Supporting Information

$B(C_6F_5)_3$-Catalyzed C–Si/Si–H Cross-Metathesis of Hydrosilanes

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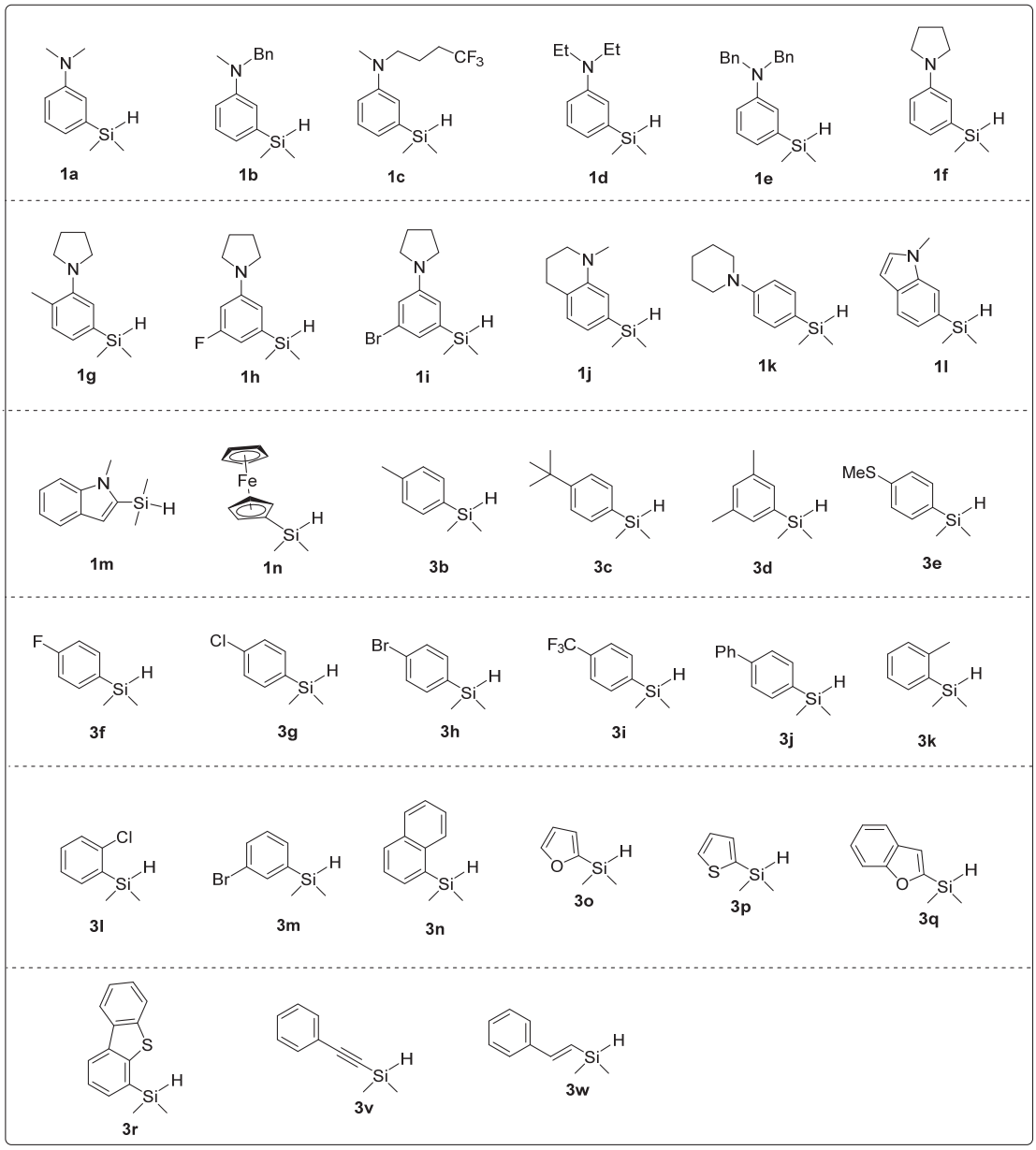
1. General Information

All manipulations of air- and moisture-sensitive compounds were performed under a nitrogen atmosphere by use of standard Schlenk techniques or a nitrogen atmosphere in a mBRAUN Labmaster130 glovebox. Nitrogen gas was purified by being passed through a Dry clean column (4Å molecular sieves, Nikka Seiko Co.) and a Gas clean GC-RX column (Nikka Seiko Co.). All ^{1}H NMR and ^{13}C NMR spectra were recorded on a Bruker Avance (500 MHz) instrument. The ^{1}H NMR (500 MHz) chemical shifts were measured relative to tetramethylsilane as an internal standard (TMS: δ = 0 ppm). The ^{13}C NMR (126 MHz) chemical shifts were given using $CDCl_3$ as the internal standard ($CDCl_3$: δ = 77.16 ppm). High-resolution mass spectra (HR-MS) were obtained on a Bruker MicroTOF-QIII (ESI) or a JEOL JMS-T100GCV (EI). Chlorobenzene were obtained from Kanato Chemical Co., purified by an Mbraun SPS-800 Solvent Purification System and dried over fresh 3Å molecule sieves in a glovebox. Chlorobenzene-d_5 was dried over 3Å molecule sieves in a glovebox.

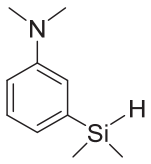
Unless otherwise noted, all reagents were obtained from commercial suppliers and used without further purification. Most aniline derivatives and hydrosilanes were purchased from TCI and Aldrich in Japan. Tris(pentafluorophenyl)borane was purchased from TCI.

2. Synthesis of Substrates

As shows in following table, substrates **1a-n** and **3b-n, p** were prepared starting from corresponding bromo-substituted compounds according to the literature procedures or modified procedures.[1] Substrate **3o**[2], **3q**[3] and **3r**[3] were directly prepared starting from corresponding heteroarenes according to the literature procedures. Substrates **3v**[4] and **3w**[5,6] were prepared according to the literature procedures or modified procedures.



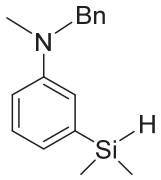
2.1 Characterization of New Compounds



3-(Dimethylsilyl)-*N*,*N*-dimethylaniline

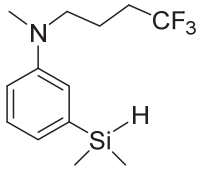
Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.33 (d, J = 3.5 Hz, 6H), 2.95 (s, 6H), 4.39-4.42 (m, 1H), 6.76 (dd, J = 8.0 Hz, 2.0 Hz, 1H), 6.89-6.92 (m, 2H), 7.25 (t, J = 7.5 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.5, 40.8, 113.9, 118.0, 122.3, 128.8, 138.1, 150.2 ppm. HRMS (ESI^+): calcd for $C_{10}H_{18}NSi^+$ $[M+H]^+$ 180.1203,

found 180.1204.



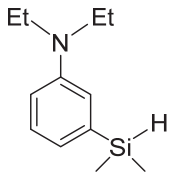
***N*-Benzyl-3-(dimethylsilyl)-*N*-methylaniline**

Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.30 (d, J = 3.5 Hz, 6H), 3.00 (s, 3H), 4.38 (m, 1H), 4.51 (m, 2H), 6.75 (d, J = 7.5 Hz, 1H), 6.88 (d, J = 7.0 Hz, 1H), 6.94 (s, 1H), 7.18-7.24 (m, 4H), 7.28-7.31 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.57, 38.6, 56.9, 113.7, 117.8, 122.3, 126.96, 127.01, 128.7, 128.9, 138.2, 139.2, 149.3 ppm. HRMS (ESI^+): calcd for $C_{16}H_{22}NSi^+$ $[M+H]^+$ 256.1516, found 256.1512.



3-(Dimethylsilyl)-*N*-methyl-*N*-(4,4,4-trifluorobutyl)aniline

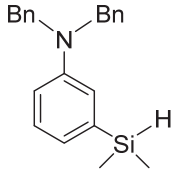
Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.33 (d, J = 4.0 Hz, 6H), 1.83-1.89 (m, 2H), 2.08-2.18 (m, 2H), 2.94 (s, 3H), 3.39 (t, J = 7.5 Hz, 2H), 4.38-4.41 (m, 1H), 6.73 (d, J = 8.0 Hz, 1H), 6.88 (s, 1H), 6.90 (d, J = 7.5 Hz, 1H), 7.24 (d, J = 7.0 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.6, 19.8 (q, J = 2.5 Hz, 1C), 31.5 (q, J = 29.0 Hz, 1C), 38.4, 51.7, 113.6, 117.9, 122.5, 127.3 (q, J = 276.7 Hz, 1C), 129.0, 138.5, 148.7 ppm. HRMS (ESI^+): calcd for $C_{13}H_{21}F_3NSi^+$ $[M+H]^+$ 276.1390, found 276.1388.



3-(Dimethylsilyl)-*N*,*N*-diethylaniline

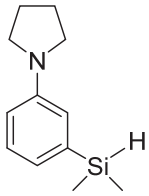
Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.32-0.33 (m, 6H), 1.16 (t, J = 7.0 Hz,

6H), 3.36 (q, J = 6.5 Hz, 4H), 4.39-4.40 (m, 1H), 6.70 (d, J = 6.0 Hz, 1H), 6.81 (d, J = 7.0 Hz, 1H), 6.85 (s, 1H), 7.20-7.23 (m, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.5, 12.7, 44.4, 113.0, 117.3, 121.0, 129.0, 138.1, 147.3 ppm. HRMS (ESI^+): calcd for $C_{12}H_{22}NSi^+$ $[M+H]^+$ 208.1516, found 208.1518.



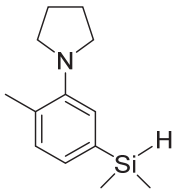
***N*,*N*-Dibenzyl-3-(dimethylsilyl)aniline**

Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.22 (d, J = 3.5 Hz, 6H), 4.30-4.32 (m, 1H), 4.65 (s, 4H), 6.75 (d, J = 8.0 Hz, 1H), 6.87 (d, J = 7.0 Hz, 1H), 6.93 (s, 1H), 7.17 (t, J = 7.5 Hz, 1H), 7.24-7.26 (m, 6H), 7.30-7.33 (m, 4H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.7, 54.5, 113.8, 118.1, 122.5, 126.9, 127.0, 128.8, 128.9, 138.2, 138.8, 148.7 ppm. HRMS (ESI^+): calcd for $C_{22}H_{26}NSi^+$ $[M+H]^+$ 332.1829, found 332.1830.



