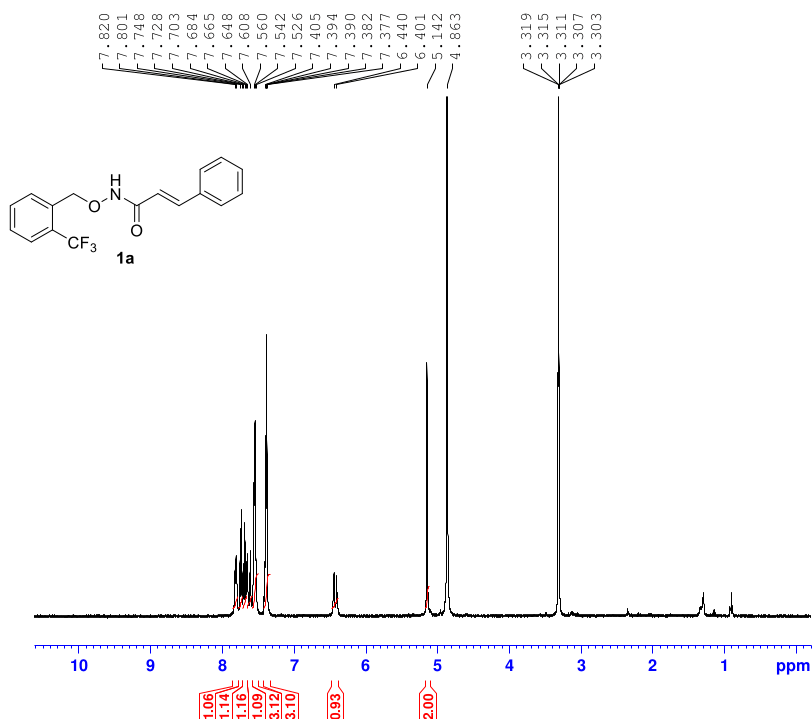


Spectrum S1: ¹H-NMR spectrum of compound 1a

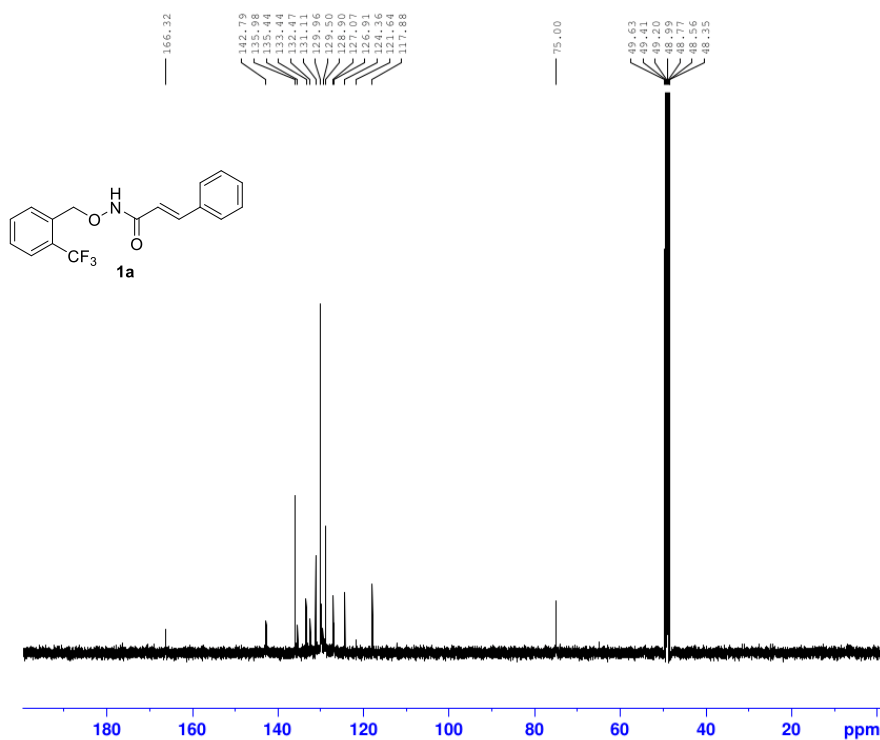


Current Data Parameters
NAME IG-2
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20211004
Time 11.36 h
INSTRUM spect
PROBHD Z108618_0601 ()
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 24
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 5.452952 sec
RG 203
DW 83.200 usec
DE 13.02 usec
TE 297.7 K
D1 1.00000000 sec
TD0 1
SF01 400.1324710 MHz
NUC1 1H
P0 5.00 usec
P1 15.00 usec
PLW1 19.00000000 W

F2 - Processing parameters
SI 65536
SF 400.1300070 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.00

Spectrum S2: ¹³C-NMR spectrum of compound 1a

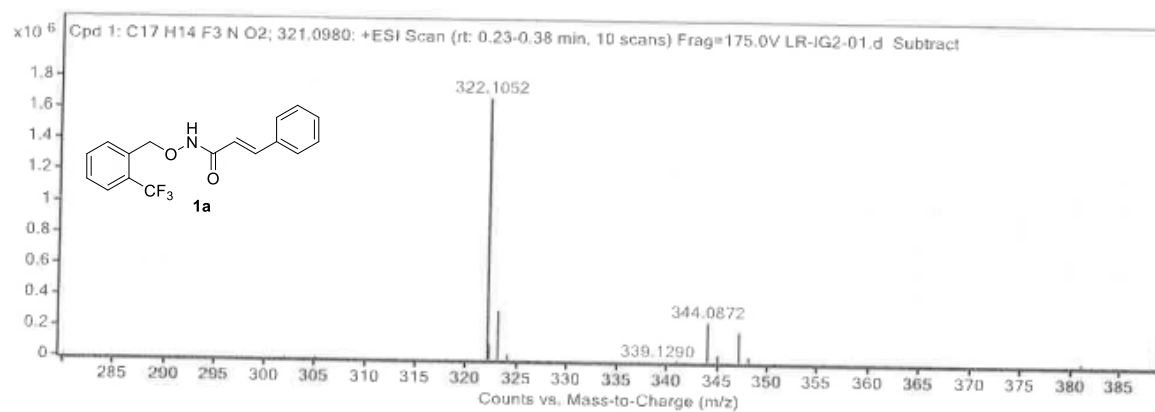


Current Data Parameters
NAME IG-2
EXPNO 4
PROCNO 1

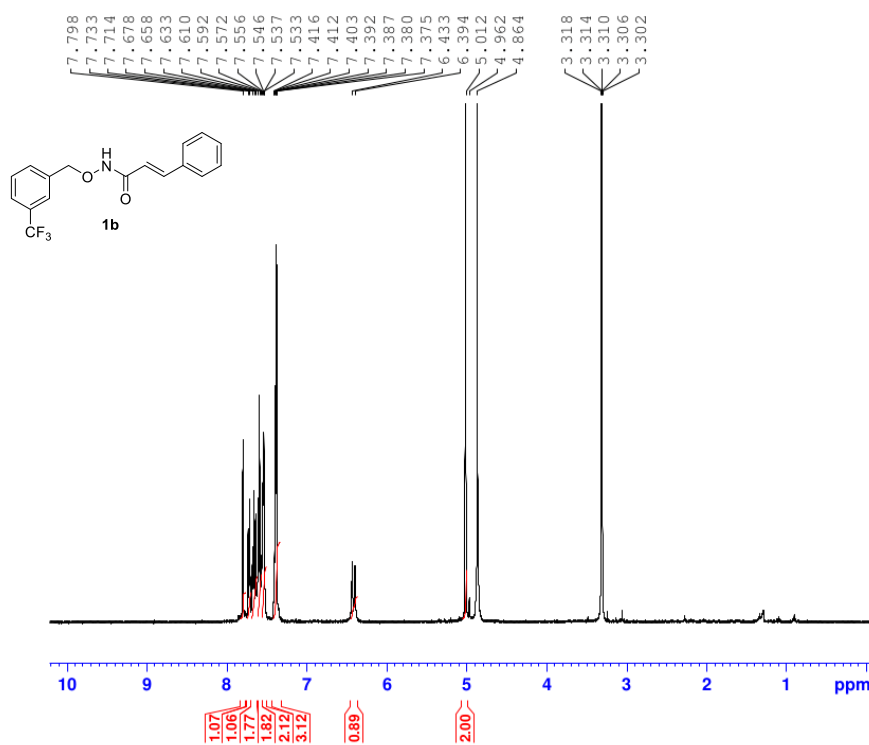
F2 - Acquisition Parameters
Date_ 20211015
Time 15.22 h
INSTRUM spect
PROBHD Z108618_0601 ()
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 2368
DS 4
SWH 24038.461 Hz
FIDRES 0.733596 Hz
AQ 1.3631488 sec
RG 203
DW 20.800 usec
DE 9.97 usec
TE 295.3 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 10
SF01 100.6228293 MHz
NUC1 13C
P0 3.33 usec
P1 10.00 usec
PLW1 38.00000000 W
SF02 400.1316005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 220.00 usec
PLW2 19.00000000 W
PLW12 0.08832600 W
PLW13 0.26547000 W

F2 - Processing parameters
SI 32768
SF 100.6126302 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.40

Spectrum S3: Mass spectrum of compound **1a**



Spectrum S4: ¹H-NMR spectrum of compound **1b**

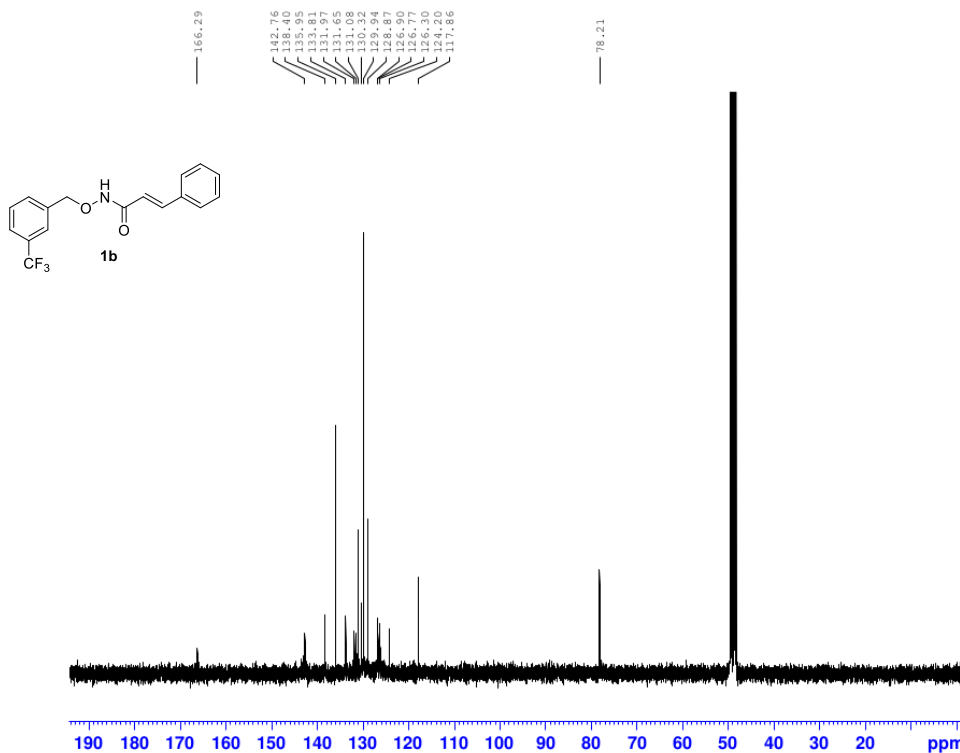


Current Data Parameters
NAME IG-3
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20211005
Time 15.52 h
INSTRUM spect
PROBHD Z108618_0601 (
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 32
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 5.4525952 sec
RG 203
DW 83.200 usec
DE 13.02 usec
TE 297.5 K
D1 1.0000000 sec
TD0 1
SFO1 400.1324710 MHz
NUC1 1H
P0 5.00 usec
P1 15.00 usec
PLW1 19.0000000 W

F2 - Processing parameters
SI 65536
SF 400.1300075 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.00

Spectrum S5: ¹³C-NMR spectrum of compound **1b**

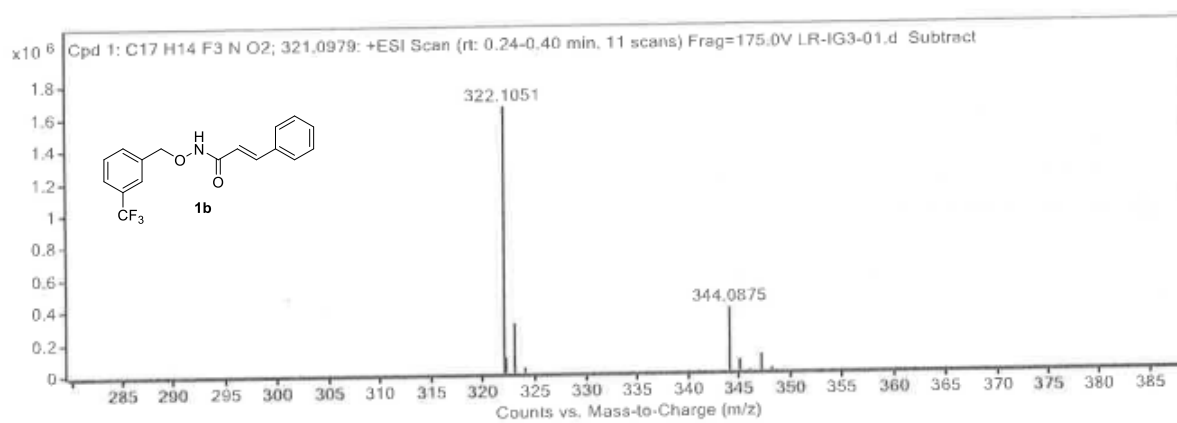


Current Data Parameters
NAME IG-3
EXPNO 2
PROCNO 1

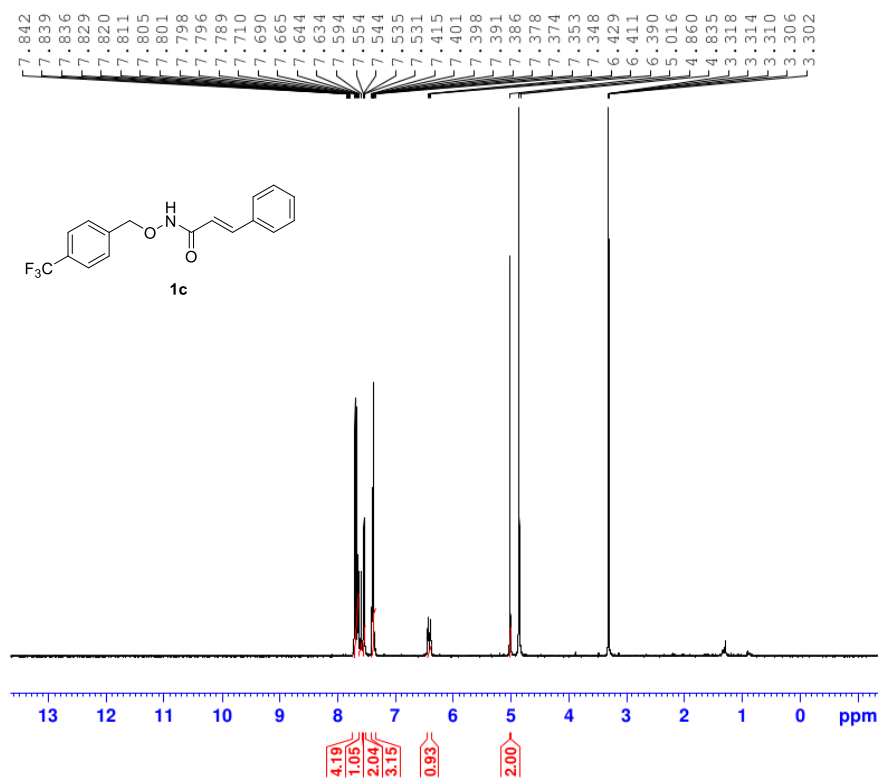
F2 - Acquisition Parameters
Date_ 20211013
Time 15.25 h
INSTRUM spect
PROBHD Z108618_0601 (
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 2417
DS 4
SWH 24038.461 Hz
FIDRES 0.733596 Hz
AQ 1.3631488 sec
RG 203
DW 20.800 usec
DE 9.97 usec
TE 295.6 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 10
SFO1 100.6228293 MHz
NUC1 13C
P0 3.33 usec
P1 10.00 usec
PLW1 38.0000000 W
SFO2 400.1316005 MHz
NUC2 1H
PCPD2 waltz16
PCPD2 220.00 usec
PLW2 19.00000000 W
PLW12 0.08832600 W
PLW13 0.26547000 W

F2 - Processing parameters
SI 32768
SF 100.6126323 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.40

Spectrum S6: Mass spectrum of compound 1b



Spectrum S7: ¹H-NMR spectrum of compound **1c**

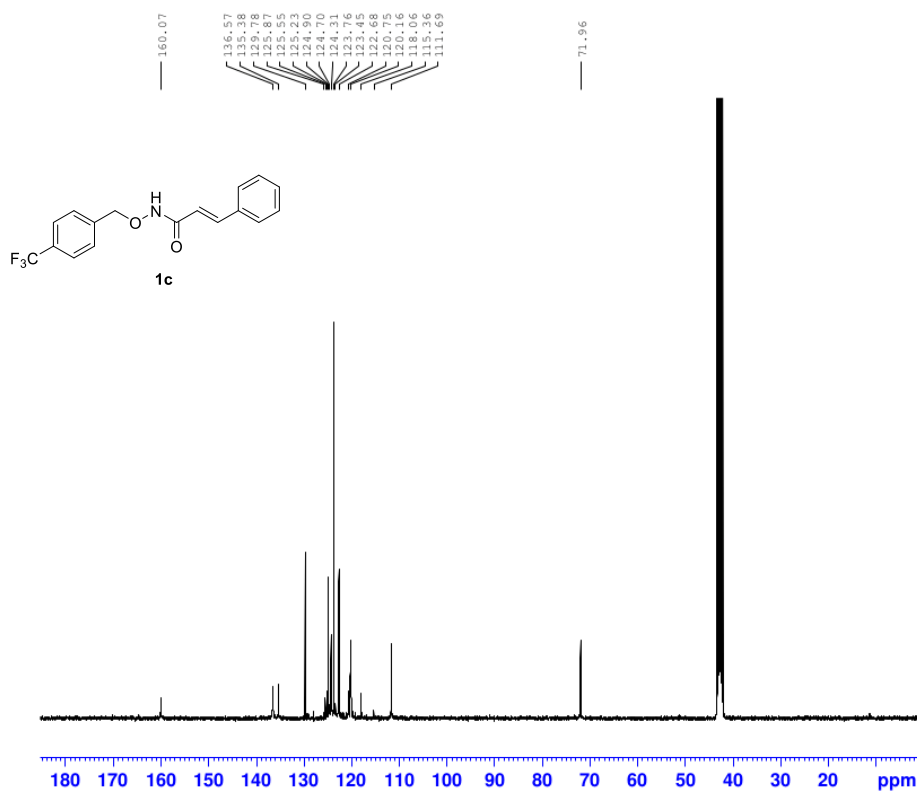


Current Data Parameters
NAME IG-1
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20211001
Time 17.06 h
INSTRUM spect
PROBHD Z108618_0601 ()
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 24
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 5.4525952 sec
RG 203
DW 83.200 usec
DE 13.02 usec
TE 298.0 K
D1 1.00000000 sec
TD0 1
SFO1 400.1324710 MHz
NUC1 1H
P0 5.00 usec
P1 15.00 usec
PLW1 19.00000000 W

