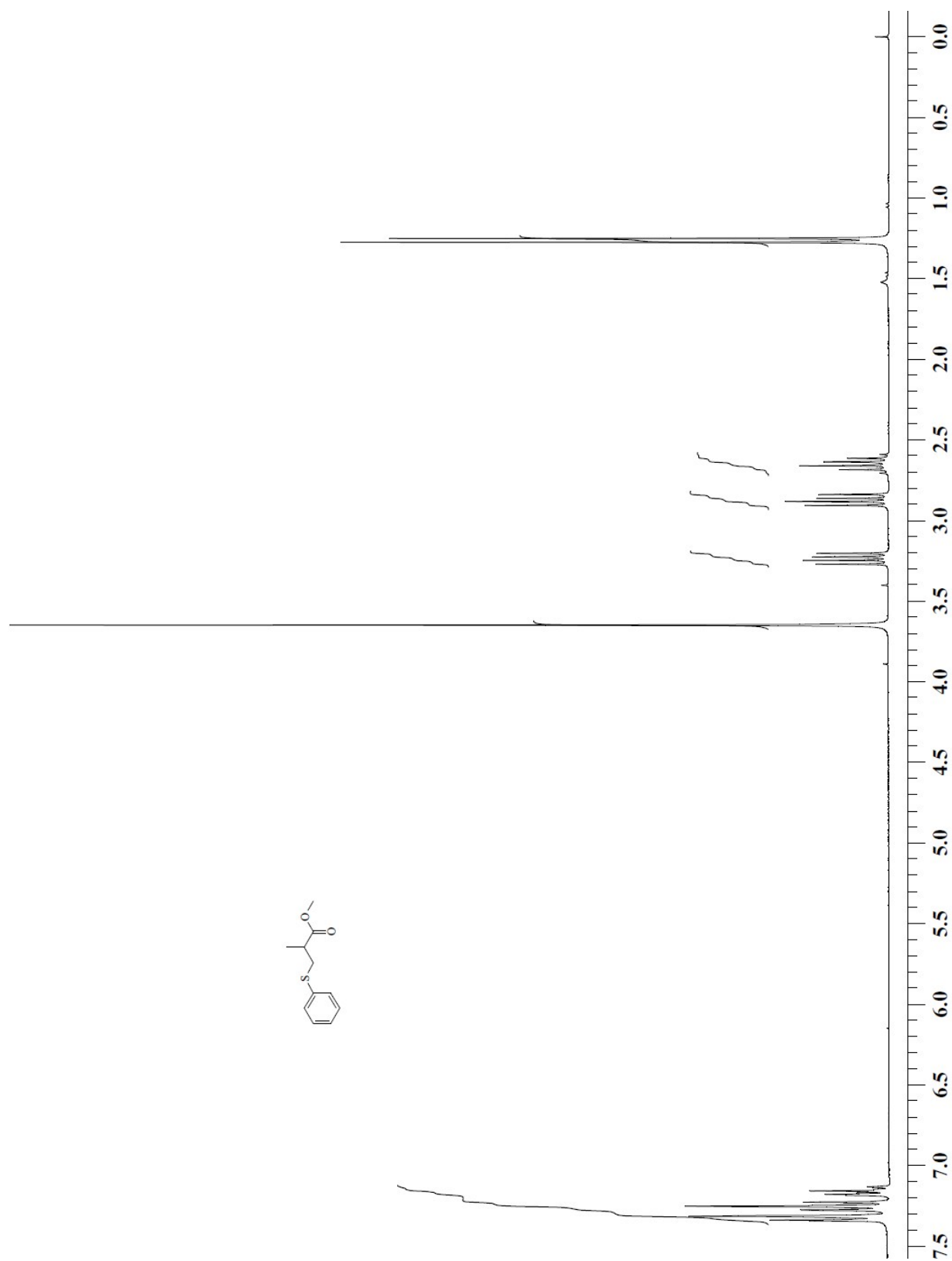
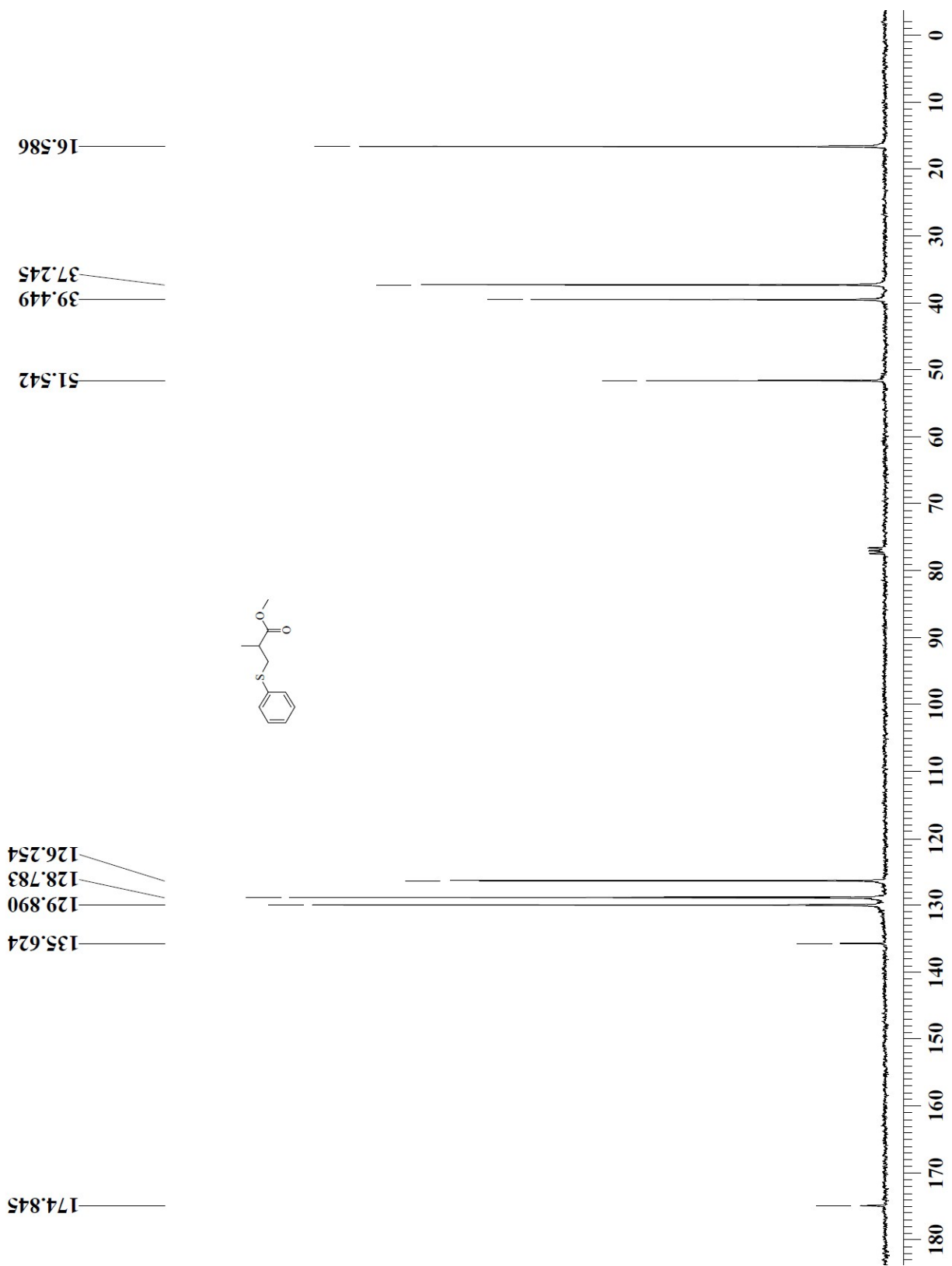


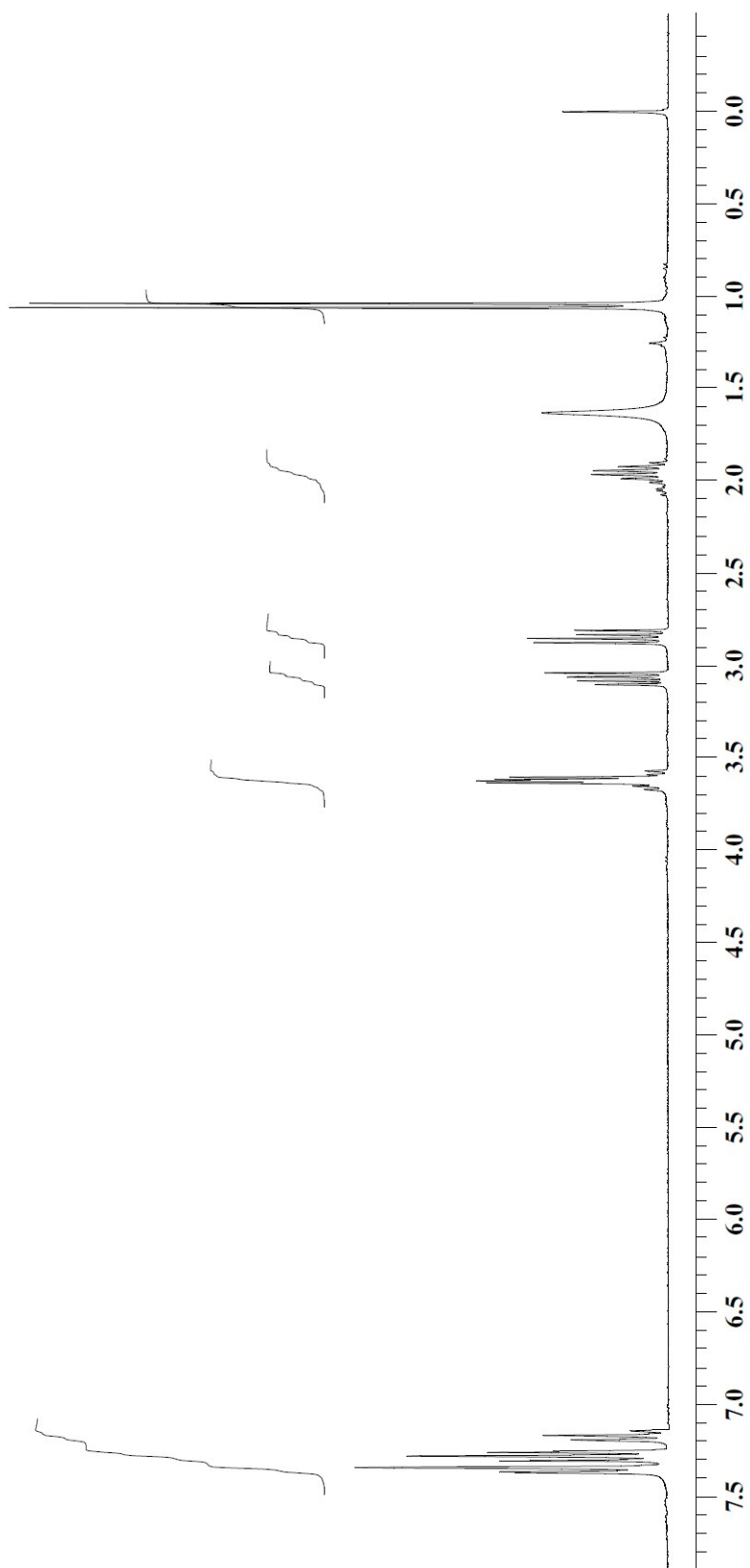
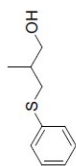
¹H NMR SPECTRUM OF COMPOUND 9



