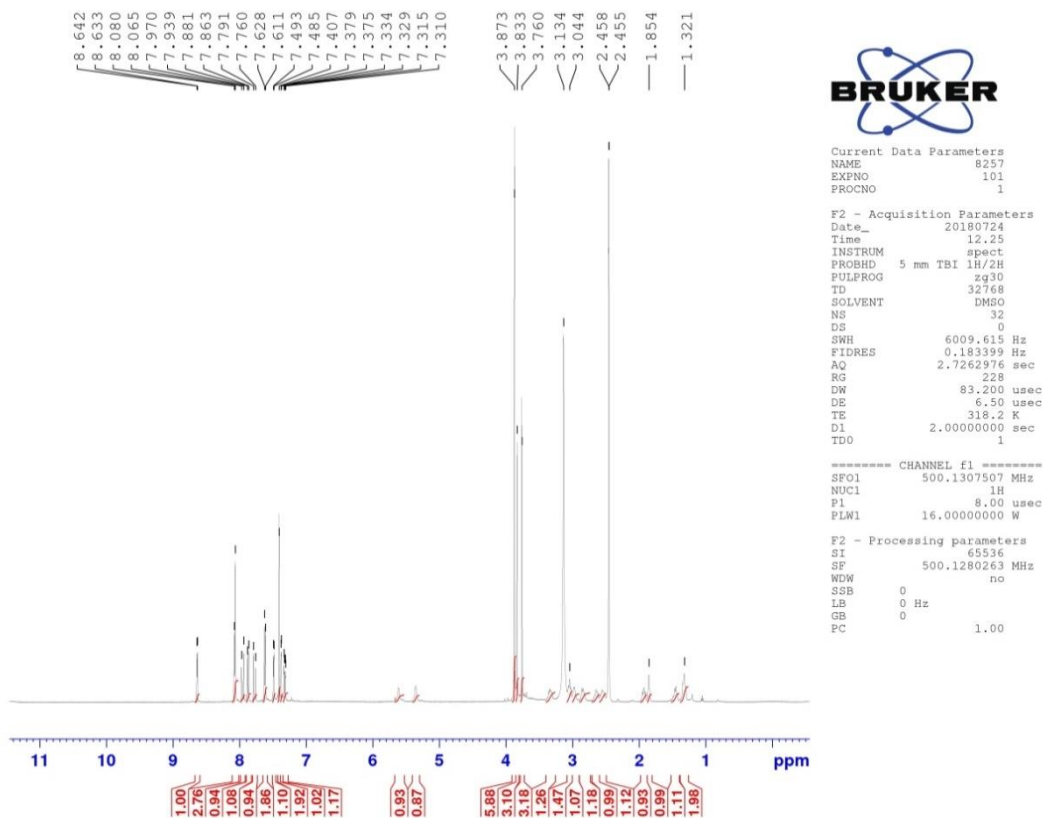
^1H - ^{13}C -HSQC spectra of **11d**



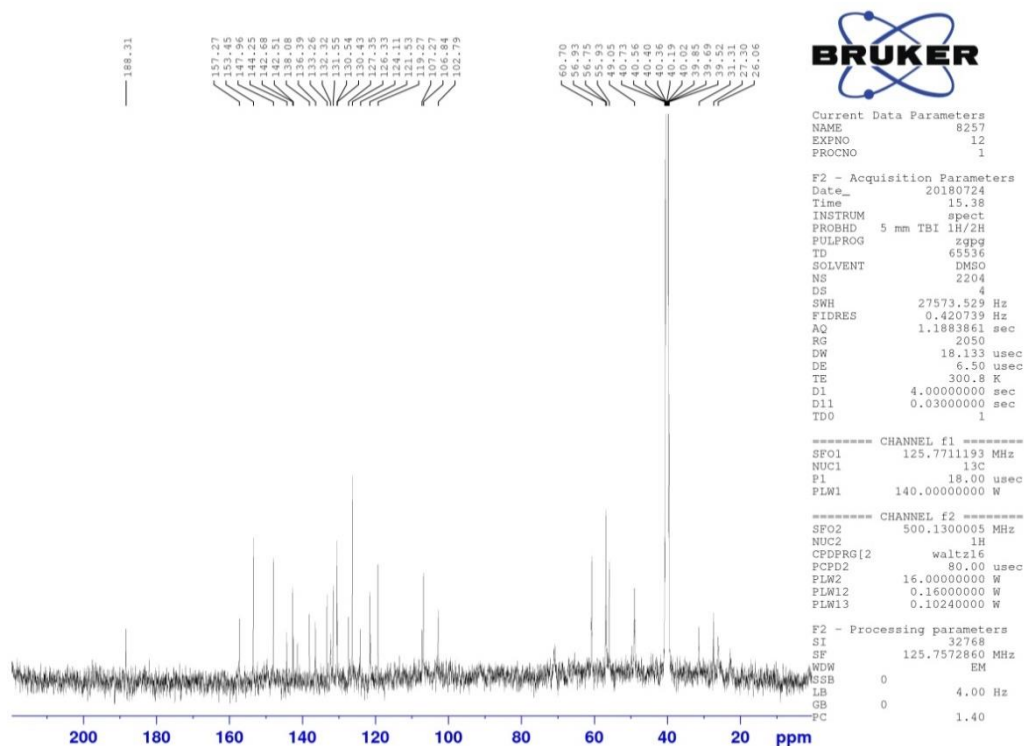
^1H - ^{13}C -HMBC spectra of **11d**



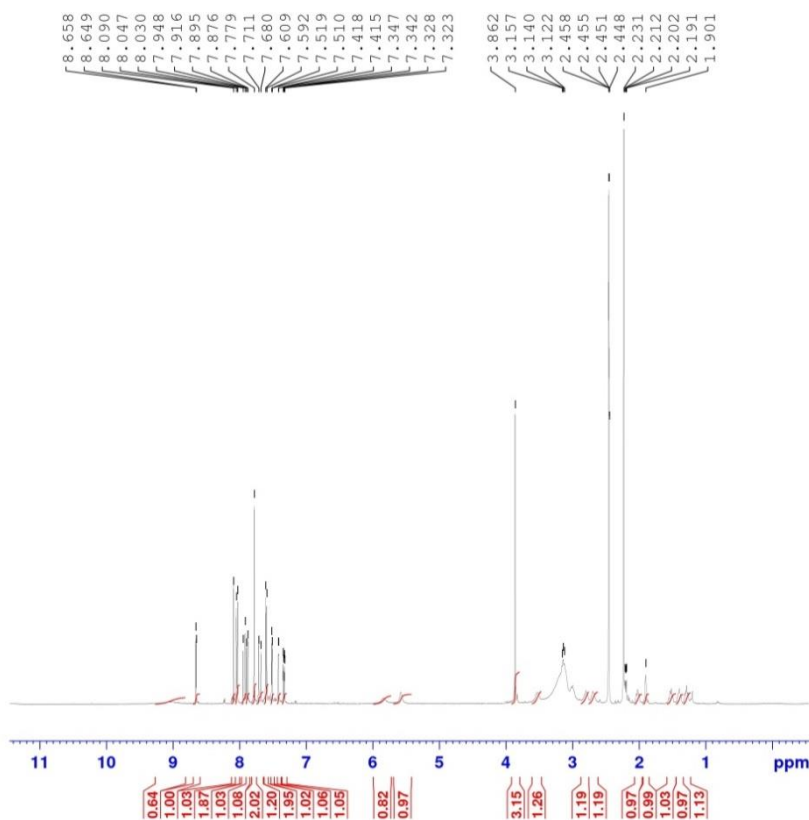
^1H -NMR spectra of **12c**



¹³C-NMR spectra of 12c



¹H-NMR spectra of 12d



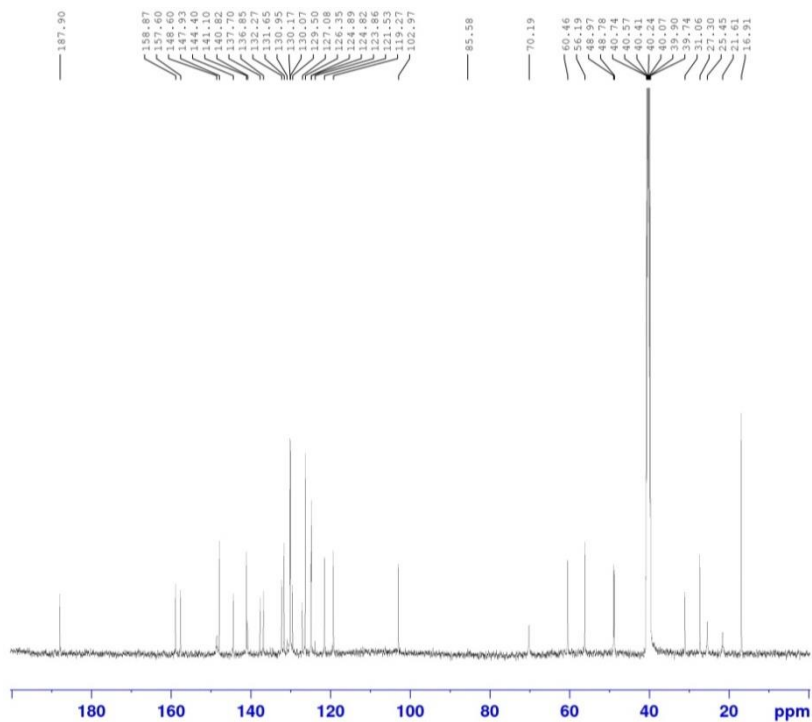
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EXPNO 11
PROCNO 1

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PULPROG zg30
TD 32768
SOLVENT DMSO