F2 - Processing parameters
SI 65536
SF 400.1300075 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.00

Spectrum S8: ¹³C-NMR spectrum of compound **1c**

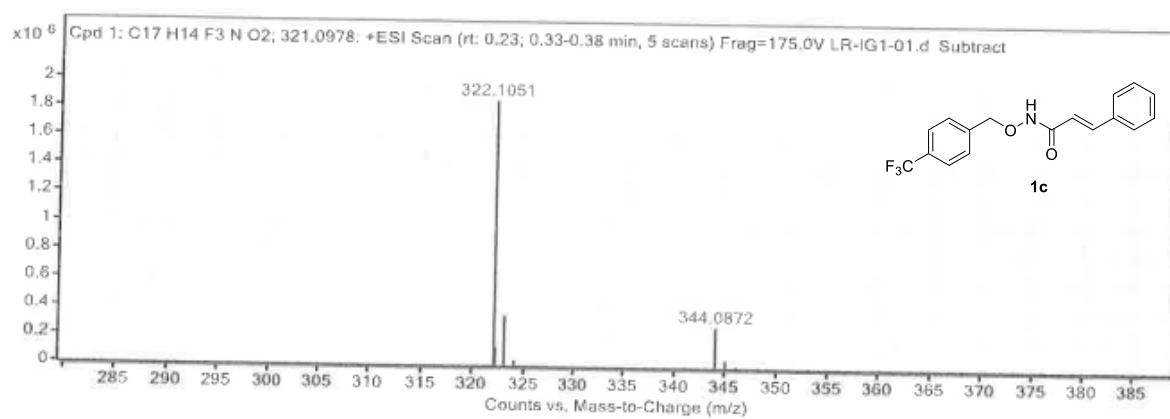


Current Data Parameters
NAME IG-1
EXPNO 6
PROCNO 1

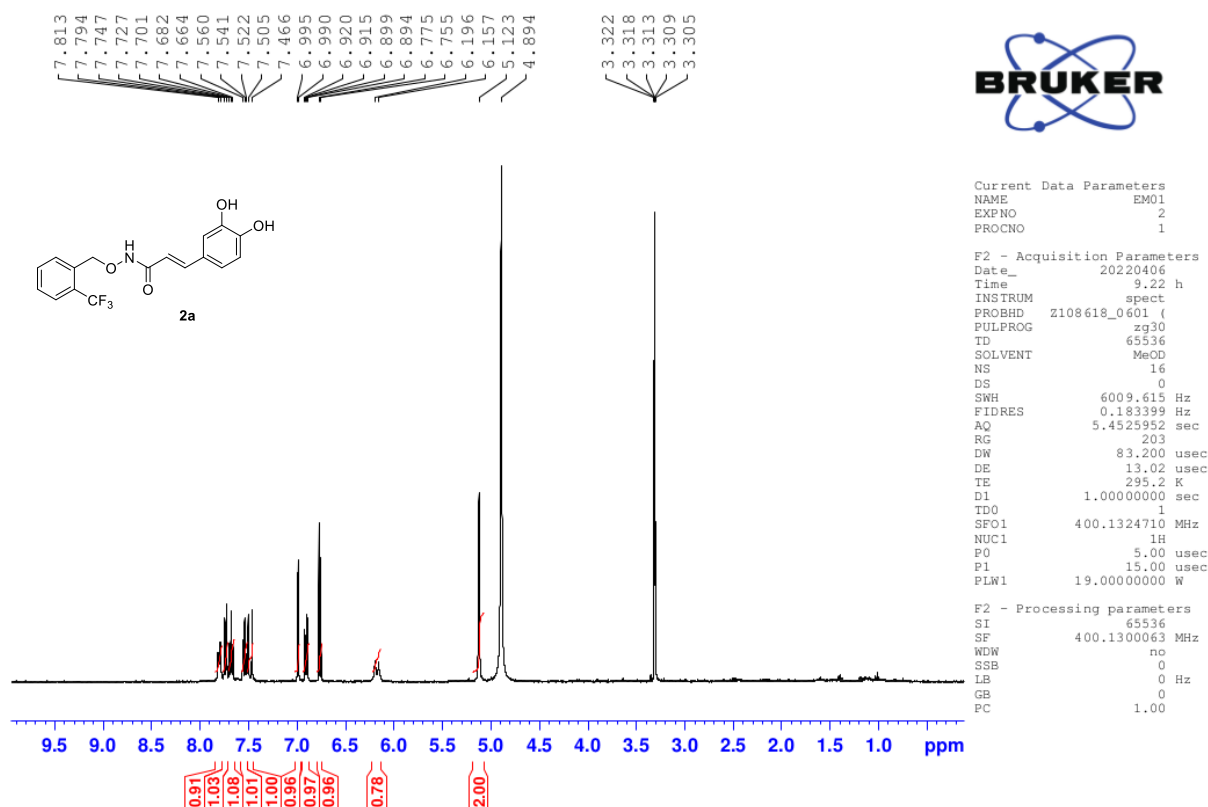
F2 - Acquisition Parameters
Date_ 20211006
Time 8.49 h
INSTRUM spect
PROBHD Z108618_0601 ()
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 15688
DS 4
SWH 24038.461 Hz
FIDRES 0.733596 Hz
AQ 1.3631488 sec
RG 203
DW 20.800 usec
DE 9.97 usec
TE 298.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 10
SFO1 100.6228293 MHz
NUC1 13C
P0 3.33 usec
P1 10.00 usec
PLW1 38.00000000 W
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 220.00 usec
PLW2 19.00000000 W
PLW12 0.08832600 W
PLW13 0.26547000 W

F2 - Processing parameters
SI 32768
SF 100.6132538 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

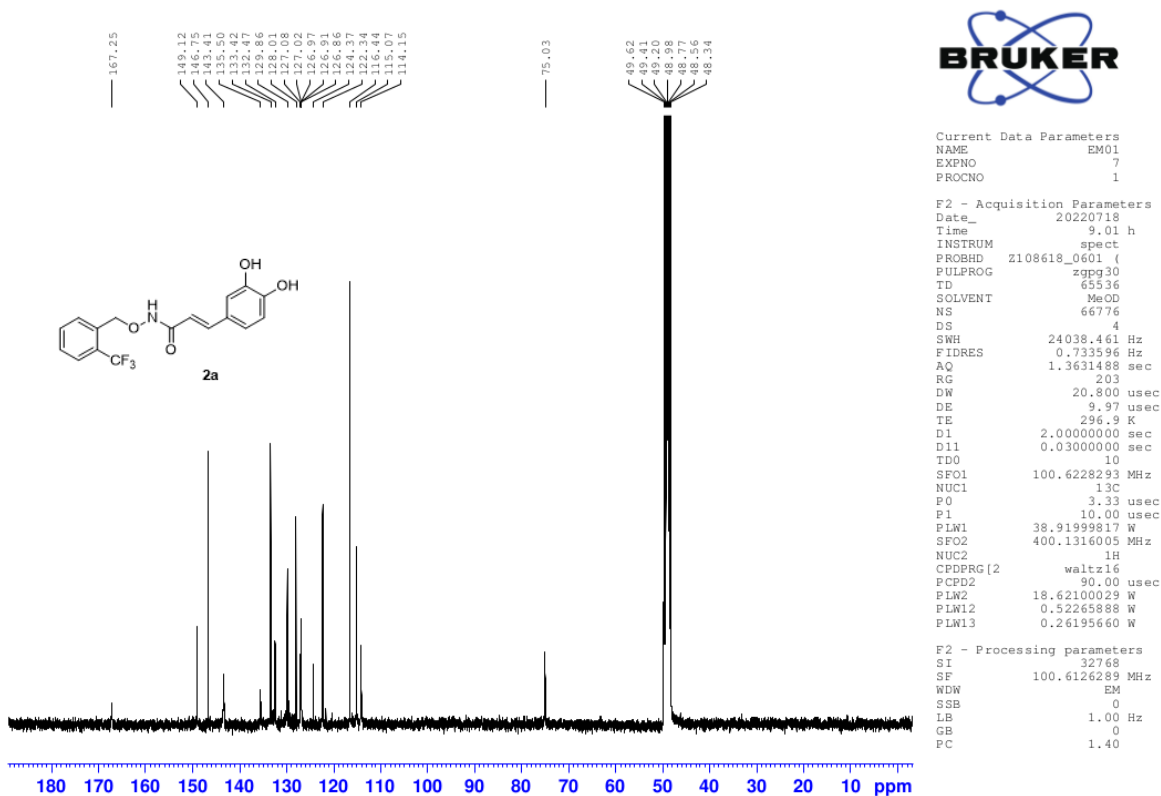
Spectrum S9: Mass spectrum of compound **1c**



Spectrum S10: ¹H-NMR spectrum of compound 2a

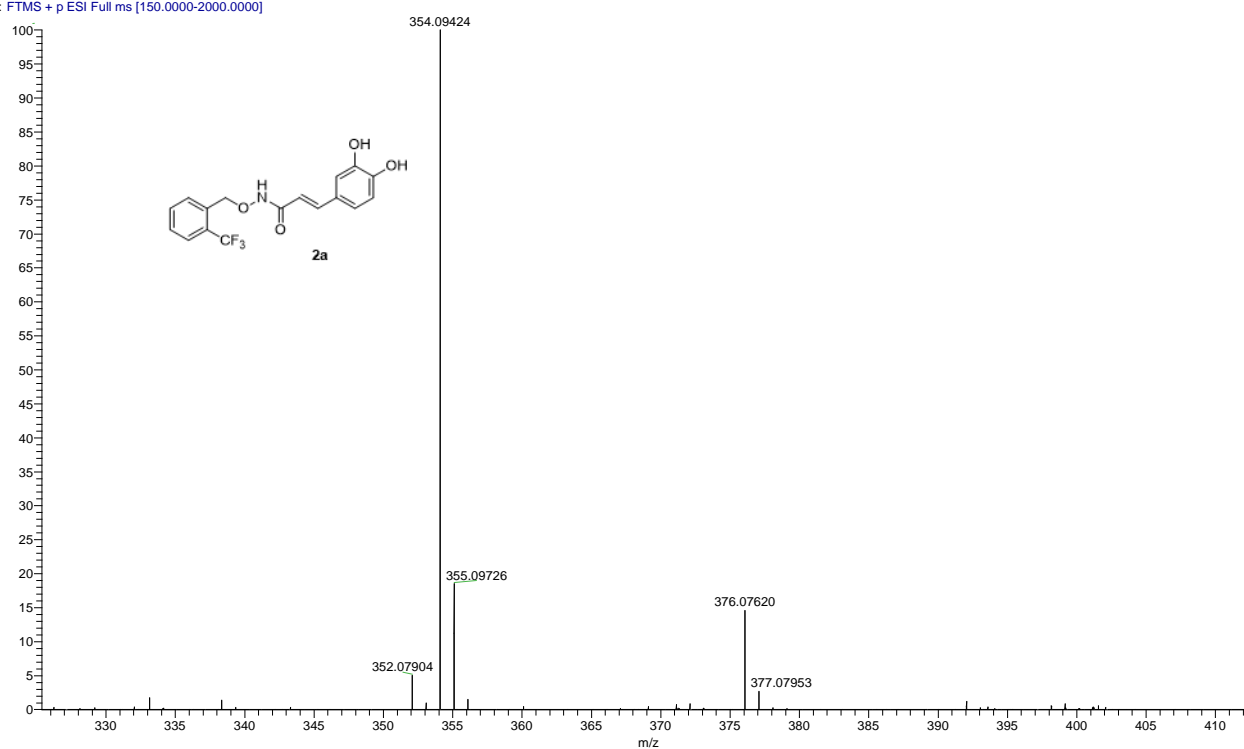


Spectrum S11: ¹³C-NMR spectrum of compound 2a

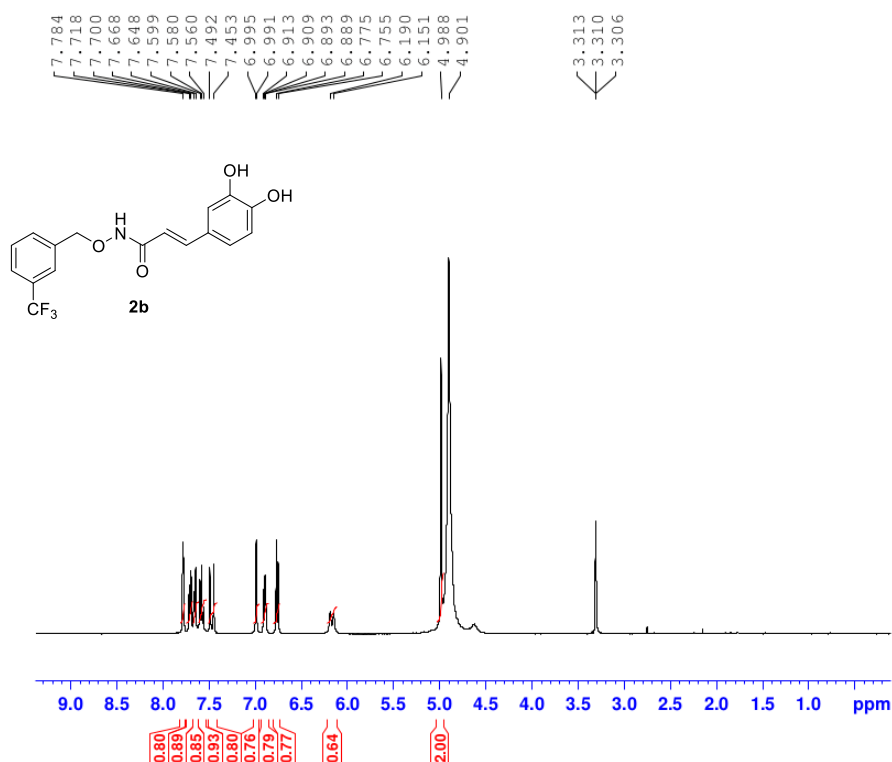


Spectrum S12: Mass spectrum of compound 2a

EM01 #8 RT: 0.07 AV: 1 NL: 1.13E9
T: FTMS + p ESI Full ms [150.0000-2000.0000]



Spectrum S13: ¹H-NMR spectrum of compound **2b**

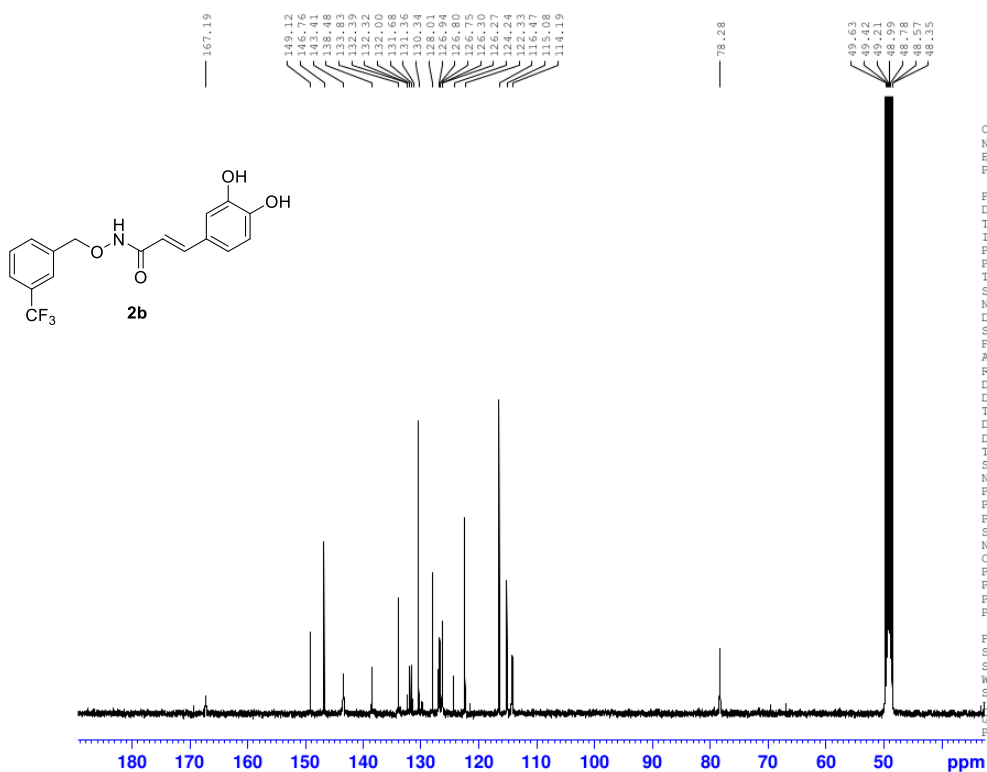


Current Data Parameters
NAME EM02
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20220505
Time 10.48 h
INSTRUM spect
PROBHD Z108618_0601 ()
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 8
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 5.4525952 sec
RG 64
DW 83.200 usec
DE 13.02 usec
TE 295.8 K
D1 1.00000000 sec
TD0 1
SF01 400.1324710 MHz
NUC1 1H
P0 5.00 usec
P1 15.00 usec
PLW1 19.00000000 W

F2 - Processing parameters
SI 65536
SF 400.1300078 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

Spectrum S14: ¹³C-NMR spectrum of compound **2b**



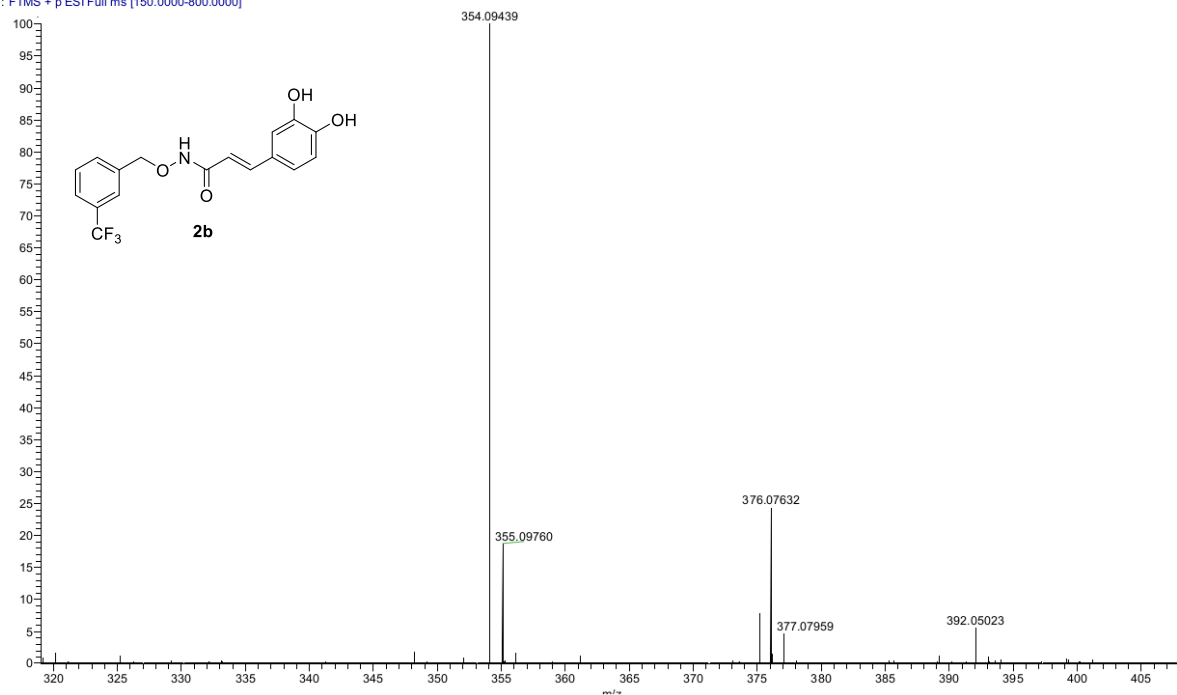
Current Data Parameters
NAME EM02
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20220712
Time 8.14 h
INSTRUM spect
PROBHD Z108618_0601 ()
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 14546
DS 4
SWH 24038.461 Hz
FIDRES 0.733596 Hz
AQ 1.3631488 sec
RG 203
DW 20.800 usec
DE 9.97 usec
TE 299.7 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 10
SF01 100.6228293 MHz
NUC1 13C
P0 3.33 usec
P1 10.00 usec
PLW1 38.91999817 W
SF02 400.1316005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 90.00 usec
PLW2 18.62100029 W
PLW12 0.52265888 W
PLW13 0.26195660 W