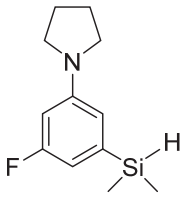
1-(3-(Dimethylsilyl)phenyl)pyrrolidine

Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.33 (d, J = 3.5 Hz, 6H), 1.98-2.00 (m, 4H), 3.28-3.30 (m, 4H), 4.39-4.41 (m, 1H), 6.57-6.59 (m, 1H), 6.73 (d, J = 1.5 Hz, 1H), 6.83 (d, J = 7.0 Hz, 1H), 7.21-7.24 (m, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.5, 25.6, 47.7, 112.8, 117.0, 121.0, 128.9, 138.1, 147.5 ppm. HRMS (ESI^+): calcd for $C_{12}H_{20}NSi^+$ $[M+H]^+$ 206.1360, found 206.1360.



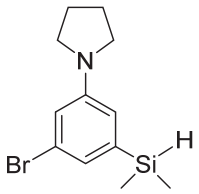
1-(5-(Dimethylsilyl)-2-methylphenyl)pyrrolidine

Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.32 (d, J = 4.0 Hz, 6H), 1.91-1.93 (m, 4H), 2.31 (s, 3H), 3.19-3.21 (m, 4H), 4.39-4.42 (m, 1H), 7.00 (d, J = 7.0 Hz, 1H), 7.04 (s, 1H), 7.12 (d, J = 7.5 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.4, 20.7, 25.1, 51.1, 121.1, 126.0, 130.1, 131.5, 134.8, 149.0 ppm. HRMS (ESI^+): calcd for $C_{13}H_{22}NSi^+$ $[M+H]^+$ 220.1516, found 220.1521.



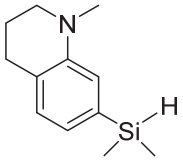
1-(3-(Dimethylsilyl)-5-fluorophenyl)pyrrolidine

Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.32 (d, J = 3.5 Hz, 6H), 2.00 (t, J = 6.0 Hz, 4H), 3.28 (t, J = 6.0 Hz, 4H), 4.36-4.38 (m, 1H), 6.23 (d, J = 12.0 Hz, 1H), 6.46 (s, 1H), 6.49 (d, J = 8.0 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.6, 25.6, 47.8, 99.5 (d, J = 25.7 Hz, 1C), 106.7 (d, J = 19.4 Hz, 1C), 112.7 (d, J = 1.8 Hz, 1C), 140.3 (d, J = 6.0 Hz, 1C), 149.4 (d, J = 10.0 Hz, 1C), 164.0 (d, J = 245.4 Hz, 1C) ppm. HRMS (ESI^+): calcd for $C_{12}H_{19}FNSi^+$ $[M+H]^+$ 224.1265, found 224.1266.



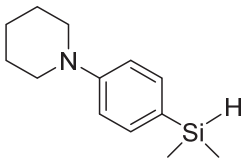
1-(3-Bromo-5-(dimethylsilyl)phenyl)pyrrolidine

Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.32 (d, J = 4.0 Hz, 6H), 1.98 (m, 4H), 3.25 (m, 4H), 4.35-4.37 (m, 1H), 6.59 (s, 1H), 6.67 (s, 1H), 6.89 (s, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.6, 25.6, 47.7, 115.2, 115.5, 123.0, 123.9, 140.5, 148.7 ppm. HRMS (ESI^+): calcd for $C_{12}H_{19}BrNSi^+$ $[M+H]^+$ 284.0465, found 284.0457.



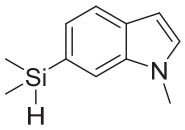
7-(Dimethylsilyl)-1-methyl-1,2,3,4-tetrahydroquinoline

Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.25 (d, J = 4.0 Hz, 6H), 1.88-1.93 (m, 2H), 2.69 (t, J = 6.5 Hz, 2H), 2.84 (s, 3H), 3.15 (t, J = 5.5 Hz, 2H), 4.30-4.32 (m, 1H), 6.68 (s, 1H), 6.71 (d, J = 7.0 Hz, 1H), 6.89 (d, J = 7.0 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.4, 22.5, 28.0, 39.2, 51.6, 116.3, 122.0, 124.4, 128.7, 135.7, 146.4 ppm. HRMS (ESI^+): calcd for $C_{12}H_{20}NSi^+$ $[M+H]^+$ 206.1360, found 206.1359.



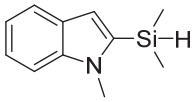
1-(4-(Dimethylsilyl)phenyl)piperidine

Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.30 (d, J = 3.5 Hz, 6H), 1.55-1.60 (m, 2H), 1.66-1.71 (m, 4H), 3.19 (t, J = 5.5 Hz, 4H), 4.37-4.40 (m, 1H), 6.92 (d, J = 8.5 Hz, 2H), 7.40 (d, J = 8.5 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.4, 24.5, 25.9, 50.0, 115.6, 125.5, 135.2, 152.8 ppm. HRMS (ESI^+): calcd for $C_{13}H_{22}NSi^+$ $[M+H]^+$ 220.1516, found 220.1518.



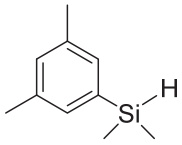
6-(Dimethylsilyl)-1-methyl-1*H*-indole

Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.39 (d, J = 3.5 Hz, 6H), 3.77 (s, 3H), 4.54-4.56 (m, 1H), 6.46 (d, J = 3.0 Hz, 1H), 7.02 (d, J = 3.0 Hz, 1H), 7.26 (d, J = 8.0 Hz, 1H), 7.50 (s, 1H), 7.63 (d, J = 7.5 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.0, 32.9, 101.0, 115.0, 120.7, 124.4, 129.2, 129.4, 129.5, 136.7 ppm. HRMS (EI^+): calcd for $C_{11}H_{15}NSi^+$ $[M]^+$ 189.0968, found 189.0976.



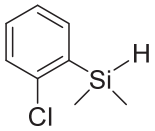
2-(Dimethylsilyl)-1-methyl-1*H*-indole

Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.43 (d, J = 4.0 Hz, 6H), 3.83 (s, 3H), 4.61-4.64 (m, 1H), 6.73 (s, 1H), 7.07 (d, J = 7.0 Hz, 1H), 7.20-7.23 (m, 1H), 7.31 (d, J = 8.0 Hz, 1H), 7.60 (d, J = 8.0 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.6, 32.7, 109.2, 112.0, 119.3, 120.8, 122.3, 128.5, 138.5, 140.3 ppm. HRMS (EI^+): calcd for $C_{11}H_{15}NSi^+$ $[M]^+$ 189.0968, found 189.0979.



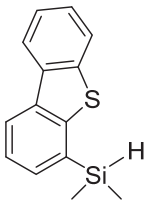
(3,5-Dimethylphenyl)dimethylsilane

Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.32 (d, J = 4.0 Hz, 6H), 2.32 (s, 6H), 4.37-4.40 (m, 1H), 7.01 (s, 1H), 7.15 (s, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.6, 21.4, 131.1, 131.9, 137.4 ppm. HRMS (EI^+): calcd for $C_{10}H_{16}Si^+$ $[M]^+$ 164.1016, found 164.1023.



(2-Chlorophenyl)dimethylsilane

Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.42 (d, J = 3.5 Hz, 6H), 4.50-4.53 (m, 1H), 7.22-7.25 (m, 1H), 7.29-7.34 (m, 2H), 7.49 (d, J = 7.0 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.7, 126.2, 129.1, 131.1, 136.4, 136.9, 141.2 ppm. HRMS (EI^+): calcd for $C_8H_{11}ClSi^+$ $[M]^+$ 170.0313, found 170.0323.



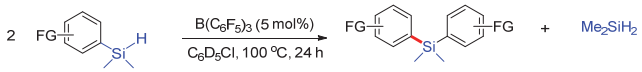
Dibenzo[*b*,*d*]thiophen-4-yldimethylsilane

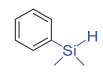
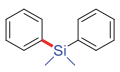
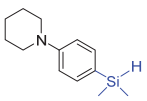
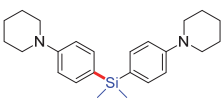
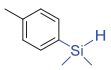
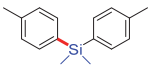
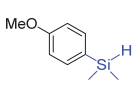
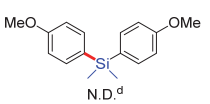
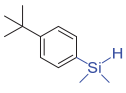
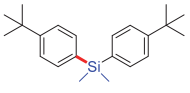
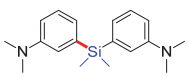
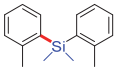
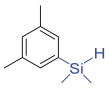
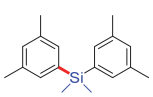
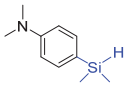
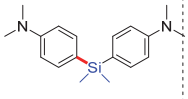
Colorless oil. ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.50 (d, J = 4.0 Hz, 6H), 4.72-4.75 (m, 1H), 7.44-7.48 (m, 3H), 7.61 (d, J = 6.5 Hz, 1H), 7.85-7.88 (m, 1H), 8.15-8.19 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -4.1, 121.7, 122.8, 124.1, 124.4, 126.8, 131.7, 133.0, 134.8, 135.6, 139.6, 145.9 ppm. HRMS (EI^+): calcd for $C_{14}H_{14}SSi^+$ $[M]^+$ 242.0580, found 242.0623.

3. The Preliminary Screening of Functional Group for $B(C_6F_5)_3$-Catalyzed Substituent Redistribution of Tertiary Hydrosilanes

In a glovebox, tertiary hydrosilane bearing functional group **1** (0.25 mmol) was added to a solution (0.5 mL) of $B(C_6F_5)_3$ (6.4 mg, 5 mol%) in C_6D_5Cl in a 20-mL Schlenk tube with a magnetic stir bar. The Schlenk tube was taken out of the glovebox and the reaction mixture was stirred at 100 °C (oil) for 24 h. After completion of the reaction, the mixture was cooled to room temperature. CH_2Br_2 was used as internal standard and the resulting mixture was subjected to ^{1}H NMR spectroscopy. The isolated yield was obtained by column chromatography (hexane/CH_2Cl_2 = 4/1-2/1, v/v) on silica gel (1% Et_3N was added to eluent).