NS 32
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7262976 sec
RG 228
DW 83.200 usec
DE 6.50 usec
TE 318.2 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
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NUC1 1H
P1 8.00 usec
PLW1 16.00000000 W

F2 - Processing parameters
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SF 500.1280263 MHz
WDW no
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GB 0
PC 1.00

^{13}C -NMR spectra of **12d**



Current Data Parameters
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EXPNO 2
PROCNO 1

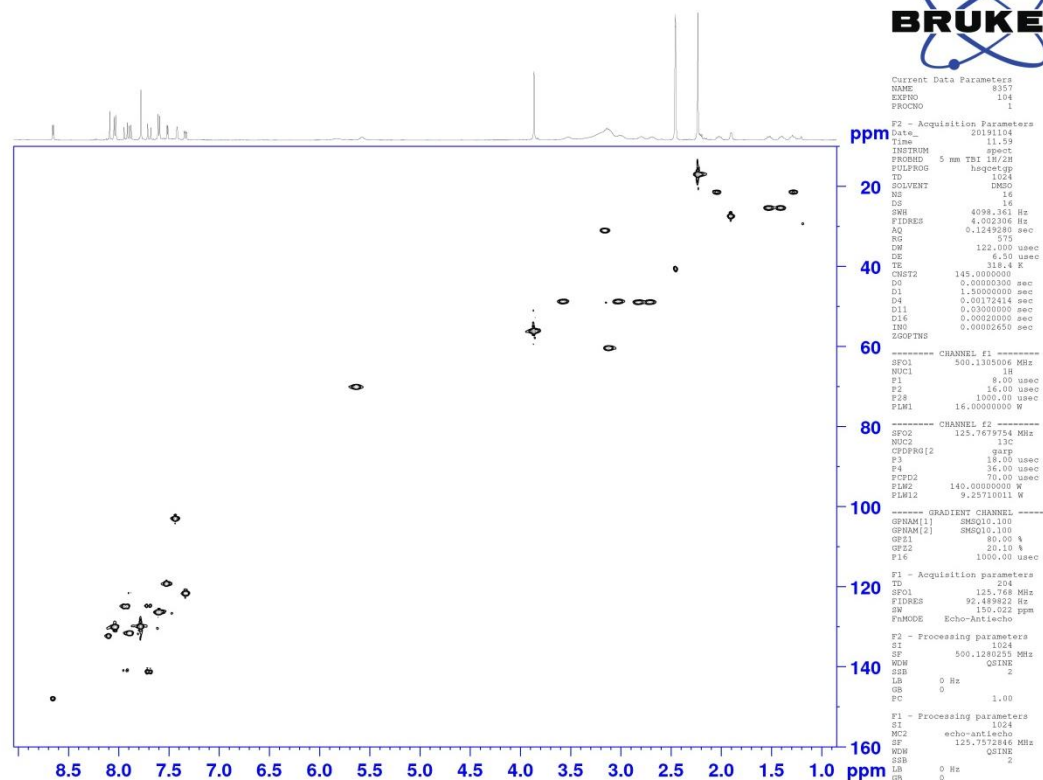
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PULPROG zgpg
TD 65536
SOLVENT DMSO
NS 10811
DS 4
SWH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976128 sec
RG 2050
DW 19.800 usec
DE 6.50 usec
TE 318.2 K
D1 4.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
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NUC1 13C
P1 18.00 usec
PLW1 140.00000000 W