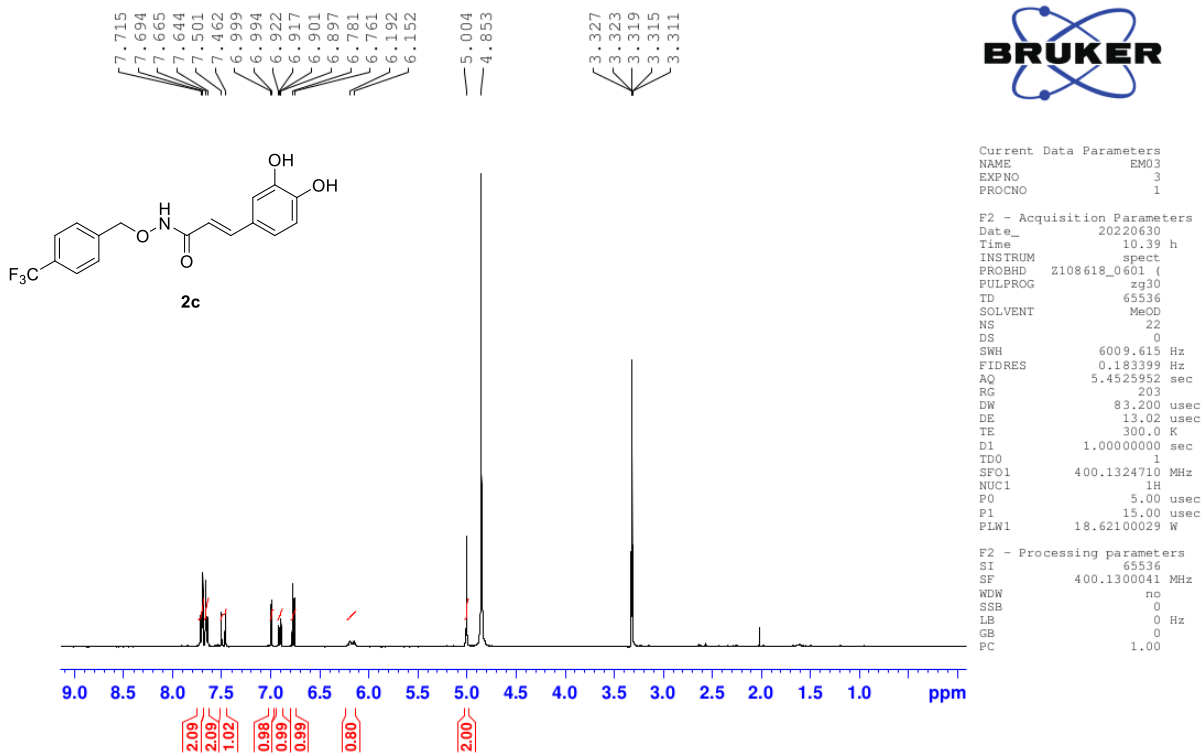
F2 - Processing parameters
SI 32768
SF 100.6126286 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Spectrum S15: Mass spectrum of compound **2b**

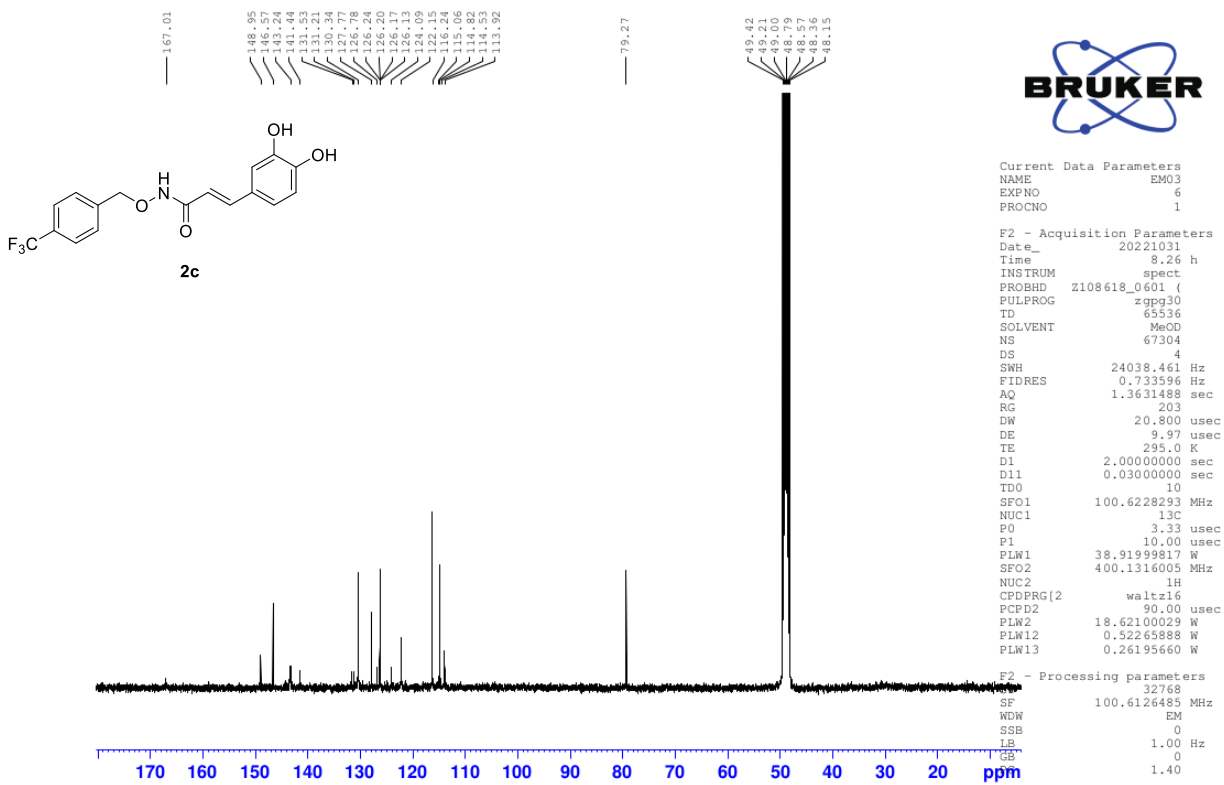
EM02 #13 RT: 0.12 AV: 1 NL: 2.06E8
T: FTMS + p ESI Full ms [150.0000-800.0000]



Spectrum S16: ¹H-NMR spectrum of compound **2c**

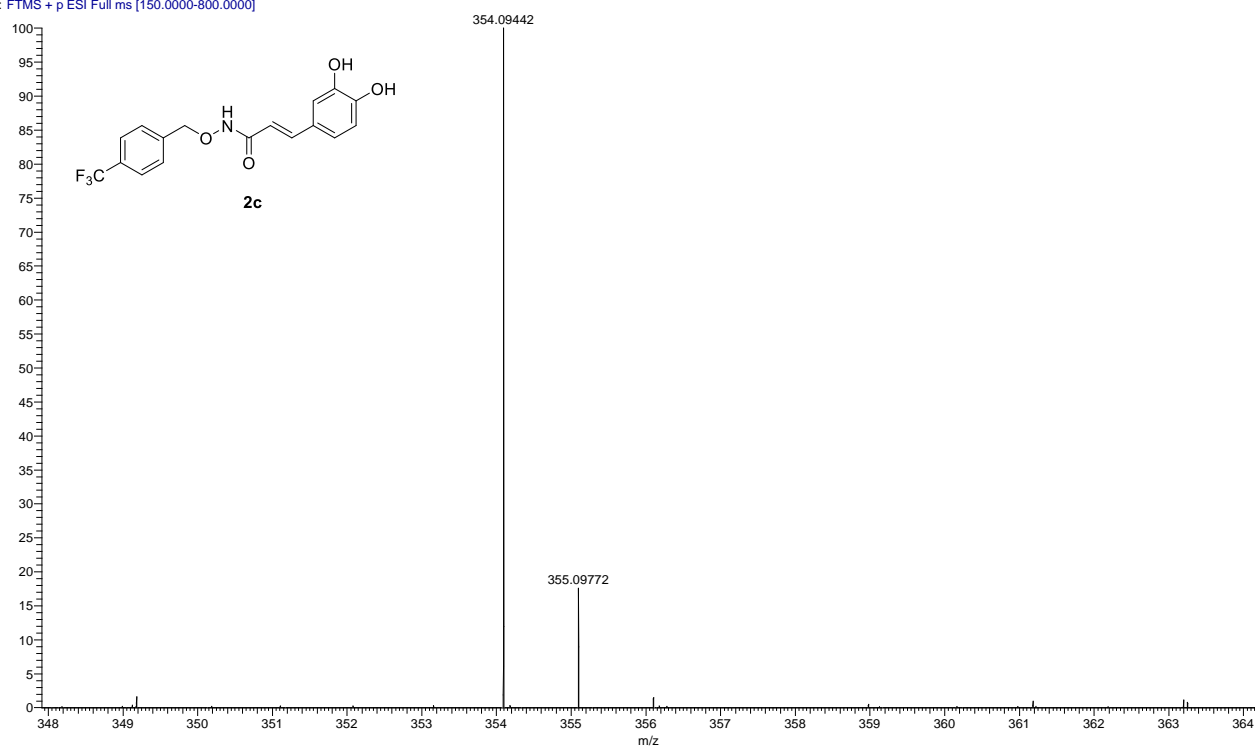


Spectrum S17: ^{13}C -NMR spectrum of compound **2c**

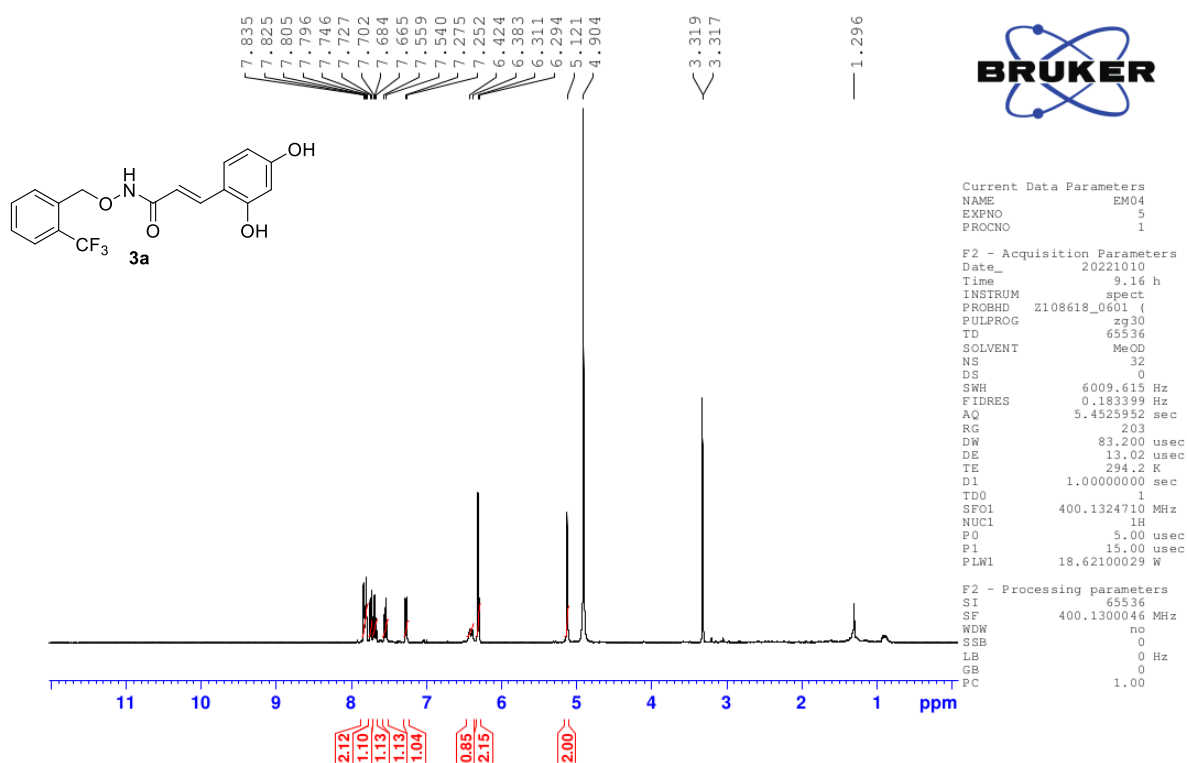


Spectrum S18: Mass spectrum of compound 2c

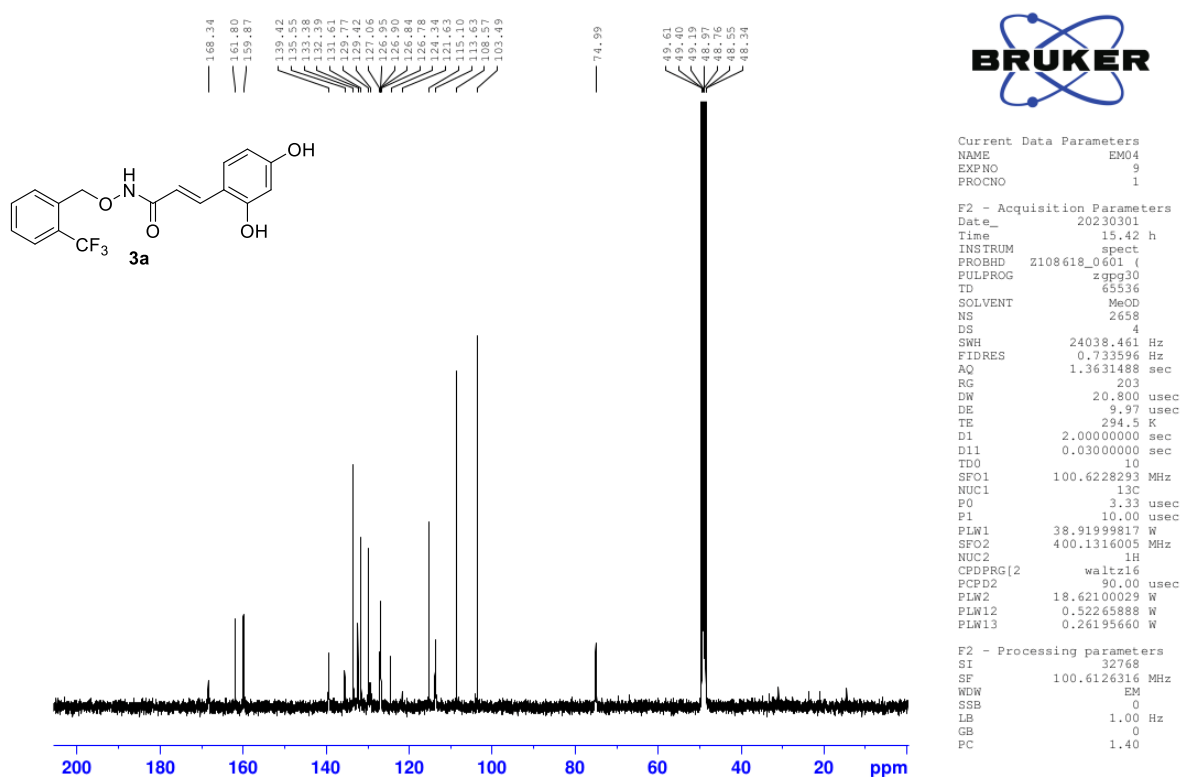
EM03 #1 RT: 0.01 AV: 1 NL: 1.71E8
T: FTMS + p ESI Full ms [150.0000-800.0000]



Spectrum S19: ¹H-NMR spectrum of compound 3a

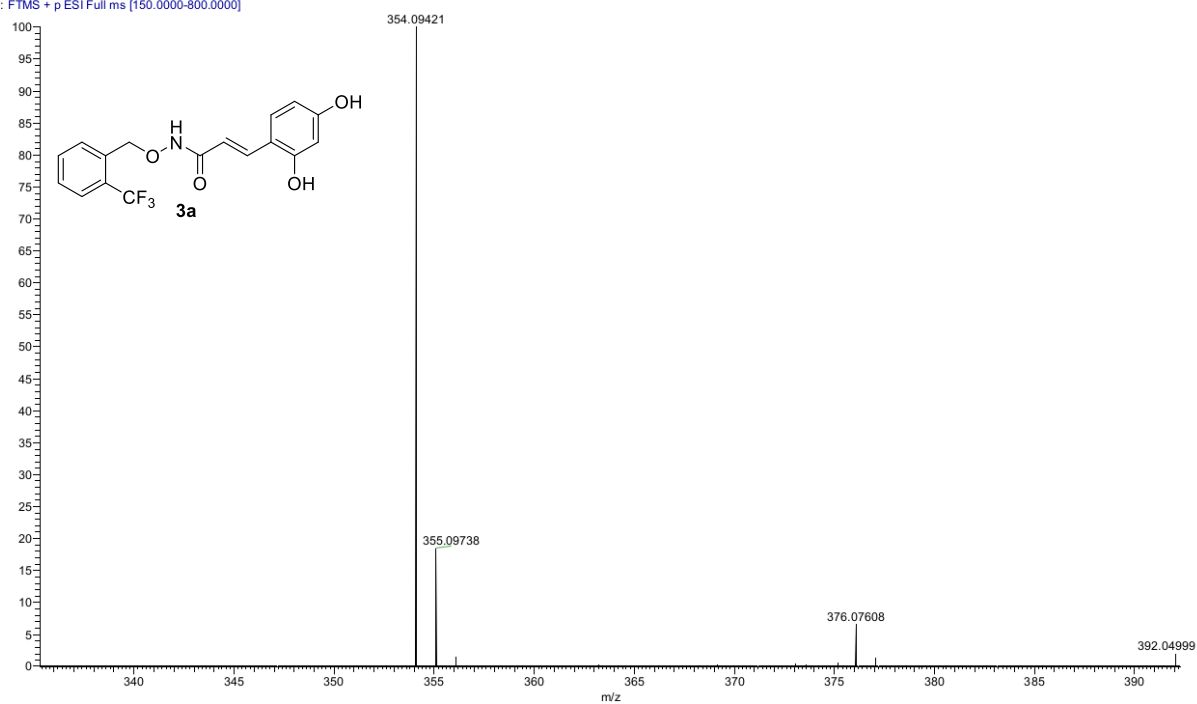


Spectrum S20: ¹³C-NMR spectrum of compound 3a

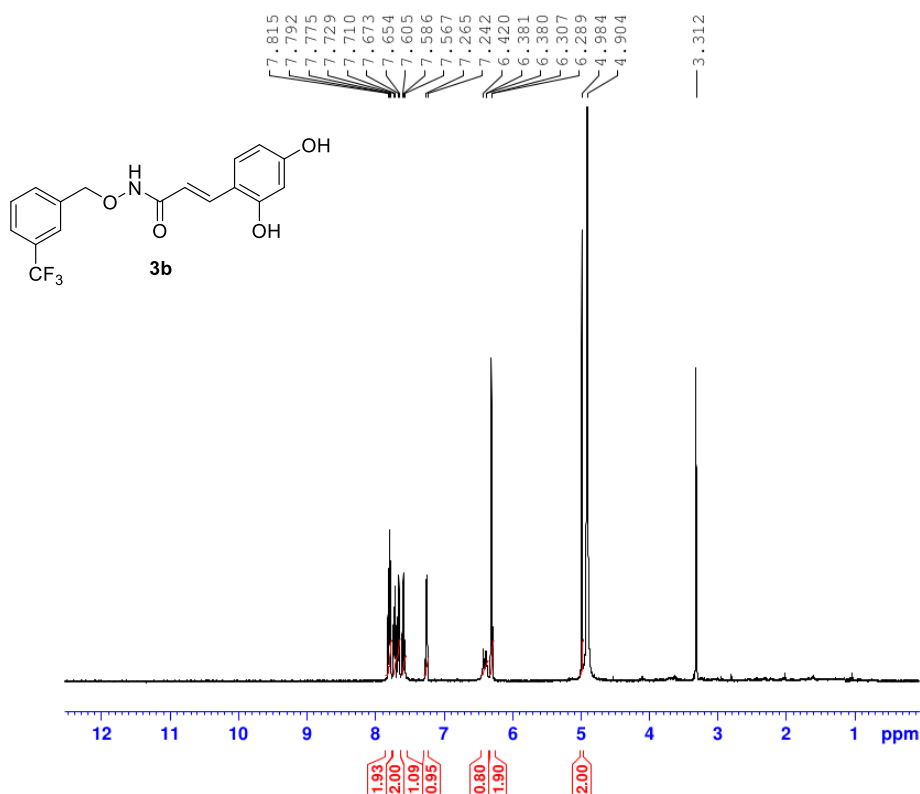


Spectrum S21: Mass spectrum of compound 3a

EM04 #435 RT: 4.03 AV: 1 NL: 5.08E8
T: FTMS + p ESI Full ms [150.0000-800.0000]