Table S1. The Screening of functional group for $B(C_6F_5)_3$-catalyzed substituent redistribution of tertiary hydrosilanes [a,b]



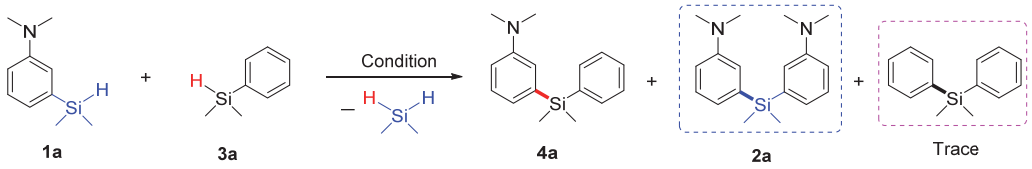
Hydrosilane	Product	Hydrosilane	Product	Hydrosilane	Product
	 Trace		 23%[c,f]		 11%
	 N.D.[d]		 N.D.[d]		 10%
	 81%[c]		 Trace		 11%
	 N.D.[d]				

[a]Reaction conditions: hydrosilane (0.25 mmol), $B(C_6F_5)_3$ (5 mol%) and C_6D_5Cl (0.5 mL) under N_2 at 100 °C for 24 h. [b]NMR yield. [c]Isolated yield. In this case, chlorobenzene was used as solvent. [d]The desilylation of starting material was observed and a large amount of *N*,*N*-dimethylaniline could be detected. [f]The desilylation of starting material was observed and a large amount of 1-Phenylpiperidine could be detected. FG = Fuctional group, N.D. = Not detected.

4. Optimization of $B(C_6F_5)_3$-Catalyzed Cross-Methathesis Reaction of Two Different Hydrosilanes

In a glovebox, hydrosilane **1a** (45 mg, 0.25 mmol) was added to a solution (0.5 mL) of boron species (5.0 mol%) in solvent in a 20-mL Schlenk tube with a magnetic stir bar. Dimethylphenylsilane **3a** (68 mg, 0.50 mmol) was then added to resulting mixture. The Schlenk tube was taken out of the glovebox and the reaction mixture was stirred at the indicated temperature (oil) during indicated time. After completion of the reaction, the mixture was cooled to room temperature. After removal of solvent, the resulting mixture was subjected to ^1H NMR spectroscopy to confirm the ratio of product **4a** and byproduct **2a** using $CDCl_3$ as solvent. The isolated yield was obtained by column chromatography (hexane/CH_2Cl_2 = 4/1-2/1, v/v) on silica gel (1% Et_3N was added to eluent).

Table S2. Optimization of $B(C_6F_5)_3$-catalyzed cross-metathesis of two hydrosilanes[a]



Entry	Ratio (**1a**/**3a**)	Catalyst	Solvent	Temp./Time	Yield (**4a**)[b]	Ratio (**4a**/**2a**)[b]
1	1/2	$B(C_6F_5)_3$	THF	100 °C/24 h	N.D.	-
2	1/2	$B(C_6F_5)_3$	Benzene	100 °C/24 h	83%	7.4:1
3	1/2	$B(C_6F_5)_3$	Toluene	100 °C/24 h	85%	9.8:1
4	1/2	$B(C_6F_5)_3$	$CHCl_3$	100 °C/24 h	86%	10:1
5	1/2	$B(C_6F_5)_3$	PhCl	100 °C/24 h	88% (79%)	18.3:1
6	1/2	$[Ph_3C][B(C_6F_5)_4]$	PhCl	100 °C/24 h	75%	12.5:1

7	1/2	BPh_3	PhCl	100 °C/24 h	N.R.	-
8[c]	1/2	$B(C_6F_5)_3$	PhCl	100 °C/24 h	58%	3.9:1
9	1/1.2	$B(C_6F_5)_3$	PhCl	100 °C/24 h	70%	4.9:1
10	1/2	$B(C_6F_5)_3$	PhCl	80 °C/24 h	55%	2.5:1
11	2/1	$B(C_6F_5)_3$	PhCl	100 °C/24 h	51%[d]	-
12	1/2	None	PhCl	100 °C/24 h	N.R.	-

[a]Reaction conditions: 0.25 mmol scale, boron species (5.0 mol%) and solvent (0.5 mL) under N_2 at 100 °C for 24 h. [b]Determined by NMR using CH_2Br_2 as an internal standard. Number in parenthesis is isolated yield. [c]2.5 mol% $B(C_6F_5)_3$ was used. [d]Isolated yield based on **3a**. N.R. = No reaction, N.D. = Not detected.

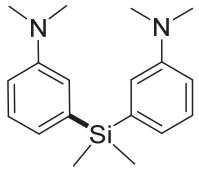
5. Experimental Procedures

Procedures A: In a glovebox, hydrosilane **1** (0.25 mmol) was added to a solution of $B(C_6F_5)_3$ (6.4 mg, 5.0 mol%) in chlorobenzene (0.5 mL) in a 20-mL Schlenk tube with a magnetic stir bar. The Schlenk tube was taken out of the glovebox and the reaction mixture was stirred at 100 °C (oil bath) for 24 h. After completion of the reaction, the mixture was cooled to room temperature. The mixture was diluted with 10 mL of CH_2Cl_2 and analyzed by TLC. Then, the combined organic phases were concentrated and the resulting residue was purified by column chromatography on silica gel (1% Et_3N was added to eluent) to provide the desired product.

Procedures B: In a glovebox, hydrosilane **1** (0.25 mmol) was added to a solution of $B(C_6F_5)_3$ (6.4 mg, 5.0 mol%) in chlorobenzene (0.5 mL) in a 20-mL Schlenk tube with a magnetic stir bar. Another hydrosilane **3** (0.50 mmol) was then added. The Schlenk tube was taken out of the glovebox and the reaction mixture was stirred at 100 °C (oil bath) for 24 h. After completion of the reaction, the mixture was cooled to room temperature. The mixture was diluted with 10 mL of CH_2Cl_2 and analyzed by TLC. Then, the combined organic phases were concentrated and the resulting residue was purified by column chromatography on silica gel (1% Et_3N was added to eluent) to provide the desired product.

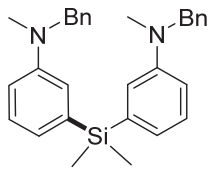
Safety Note: In view of byproduct Me_2SiH_2 as a flammable gas, please be very careful in the process of using current catalytic method.

6. Spectral Data of Products



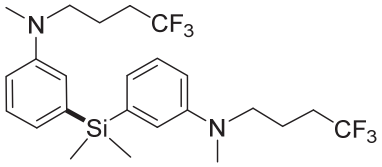
3,3'-(Dimethylsilanediyl)bis(*N*,*N*-dimethylaniline) 2a

The general procedure A was followed. Purification via column chromatography on silica gel (Hexane/EtOAc = 15/1, v/v) afforded **2a** as colorless oil (30.3 mg, 81% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.53 (s, 6H), 2.91 (s, 12H), 6.75 (dd, J = 8.0 Hz, 2.0 Hz, 2H), 6.91 (d, J = 7.0 Hz, 2H), 6.93 (d, J = 2.5 Hz, 2H), 7.21-7.24 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.0, 40.8, 113.7, 118.5, 122.9, 128.6, 139.1, 150.1 ppm. HRMS (ESI$^+$): calcd for $C_{18}H_{27}N_2Si^+$ $[M+H]^+$ 299.1938, found 299.1940.



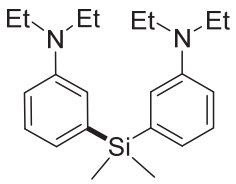
3,3'-(Dimethylsilanediyl)bis(*N*-benzyl-*N*-methylaniline) 2b

The general procedure A was followed. Purification via column chromatography on silica gel (Hexane/EtOAc = 15/1, v/v) afforded **2b** as colorless oil (36.6 mg, 65% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.45 (s, 6H), 2.97 (s, 6H), 4.47 (s, 4H), 6.74 (d, J = 8.0 Hz, 2H), 6.86 (d, J = 7.0 Hz, 2H), 6.93 (s, 2H), 7.16-7.23 (m, 8H), 7.27-7.30 (m, 4H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.2, 38.7, 57.0, 113.5, 118.2, 122.7, 126.96, 127.0, 128.6, 128.7, 139.1, 139.3, 149.2 ppm. HRMS (ESI$^+$): calcd for $C_{30}H_{35}N_2Si^+$ $[M+H]^+$ 451.2564, found 451.2568.



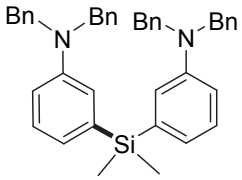
3,3'-(Dimethylsilanediyl)bis(*N*-methyl-*N*-(4,4,4-trifluorobutyl)aniline) 2c

The general procedure A was followed. Purification via column chromatography on silica gel (Hexane/EtOAc = 15/1, v/v) afforded **2c** as colorless oil (44.5 mg, 73% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.52 (s, 6H), 1.77-1.83 (m, 4H), 2.01-2.11 (m, 4H), 2.90 (s, 6H), 3.33 (t, J = 7.5 Hz, 4H), 6.71 (d, J = 8.0 Hz, 2H), 6.83 (s, 2H), 6.91 (d, J = 7.0 Hz, 2H), 7.24 (t, J = 8.0 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.2, 19.8 (q, J = 2.3 Hz, 1C), 31.5 (q, J = 29.0 Hz, 1C), 38.4, 51.7, 113.4, 118.2, 122.8, 127.3 (q, J = 276.8 Hz, 1C), 128.9, 139.3, 148.6 ppm. HRMS (ESI$^+$): calcd for $C_{24}H_{33}F_6N_2Si^+$[M+H]$^+$ 491.2312, found 491.2343.



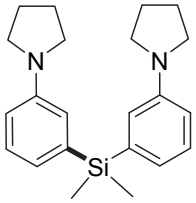
3,3'-(Dimethylsilanediyl)bis(*N*,*N*-diethylaniline) 2d

The general procedure A was followed. Purification via column chromatography on silica gel (Hexane/EtOAc = 25/1, v/v) afforded **2d** as colorless oil (26.9 mg, 61% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.51 (s, 6H), 1.12 (t, J = 7.0 Hz, 12H), 3.32 (q, J = 7.0 Hz, 8H), 6.69 (d, J = 7.0 Hz, 2H), 6.83 (d, J = 7.0 Hz, 2H), 6.85 (s, 2H), 7.20 (t, J = 8.0 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.1, 12.7, 44.5, 112.9, 117.9, 121.6, 128.8, 139.2, 147.2 ppm. HRMS (ESI$^+$): calcd for $C_{22}H_{35}N_2Si^+$[M+H]$^+$ 355.2564, found 355.2574.