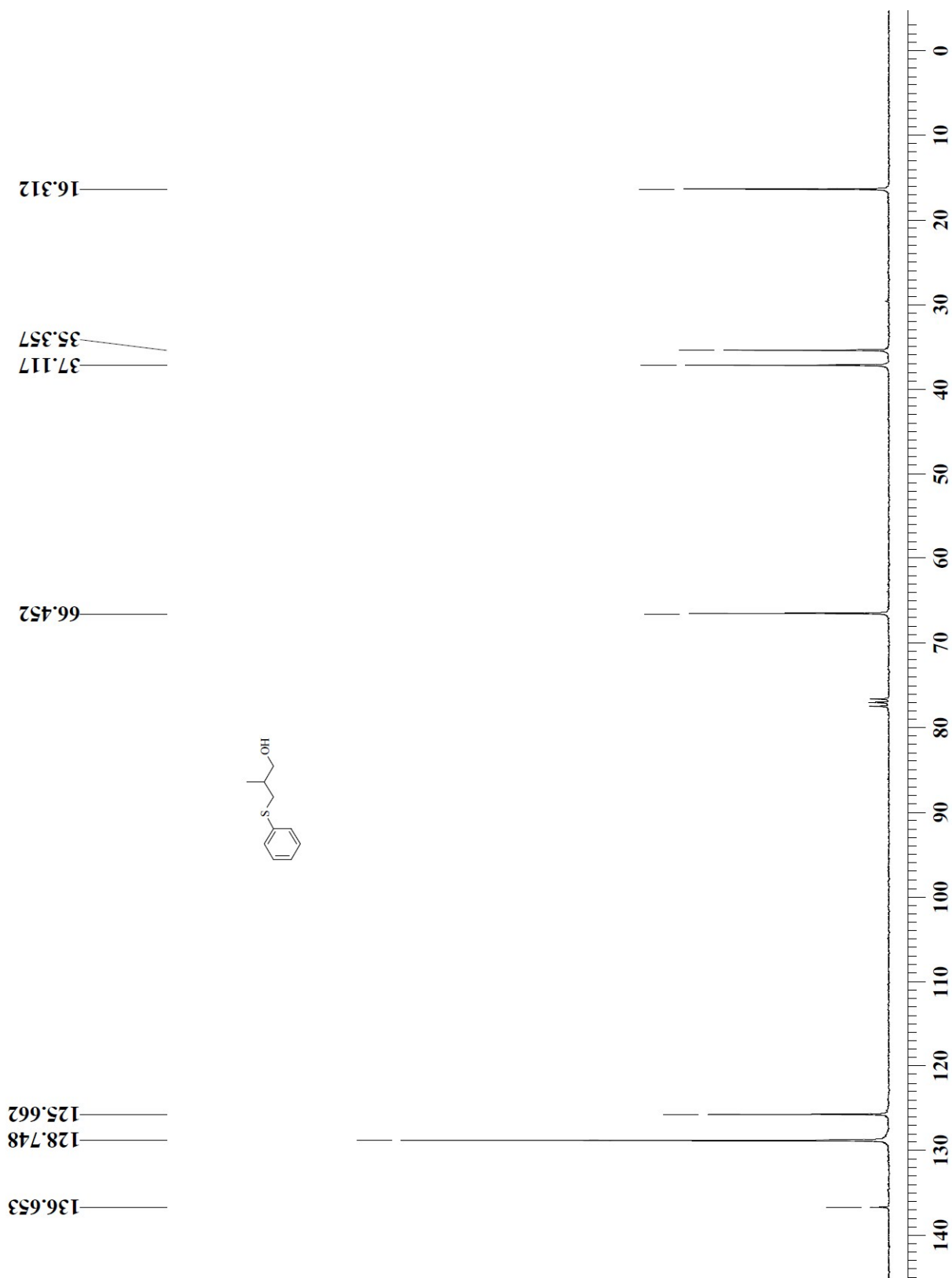
¹³C NMR SPECTRUM OF COMPOUND 9



¹H NMR SPECTRUM OF COMPOUND 10



¹³C NMR SPECTRUM OF COMPOUND 10



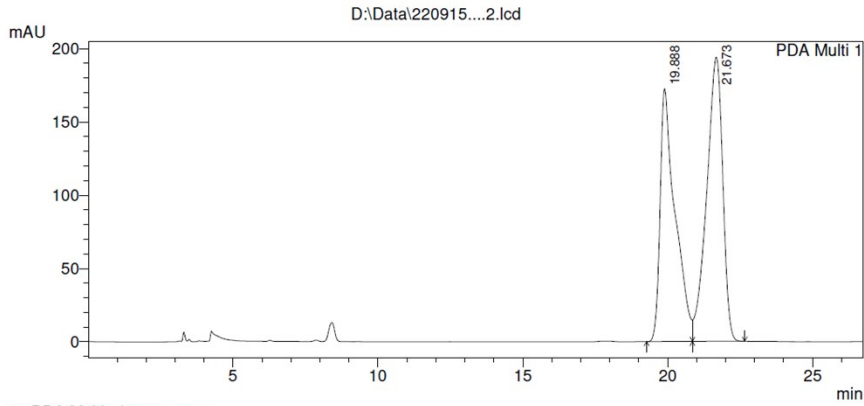
HPLC OF THE RACEMIC COMPOUND 10

9/23/2015 13:27:54 1 / 1

HPLC DATA REPORT (IICT - NPL)

Acquired by : Admin
Sample Name : SRG-SR-OH-RACEMIC
Sample ID : SRG-SR-OH-RACEMIC
Vial # : 104
Injection Volume : 3 uL
Data File Name : 220915....2.lcd
Method File Name : SRG-SR-Method.lcm
Batch File Name :
Report File Name : Report Format.lcr
Data Acquired : 9/22/2015 3:15:22 PM
Data Processed : 9/23/2015 1:27:17 PM
Mobile Phase: 2% IPA in Hexane
Column: Chiralpak IC (250mm X 4.6 mm 5 u)
Flowrate: 1 mL/min

<Chromatogram>



1 PDA Multi 1/210nm 4nm

PeakTable

PDA Ch1 210nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	19.888	6216365	172602	45.339	47.087
2	21.673	7494459	193956	54.661	52.913
Total		13710824	366558	100.000	100.000

D:\Data\220915....2.lcd

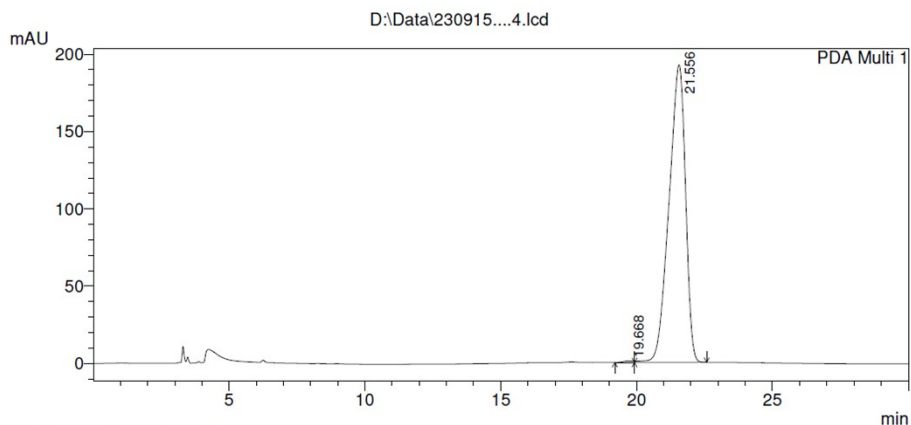
HPLC OF THE Optically pure 10

9/23/2015 13:39:40 1 / 1

HPLC DATA REPORT (IICT - NPL)

Acquired by : Admin
Sample Name : SRG-SR-OH-Chiral
Sample ID : SRG-SR-OH-Chiral
Vial # : 103
Injection Volume : 5 uL
Data File Name : 230915....4.lcd
Method File Name : SRG-SR-Method.lcm
Batch File Name :
Report File Name : Report Format.lcr
Data Acquired : 9/23/2015 12:51:21 PM
Data Processed : 9/23/2015 1:38:57 PM
Mobile Phase: 2% IPA in Hexane
Column: Chiralpak IC (250mm X 4.6 mm, 5u)
Flowrate: 1 mL/min