Spectrum S22: ¹H-NMR spectrum of compound **3b**

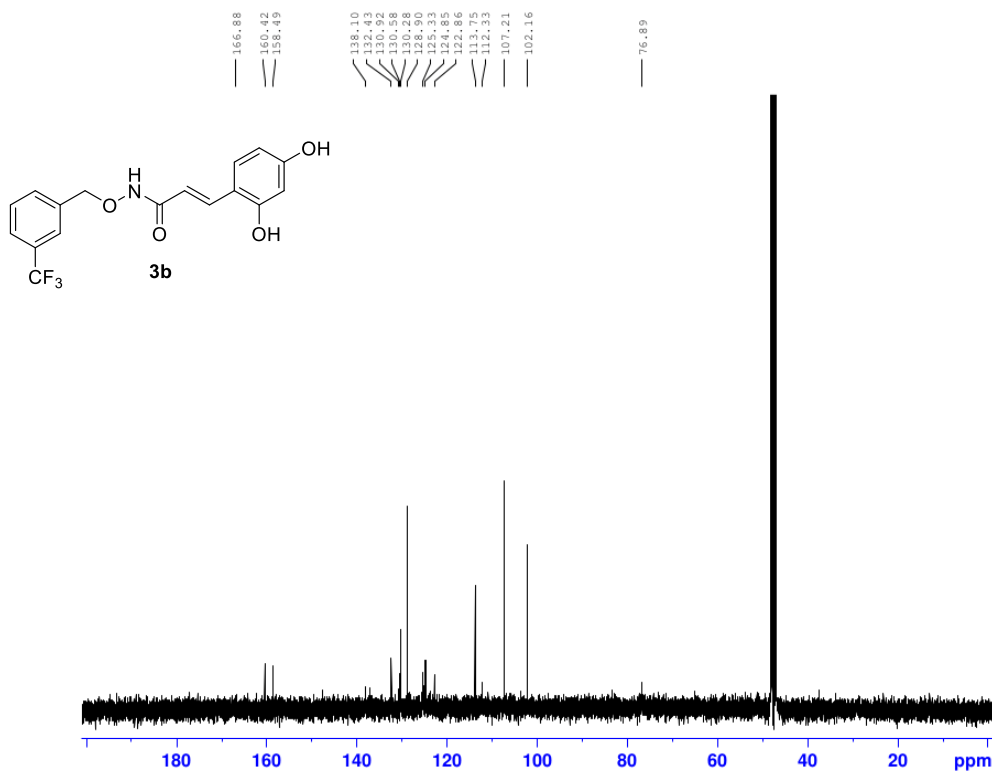


Current Data Parameters
NAME EM05
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20221013
Time 16.56 h
INSTRUM spect
PROBHD Z108618_0601 (
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 16
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 5.4525952 sec
RG 203
DW 83.200 usec
DE 13.02 usec
TE 294.1 K
D1 1.00000000 sec
TD0 1
SFO1 400.1324710 MHz
NUC1 1H
P0 5.00 usec
P1 15.00 usec
PLW1 18.62100029 W

F2 - Processing parameters
SI 65536
SF 400.1300069 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.00

Spectrum S23: ¹³C-NMR spectrum of compound **3b**



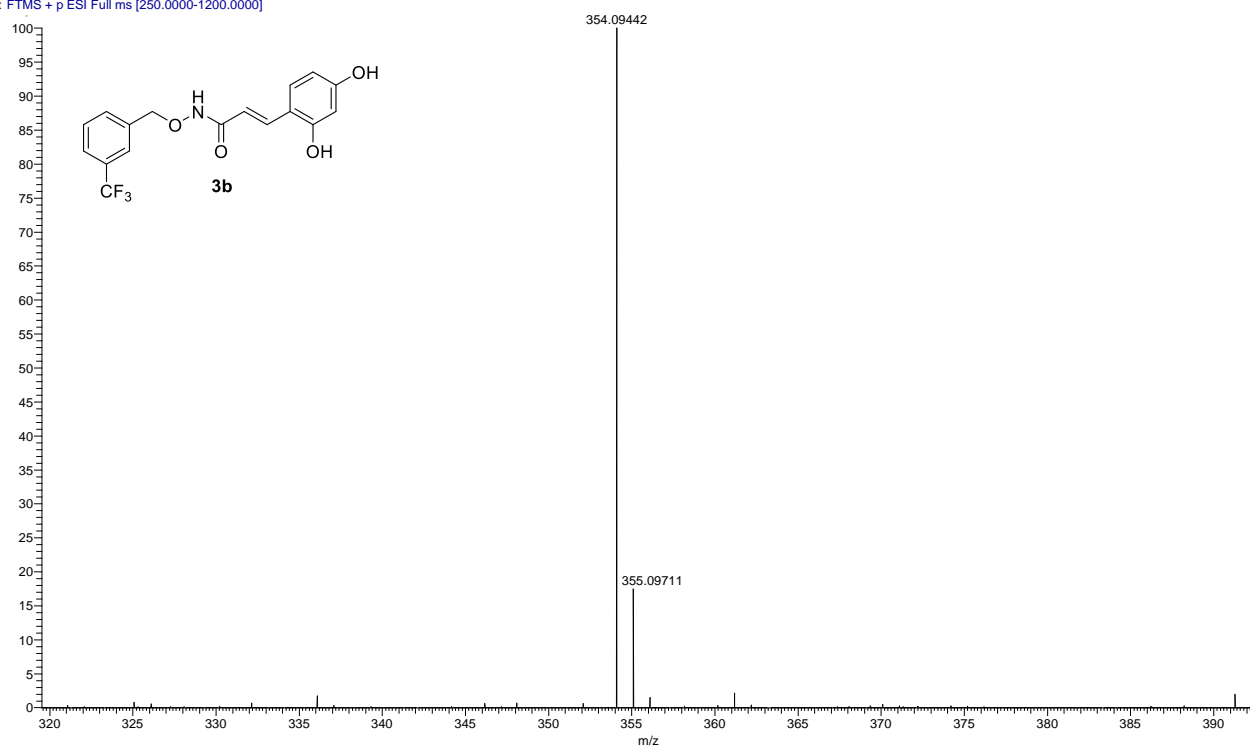
Current Data Parameters
NAME EM05
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20230706
Time 12.13 h
INSTRUM spect
PROBHD Z108618_0601 (
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 2418
DS 4
SWH 24038.461 Hz
FIDRES 0.733596 Hz
AQ 1.3631488 sec
RG 203
DW 20.800 usec
DE 9.97 usec
TE 299.3 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 10
SFO1 100.6228293 MHz
NUC1 13C
P0 3.33 usec
P1 10.00 usec
PLW1 38.91999817 W
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 90.00 usec
PLW2 18.62100029 W
PLW12 0.52265888 W
PLW13 0.26195660 W

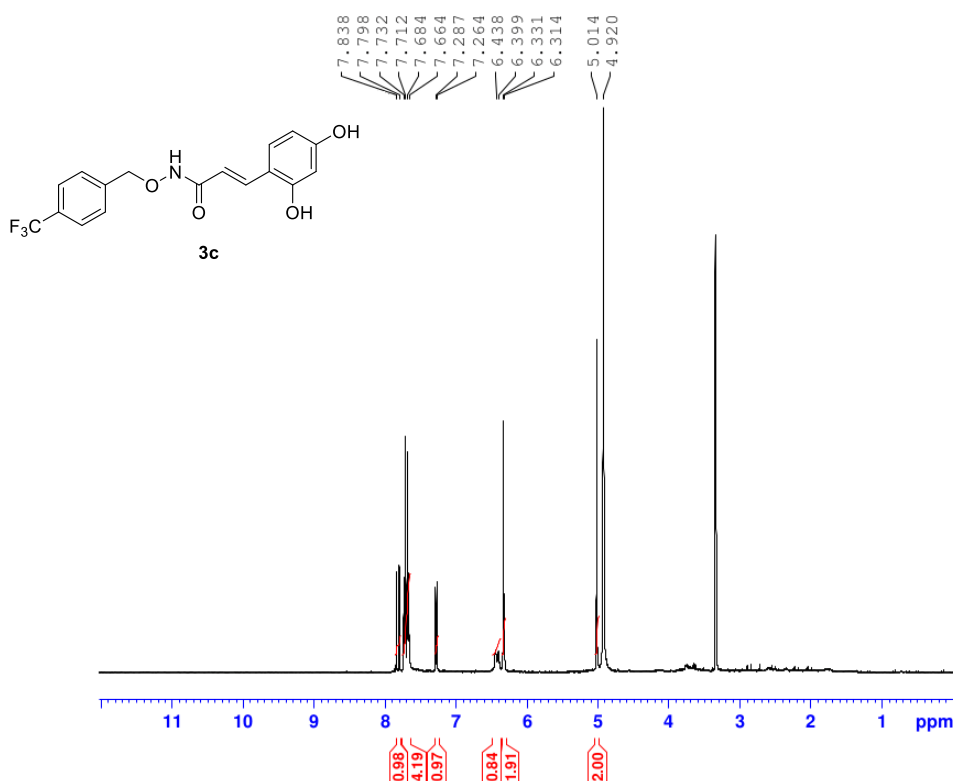
F2 - Processing parameters
SI 32768
SF 100.6127690 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.40

Spectrum S24: Mass spectrum of compound **3b**

EM05 #255 RT: 2.12 AV: 1 NL: 1.96E8
T: FTMS + p ESI Full ms [250.0000-1200.0000]



Spectrum S25: ¹H-NMR spectrum of compound 3c

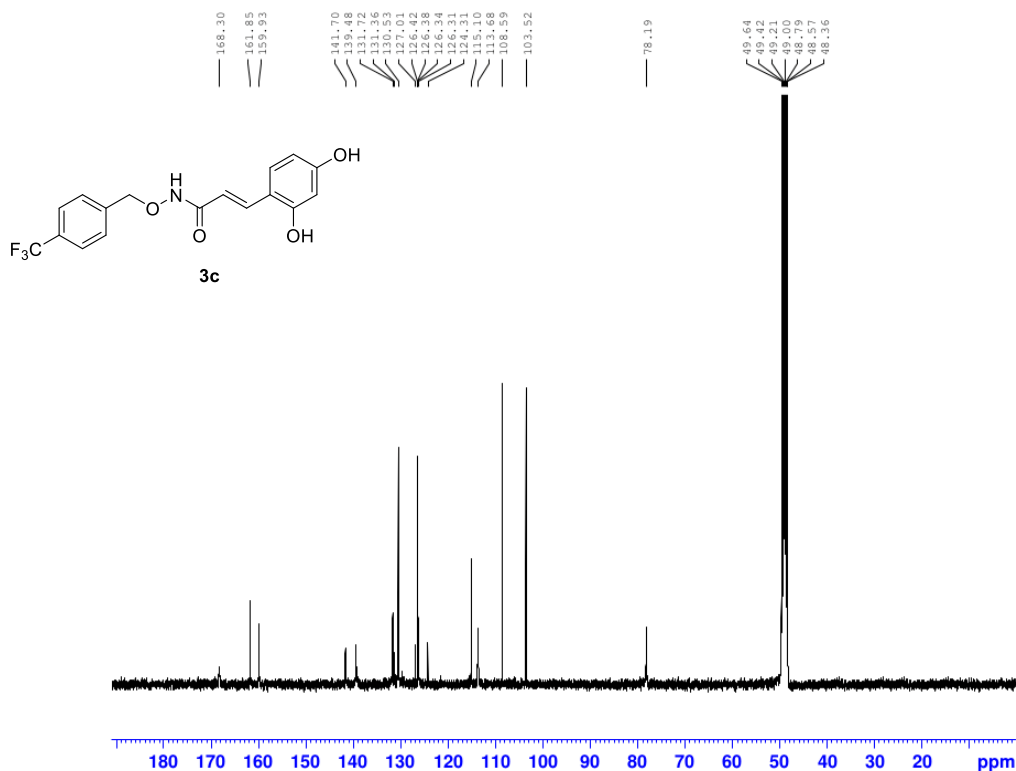


Current Data Parameters
NAME EM06
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20220923
Time 16.15 h
INSTRUM spect
PROBHD Z108618_0601 (
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 32
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 5.4525952 sec
RG 203
DW 83.200 usec
DE 13.02 usec
TE 0 K
D1 1.00000000 sec
TD0 1
SFO1 400.1324710 MHz
NUC1 1H
P0 5.00 usec
P1 15.00 usec
PLW1 18.62100029 W

F2 - Processing parameters
SI 65536
SF 400.1299963 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.00

Spectrum S26: ¹³C-NMR spectrum of compound 3c



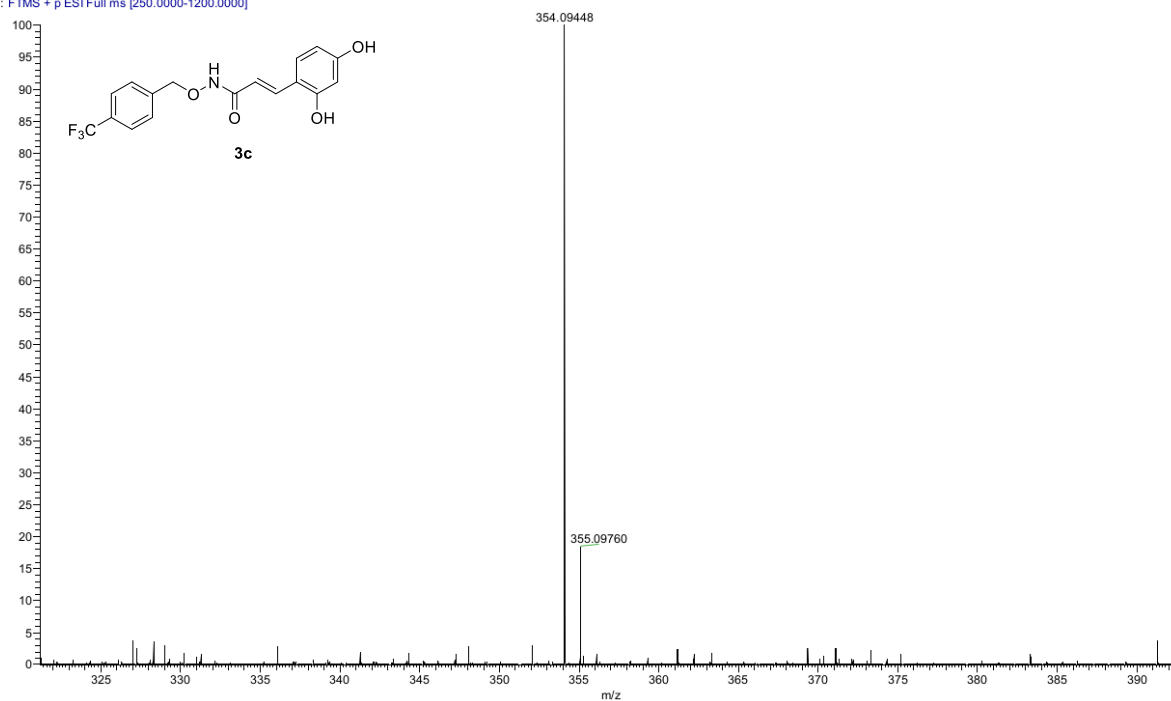
Current Data Parameters
NAME EM06
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20230314
Time 8.48 h
INSTRUM spect
PROBHD Z108618_0601 (
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 15622
DS 4
SWH 24038.461 Hz
FIDRES 0.733596 Hz
AQ 1.3631488 sec
RG 203
DW 20.800 usec
DE 9.97 usec
TE 295.5 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 10
SFO1 100.6228293 MHz
NUC1 13C
P0 3.33 usec
P1 10.00 usec
PLW1 38.91999817 W
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 90.00 usec
PLW2 18.62100029 W
PLW12 0.52265888 W
PLW13 0.26195660 W