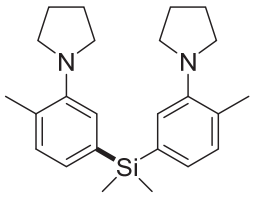
3,3'-(Dimethylsilanediyl)bis(*N*,*N*-dibenzylaniline) 2e

The general procedure A was followed. Purification via column chromatography on silica gel (Hexane/EtOAc = 20/1, v/v) afforded **2e** as colorless oil (52.5 mg, 70% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.28 (s, 6H), 4.58 (s, 8H), 6.70 (d, J = 8.5 Hz, 2H), 6.76 (d, J = 7.0 Hz, 2H), 6.88 (s, 2H), 7.08 (t, J = 8.0 Hz, 2H), 7.20-7.23 (m, 12H), 7.27-7.29 (m, 8H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.5, 54.6, 113.6, 118.4, 122.7, 126.96, 126.97, 128.7, 138.9, 139.1, 148.4 ppm. HRMS (ESI^+): calcd for $C_{42}H_{43}N_2Si^+$ $[M+H]^+$ 603.3190, found 603.3188.



Dimethylbis(3-(pyrrolidin-1-yl)phenyl)silane 2f

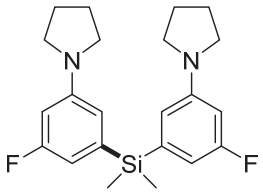
The general procedure A was followed. Purification via column chromatography on silica gel (Hexane/EtOAc = 30/1, v/v) afforded **2f** as colorless oil (33.4 mg, 76% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.52 (s, 6H), 1.97-1.98 (m, 8H), 3.26-3.27 (m, 8H), 6.57 (d, J = 7.5 Hz, 2H), 6.76 (s, 2H), 6.84 (d, J = 7.0 Hz, 2H), 7.21 (t, J = 7.5 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.0, 25.6, 47.7, 112.6, 117.3, 121.6, 128.6, 139.2, 147.4 ppm. HRMS (ESI^+): calcd for $C_{22}H_{31}N_2Si^+[M+H]^+$ 351.2251, found 351.2253.



Dimethylbis(4-methyl-3-(pyrrolidin-1-yl)phenyl)silane 2g

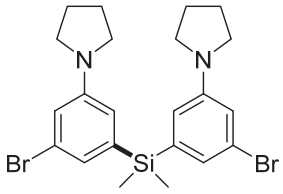
The general procedure A was followed. Purification via column chromatography on silica gel (Hexane/EtOAc = 30/1, v/v) afforded **2g** as colorless oil (34.6 mg, 73% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.50 (s, 6H), 1.89-1.91 (m, 8H), 2.31 (s, 6H), 3.15-3.17 (m, 8H), 7.00 (d, J = 7.5 Hz, 2H), 7.06 (s, 2H), 7.10 (d, J = 7.0 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -1.8, 20.7, 25.1, 51.1, 121.4, 126.5, 129.9,

131.4, 136.0, 148.8 ppm. HRMS (ESI^+): calcd for $C_{24}H_{35}N_2Si^+[M+H]^+$ 379.2564, found 379.2560.



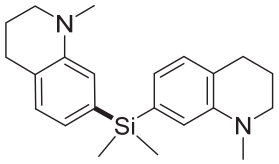
Bis(3-fluoro-5-(pyrrolidin-1-yl)phenyl)dimethylsilane 2h

The general procedure A was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 6/1, v/v) afforded **2h** as a white solid (30.8 mg, 64% yield). ^1H NMR (500 MHz, $CDCl_3$): ^1H NMR (500 MHz, $CDCl_3$): δ = 0.50 (s, 6H), 1.98 (m, 8H), 3.25-3.26 (m, 8H), 6.23 (d, J = 12.0Hz, 2H), 6.45 (s, 2H), 6.48 (d, J = 8.5 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.3, 25.6, 47.8, 99.5 (d, J = 25.7 Hz, 1C), 107.1 (d, J = 19.4 Hz, 1C), 112.9 (d, J = 1.76 Hz, 1C), 140.9 (d, J = 6.0 Hz, 1C), 149.3 (d, J = 10.0 Hz, 1C), 164.0 (d, J = 245.2 Hz, 1C) ppm. HRMS (ESI^+): calcd for $C_{22}H_{29}F_2N_2Si^+$ $[M+H]^+$ 387.2063, found 387.2061.



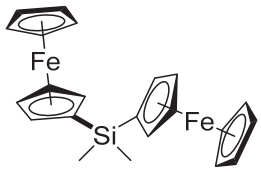
Bis(3-bromo-5-(pyrrolidin-1-yl)phenyl)dimethylsilane 2i

The general procedure A was followed. Purification via column chromatography on silica gel (Hexane/EtOAc = 15/1, v/v) afforded **2i** as colorless oil (30.5 mg, 48% yield). ^1H NMR (500 MHz, $CDCl_3$): ^1H NMR (500 MHz, $CDCl_3$): δ = 0.50 (s, 6H), 1.96-1.99 (m, 8H), 3.22-3.25 (m, 8H), 6.57 (d, J = 2.5 Hz, 2H), 6.68 (d, J = 2.5 Hz, 2H), 6.87 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.3, 25.6, 47.7, 115.2, 115.7, 123.3, 123.9, 140.9, 148.6 ppm. HRMS (ESI^+): calcd for $C_{22}H_{29}Br_2N_2Si^+$ $[M+H]^+$ 509.0441, found 509.0477.



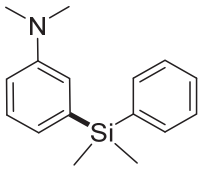
Dimethylbis(1-methyl-1,2,3,4-tetrahydroquinolin-7-yl)silane 2j

The general procedure A was followed. Purification via column chromatography on silica gel (Hexane/EtOAc = 20/1, v/v) afforded **2j** as colorless oil (29.4 mg, 67% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.49 (s, 6H), 1.94-1.99 (m, 4H), 2.75 (t, J = 6.0 Hz, 4H), 2.86 (s, 6H), 3.20 (t, J = 5.5 Hz, 4H), 6.78-6.80 (m, 4H), 6.93 (d, J = 7.0 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -1.9, 22.6, 28.0, 39.3, 51.6, 116.7, 122.6, 124.1, 128.5, 136.9, 146.3 ppm. HRMS (ESI^+): calcd for $C_{22}H_{31}N_2Si^+[M+H]^+$ 351.2251, found 351.2251.



Bis(ferrocenyl)dimethylsilane 2k

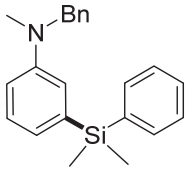
The general procedure A was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 10/1, v/v) afforded **2k** as an orange solid (43.6 mg, 81% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.49 (s, 6H), 4.09 (s, 10H), 4.12 (t, J = 2.0 Hz, 4H), 4.33 (t, J = 2.0 Hz, 4H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -0.7, 68.4, 70.8, 71.5, 73.2 ppm. HRMS (ESI^+): calcd for $C_{22}H_{25}Fe_2Si^+[M]^+$ 428.0341, found 428.0351.



3-(Dimethyl(phenyl)silyl)-*N*,*N*-dimethylaniline 4a

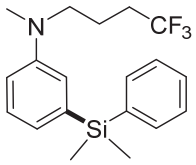
The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 3/1, v/v) afforded **4a** as colorless oil (50.2 mg, 79%

yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.54 (s, 6H), 2.91 (s, 6H), 6.76 (dd, J = 8.0 Hz, 2.0 Hz, 1H), 6.88-6.90 (m, 2H), 7.24 (t, J = 8.0 Hz, 1H), 7.33-7.34 (m, 3H), 7.53-7.54 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.1, 40.8, 113.7, 118.4, 122.8, 127.9, 128.7, 129.1, 134.4, 138.7, 138.8, 150.1 ppm. HRMS (ESI^+): calcd for $C_{16}H_{22}NSi^+[M+H]^+$ 256.1516, found 256.1518.



***N*-benzyl-3-(dimethyl(phenyl)silyl)-*N*-methylaniline 4b**

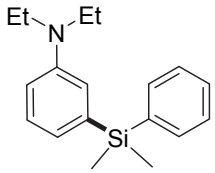
The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **4b** as colorless oil (58.8 mg, 71% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.49 (s, 6H), 2.98 (s, 3H), 4.48 (s, 2H), 6.75 (d, J = 8.5 Hz, 1H), 6.87 (d, J = 7.0 Hz, 1H), 6.90 (s, 1H), 7.19-7.23 (m, 4H), 7.27-7.31 (m, 5H), 7.49 (d, J = 7.0 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.2, 38.7, 57.0, 113.5, 118.2, 122.6, 127.0, 127.8, 128.7, 128.8, 129.1, 134.3, 138.7, 138.8, 139.2, 149.2 ppm. HRMS (ESI^+): calcd for $C_{22}H_{26}NSi^+[M+H]^+$ 332.1829, found 332.1837.



3-(Dimethyl(phenyl)silyl)-*N*-methyl-*N*-(4,4,4-trifluorobutyl)aniline 4c

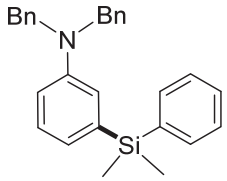
The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 5/1, v/v) afforded **4c** as colorless oil (61.5 mg, 70% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.54 (s, 6H), 1.76-1.82 (m, 2H), 1.99-2.07 (m, 2H), 2.89 (s, 3H), 3.31 (t, J = 7.5 Hz, 2H), 6.71 (d, J = 8.0 Hz, 1H), 6.80 (d, J = 2.0 Hz, 1H), 6.89 (d, J = 7.0 Hz, 1H), 7.21-7.25 (m, 1H), 7.34-7.35 (m, 3H), 7.53-7.55 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.2, 19.7 (q, J = 2.52 Hz, 1C), 31.5 (q, J = 29.0 Hz, 1C), 38.4, 51.7, 113.4, 118.2, 122.7, 127.3 (q, J = 276.8 Hz, 1C),

127.9, 128.9, 129.2, 134.3, 138.6, 139.2, 148.5 ppm. HRMS (ESI^+): calcd for $C_{19}H_{25}F_3NSi^+[M+H]^+$ 352.1703, found 352.1713.