<Chromatogram>

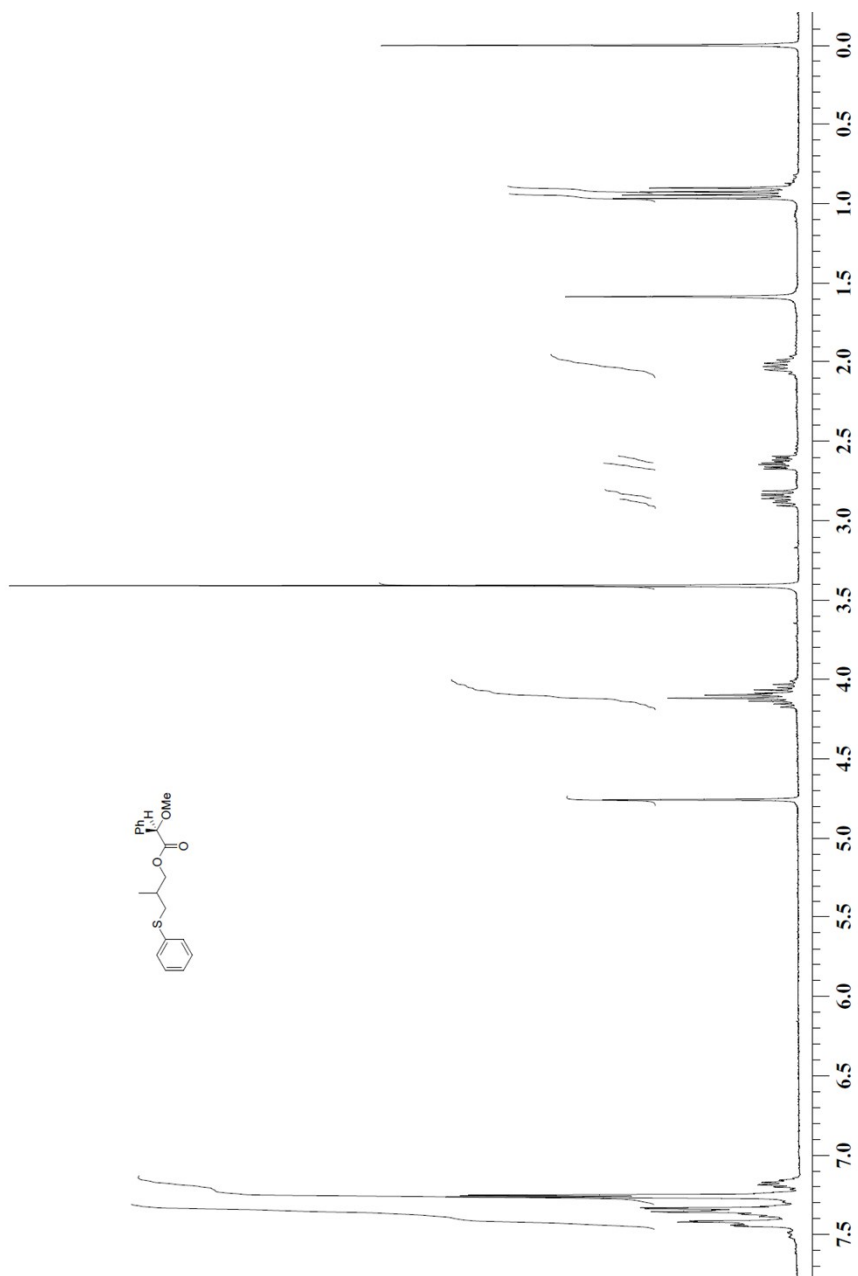


1 PDA Multi 1/210nm 4nm

PeakTable

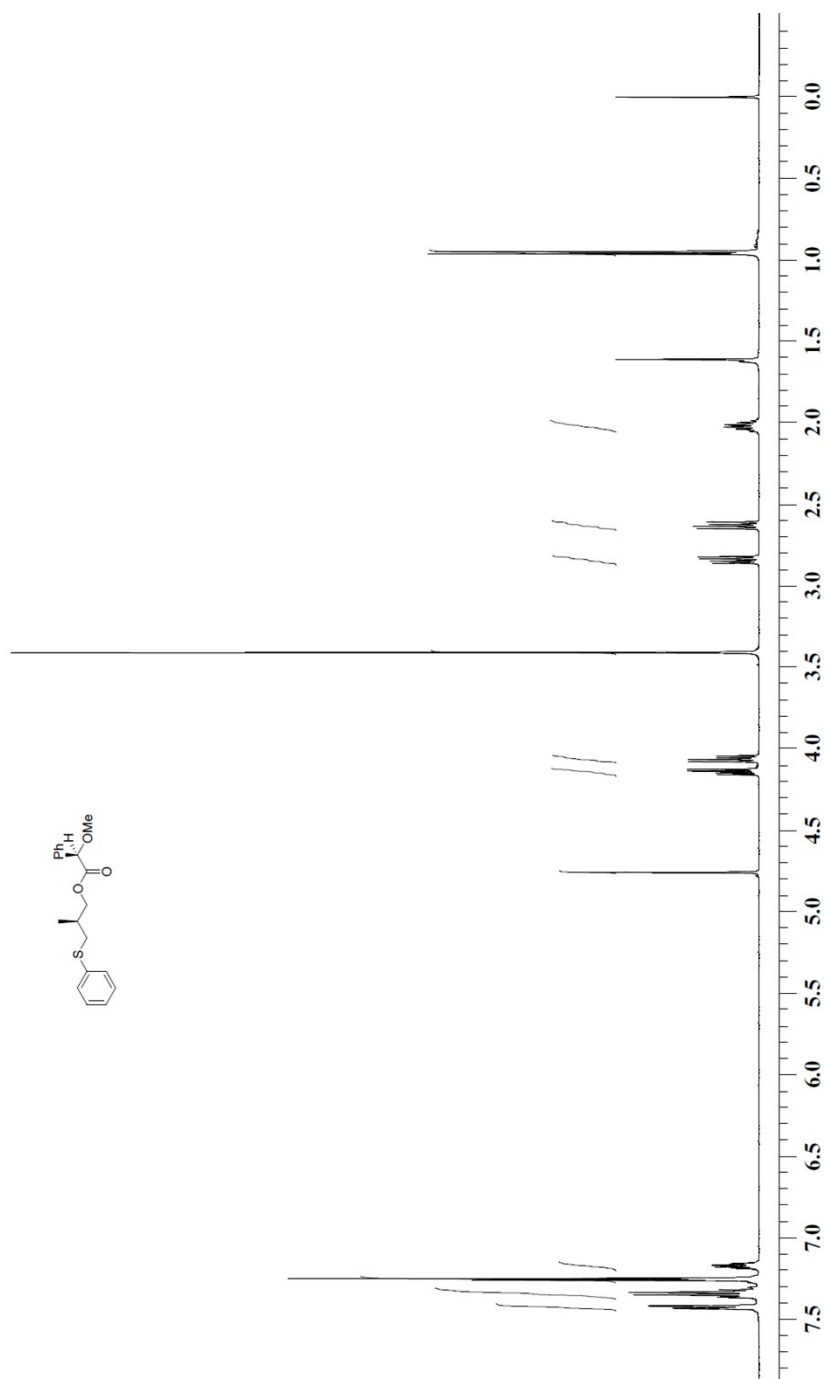
Peak#	Ret. Time	Area	Height	Area %	Height %
1	19.668	25713	987	0.315	0.510
2	21.556	8142975	192522	99.685	99.490
Total		8168688	193509	100.000	100.000

¹H NMR Spectrum of Mandalate Ester of Racemic Compound 10



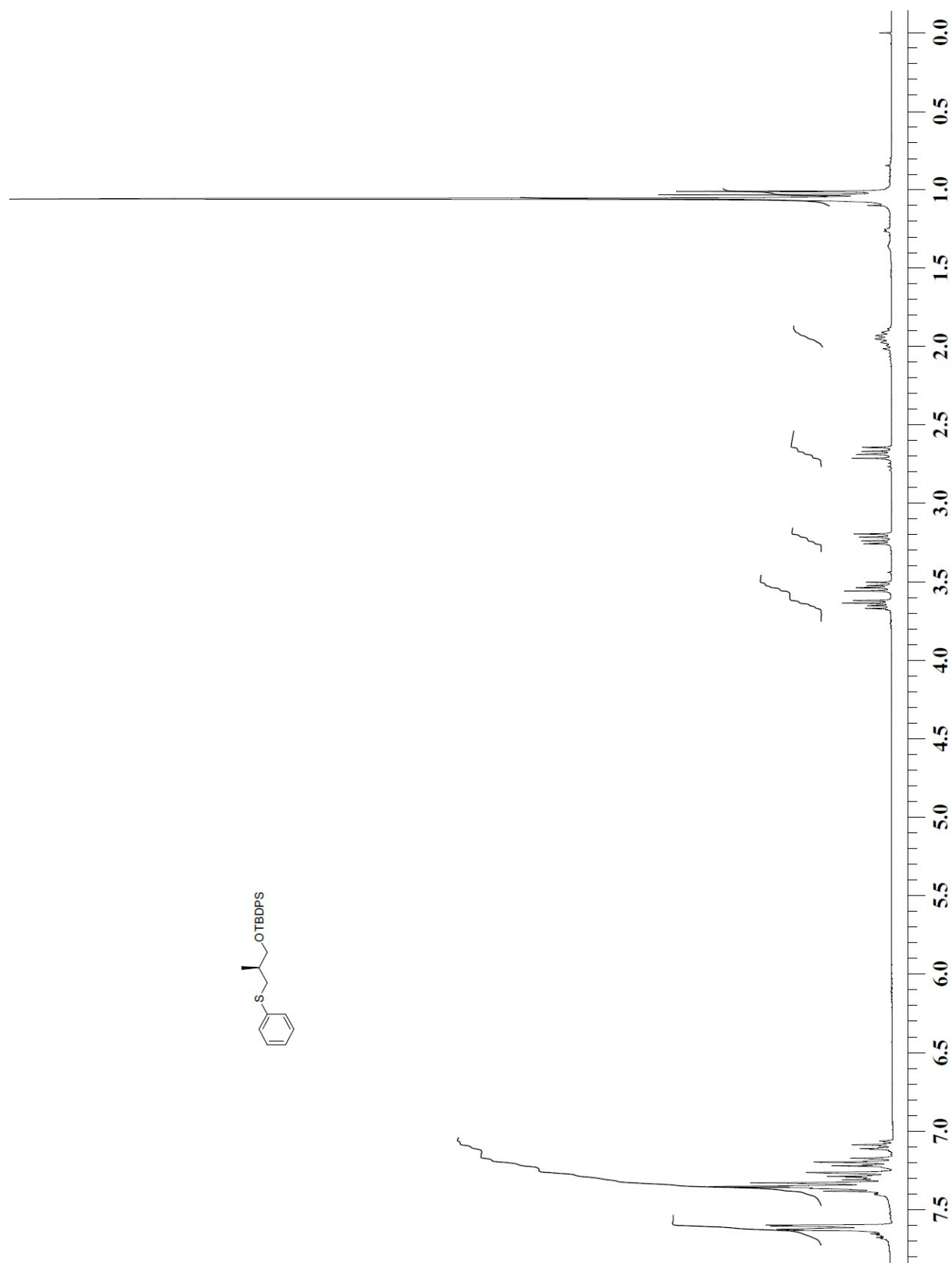
¹H NMR (300 MHz, CDCl₃): δ 7.46-7.40 (m, 4H), 7.39-7.31 (m, 6H), 7.28-7.22 (m, 8H), 7.21-7.14 (m, 2H), 4.76 (s, 2H), 4.15 (dd, J = 10.5, 5.2 Hz, 1H), 4.11* (dd, J = 9.8, 5.2 Hz, 1H), 4.08 (dd, J = 10.5, 6.1 Hz, 1H), 4.04* (dd, J = 9.8, 6.1 Hz, 1H), 3.41 (s, 6H), 2.88 (dd, J = 12.8, 6.1 Hz, 1H), 2.83* (dd, J = 13.5, 6.1 Hz, 1H), 2.65 (dd, J = 13.5, 7.5 Hz, 1H), 2.61* (dd, J = 12.8, 6.1 Hz, 1H), 2.08-1.95 (m, 2H), 0.95 (d, J = 6.7 Hz, 3H), 0.91* (d, J = 6.7 Hz, 3H).

¹H NMR Spectrum of Mandalate Ester of Optically pure 10

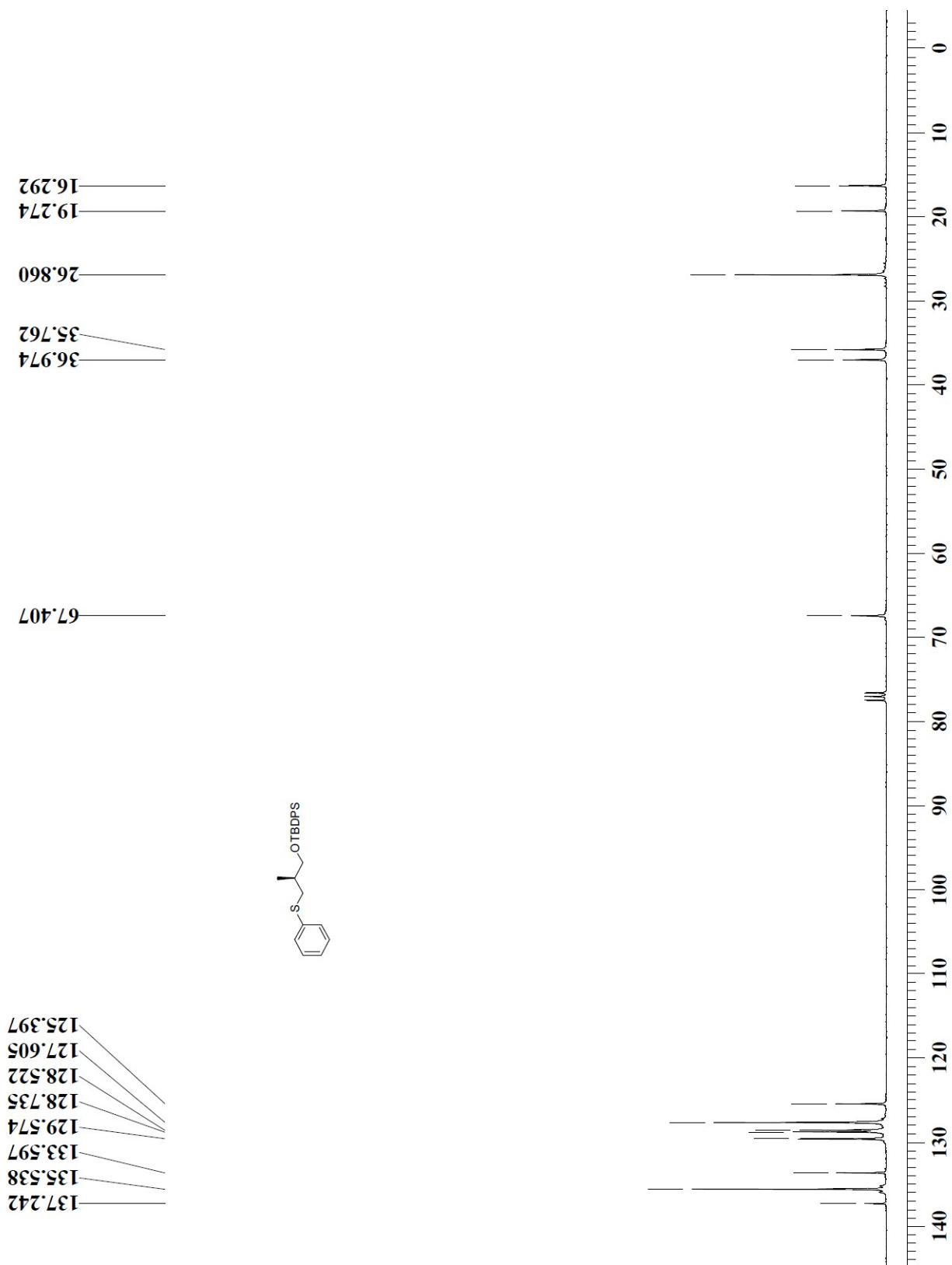


¹H NMR (300 MHz, CDCl₃): δ 7.44-7.41 (m, 2H), 7.37-7.31 (m, 3H), 7.27-7.22 (m, 4H), 7.19-7.15 (m, 1H), 4.76 (s, 1H), 4.14 (dd, *J* = 10.9, 5.5 Hz, 1H), 4.06 (dd, *J* = 10.9, 6.1 Hz, 1H), 3.41 (s, 3H), 2.84 (dd, *J* = 13.1, 6.1 Hz, 1H), 2.63 (dd, *J* = 13.1, 7.5 Hz, 1H), 2.05-1.95 (m, 1H), 0.95 (d, *J* = 6.8 Hz, 3H).