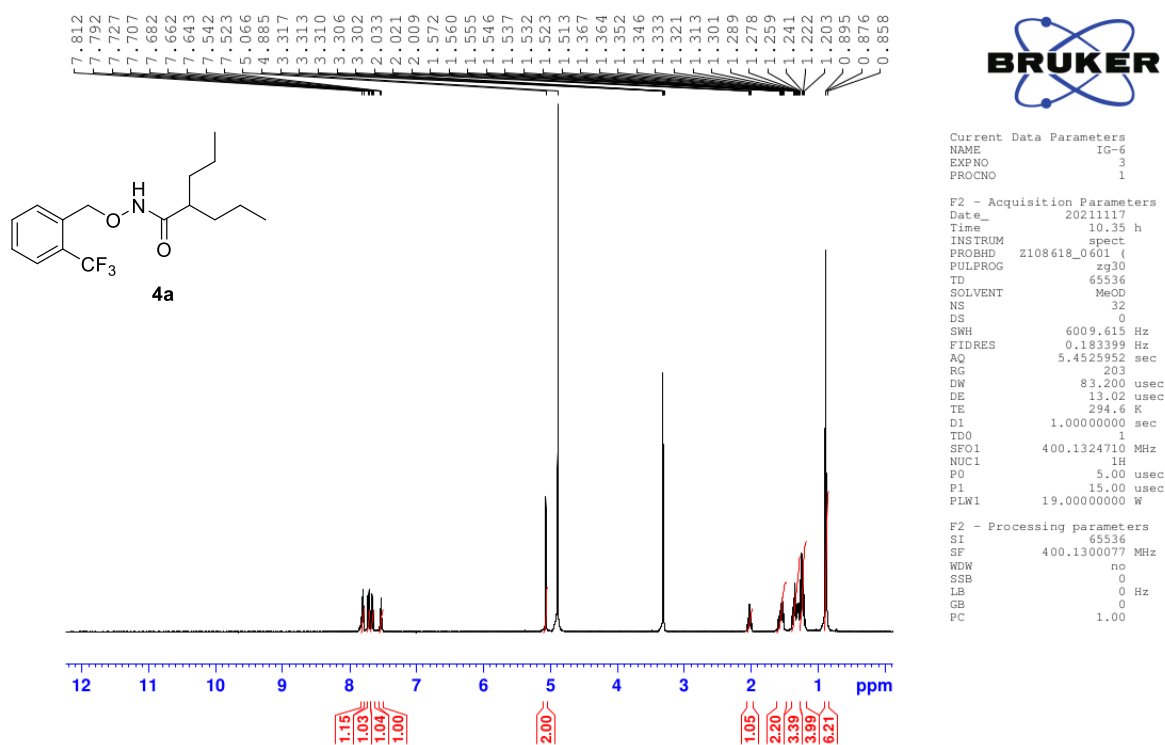
F2 - Processing parameters
SI 32768
SF 100.6126277 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Spectrum S27: Mass spectrum of compound 3c

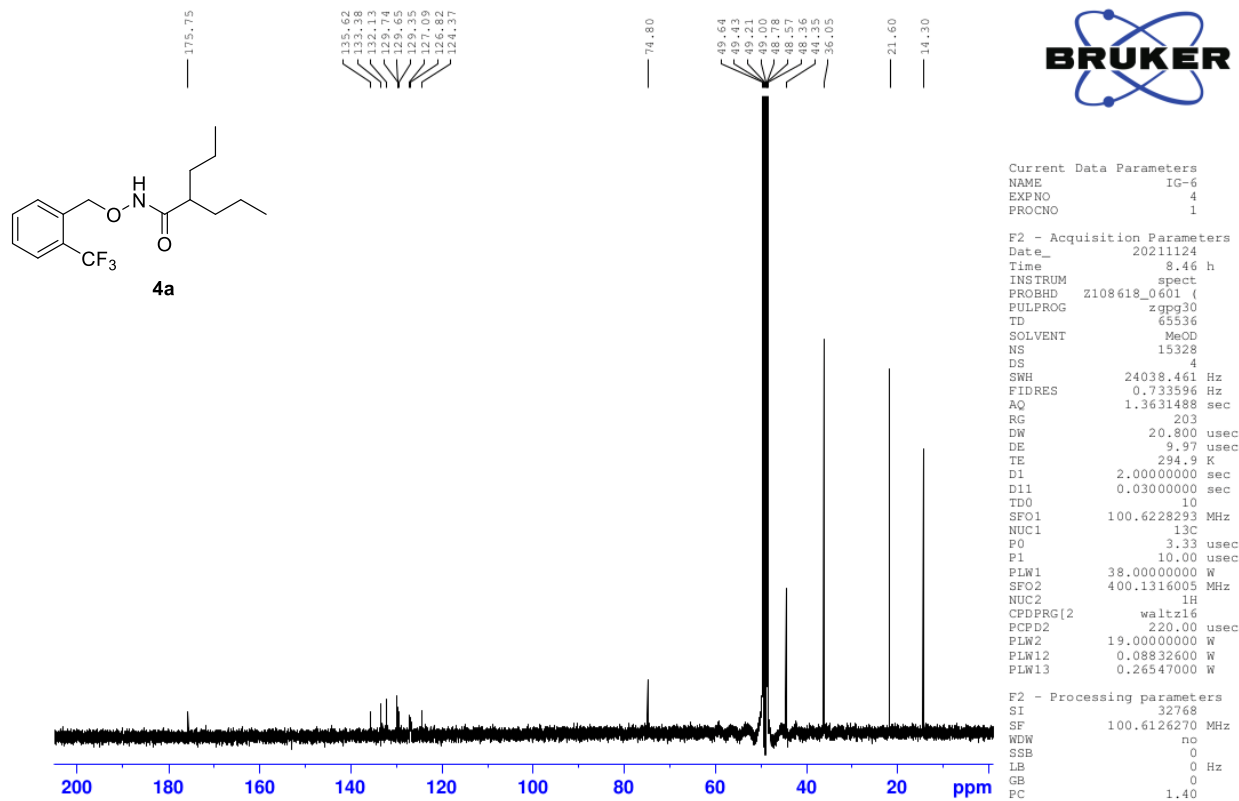
EM06 #16 RT: 0.16 AV: 1 NL: 2.76E7
T: FTMS + p ESI Full ms [250.0000-1200.0000]



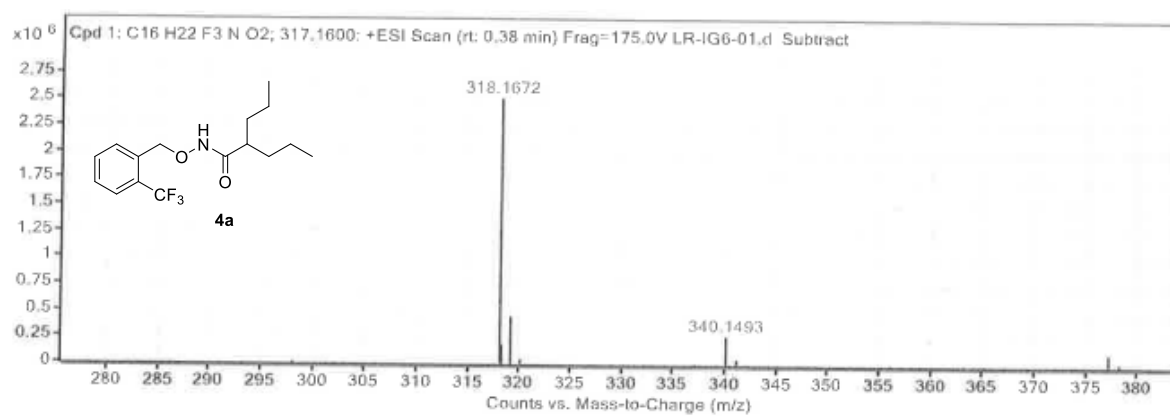
Spectrum S28: ¹H-NMR spectrum of compound 4a



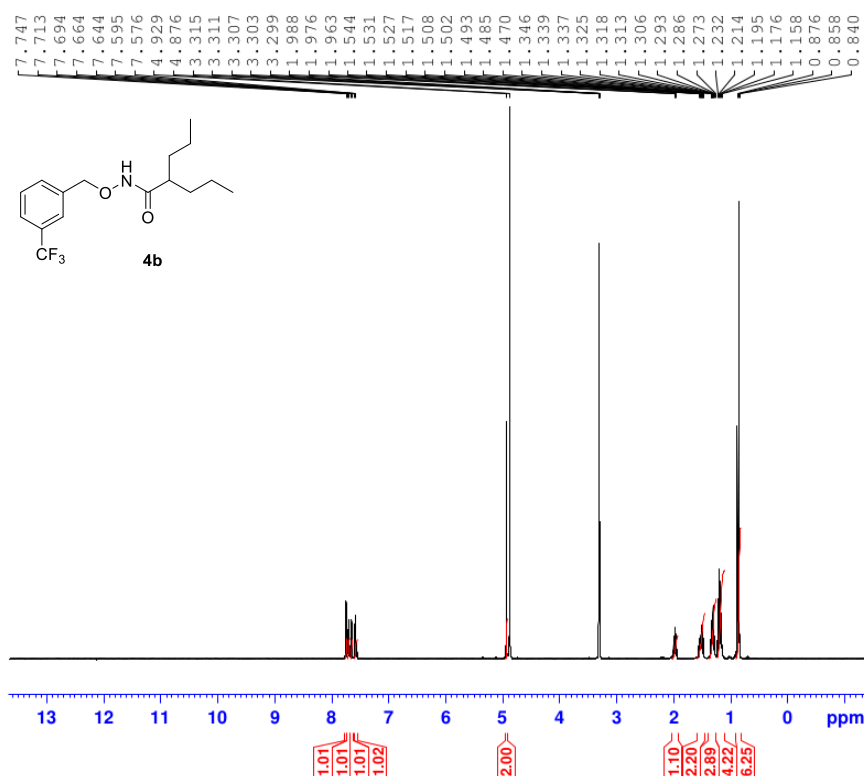
Spectrum S29: ¹³C-NMR spectrum of compound 4a



Spectrum S30: Mass spectrum of compound **4a**



Spectrum S31: ^1H -NMR spectrum of compound **4b**

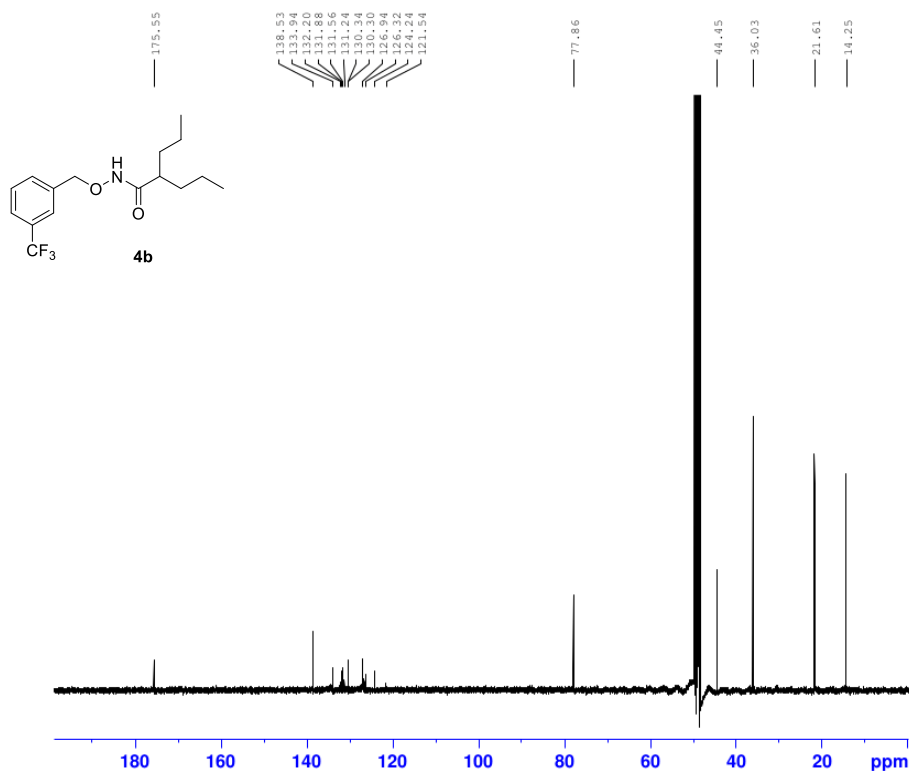


Current Data Parameters
NAME IG-5
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20211022
Time 16.35 h
INSTRUM spect
PROBHD Z108618_0601 (
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 32
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 5.4525952 sec
RG 203
DW 83.200 usec
DE 13.02 usec
TE 295.3 K
D1 1.00000000 sec
TD0 1
SF01 400.1324710 MHz
NUC1 1H
P0 5.00 usec
P1 15.00 usec
PLW1 19.00000000 W

F2 - Processing parameters
SI 65536
SF 400.1300085 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.00

Spectrum S32: ^{13}C -NMR spectrum of compound **4b**

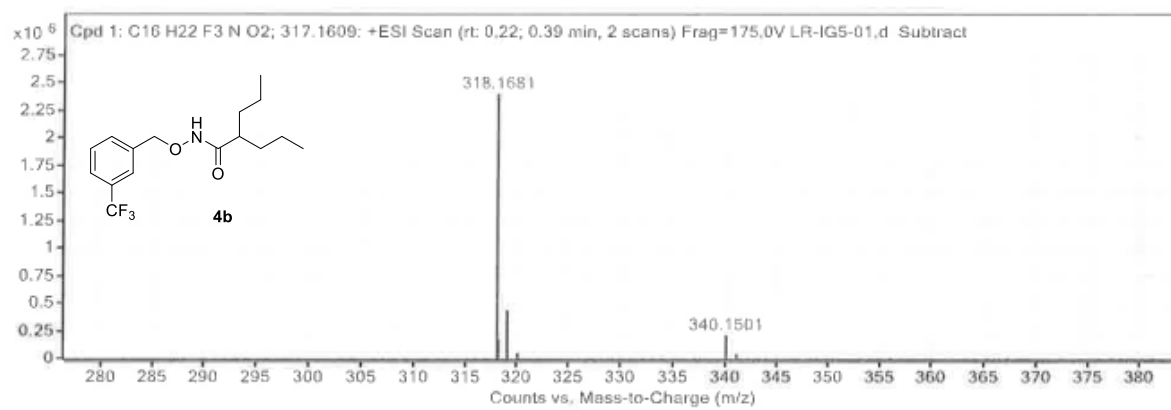


Current Data Parameters
NAME IG-5
EXPNO 4
PROCNO 1

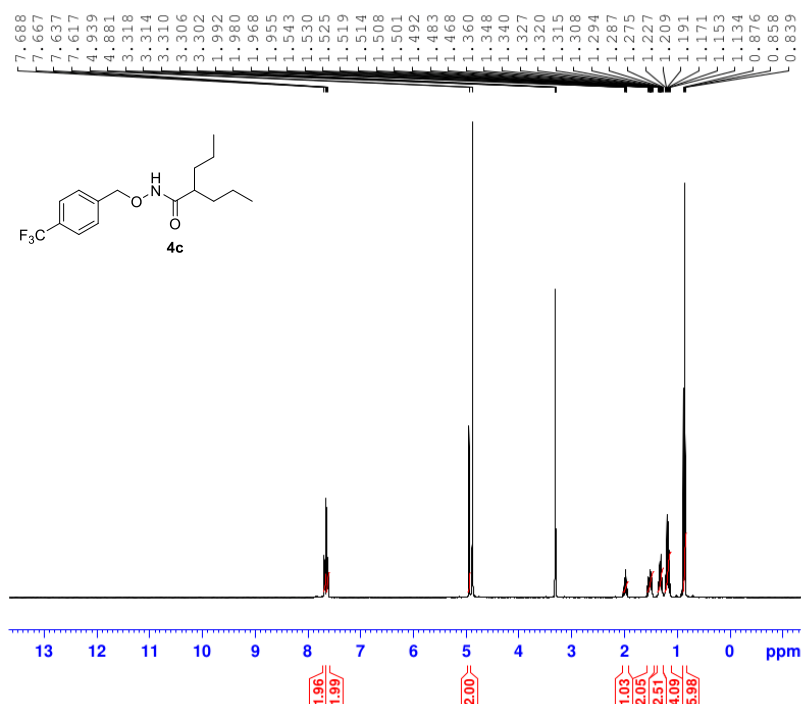
F2 - Acquisition Parameters
Date_ 20211102
Time 8.47 h
INSTRUM spect
PROBHD Z108618_0601 (
PULPROG zgpg30
TD 65536
SOLVENT MeOD
NS 92228
DS 4
SWH 24038.461 Hz
FIDRES 0.733596 Hz
AQ 1.3631488 sec
RG 203
DW 20.800 usec
DE 9.97 usec
TE 295.9 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 10
SF01 100.6228293 MHz
NUC1 13C
P0 3.33 usec
P1 10.00 usec
PLW1 38.00000000 W
SF02 400.1316005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 220.00 usec
PLW2 19.00000000 W
PLW12 0.08832600 W
PLW13 0.26547000 W

F2 - Processing parameters
SI 32768
SF 100.6126286 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.40

Spectrum S33: Mass spectrum of compound **4b**



Spectrum S34: ¹H-NMR spectrum of compound 4c

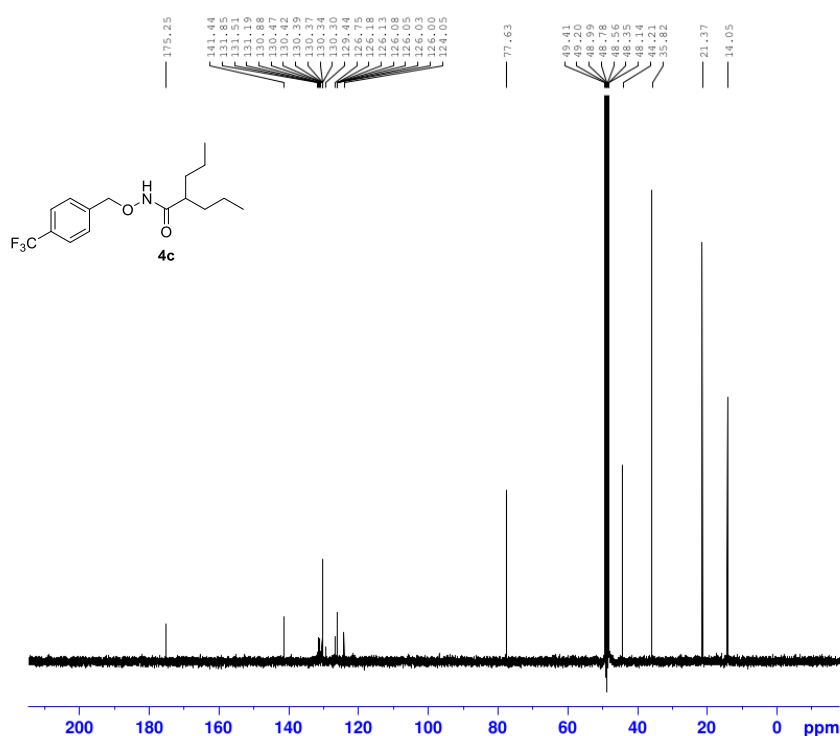


Current Data Parameters
NAME IG-4
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20211011
Time 9.39 h
INSTRUM spect
PROBHD Z108618_0601 ()
PULPROG zg30
TD 65536
SOLVENT MeOD
NS 32
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 5.4525952 sec
RG 203
DW 83.200 usec
DE 13.02 usec
TE 295.1 K
D1 1.00000000 sec
TDO 1
SFO1 400.1324710 MHz
NUC1 1H
P0 5.00 usec
P1 15.00 usec
PLW1 19.00000000 W

F2 - Processing parameters
SI 65536
SF 400.1300075 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.00