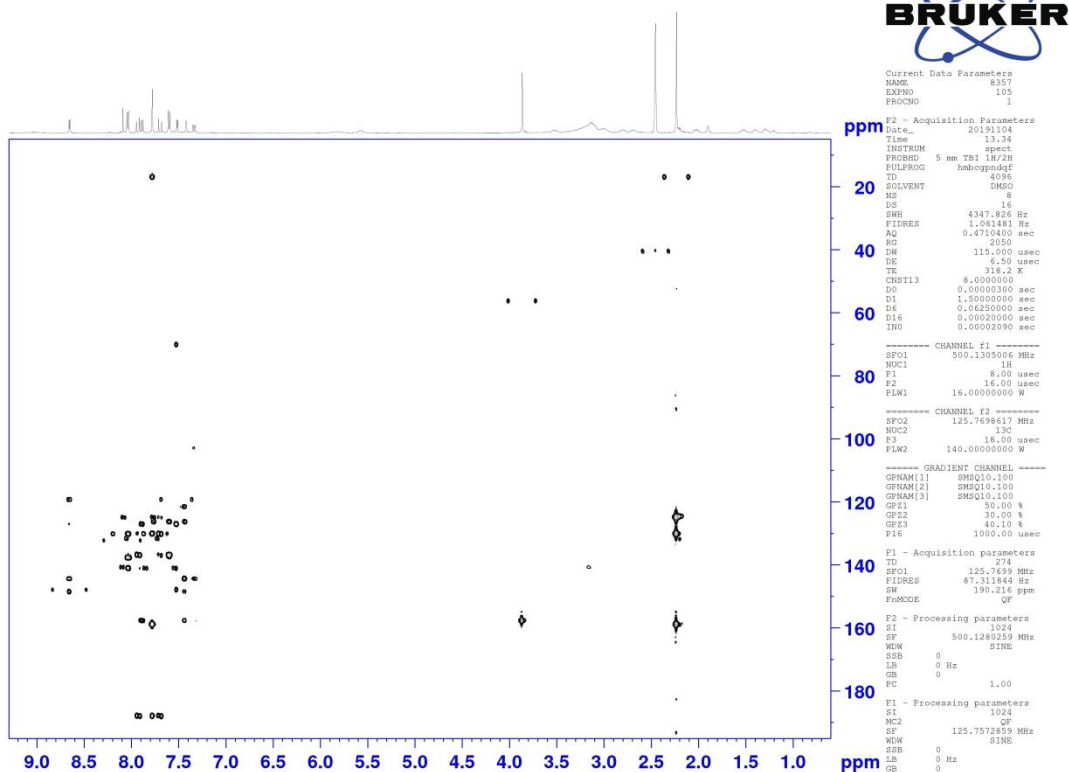
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SFO2 500.1300005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
PLW2 16.00000000 W
PLW12 0.16000000 W
PLW13 0.10240000 W

F2 - Processing parameters
SI 32768
SF 125.7572860 MHz
WDW EM
SSB 0
LB 4.00 Hz
GB 0
PC 1.40

^1H - ^{13}C HSQC spectra of **12d**



^1H - ^{13}C HMBC spectra of **12b**



^1H - ^1H NOESY spectra of **12d**