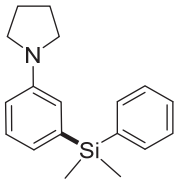
3-(Dimethyl(phenyl)silyl)-*N*,*N*-diethylaniline 4d

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **4d** as colorless oil (51.8 mg, 73% yield). ^1H NMR (500 MHz, $CDCl_3$): δ = 0.53 (s, 6H), 1.11 (t, J = 7.0 Hz, 6H), 3.31 (q, J = 7.0 Hz, 4H), 6.68-6.70 (m, 1H), 6.80-6.81 (m, 2H), 7.21 (t, J = 7.5 Hz, 1H), 7.33-7.34 (m, 3H), 7.54-7.55 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.2, 12.7, 44.5, 112.9, 117.7, 121.4, 127.8, 128.9, 129.1, 134.4, 138.7, 138.8, 147.2 ppm. HRMS (ESI^+): calcd for $C_{18}H_{26}NSi^+[M+H]^+$ 284.1829, found 284.1840.



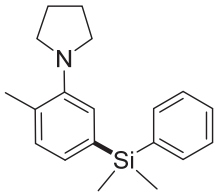
***N*,*N*-Dibenzyl-3-(dimethyl(phenyl)silyl)aniline 4e**

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 5/1, v/v) afforded **4e** as colorless oil (77.3 mg, 76% yield). ^1H NMR (500 MHz, $CDCl_3$): δ = 0.42 (s, 6H), 4.61 (s, 4H), 6.73-6.75 (m, 1H), 6.85 (d, J = 7.0 Hz, 1H), 6.88 (s, 1H), 7.15 (t, J = 8.0 Hz, 1H), 7.21-7.31 (m, 13H), 7.41 (d, J = 7.0 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.4, 54.8, 113.7, 118.6, 122.6, 126.9, 127.0, 127.8, 128.7, 128.8, 129.0, 134.2, 138.5, 138.8, 138.9, 148.4 ppm. HRMS (ESI^+): calcd for $C_{28}H_{30}NSi^+[M+H]^+$ 408.2142, found 408.2164.



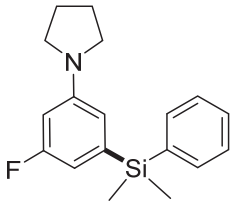
1-(3-(Dimethyl(phenyl)silyl)phenyl)pyrrolidine 4f

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **4f** as colorless oil (56.6 mg, 81% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.53 (s, 6H), 1.96 (t, J = 6.0 Hz, 4H), 3.25 (t, J = 6.0 Hz, 4H), 6.58 (d, J = 6.5 Hz, 1H), 6.70 (s, 1H), 6.82 (t, J = 7.0 Hz, 1H), 7.21-7.24 (m, 1H), 7.32-7.33 (m, 3H), 7.53-7.55 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.1, 25.6, 47.6, 112.7, 117.2, 121.5, 127.8, 128.8, 129.0, 134.4, 138.7, 138.9, 147.4 ppm. HRMS (ESI^+): calcd for $C_{18}H_{24}NSi^+[M+H]^+$ 282.1673, found 282.1682.



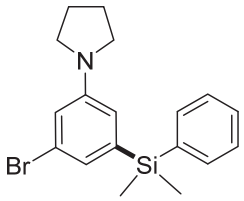
1-(5-(Dimethyl(phenyl)silyl)-2-methylphenyl)pyrrolidine 4g

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **4g** as colorless oil (61.8 mg, 84% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.52 (s, 6H), 1.89-1.91 (m, 4H), 2.32 (s, 3H), 3.15-3.18 (m, 4H), 6.98 (d, J = 7.5 Hz, 1H), 7.02 (s, 1H), 7.11 (d, J = 7.5 Hz, 1H), 7.21-7.24 (m, 1H), 7.32-7.34 (m, 3H), 7.52-7.54 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.1, 20.8, 25.1, 51.1, 121.3, 126.4, 127.8, 129.0, 130.0, 131.5, 134.3, 135.5, 138.9, 148.9 ppm. HRMS (ESI^+): calcd for $C_{19}H_{26}NSi^+[M+H]^+$ 296.1829, found 296.1830.



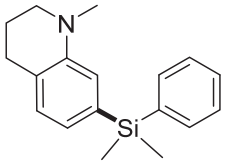
1-(3-(Dimethyl(phenyl)silyl)-5-fluorophenyl)pyrrolidine 4h

The general procedure B was followed, but reaction was carried out at 120 ^{o}C for 48 h and 0.75 mmol $PhMe_2SiH_2$ was used. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 5/1, v/v) afforded **4h** as colorless oil (30.3 mg, 40% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.53 (s, 6H), 1.98 (t, J = 6.0 Hz, 4H), 3.24 (t, J = 6.0 Hz, 4H), 6.23 (d, J = 12.5 Hz, 1H), 6.43 (s, 1H), 6.48 (t, J = 8.0 Hz, 1H), 7.34-7.35 (m, 3H), 7.53 (d, J = 6.0 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.3, 25.6, 47.8, 99.4 (d, J = 25.7 Hz, 1C), 107.1 (d, J = 19.4 Hz, 1C), 112.9 (d, J = 1.76 Hz, 1C), 127.9, 129.3, 134.3, 138.2, 141.1 (d, J = 5.9 Hz, 1C), 149.3 (d, J = 10.0 Hz, 1C), 164.0 (d, J = 245.4 Hz, 1C) ppm. HRMS (ESI$^+$): calcd for $C_{18}H_{23}FNSi^+[M+H]^+$ 300.1578, found 300.1585.



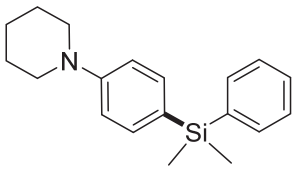
1-(3-Bromo-5-(dimethyl(phenyl)silyl)phenyl)pyrrolidine 4i

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 10/1, v/v) afforded **4i** as colorless oil (32.5 mg, 36% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.52 (s, 6H), 1.97 (t, J = 6.0 Hz, 4H), 3.22 (t, J = 6.0 Hz, 4H), 6.56 (s, 1H), 6.68 (s, 1H), 6.88 (s, 1H), 7.34-7.35 (m, 3H), 7.52 (d, J = 6.0 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.3, 25.6, 47.7, 115.1, 115.8, 123.3, 123.9, 128.0, 129.3, 134.3, 138.1, 141.3, 148.6 ppm. HRMS (ESI$^+$): calcd for $C_{18}H_{23}BrNSi^+[M+H]^+$ 360.0778, found 360.0771.



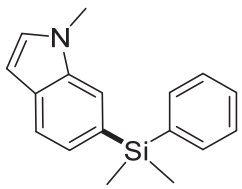
7-(Dimethyl(phenyl)silyl)-1-methyl-1,2,3,4-tetrahydroquinoline 4j

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **4j** as colorless oil (52.8 mg, 75% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.45 (s, 6H), 1.87-1.92 (m, 2H), 2.68 (t, J = 6.0 Hz, 2H), 2.77 (s, 3H), 3.13 (t, J = 5.5 Hz, 2H), 6.65 (s, 1H), 6.69 (d, J = 7.0 Hz, 1H), 6.87 (d, J = 7.0 Hz, 1H), 7.25-7.26 (m, 3H), 7.47-7.48 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.1, 22.5, 28.0, 39.2, 51.6, 116.6, 122.5, 124.2, 127.8, 128.6, 129.0, 134.3, 136.3, 139.0, 146.4 ppm. HRMS (ESI$^+$): calcd for $C_{18}H_{24}NSi^+[M+H]^+$ 282.1673, found 282.1670.



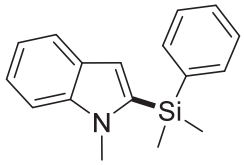
1-(4-(Dimethyl(phenyl)silyl)phenyl)piperidine 4k

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **4k** as colorless oil (44.6 mg, 60% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.50 (s, 6H), 1.56-1.60 (m, 2H), 1.66-1.70 (m, 4H), 3.19 (t, J = 5.5 Hz, 4H), 6.90 (d, J = 8.5 Hz, 2H), 7.32-7.33 (m, 3H), 7.39 (d, J = 8.0 Hz, 2H), 7.50-7.52 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.0, 24.5, 25.9, 49.9, 115.4, 126.1, 127.8, 129.0, 134.3, 135.4, 139.3, 152.7 ppm. HRMS (ESI$^+$): calcd for $C_{19}H_{26}NSi^+[M+H]^+$ 296.1829, found 296.1840.



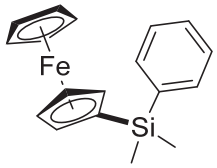
6-(Dimethyl(phenyl)silyl)-1-methyl-1*H*-indole 4l

The general procedure B was followed, but reaction was carried out at 120 ^{o}C for 36 h and 0.75 mmol $PhMe_2SiH_2$ was used in the presence of $B(C_6F_5)_3$ (10 mol%). Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **4l** as colorless oil (38.4 mg, 58% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.60 (s, 6H), 3.77 (s, 3H), 6.46 (d, J = 2.5 Hz, 1H), 7.04 (d, J = 3.0 Hz, 1H), 7.24 (d, J = 6.5 Hz, 1H), 7.33-7.34 (m, 3H), 7.47 (s, 1H), 7.54-7.56 (m, 2H), 7.63 (d, J = 7.5 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -1.7, 32.9, 101.0, 115.2, 120.6, 124.8, 127.9, 129.0, 129.4, 129.5, 129.8, 134.4, 136.8, 139.4 ppm. HRMS (EI^+): calcd for $C_{17}H_{19}NSi^+[M]^+$ 265.1281, found 265.1279.



2-(Dimethyl(phenyl)silyl)-1-methyl-1*H*-indole 4m

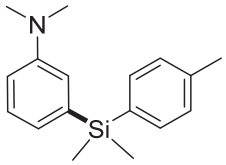
The general procedure was followed, but $B(C_6F_5)_3$ (10 mol%) was used. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 5/1, v/v) afforded **4m** as colorless oil (42.5 mg, 64% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.64 (s, 6H), 3.62 (s, 3H), 6.79 (s, 1H), 7.08 (t, J = 7.0 Hz, 1H), 7.20-7.23 (m, 1H), 7.28 (d, J = 8.5 Hz, 1H), 7.33-7.39 (m, 3H), 7.52 (d, J = 6.0 Hz, 2H), 7.63 (d, J = 8.0 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -1.7, 33.1, 109.2, 113.2, 119.3, 120.9, 122.3, 128.2, 128.5, 129.5, 134.2, 137.7, 139.0, 140.5 ppm. HRMS (EI^+): calcd for $C_{17}H_{19}NSi^+[M]^+$ 265.1281, found 265.1281.