Spectrum S35: ¹³C-NMR spectrum of compound 4c

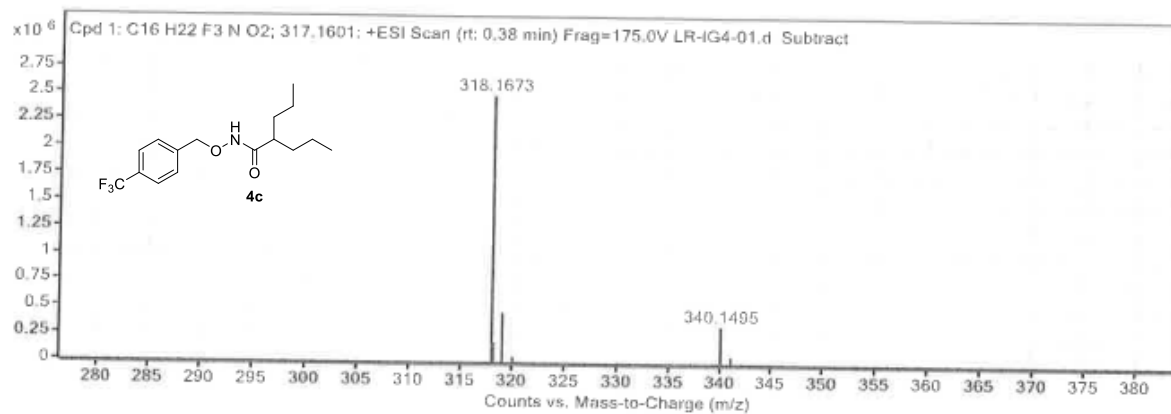


Current Data Parameters
NAME IG-4
EXPNO 3
PROCNO 1

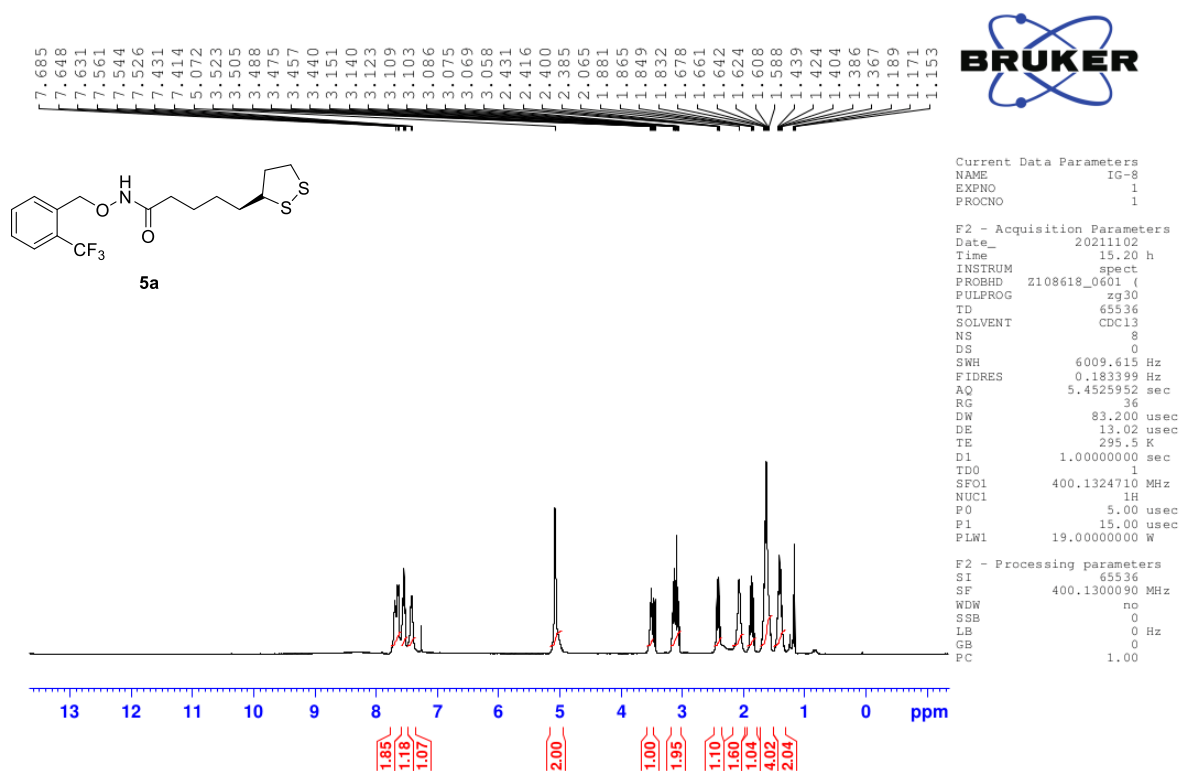
F2 - Acquisition Parameters
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Time 14.47 h
INSTRUM spect
PROBHD Z108618_0601 ()
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SOLVENT MeOD
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DS 4
SWH 24038.461 Hz
FIDRES 0.733596 Hz
AQ 1.3631488 sec
RG 203
DW 20.800 usec
DE 9.97 usec
TE 295.4 K
D1 2.00000000 sec
D11 0.03000000 sec
TDO 10
SFO1 100.6228293 MHz
NUC1 13C
P0 3.33 usec
P1 10.00 usec
PLW1 38.00000000 W
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 220.00 usec
PLW2 19.00000000 W
PLW12 0.08832600 W
PLW13 0.26547000 W

F2 - Processing parameters
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SF 100.6126503 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.40

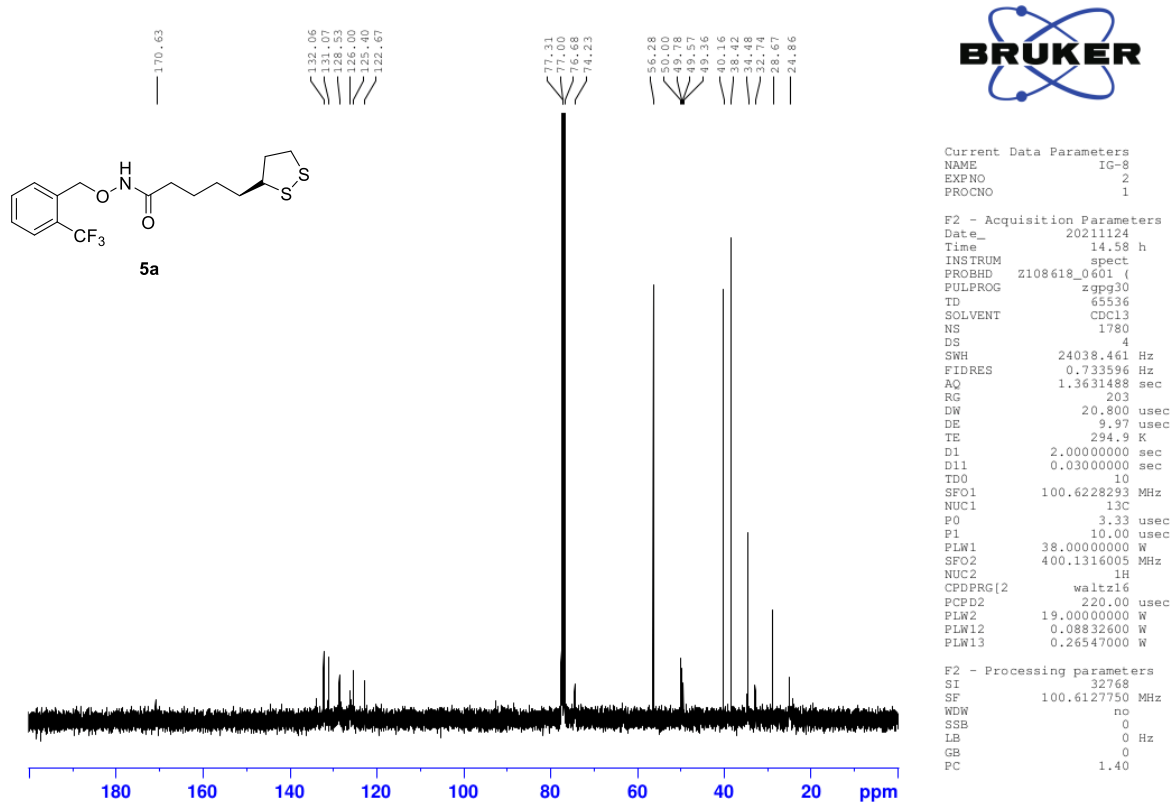
Spectrum S36: Mass spectrum of compound 4c



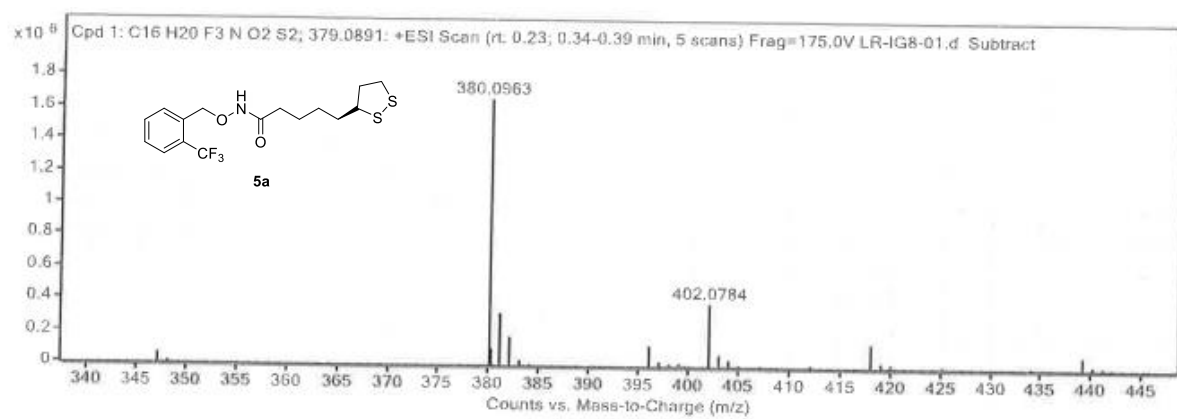
Spectrum S37: ¹H-NMR spectrum of compound 5a



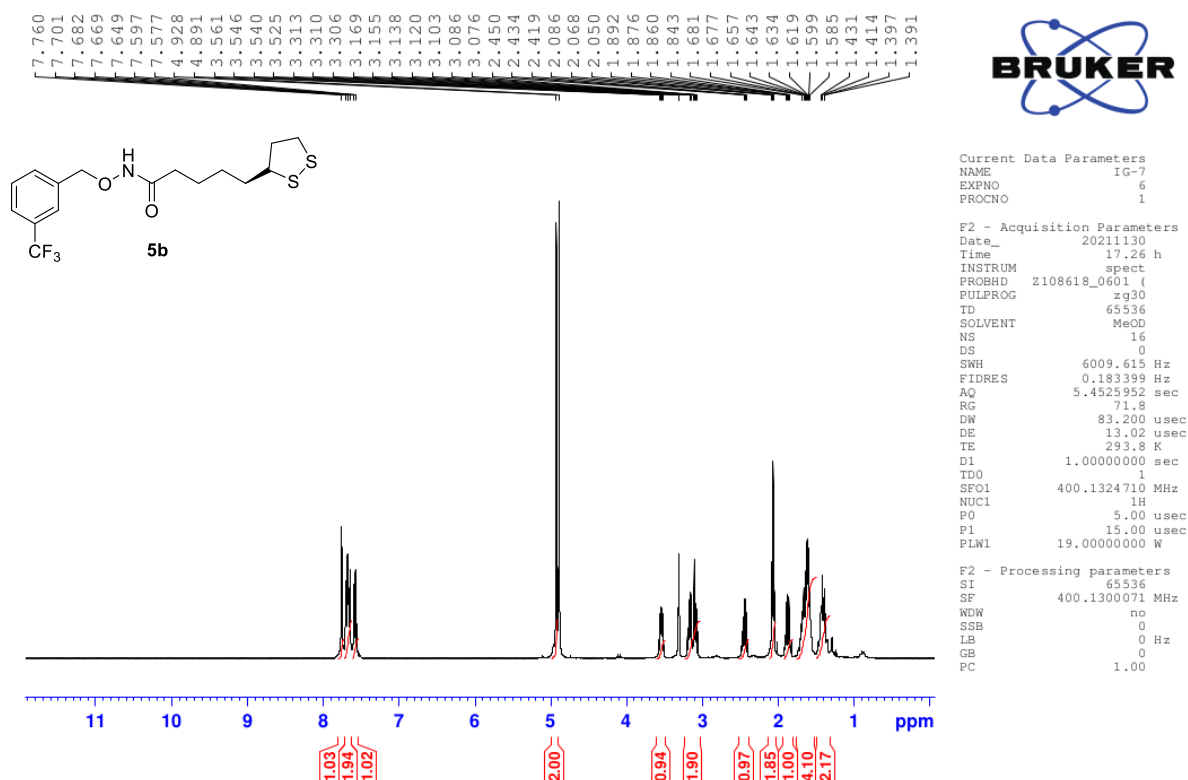
Spectrum S38: ¹³C-NMR spectrum of compound 5a



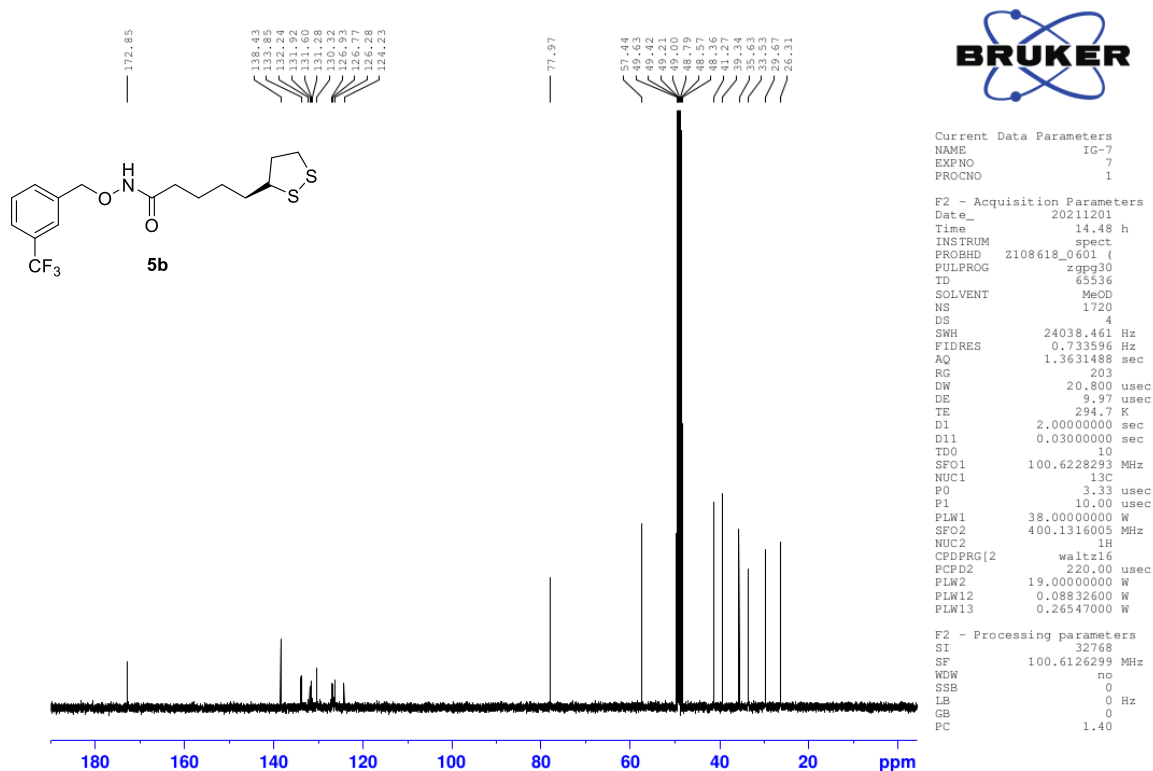
Spectrum S39: Mass spectrum of compound **5a**



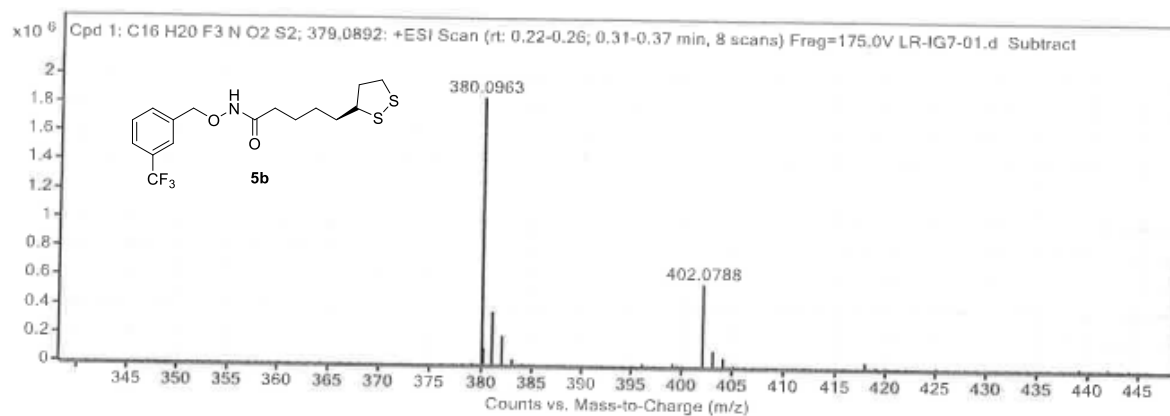
Spectrum S40: ^1H -NMR spectrum of compound **5b**



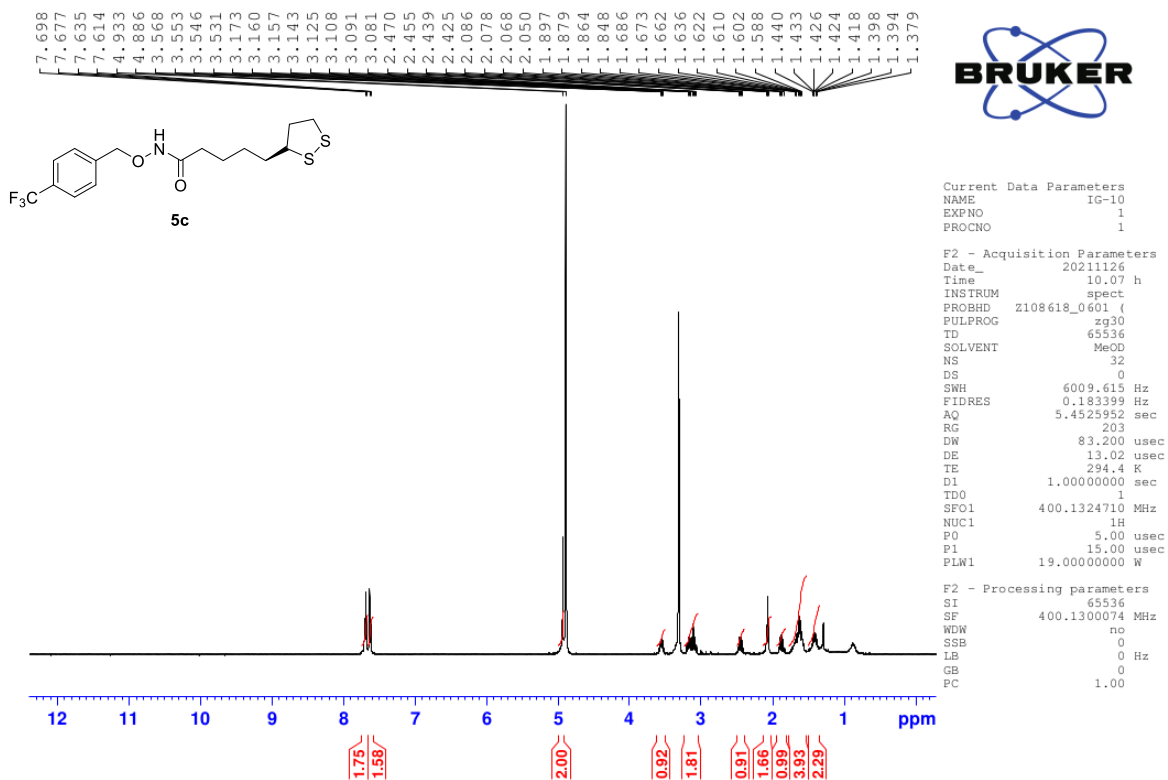
Spectrum S41: ^{13}C -NMR spectrum of compound **5b**