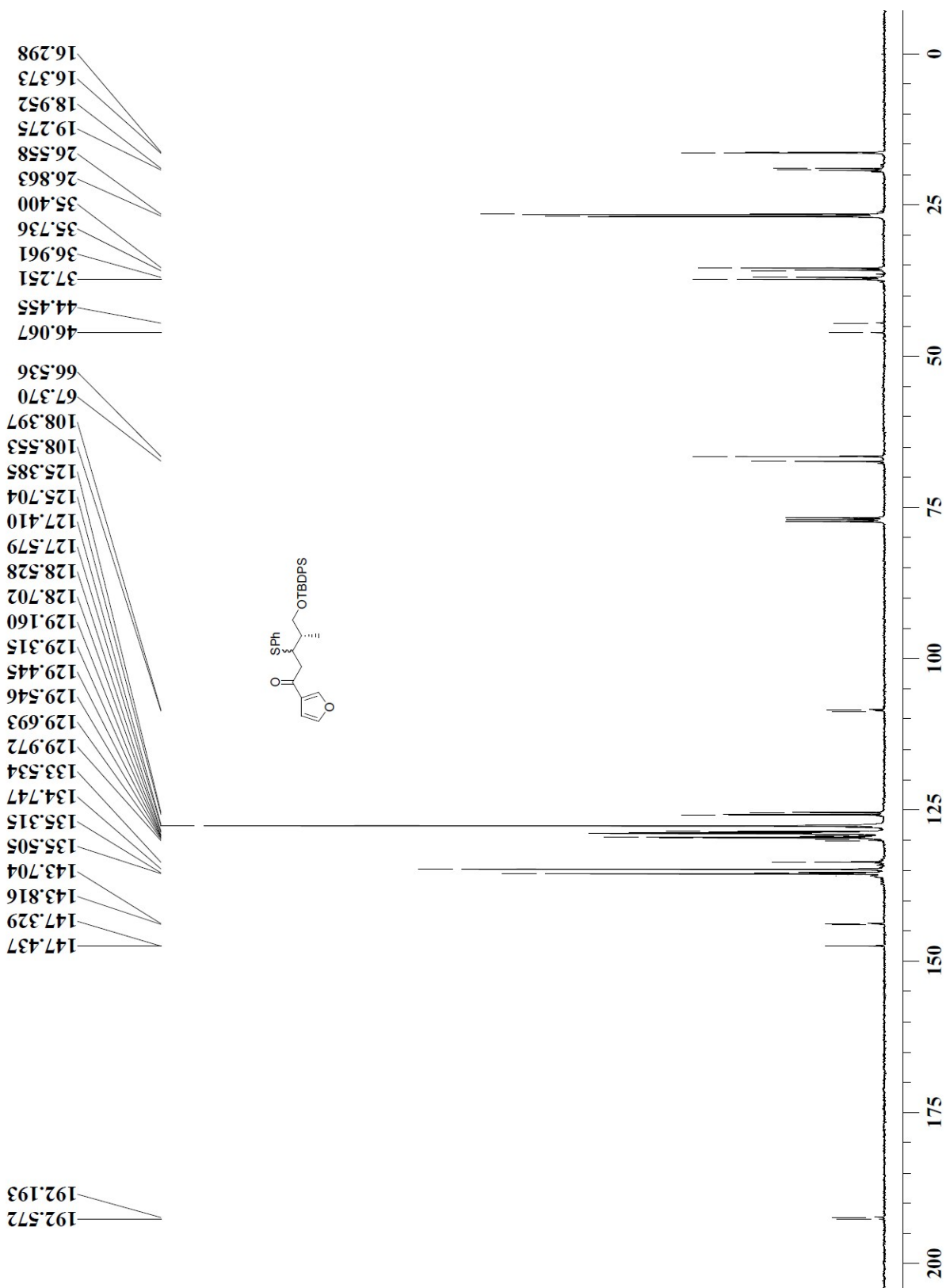
¹H NMR SPECTRUM OF COMPOUND 5



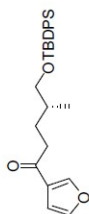
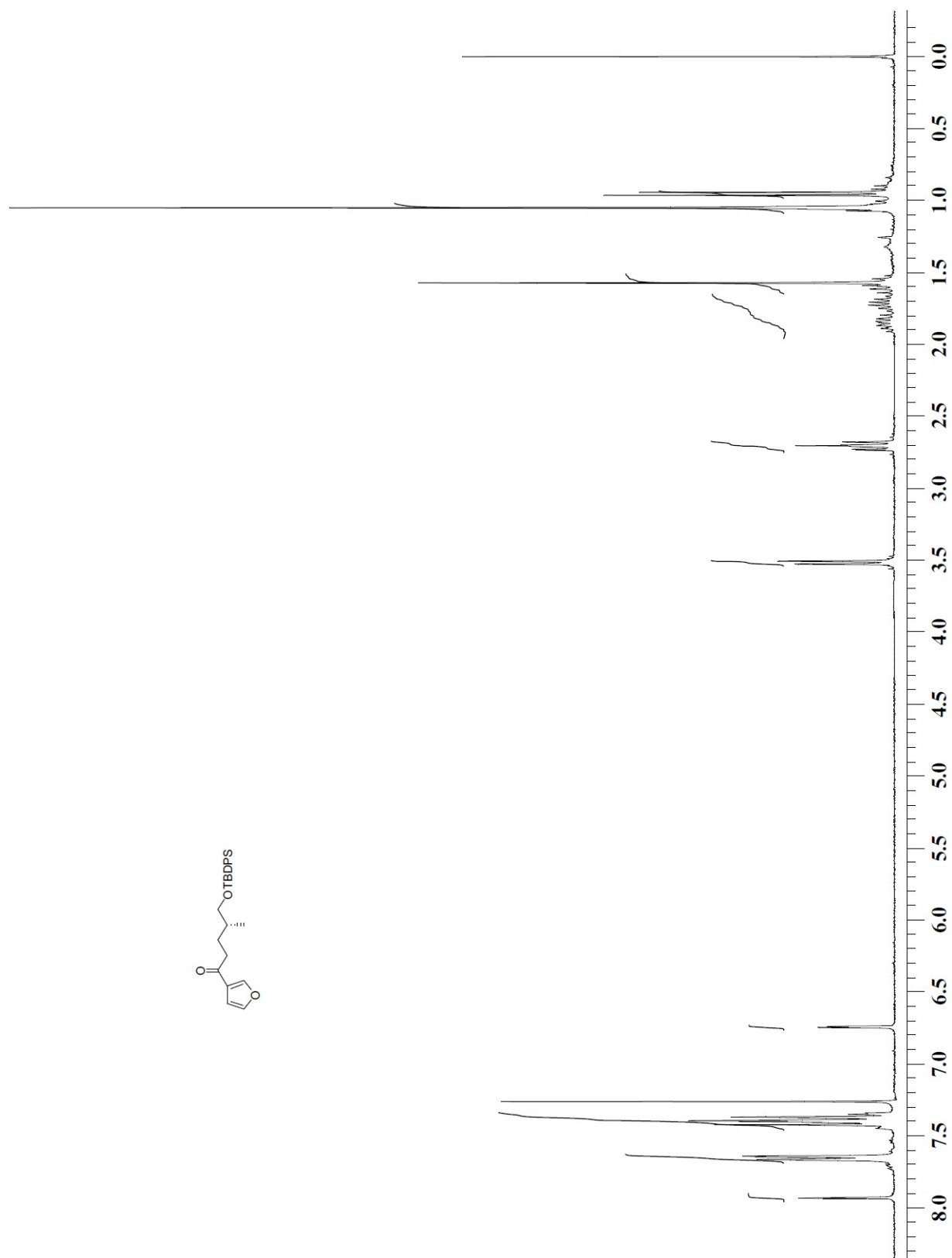
¹³C NMR SPECTRUM OF COMPOUND 5