(Dimethyl(phenyl)silyl)ferrocene 4n

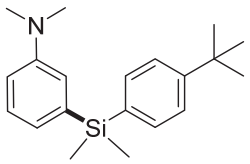
The general procedure was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 10/1, v/v) afforded **4n** as a yellow solid (57.5 mg, 72% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.52 (s, 6H), 4.09 (s, 5H), 4.14 (t, J = 1.5 Hz,

2H), 4.36 (t, J = 1.5 Hz, 2H), 7.32-7.33 (m, 3H), 7.52-7.53 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -1.6, 68.4, 69.9, 71.1, 73.5, 127.8, 128.9, 133.8, 139.9 ppm. HRMS (ESI^+): calcd for $C_{18}H_{20}FeSi^+[M]^+$ 320.0678, found 320.0674.



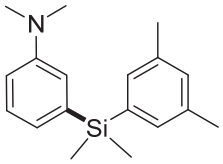
3-(Dimethyl(p-tolyl)silyl)-*N*,*N*-dimethylaniline 5a

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **5a** as colorless oil (56.3 mg, 84% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.52 (s, 6H), 2.34 (s, 3H), 2.91 (s, 6H), 6.76 (dd, J = 8.0 Hz, 2.0 Hz, 1H), 6.87-6.90 (m, 2H), 7.16 (d, J = 7.5 Hz, 2H), 7.22-7.25 (m, 1H), 7.43 (d, J = 7.5 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.0, 21.6, 40.8, 113.7, 118.4, 122.8, 128.67, 128.72, 134.4, 135.1, 138.93, 138.98, 150.1 ppm. HRMS (ESI^+): calcd for $C_{17}H_{24}NSi^+[M+H]^+$ 270.1673, found 270.1676.



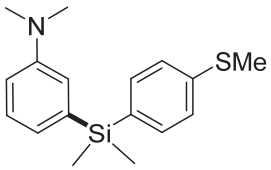
3-((4-*tert*-Butylphenyl)dimethylsilyl)-*N*,*N*-dimethylaniline 5b

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **5b** as colorless oil (56.8 mg, 73% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.53 (s, 6H), 1.31 (s, 9H), 2.92 (s, 6H), 6.76 (d, J = 8.0 Hz, 1H), 6.89-6.91 (m, 2H), 7.22-7.23 (m, 1H), 7.36 (d, J = 8.0 Hz, 2H), 7.48 (d, J = 7.5 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.1, 31.4, 34.8, 40.8, 113.7, 118.4, 122.8, 124.8, 128.7, 134.2, 135.2, 139.0, 150.1, 152.0 ppm. HRMS (ESI^+): calcd for $C_{20}H_{30}NSi^+[M+H]^+$ 312.2142, found 312.2142.



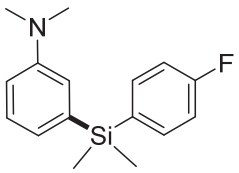
3-((3,5-Dimethylphenyl)dimethylsilyl)-*N*,*N*-dimethylaniline 5c

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 3/1, v/v) afforded **5c** as colorless oil (55.8 mg, 79% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.52 (s, 6H), 2.29 (s, 6H), 2.92 (s, 6H), 6.76 (d, J = 8.0 Hz, 1H), 6.88-6.91 (m, 2H), 6.99 (s, 1H), 7.15 (s, 2H), 7.21-7.25 (m, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.0, 21.5, 40.8, 113.7, 118.4, 122.8, 128.7, 130.9, 132.0, 137.1, 138.4, 139.0, 150.1 ppm. HRMS (ESI^+): calcd for $C_{18}H_{26}NSi^+[M+H]^+$ 284.1829, found 284.1830.



3-((4-Methylthiophenyl)dimethylsilyl)-*N*,*N*-dimethylaniline 5d

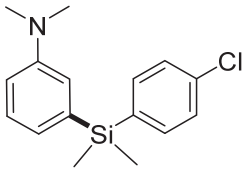
The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 1.5/1, v/v) afforded **5d** as colorless oil (61.6 mg, 82% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.52 (s, 6H), 2.46 (s, 3H), 2.92 (s, 6H), 6.75-6.77 (m, 1H), 6.86-6.88 (m, 2H), 7.21-7.24 (m, 3H), 7.43-7.45 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.1, 15.5, 40.7, 113.7, 118.3, 122.7, 125.7, 128.7, 134.7, 138.6, 139.8, 150.1 ppm. HRMS (ESI^+): calcd for $C_{17}H_{24}NSSi^+[M+H]^+$ 302.1393, found 302.1399.



3-((4-Fluorophenyl)dimethylsilyl)-*N*,*N*-dimethylaniline 5e

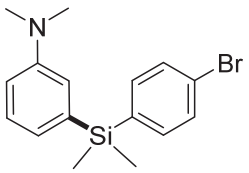
The general procedure B was followed. Purification via column chromatography on

silica gel (Hexane/CH_2Cl_2 = 3/1, v/v) afforded **5e** as colorless oil (45.6 mg, 67% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.53 (s, 6H), 2.92 (s, 6H), 6.76-6.78 (m, 1H), 6.86-6.87 (m, 2H), 7.03 (t, J = 9.0 Hz, 2H), 7.24 (t, J = 4.0 Hz, 1H), 7.48-7.51 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.0, 40.7, 113.8, 115.0 (d, J = 19.5 Hz, 1C), 118.2, 122.6, 128.8, 134.3 (d, J = 3.8 Hz, 1C), 136.3 (d, J = 7.3 Hz, 1C), 138.5, 150.1, 163.9 (d, J = 248.2 Hz, 1C) ppm. HRMS (ESI$^+$): calcd for $C_{16}H_{21}FNSi^+[M+H]^+$ 274.1422, found 274.1423.



3-((4-Chlorophenyl)dimethylsilyl)-*N*,*N*-dimethylaniline 5f

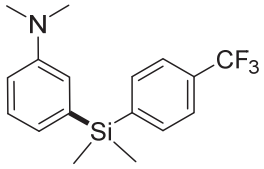
The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **5f** as colorless oil (50.6 mg, 70% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.52 (s, 6H), 2.92 (s, 6H), 6.76-6.78 (m, 1H), 6.85-6.86 (m, 2H), 7.23-7.24 (m, 1H), 7.31 (d, J = 8.0 Hz, 2H), 7.45 (d, J = 8.0 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.2, 40.7, 113.9, 118.2, 122.6, 128.1, 128.8, 135.4, 135.7, 137.2, 138.1, 150.1 ppm. HRMS (ESI$^+$): calcd for $C_{16}H_{21}ClNSi^+[M+H]^+$ 290.1126, found 290.1125.



3-((4-Bromophenyl)dimethylsilyl)-*N*,*N*-dimethylaniline 5g

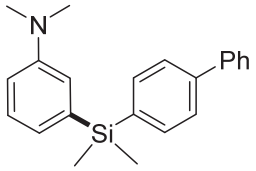
The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **5g** as colorless oil (54.3 mg, 65% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.52 (s, 6H), 2.92 (s, 6H), 6.77 (dd, J = 8.0 Hz, 2.0 Hz, 1H), 6.84-6.86 (m, 2H), 7.23-7.24 (m, 1H), 7.38 (d, J = 8.0 Hz, 2H), 7.46 (d, J = 8.0 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.2, 40.7, 113.9, 118.1,

122.6, 124.0, 128.8, 131.0, 136.0, 137.7, 138.0, 150.1 ppm. HRMS (ESI^+): calcd for $C_{16}H_{21}BrNSi^+[M+H]^+$ 334.0621, found 334.0634.



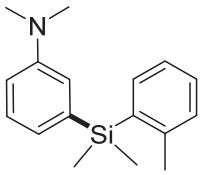
3-(Dimethyl(4-(trifluoromethyl)phenyl)silyl)-*N*,*N*-dimethylaniline 5h

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **5h** as colorless oil (58.2 mg, 72% yield). ^1H NMR (500 MHz, $CDCl_3$): δ = 0.56 (s, 6H), 2.93 (s, 6H), 6.78 (d, J = 8.0 Hz, 1H), 6.86 (m, 2H), 7.24-7.26 (m, 1H), 7.56 (d, J = 7.5 Hz, 2H), 7.64 (d, J = 7.5 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.4, 40.7, 114.0, 118.1, 122.6, 124.36 (q, J = 3.8 Hz, 1C), 124.42 (q, J = 272.7 Hz, 1C), 128.9, 131.0 (q, J = 32.1 Hz, 1C), 134.6, 137.6, 144.0, 150.2 ppm. HRMS (ESI^+): calcd for $C_{17}H_{21}F_3NSi^+[M+H]^+$ 324.1390, found 324.1392.



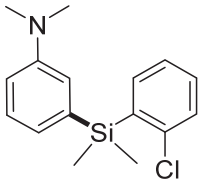
3-(Biphenyl-4-yldimethylsilyl)-*N*,*N*-dimethylaniline 5i

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 3/1, v/v) afforded **5i** as a white solid (60.6 mg, 73% yield). ^1H NMR (500 MHz, $CDCl_3$): δ = 0.57 (s, 6H), 2.92 (s, 6H), 6.77 (d, J = 7.5 Hz, 1H), 6.92-6.93 (m, 2H), 7.26 (t, J = 8.0 Hz, 1H), 7.32 (d, J = 7.5 Hz, 1H), 7.42 (t, J = 7.5 Hz, 2H), 7.56-7.62 (m, 6H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.1, 40.8, 113.8, 118.3, 122.8, 126.6, 127.3, 127.5, 128.8, 128.9, 134.8, 137.6, 138.6, 141.3, 141.8, 150.1 ppm. HRMS (ESI^+): calcd for $C_{22}H_{26}NSi^+[M+H]^+$ 332.1829, found 332.1836.



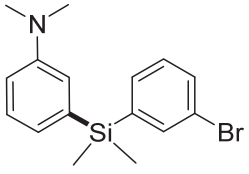
3-(Dimethyl(o-tolyl)silyl)-*N*,*N*-dimethylaniline 5j

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 3/1, v/v) afforded **5j** as colorless oil (38.6 mg, 57% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.57 (s, 6H), 2.31 (s, 3H), 2.90 (s, 6H), 6.75 (d, J = 8.5 Hz, 1H), 6.84-6.87 (m, 2H), 7.13-7.18 (m, 2H), 7.20-7.24 (m, 1H), 7.26-7.29 (m, 1H), 7.48 (d, J = 7.0 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -1.2, 23.4, 40.8, 113.6, 118.2, 122.7, 125.0, 128.7, 129.6, 129.9, 135.6, 136.7, 139.5, 144.3, 150.1 ppm. HRMS (ESI^+): calcd for $C_{17}H_{24}NSi^+[M+H]^+$ 270.1673, found 270.1671.