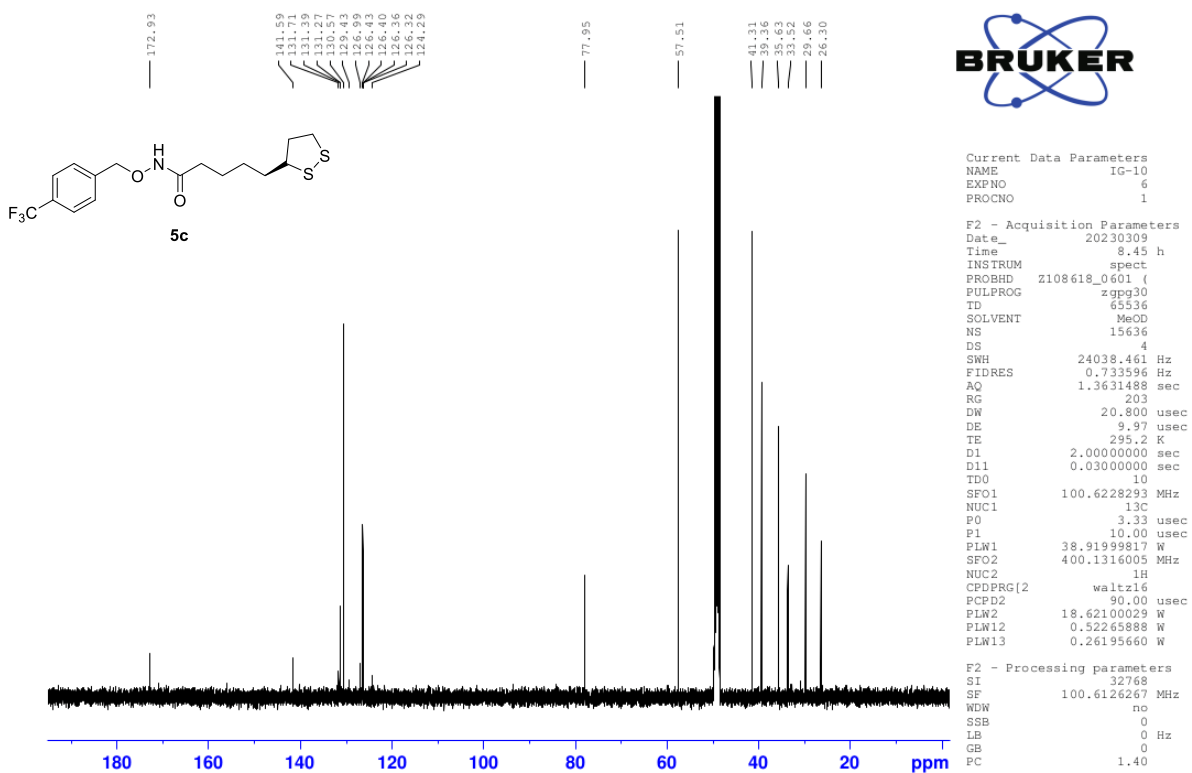
Spectrum S42: Mass spectrum of compound **5b**



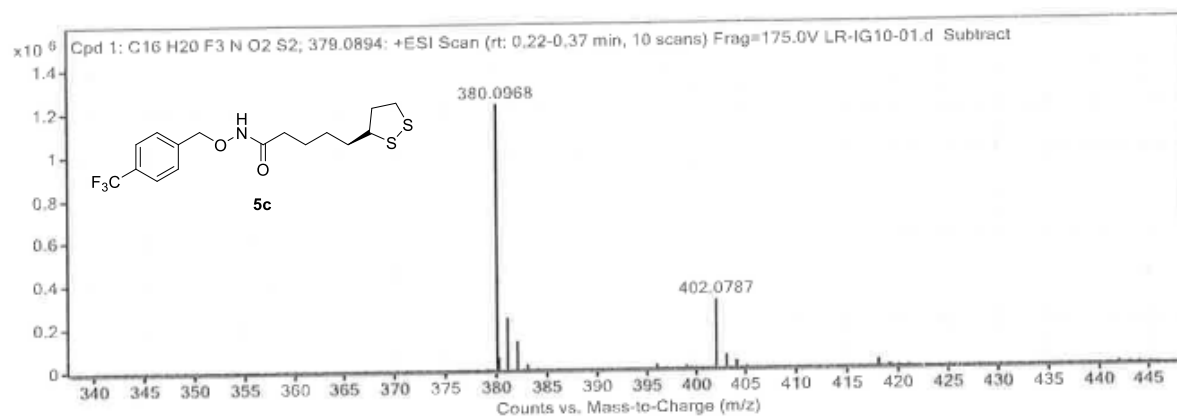
Spectrum S43: ¹H-NMR spectrum of compound **5c**



Spectrum S44: ^{13}C -NMR spectrum of compound **5c**



Spectrum S45: Mass spectrum of compound **5c**



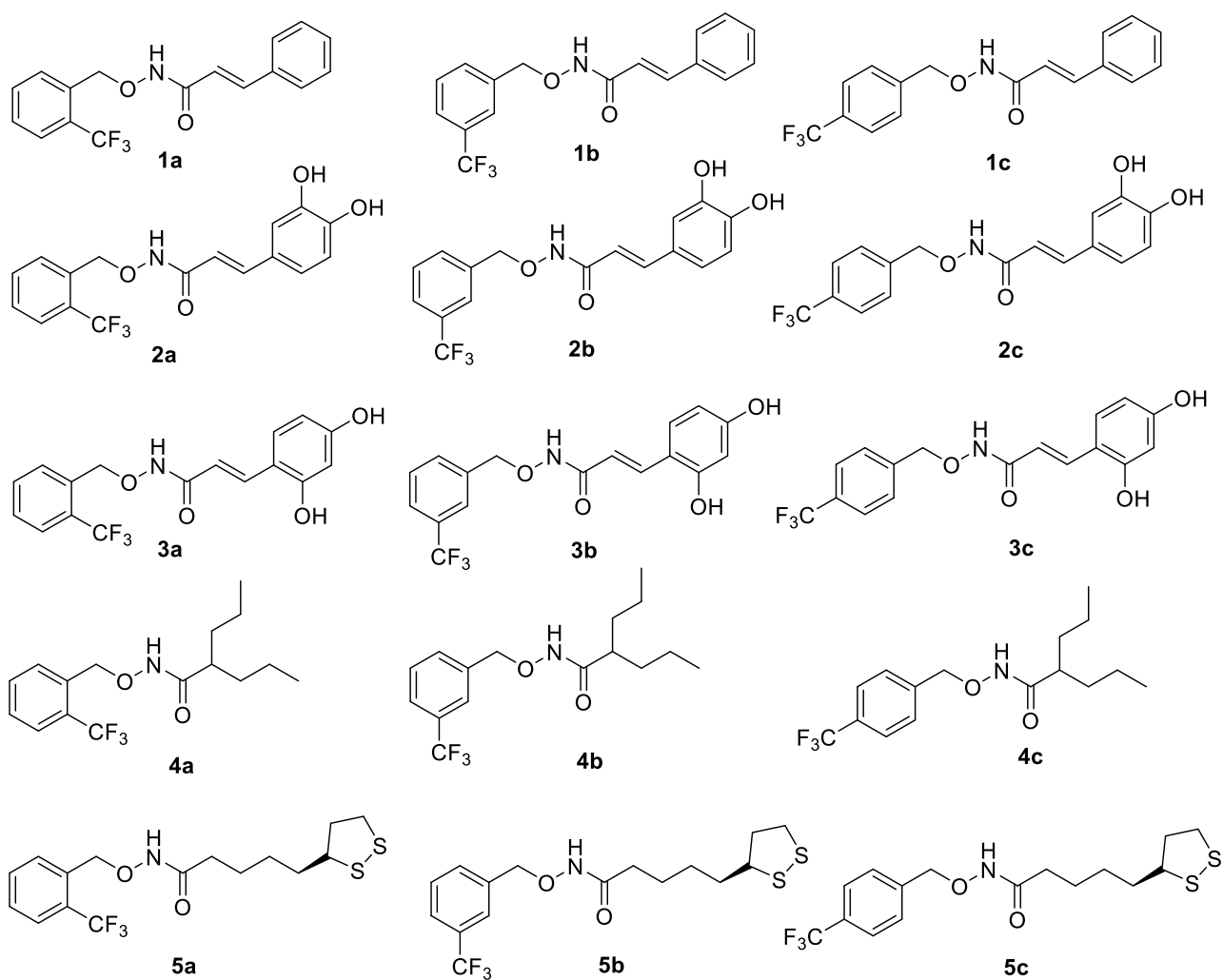


Figure S1 Chemical structure of all synthesized compounds.

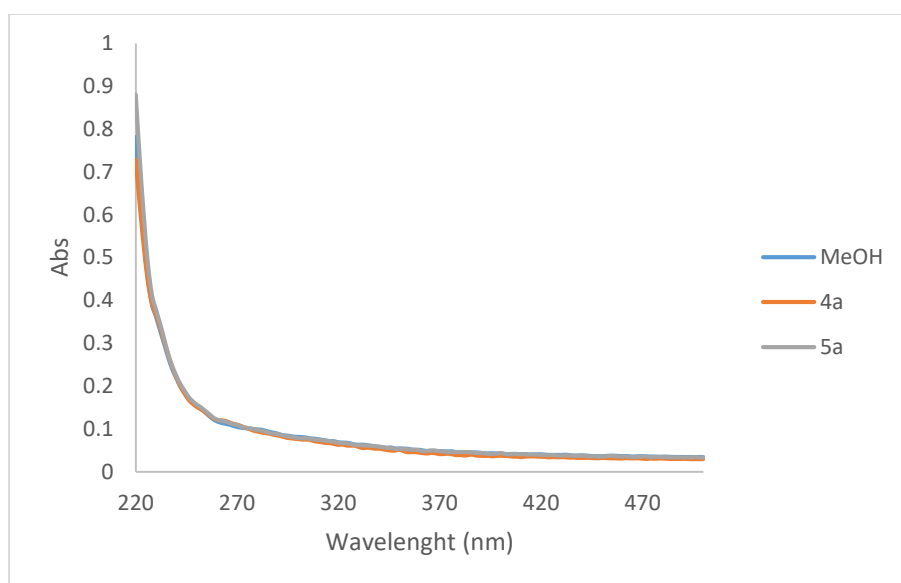


Figure S2 UV Spectra of MeOH, compound **4a** and **5a**.

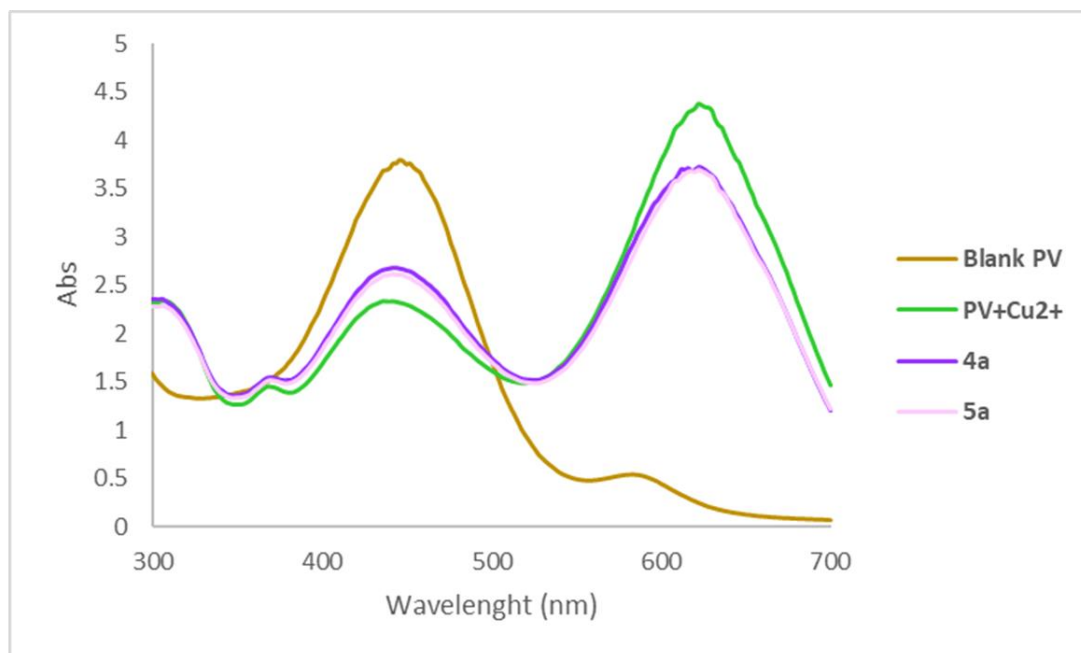
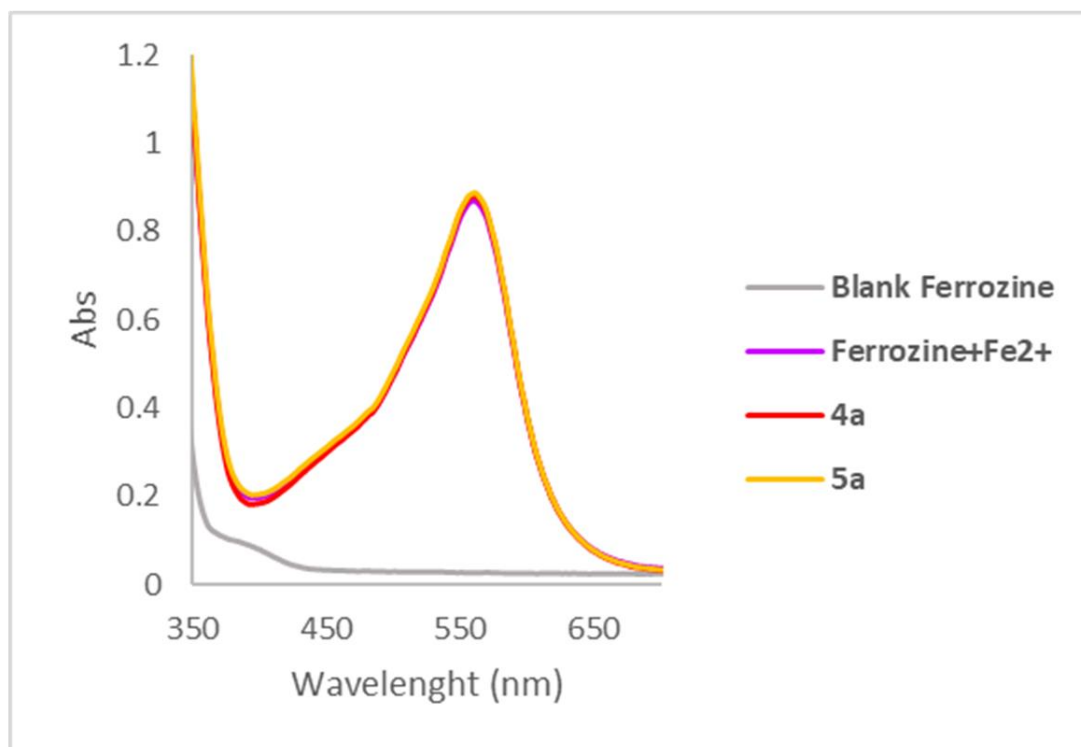
A**B**

Figure S3 Colorimetric metal chelation study of compounds **4a** and **5a**. **A** Derivatives **4a** e **5a** in presence of PV and Cu²⁺; **B** Derivatives **4a** e **5a** in presence of Ferrozine and Fe²⁺.

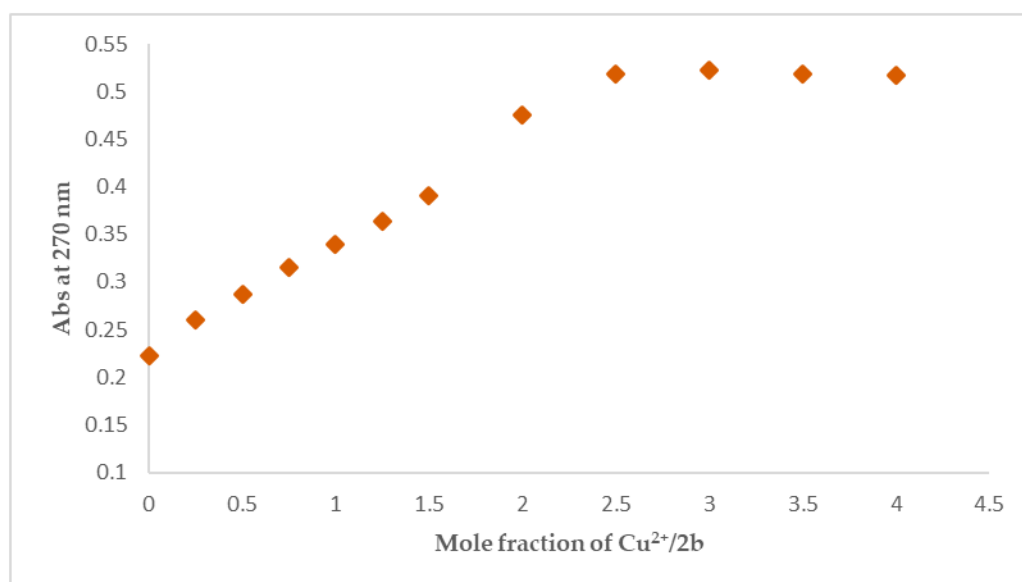
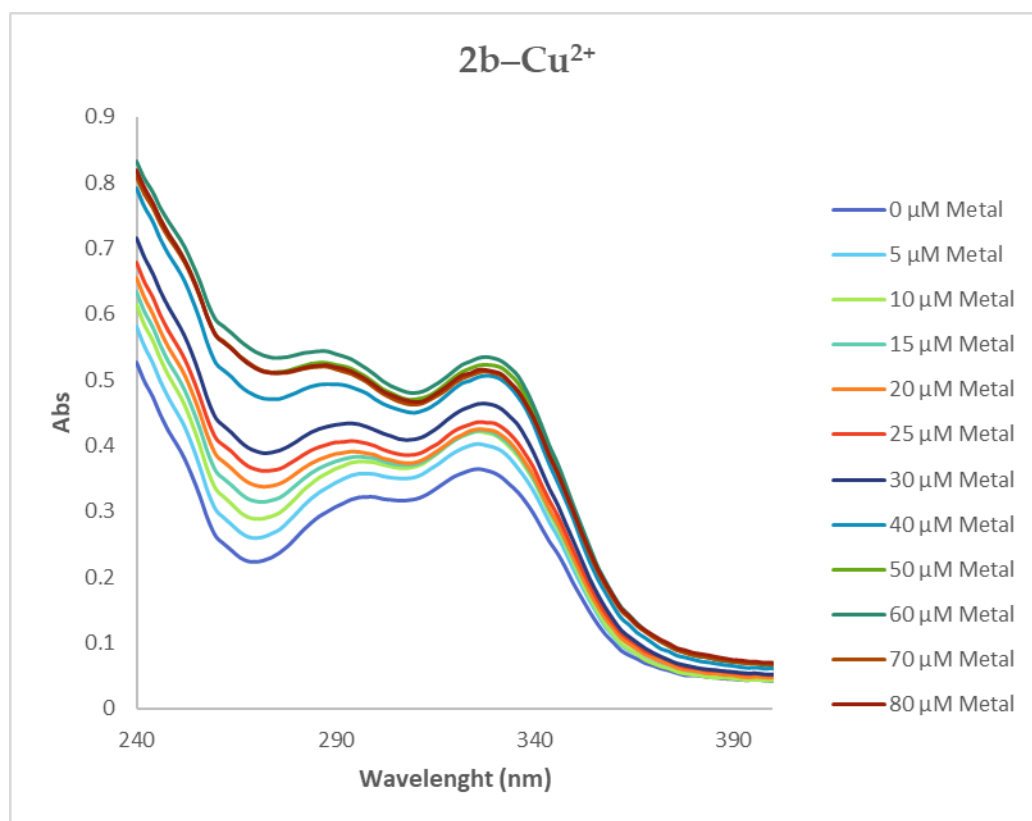


Figure S4 UV Spectra of compound **2c** with increased concentration of Cu²⁺ and molar fraction of the complex.