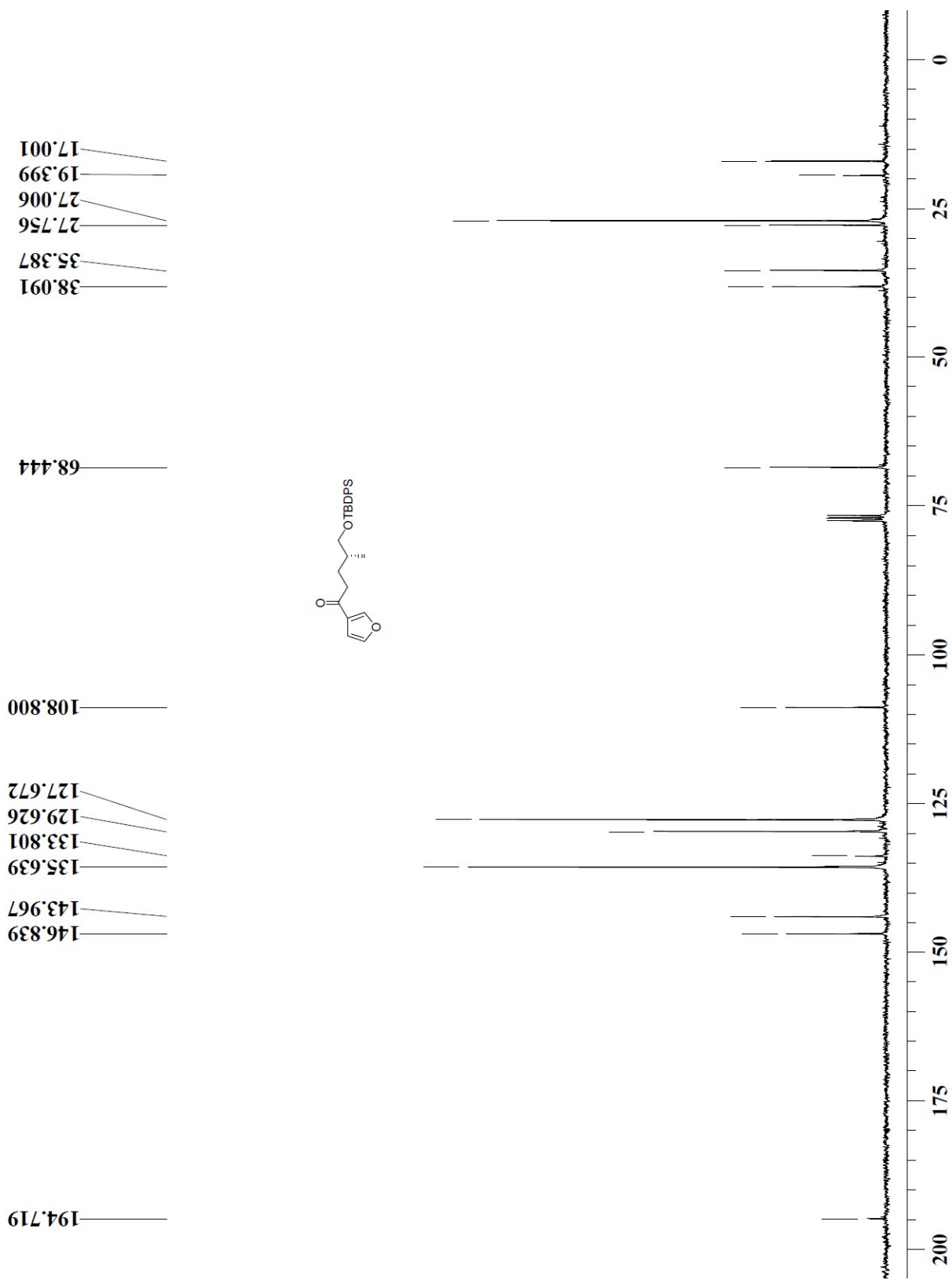
¹³C NMR SPECTRUM OF COMPOUND 4



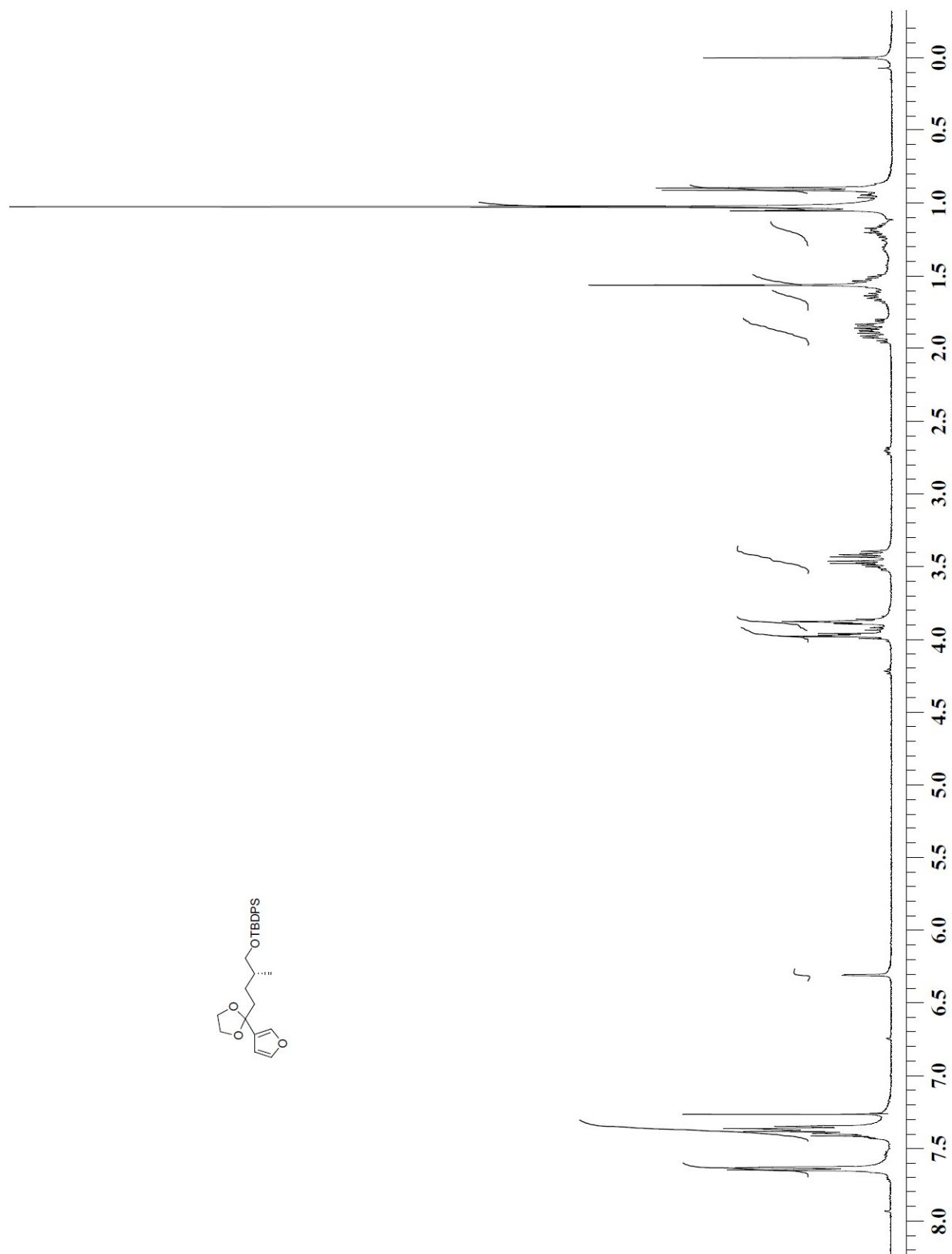
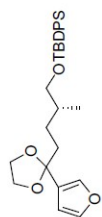
¹H NMR SPECTRUM OF COMPOUND 13