3-((2-Chlorophenyl)dimethylsilyl)-*N*,*N*-dimethylaniline 5k

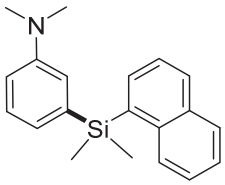
The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 3/1, v/v) afforded **5k** as colorless oil (32.6 mg, 45% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.65 (s, 6H), 2.93 (s, 6H), 6.79 (dd, J = 8.5 Hz, 2.5 Hz, 1H), 6.90 (d, J = 7.0 Hz, 1H), 6.93 (d, J = 2.5 Hz, 1H), 7.15-7.18 (m, 1H), 7.24-7.27 (m, 2H), 7.31-7.33 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -1.7, 40.8, 113.8, 118.5, 122.8, 126.0, 128.7, 129.4, 130.9, 137.2, 137.6, 138.1, 141.4, 150.1 ppm. HRMS (ESI^+): calcd for $C_{16}H_{21}ClNSi^+[M+H]^+$ 290.1126, found 290.1127.



3-((3-Bromophenyl)dimethylsilyl)-*N*,*N*-dimethylaniline 5l

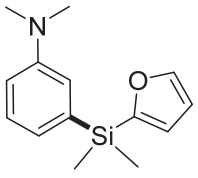
The general procedure B was followed. Purification via column chromatography on

silica gel (Hexane/CH_2Cl_2 = 3/1, v/v) afforded **5l** as colorless oil (62.5 mg, 75% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.53 (s, 6H), 2.92 (s, 6H), 6.77 (d, J = 7.5 Hz, 1H), 6.85 (m, 2H), 7.19 (t, J = 7.5 Hz, 1H), 7.24 (d, J = 7.5 Hz, 1H), 7.42 (d, J = 7.0 Hz, 1H), 7.47 (d, J = 8.0 Hz, 1H), 7.64 (s, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.3, 40.7, 113.9, 118.1, 122.6, 123.0, 128.9, 129.7, 132.1, 132.7, 136.8, 137.8, 142.2, 150.1 ppm. HRMS (ESI^+): calcd for $C_{16}H_{21}BrNSi^+[M+H]^+$ 334.0621, found 334.0612.



3-(Dimethyl(naphthalen-1-yl)silyl)-*N*,*N*-dimethylaniline 5m

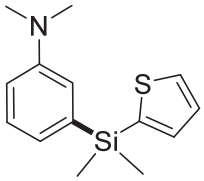
The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **5m** as colorless oil (30.8 mg, 40% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.70 (s, 6H), 2.87 (s, 6H), 6.75 (dd, J = 8.0 Hz, 2.0 Hz, 1H), 6.89-6.93 (m, 2H), 7.20-7.23 (m, 1H), 7.35-7.38 (m, 1H), 7.42-7.46 (m, 2H), 7.71 (d, J = 6.0 Hz, 1H), 7.83-7.88 (m, 2H), 8.01 (d, J = 8.5 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -0.7, 40.7, 113.7, 118.4, 122.8, 125.2, 125.4, 125.7, 128.8, 128.9, 129.0, 130.2, 133.5, 134.8, 136.3, 137.2, 139.4, 150.1 ppm. HRMS (ESI^+): calcd for $C_{20}H_{24}NSi^+[M+H]^+$ 306.1673, found 306.1684.



3-(Furan-2-yldimethylsilyl)-*N*,*N*-dimethylaniline 5n

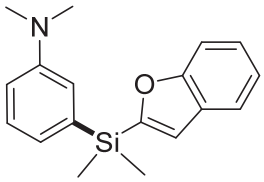
The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 3/1, v/v) afforded **5n** as colorless oil (40.7 mg, 66% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.53 (s, 6H), 2.93 (s, 6H), 6.38 (s, 1H), 6.67 (d, J = 3.0 Hz, 1H), 6.76-6.78 (m, 1H), 6.91-6.92 (m, 2H), 7.23-7.25 (m, 1H), 7.67 (s,

1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.7, 40.7, 109.5, 114.0, 118.1, 121.0, 122.4, 128.8, 137.6, 147.1, 150.2, 158.7 ppm. HRMS (EI^+): calcd for $C_{14}H_{19}NOSi^+[M]^+$ 245.1230, found 245.1220.



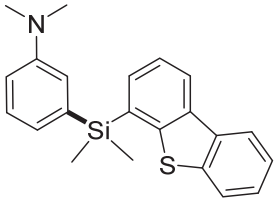
3-(Dimethyl(thiophen-2-yl)silyl)-*N*,*N*-dimethylaniline 5o

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 3/1, v/v) afforded **5o** as colorless oil (37.2 mg, 57% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.58 (s, 6H), 2.93 (s, 6H), 6.77 (d, J = 8.0 Hz, 1H), 6.91-6.93 (m, 2H), 7.18-7.29 (m, 3H), 7.61 (d, J = 4.5 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -1.0, 40.7, 114.0, 118.1, 122.4, 128.3, 128.8, 131.1, 135.4, 138.3, 138.4, 150.1 ppm. HRMS (ESI^+): calcd for $C_{14}H_{20}NSSi^+[M+H]^+$ 262.1080, found 262.1080.



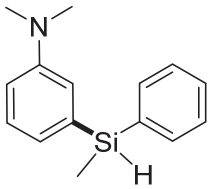
3-(Benzofuran-2-yldimethylsilyl)-*N*,*N*-dimethylaniline 5p

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 3/1, v/v) afforded **5p** as colorless oil (48.5 mg, 66% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.61 (s, 6H), 2.94 (s, 6H), 6.79 (dd, J = 8.0 Hz, 2.0 Hz, 1H), 6.96-6.99 (m, 3H), 7.18 (t, J = 7.0 Hz, 1H), 7.24-7.28 (m, 2H), 7.49 (d, J = 8.0 Hz, 1H), 7.55 (d, J = 7.5 Hz, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.8, 40.7, 111.5, 114.2, 117.6, 118.1, 121.2, 122.4, 122.5, 124.5, 128.1, 128.9, 136.7, 150.2, 158.5, 162.2 ppm. HRMS (ESI^+): calcd for $C_{18}H_{22}NOSi^+[M+H]^+$ 296.1465, found 296.1466.



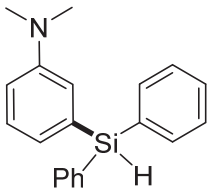
3-(Dibenzo[*b*,*d*]thiophen-4-yldimethylsilyl)-*N*,*N*-dimethylaniline 5q

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 3/1, v/v) afforded **5q** as colorless oil (68.3 mg, 76% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.74 (s, 6H), 2.91 (s, 6H), 6.78-6.80 (m, 1H), 6.96 (d, J = 7.0 Hz, 1H), 6.99 (s, 1H), 7.24-7.26 (m, 1H), 7.41-7.44 (m, 3H), 7.56-7.58 (m, 1H), 7.78-7.80 (m, 1H), 8.13-8.17 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.2, 40.8, 114.0, 118.6, 121.5, 122.7, 123.0, 123.9, 124.2, 126.6, 128.8, 132.7, 133.9, 134.9, 135.4, 137.5, 139.7, 145.8, 150.1 ppm. HRMS (EI^+): calcd for $C_{22}H_{23}NSSi^+[M]^+$ 361.1315, found 361.1296.



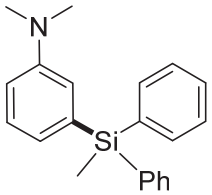
***N*,*N*-dimethyl-3-(methyl(phenyl)silyl)aniline 5r**

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **5r** as colorless oil (41.3 mg, 69% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.61 (d, J = 4.0 Hz, 3H), 2.93 (s, 6H), 4.91 (q, J = 4.0 Hz, 1H), 6.78 (dd, J = 8.0 Hz, 2.0 Hz, 1H), 6.91 (d, J = 7.0 Hz, 1H), 6.93 (d, J = 2.5 Hz, 1H), 7.23-7.25 (m, 1H), 7.33-7.37 (m, 3H), 7.56-7.58 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -4.7, 40.7, 114.1, 118.9, 123.2, 128.0, 128.9, 129.5, 135.0, 135.8, 135.9, 150.2 ppm. HRMS (ESI^+): calcd for $C_{15}H_{20}NSi^+[M+H]^+$ 242.1360, found 242.1361.



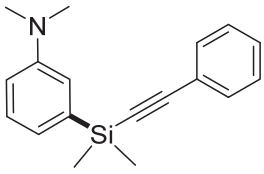
3-(Diphenylsilyl)-*N*,*N*-dimethylaniline 5s

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **5s** as colorless oil (46.5 mg, 61% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 2.90 (s, 6H), 5.44 (s, 1H), 6.80 (dd, J = 8.0 Hz, 2.0 Hz, 1H), 6.91 (d, J = 7.0 Hz, 1H), 6.96 (d, J = 2.5 Hz, 1H), 7.24-7.25 (m, 1H), 7.34-7.40 (m, 6H), 7.58-7.60 (m, 4H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = 40.7, 114.3, 119.8, 124.2, 128.1, 128.9, 129.8, 133.8, 133.9, 136.0, 150.2 ppm. HRMS (ESI^+): calcd for $C_{20}H_{22}NSi^+[M+H]^+$ 304.1516, found 304.1516.



***N*,*N*-Dimethyl-3-(methyldiphenylsilyl)aniline 5t**

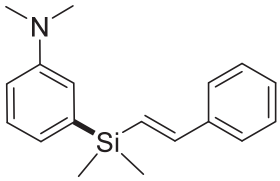
The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **5t** as colorless oil (44.5 mg, 56% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.82 (s, 3H), 2.88 (s, 6H), 6.79 (d, J = 8.5 Hz, 1H), 6.85-6.88 (m, 2H), 7.23 (d, J = 8.0 Hz, 1H), 7.32-7.39 (m, 6H), 7.53 (d, J = 6.5 Hz, 4H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.1, 40.7, 113.9, 119.5, 123.9, 127.9, 128.7, 129.4, 135.5, 136.6, 136.7, 150.1 ppm. HRMS (ESI^+): calcd for $C_{21}H_{24}NSi^+[M+H]^+$ 318.1673, found 318.1679.