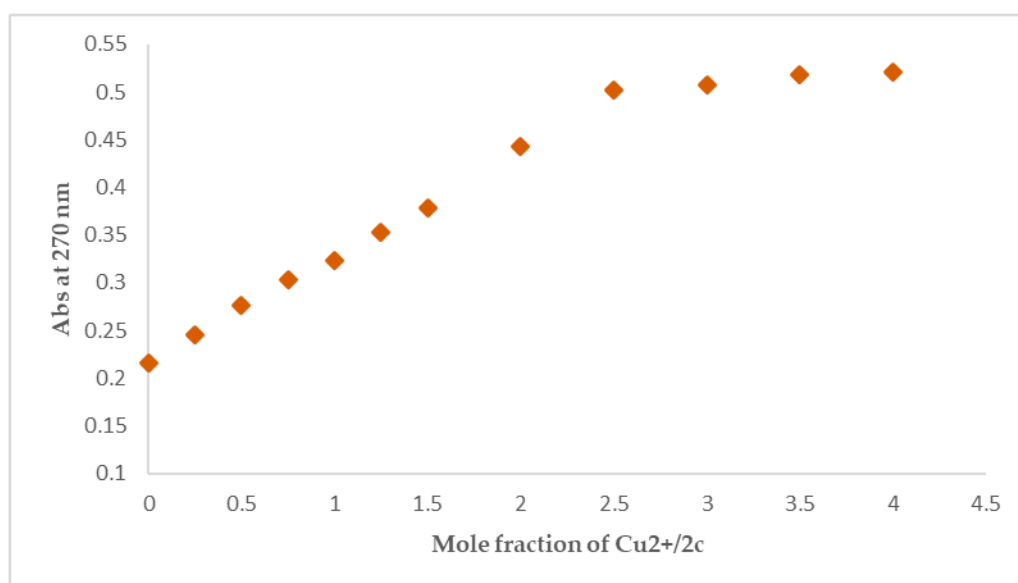
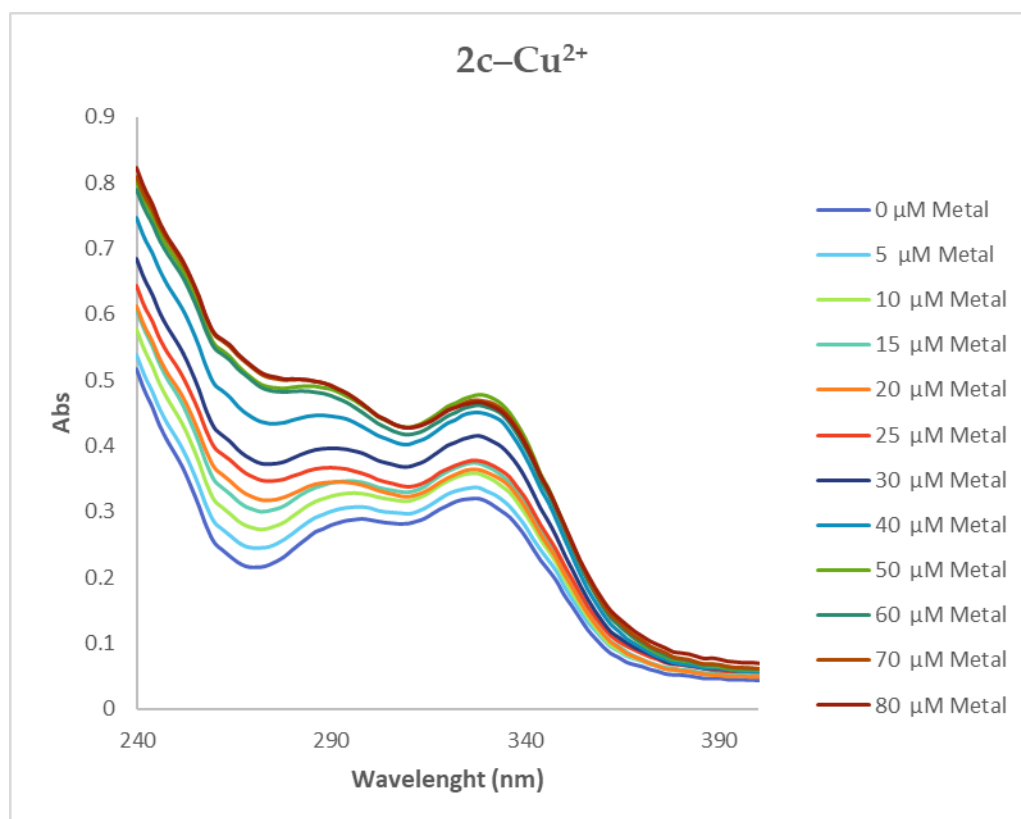


Figure S5 UV Spectra of compound **2c** with increased concentration of Cu²⁺ and molar fraction of the complex.

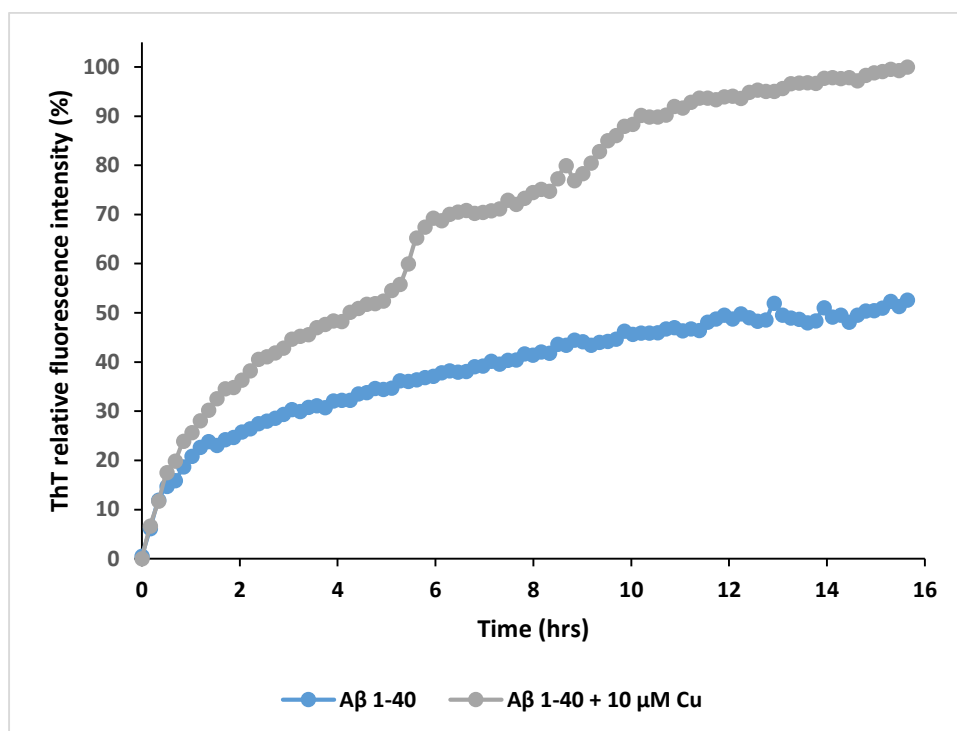


Figure S6 Representative aggregation kinetics curves of A β_{1-40} (10 μ M) in the absence (blue) or presence (grey) of 10 μ M of Cu²⁺.

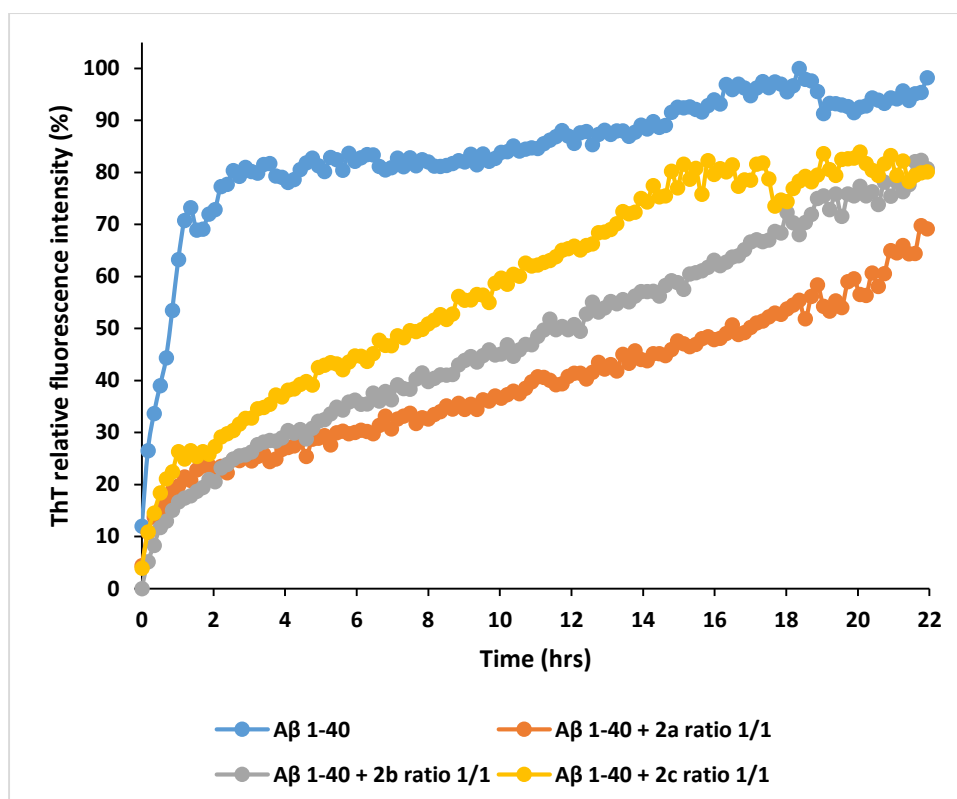


Figure S7 Representative aggregation kinetics curves of A β_{1-40} (10 μ M) in the absence (blue) or presence (orange, grey and yellow, respectively) of compounds **2a-c** (10 μ M).

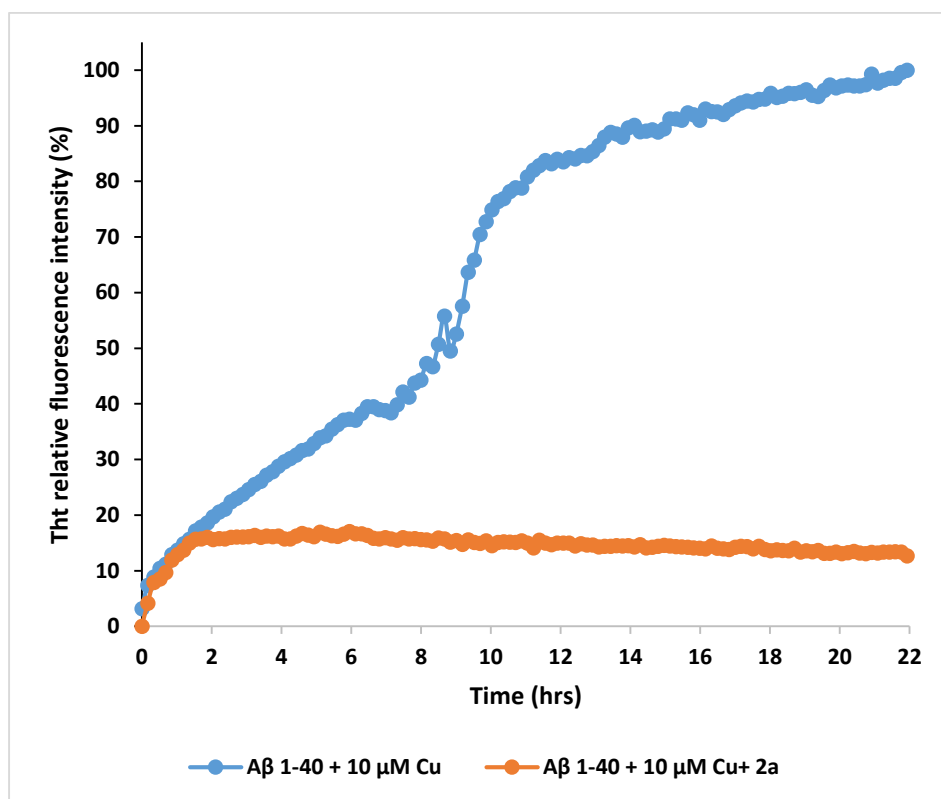


Figure S8 Representative aggregation kinetics curves of Aβ₁₋₄₀ (10 μM) with 10 μM of Cu²⁺ in the absence (blue) or presence (orange) of compound **2a** (10 μM).

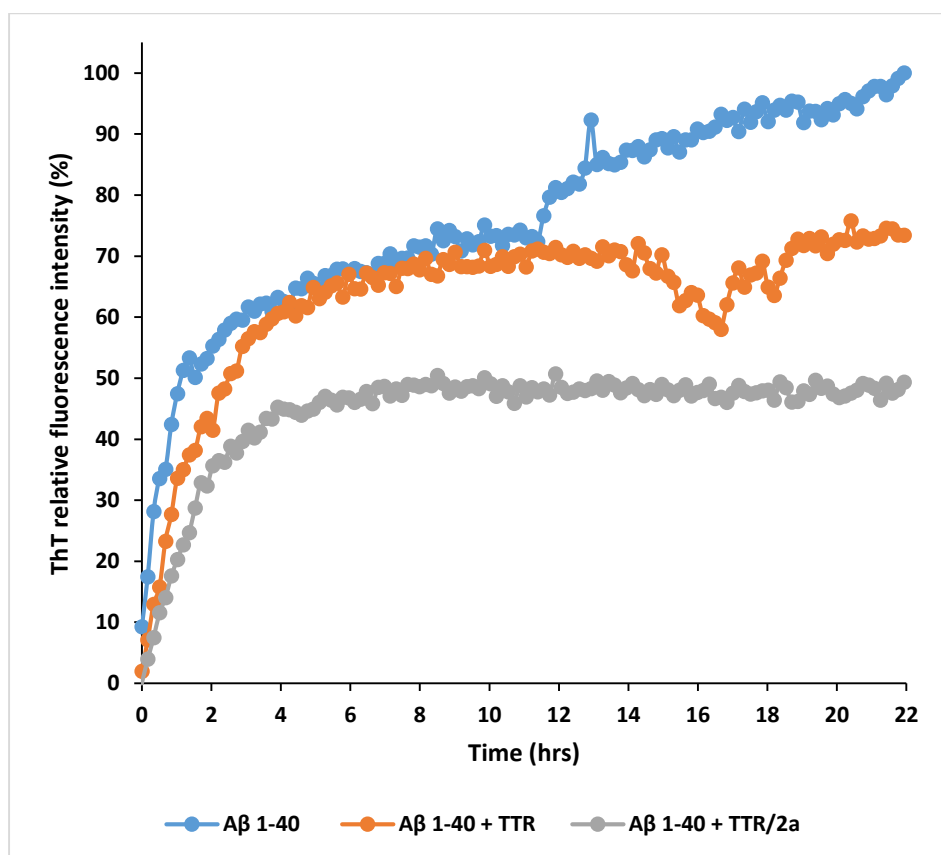


Figure S9 Representative aggregation kinetics curves of Aβ₁₋₄₀ (10 μM) in the presence (orange) or absence (blue) of 10 μM of TTR with (grey) or without (orange) the pre-incubation with compound **2a** (20 μM).

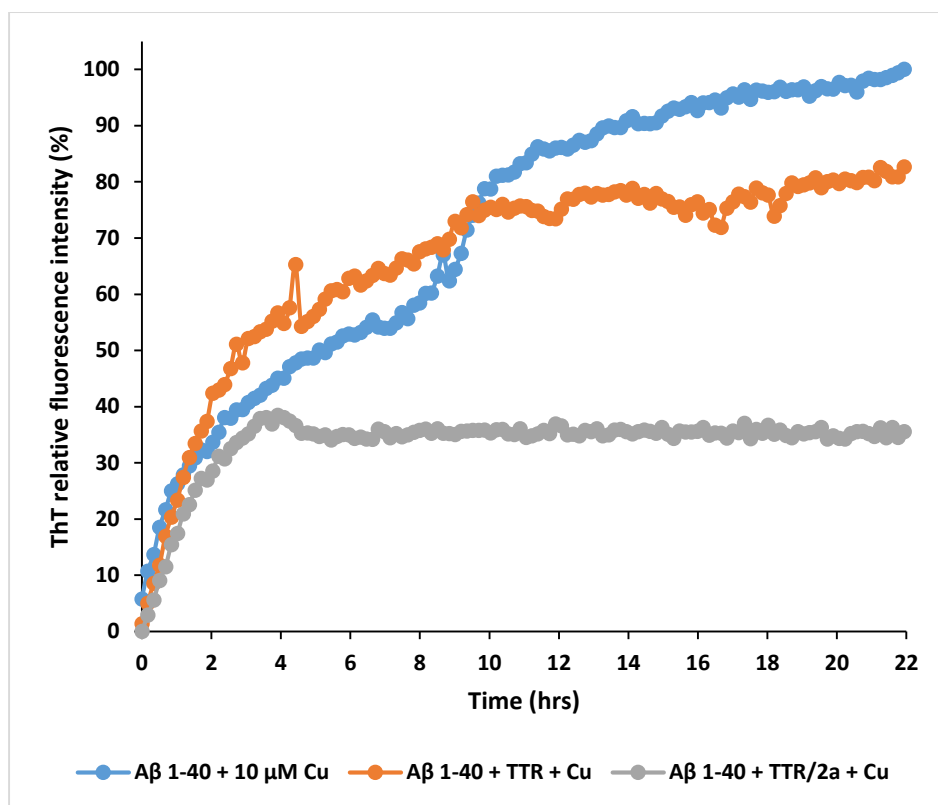


Figure S10 Representative aggregation kinetics curves of Aβ₁₋₄₀ (10 μM) and 10 μM of Cu²⁺ in the presence (orange) or absence (blue) of 10 μM of TTR with (orange) or without (grey) the pre-incubation with compound **2a** (20 μM).