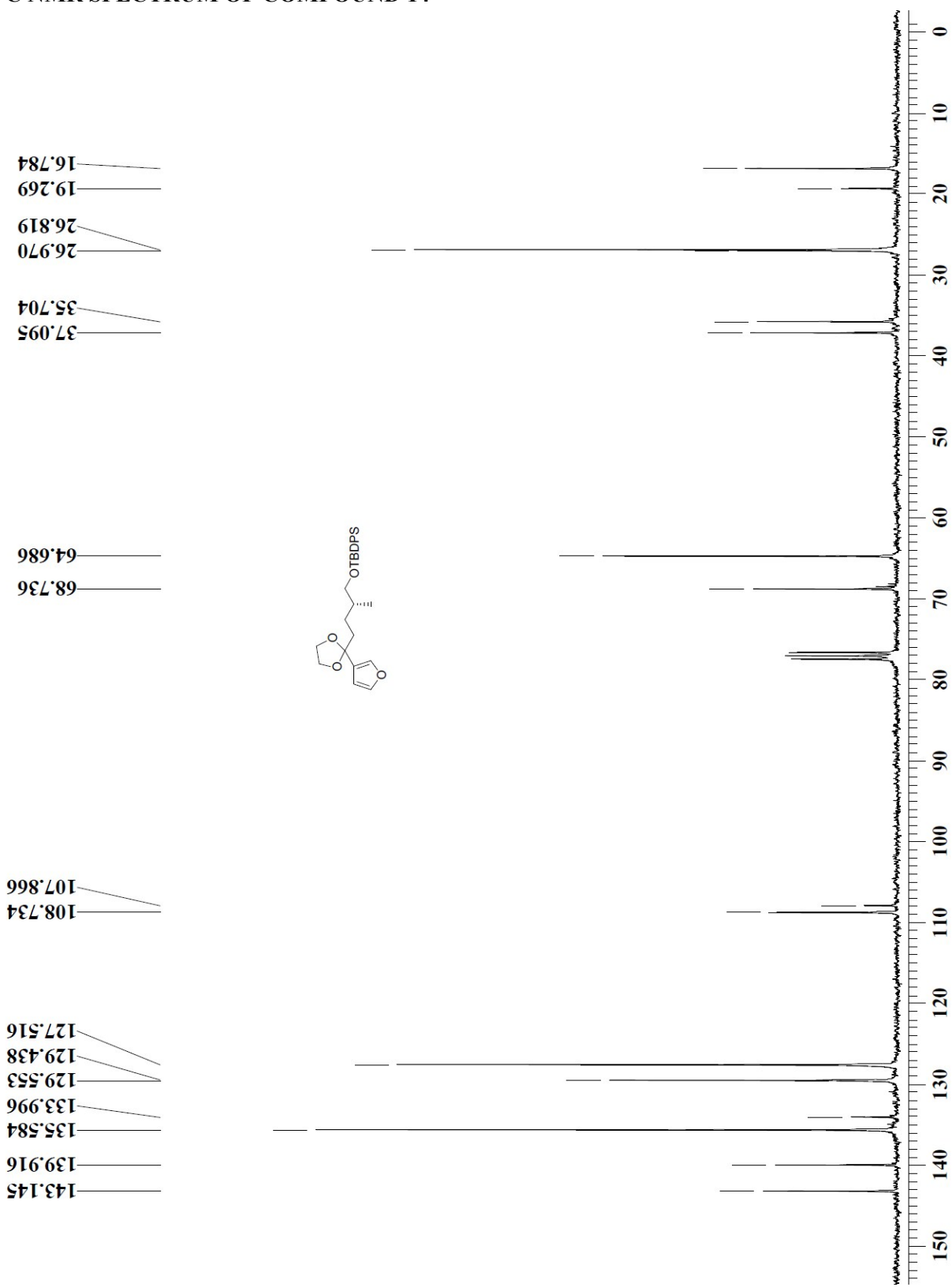
¹³C NMR SPECTRUM OF COMPOUND 13



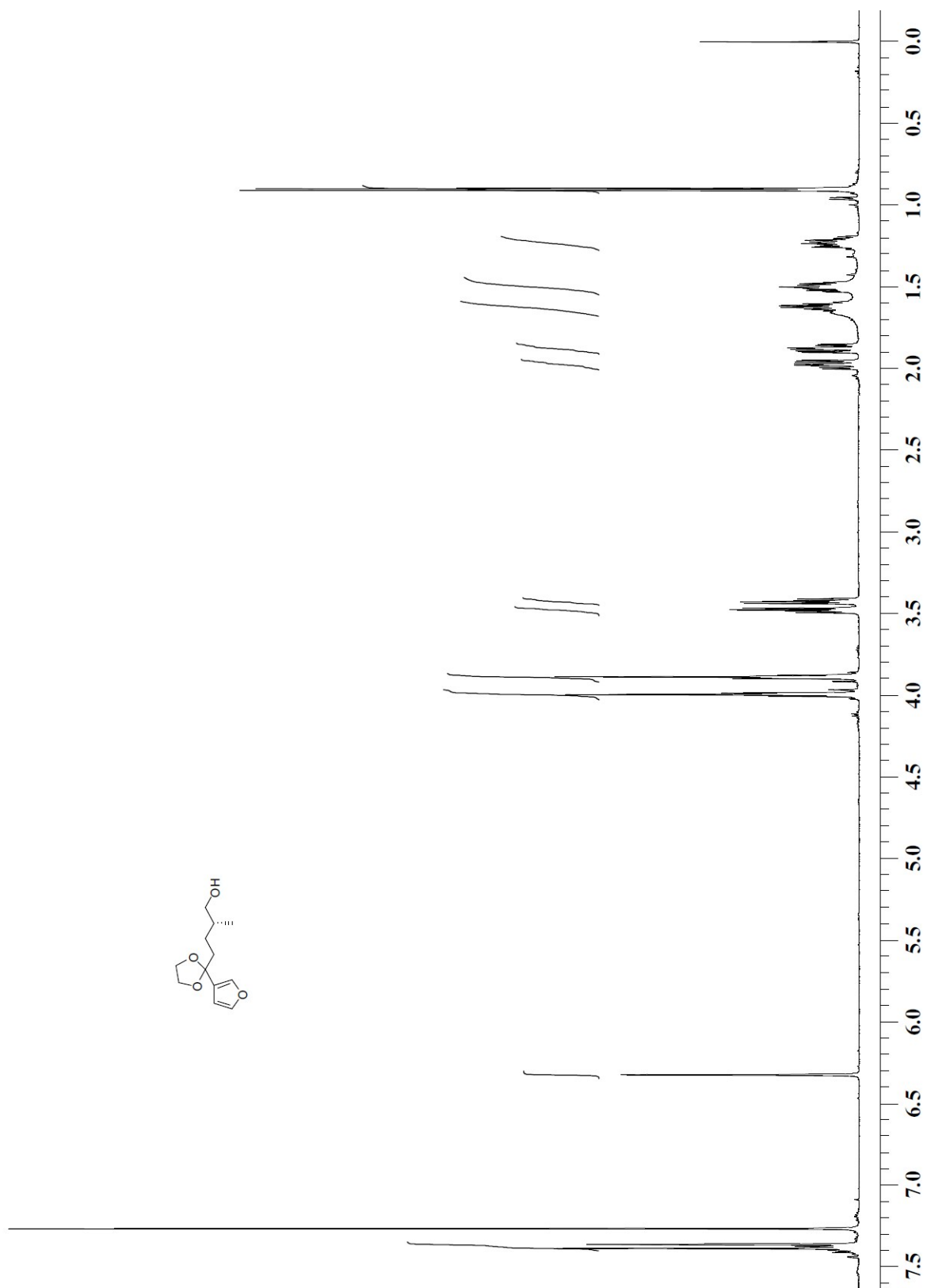
¹H NMR SPECTRUM OF COMPOUND 14



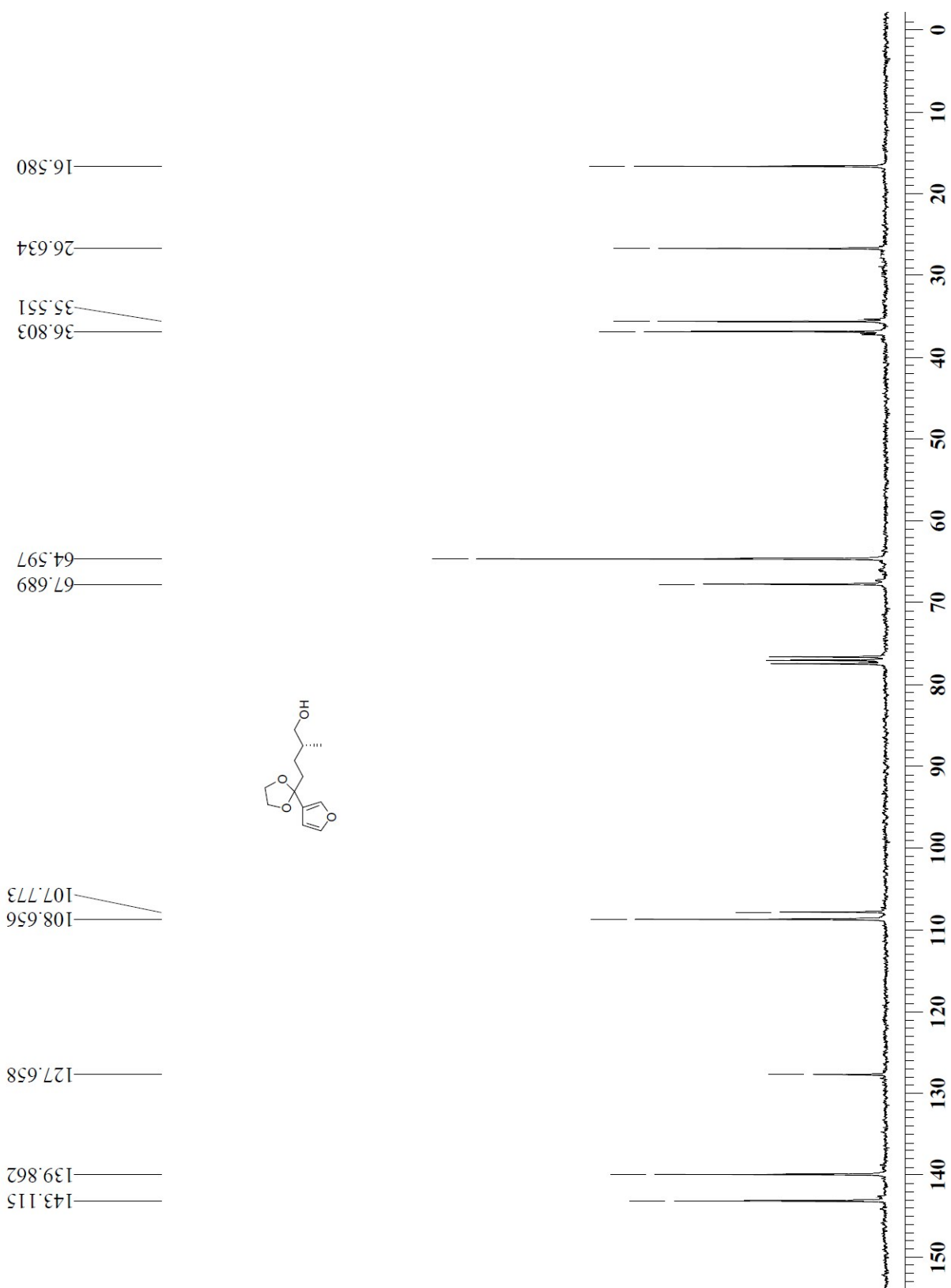
¹³C NMR SPECTRUM OF COMPOUND 14



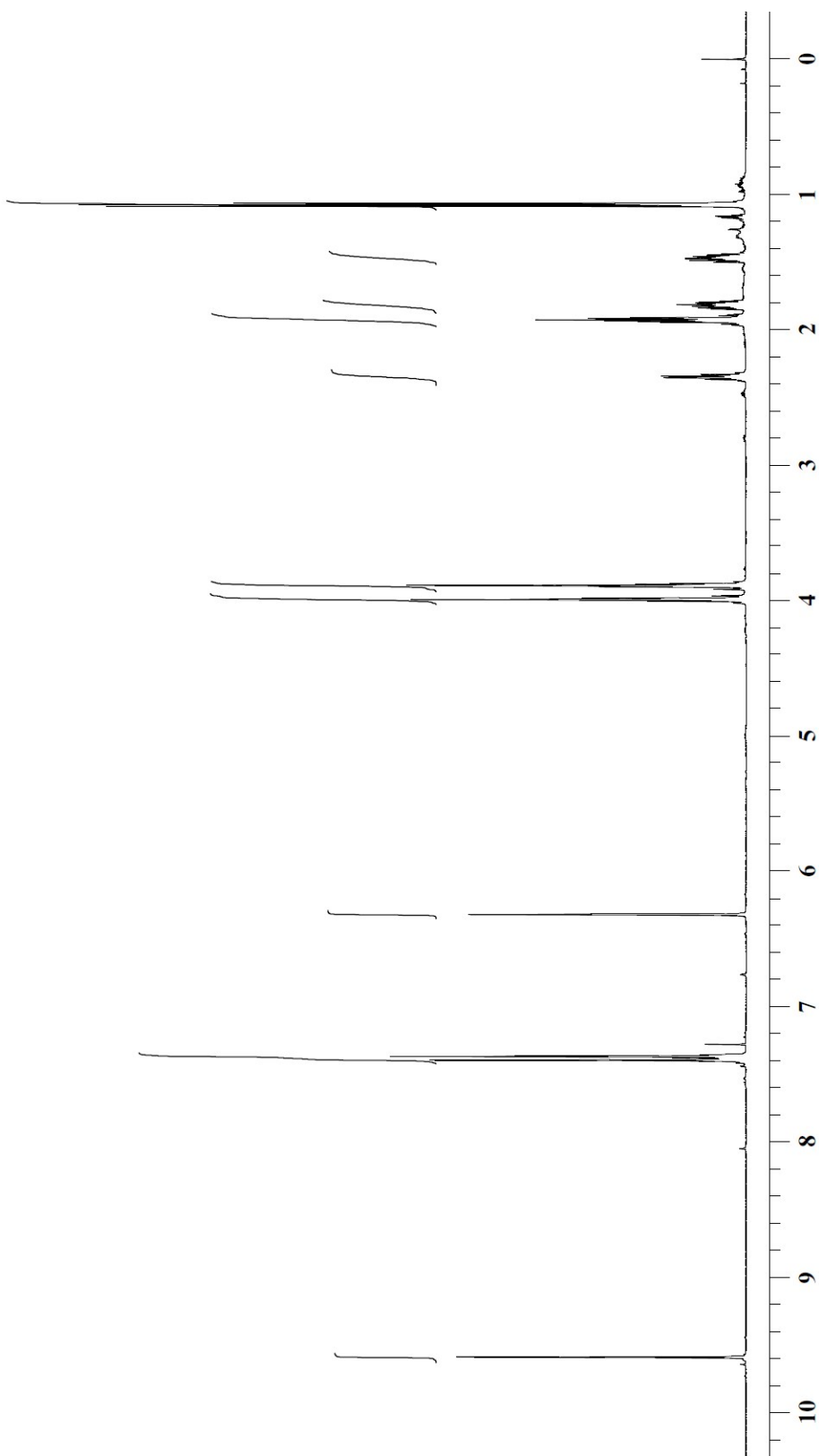
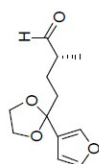
¹H NMR SPECTRUM OF COMPOUND 15



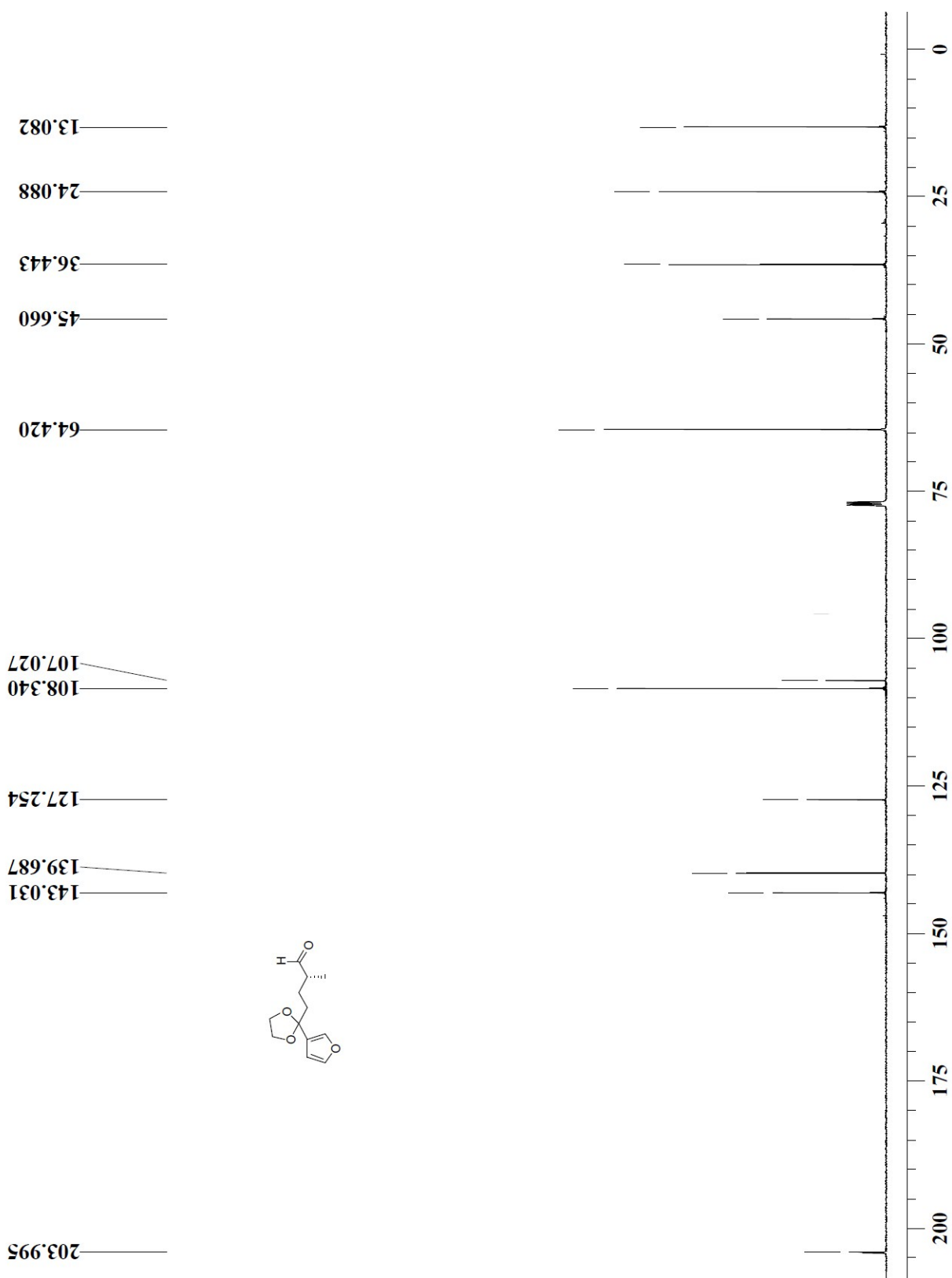
¹³C NMR SPECTRUM OF COMPOUND 15



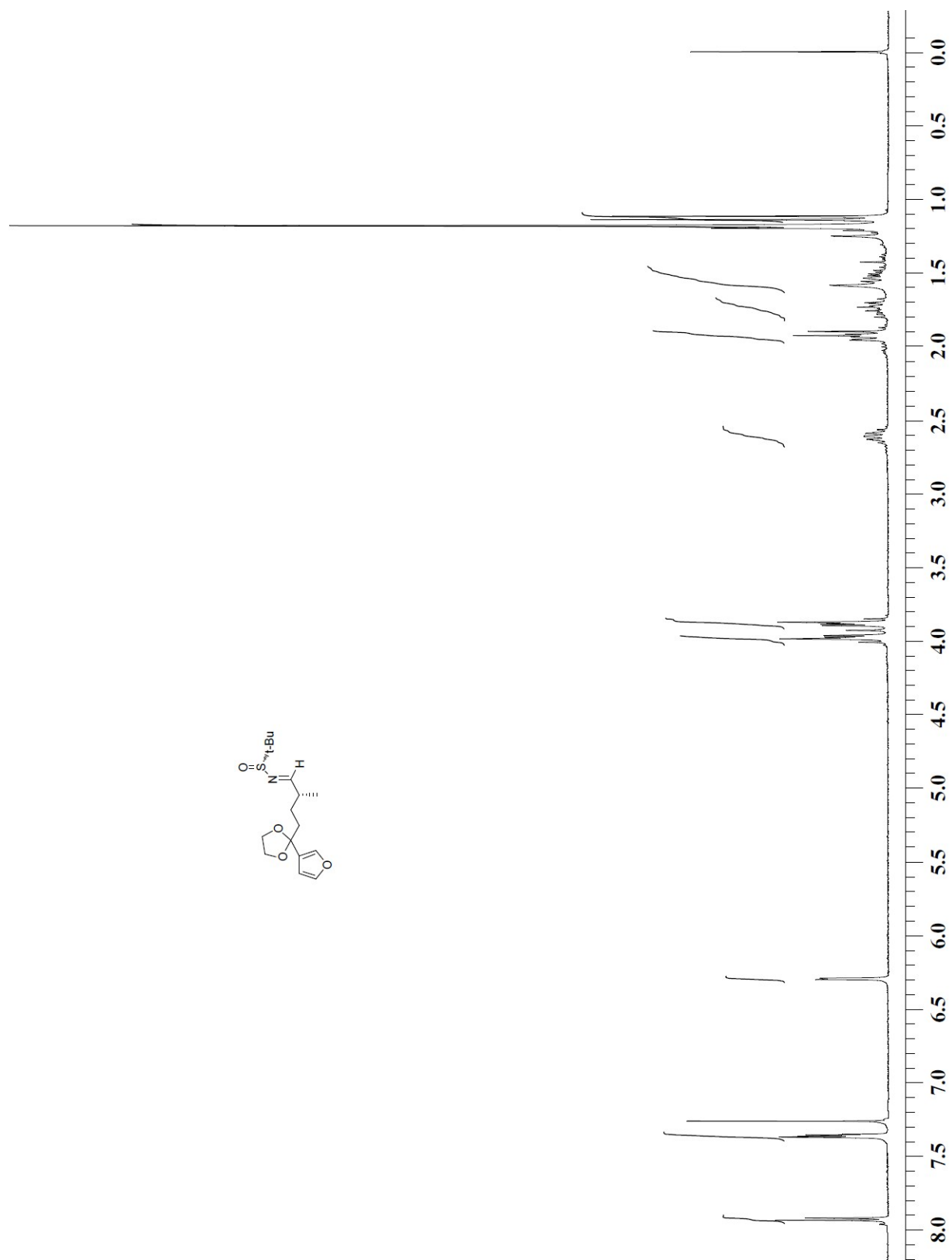
¹H NMR SPECTRUM OF COMPOUND 16



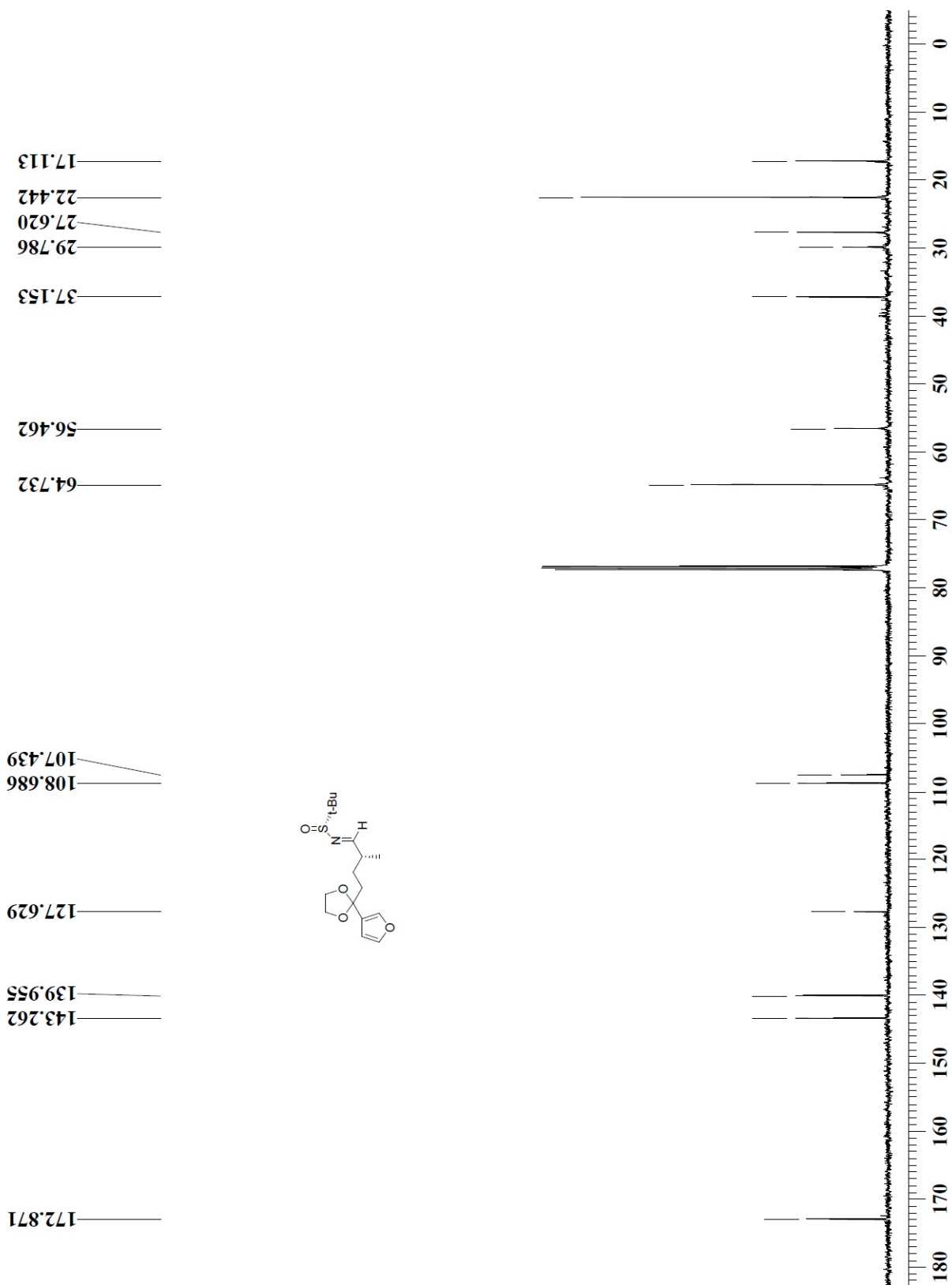
¹³C NMR SPECTRUM OF COMPOUND 16



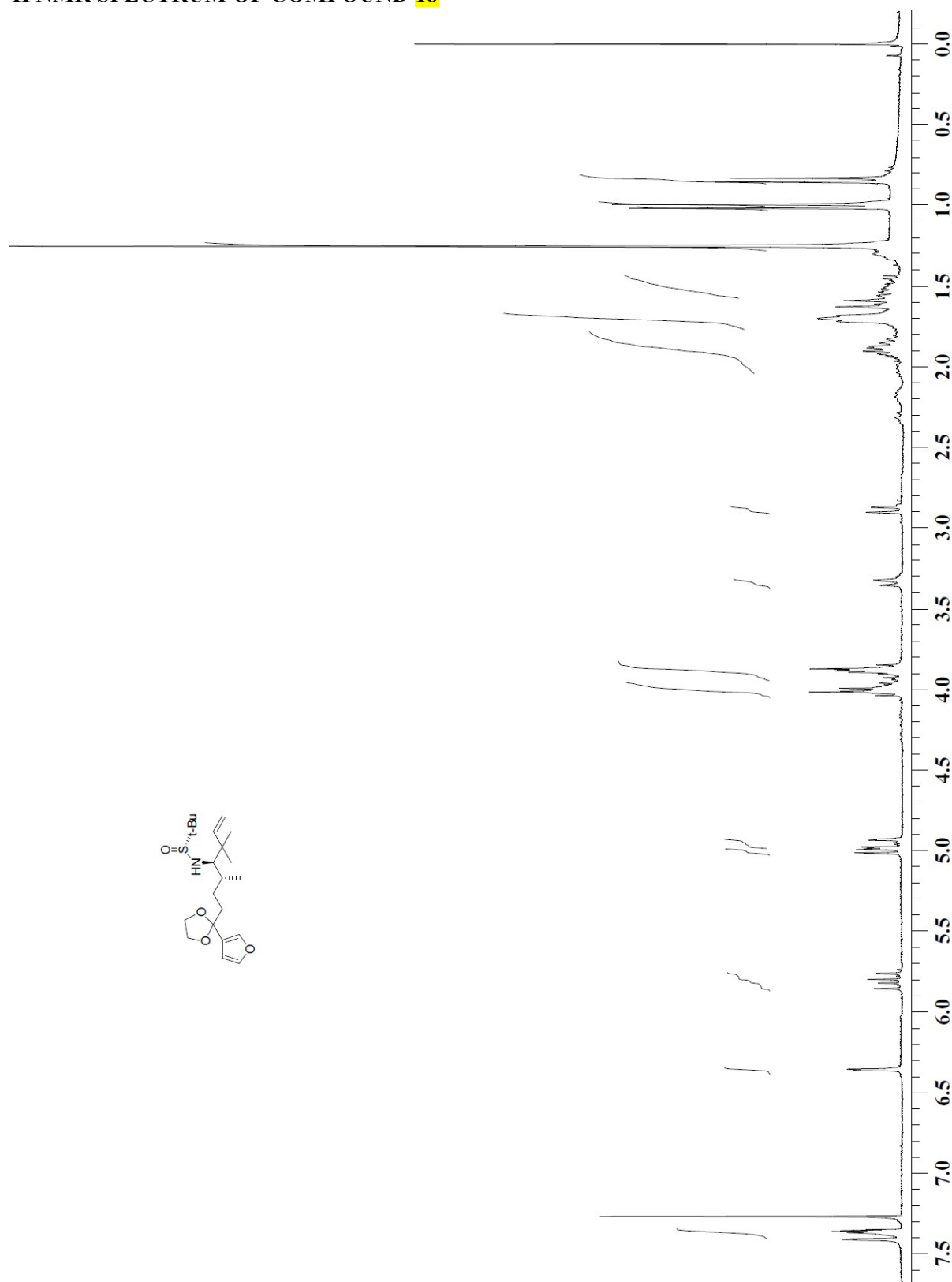
¹H NMR SPECTRUM OF COMPOUND 3



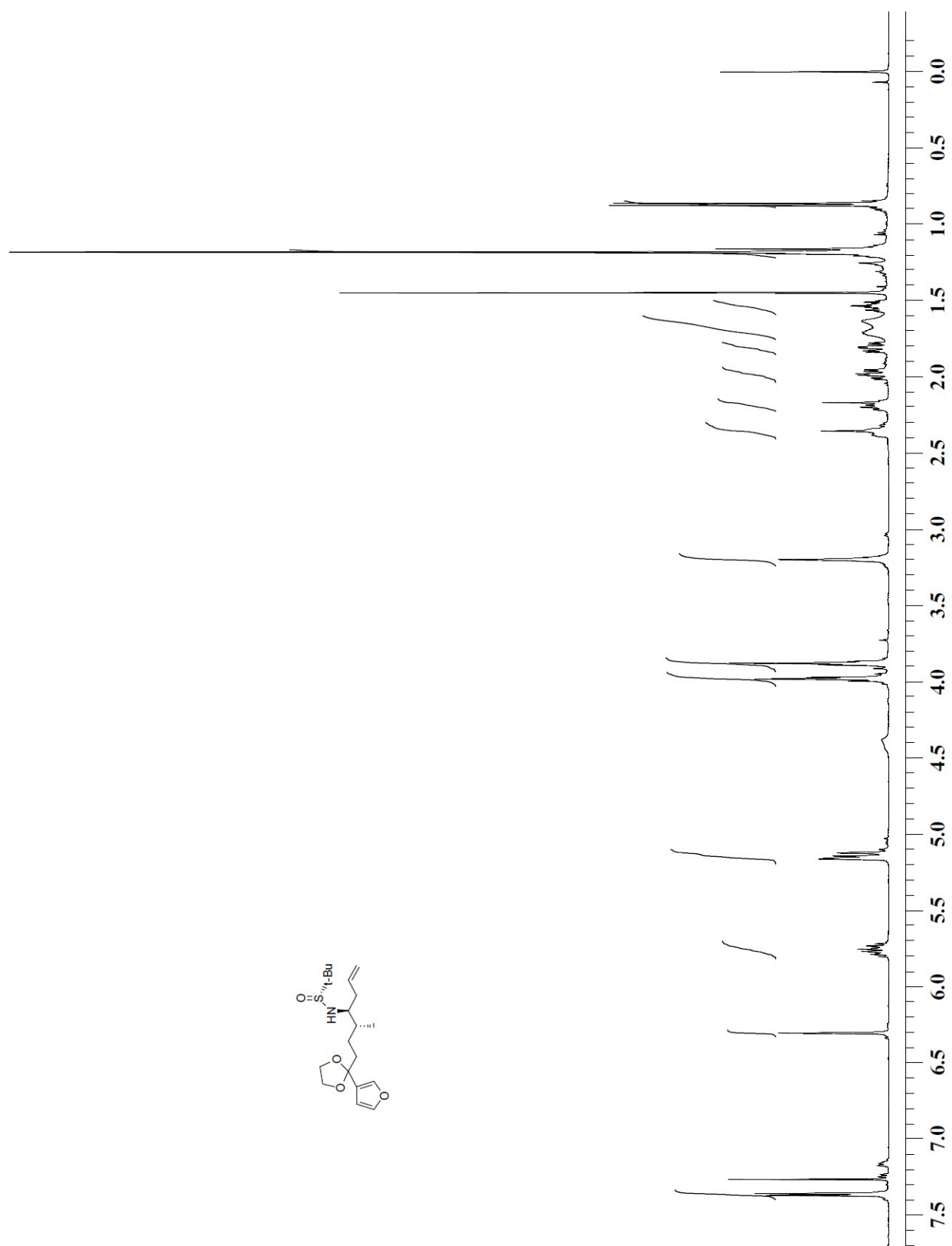
¹³C NMR SPECTRUM OF COMPOUND 3



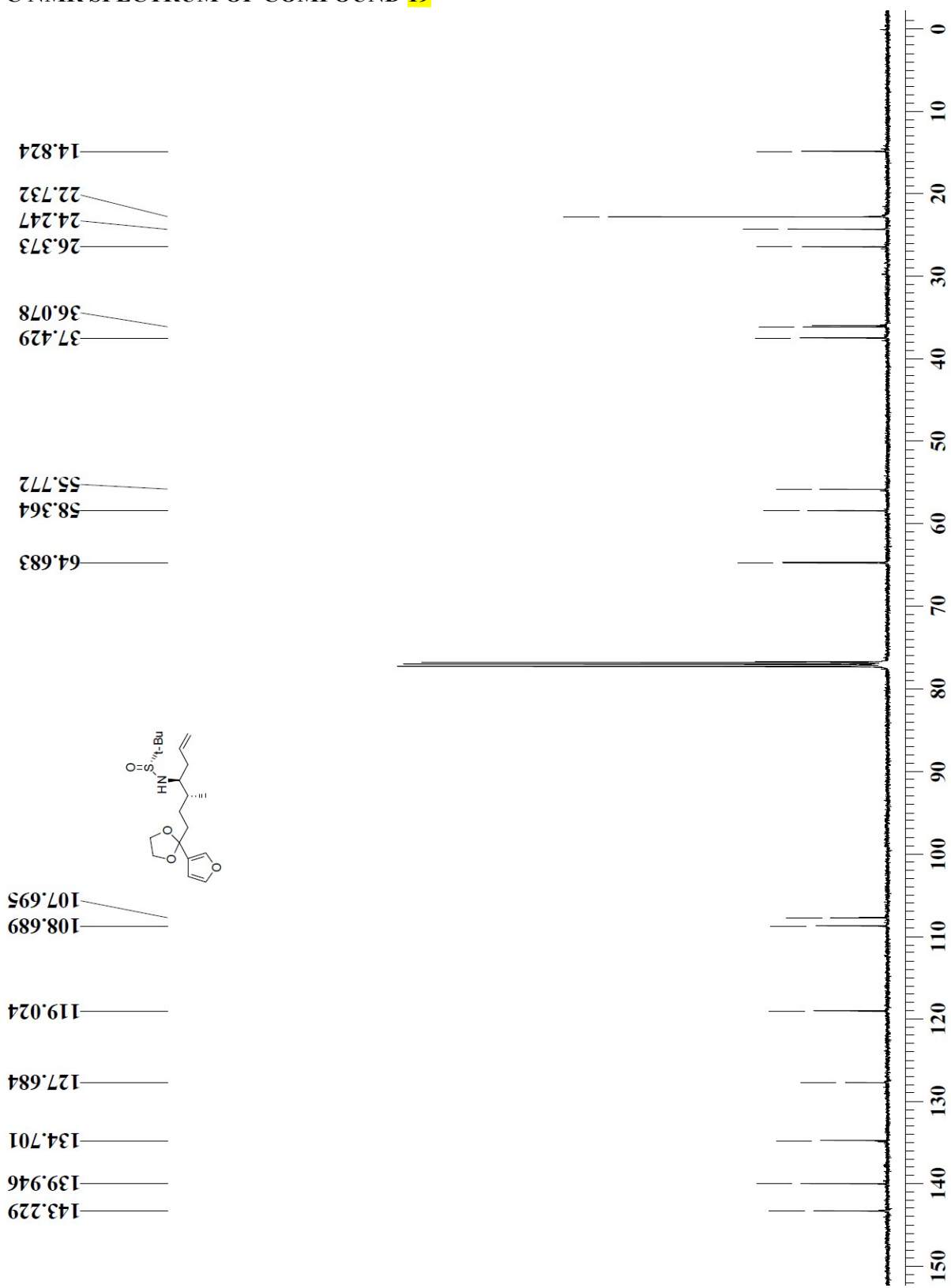
¹H NMR SPECTRUM OF COMPOUND 18



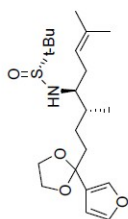
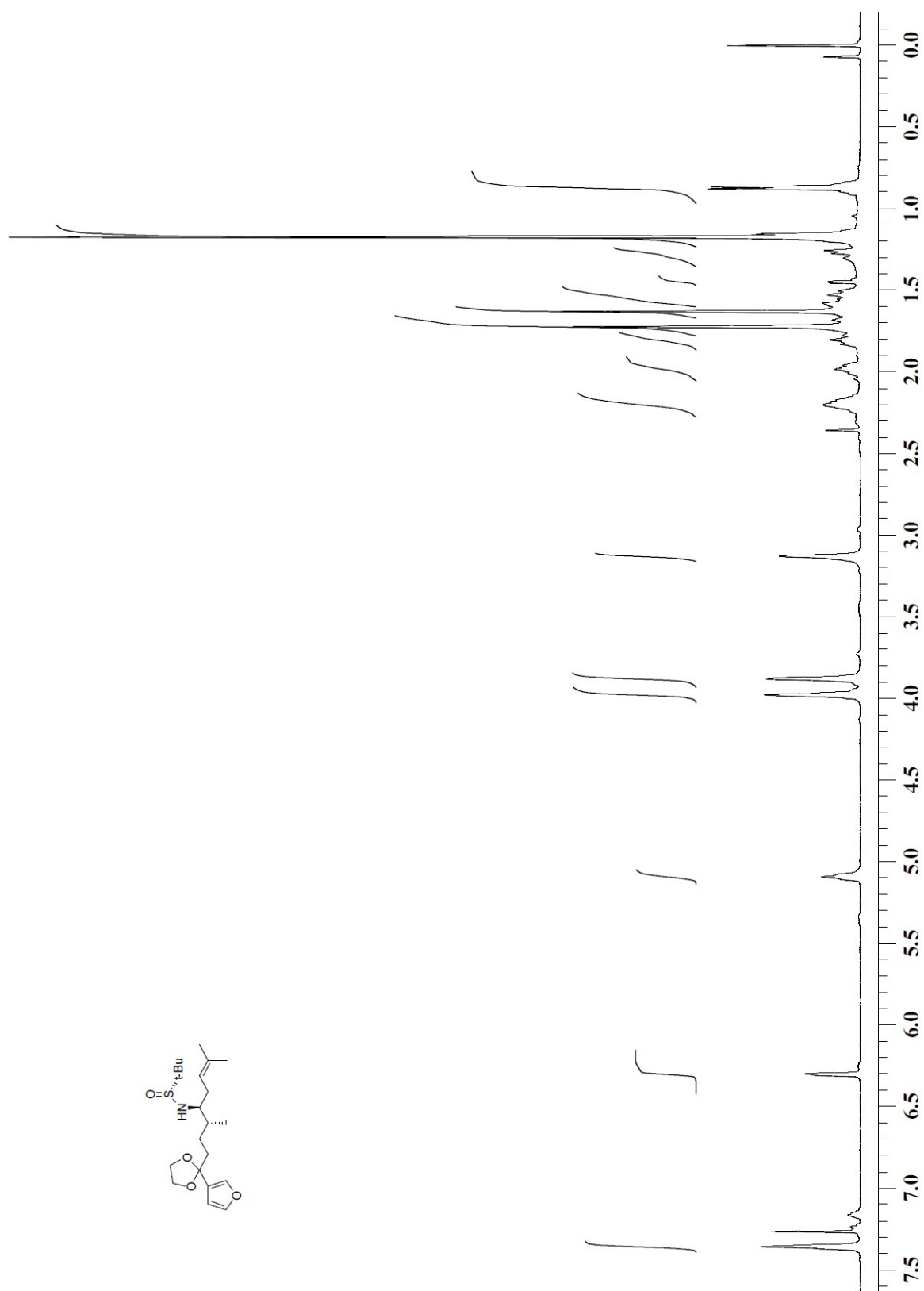
¹H NMR SPECTRUM OF COMPOUND 19



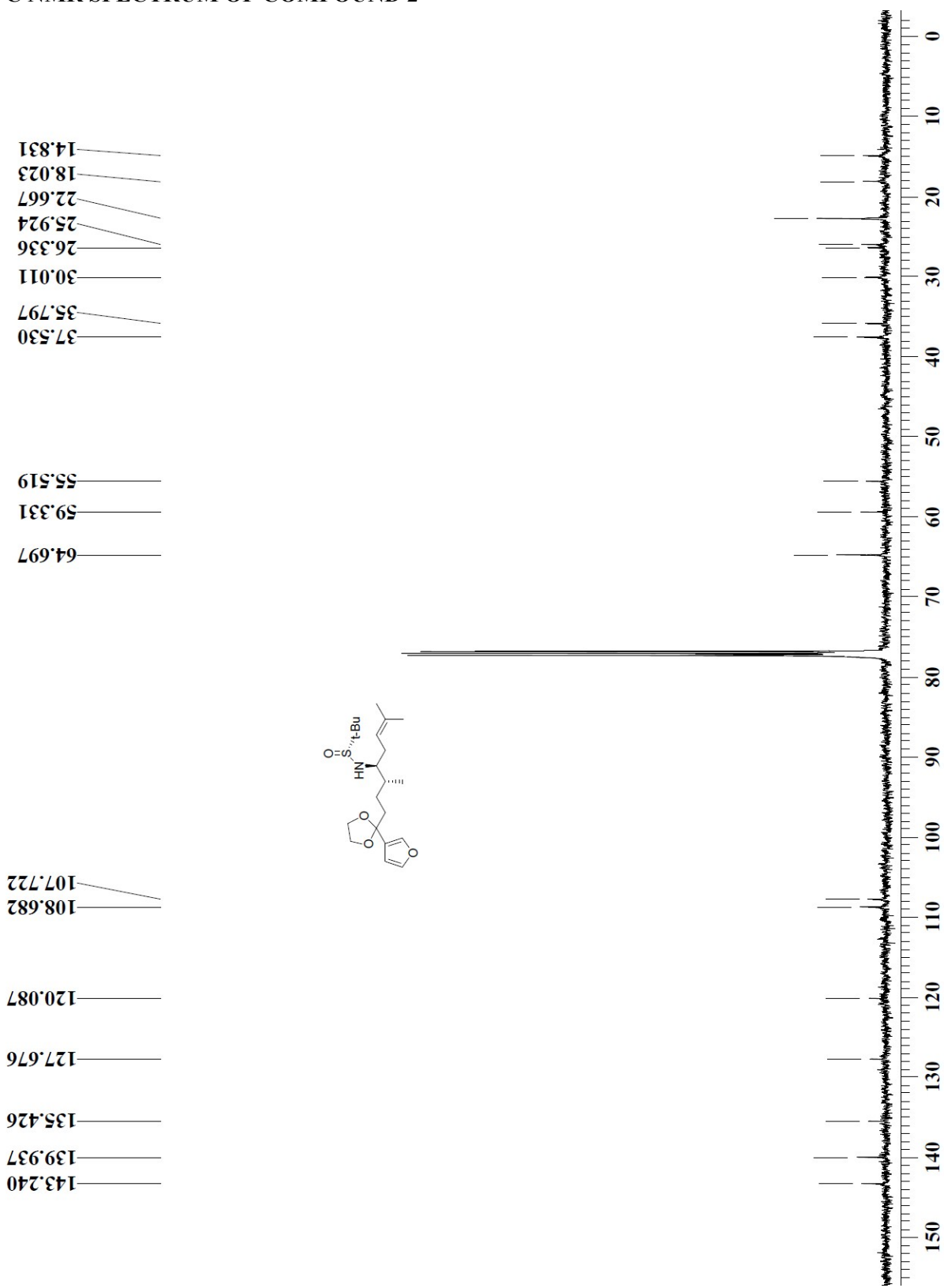
¹³C NMR SPECTRUM OF COMPOUND 19



¹H NMR SPECTRUM OF COMPOUND 2



¹³C NMR SPECTRUM OF COMPOUND 2



¹H NMR SPECTRUM OF NUPHARAMNE 1