3-(Dimethyl(phenylethynyl)silyl)-*N*,*N*-dimethylaniline 5u

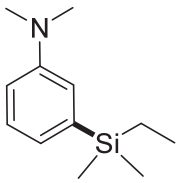
The general procedure B was followed. Purification via column chromatography on

silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **5u** as colorless oil (32.5 mg, 47% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.48 (s, 6H), 2.97 (s, 6H), 6.79 (d, J = 8.0 Hz, 1H), 7.03 (d, J = 7.0 Hz, 1H), 7.10 (s, 1H), 7.26-7.31 (m, 4H), 7.49 (d, J = 6.5 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -0.6, 40.8, 92.6, 106.7, 114.1, 117.9, 122.1, 123.3, 128.3, 128.7, 128.8, 132.2, 137.6, 150.2 ppm. HRMS (ESI^+): calcd for $C_{18}H_{22}NSi^+[M+H]^+$ 280.1516, found 280.1515.



(*E*)-3-(Dimethyl(styryl)silyl)-*N*,*N*-dimethylaniline 5v

The general procedure B was followed. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **5v** as colorless oil (57.8 mg, 82% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.42 (s, 6H), 2.94 (s, 6H), 6.59 (d, J = 19.5 Hz, 1H), 6.76-6.78 (m, 1H), 6.93-6.97 (m, 3H), 7.23-7.26 (m, 2H), 7.31 (t, J = 7.5 Hz, 2H), 7.44 (d, J = 7.5 Hz, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.3, 40.8, 113.8, 118.0, 122.5, 126.6, 127.7, 128.2, 128.6, 128.7, 138.5, 139.1, 145.2, 150.2 ppm. HRMS (ESI^+): calcd for $C_{18}H_{24}NSi^+[M+H]^+$ 282.1673, found 282.1676.



3-(Ethyldimethylsilyl)-*N*,*N*-dimethylaniline 5w

The general procedure B was followed, but $EtMe_2SiH$ (1.25 mmol) was used. Purification via column chromatography on silica gel (Hexane/CH_2Cl_2 = 4/1, v/v) afforded **5w** as colorless oil (41.8 mg, 81% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.24 (s, 6H), 0.73 (q, J = 8.0 Hz, 2H), 0.97 (t, J = 8.0 Hz, 3H), 2.95 (s, 6H), 6.75 (d, J = 7.5 Hz, 1H), 6.87-6.89 (m, 2H), 7.22-7.25 (m, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -3.3, 7.61, 7.64, 40.8, 113.5, 117.8, 122.2, 128.6, 140.1, 150.1 ppm.

HRMS (ESI$^+$): calcd for $C_{12}H_{22}NSi^+[M+H]^+$ 208.1516, found 208.1518.

7. X-ray Crystallographic Study of compound 4a·HCl

Under air atomsphere, to a stirred solution of **4a** (100 mg, 0.39 mmol) in Et_2O (3 mL) was added hydrogen chloride solution in ethyl ether (1.5 mL, 1.0 mol/L). The reaction was stirred for 10 min at r.t. The mixture was concentrated in vaccuo to afford 4a·HCl as white solid. The crude product was washed with hexane (5 mL). Then, in a glove box, obtained white solid was dissolved in a mixture of CH_2Cl_2 and hexane. Single crystals suitable for X-ray crystallography were grown by slow evaporation of the prepared solution in a refrigerator (−30 °C).

X-ray diffraction data collections were performed on a Bruker D8 QUEST diffractometer equipped with a CMOS area detector, using a IμS (Incoatec Microfocus Source) microfocus sealed tube with Mo Kα radiation (λ = 0.71073 Å) at 173 K. The Bravais lattice and the unit cell parameters were determined by the Bruker APEX2 software package.[12] The raw frame data were processed, and absorption corrections were done using SAINT and SADABS embedded in Bruker APEX2 to yield the reflection data (hkl) file.[12] All of the structures were solved using SHELXS-2013.[13] Structural refinement was performed using the WINGX-Version 2014.1 system,[14] on F^2 anisotropically for all of the non-hydrogen atoms by the fullmatrix least-squares method. Analytical scattering factors for neutral atoms were used throughout the analysis. The hydrogen atoms were placed at calculated positions, which were then refined using a riding model. The residual electron densities in all of the structures were of no chemical significance. The crystallographic figure was drawn by using ORTEP-III software.[15] CCDC number 1565171 (for **4a·HCl**) contain the supplementary crystallographic data for this paper. These data can be obtained free of charge from The Cambridge Crystallographic Data Centre via www.ccdc.cam.ac.uk/data_request/cif.

X-ray structure of compound 4a·HCl

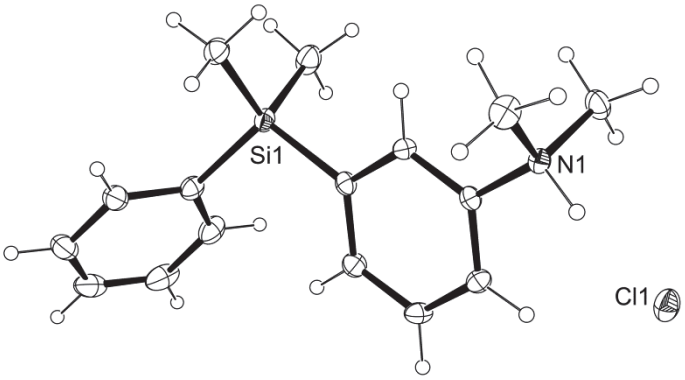


Figure S1. Crystal structure of compound **4a•HCl**.

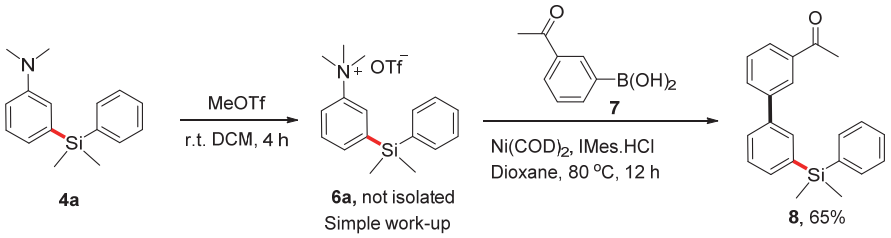
Crystal data and structure refinement for compound 4a•HCl.

Identification code	shelx	
Empirical formula	C16 H22 Cl N Si	
Formula weight	291.88	
Temperature	173(2) K	
Wavelength	0.71073 Å	
Crystal system	Monoclinic	
Space group	$P\ 2_1/c$	
Unit cell dimensions	a = 12.7816(11) Å	α= 90°.
	b = 11.3525(9) Å	β= 106.203(3)°.
	c = 11.9115(11) Å	γ = 90°.
Volume	1659.7(2) $Å^3$	
Z	4	
Density (calculated)	1.168 Mg/m^3	
Absorption coefficient	0.290 mm^{-1}	
F(000)	624	
Crystal size	0.300 x 0.200 x 0.200 mm^3	
Theta range for data collection	2.444 to 25.141°.	
Index ranges	-15<=h<=15, -13<=k<=13, -14<=l<=14	
Reflections collected	20206	
Independent reflections	2958 [R(int) = 0.1084]	
Completeness to theta = 25.141°	99.5 %	
Absorption correction	Semi-empirical from equivalents	
Max. and min. transmission	0.745 and 0.543	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	2958 / 0 / 176	
Goodness-of-fit on F^2	1.061	
Final R indices [I>2sigma(I)]	R1 = 0.0447, wR2 = 0.1060	

R indices (all data)	R1 = 0.0715, wR2 = 0.1232
Extinction coefficient	n/a
Largest diff. peak and hole	0.325 and -0.359 e.Å^{-3}

8. Chemical Transformations of Products 4a and 5i

8.1 Suzuki-type cross-coupling starting from product 4a with arylboronic acids 7

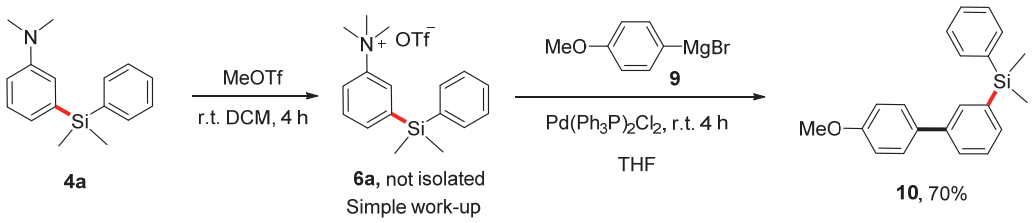


1-(3'-(Dimethyl(phenyl)silyl)biphenyl-3-yl)ethanone 8 According to the literature procedures,[7,8] to a dry 20-mL Schlenk tube equipped with a magnetic stir bar was charged product **4a** (63.8 mg, 0.25 mmol) and CH_2Cl_2 (2 mL). To the resultant stirring solution was added dropwise methyl trifluoromethanesulfonate (49.5 mg, 1.2 equiv) at r.t. The solution was stirred at r.t. for 4 h, at which time TLC analysis indicated complete consumption of **4a**. The reaction mixture was concentrated to remove CH_2Cl_2 and the residue was washed with MTBE and hexanes, and dried under vacuum to give product **6** as thick oil, which was used directly for the next step.

In a glovebox, obtained product **6a**, $Ni(COD)_2$ (6.9 mg, 0.025 mmol), IMes·HCl (8.5 mg, 0.025 mmmol), arylboronic acid **7** (83.3 mg, 0.50 mmol, 2 equiv), CsF (116.5 mg, 0.75 mmol, 3 equiv) and dioxane (2.0 mL) were combined in a 20-mL Schlenk tube equipped with a magnetic stir bar. The Schlenk tube was taken out of the glovebox and was heated to 80 °C and stirred for 12 h. Upon cooling to r.t., the mixture was filtered through a plug of silica, washing with ethyl acetate. The solvent was removed in vacuo and the residue was purified by silica gel chromatography (hexanes/EtOAc = 10/1) to afford the desired products **8** (53.5 mg, 65% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.60 (s, 6H), 2.64 (s, 3H), 7.35-7.37 (m, 3H), 7.45 (t, *J* = 7.5 Hz, 1H), 7.51-7.56 (m, 4H), 7.61 (d, *J* = 7.5 Hz, 1H), 7.73-7.76 (m, 2H), 7.92 (d, *J* = 8.0 Hz, 1H), 8.13 (s, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.2, 26.9, 127.2, 127.3,

128.0, 128.2, 128.5, 129.2, 129.4, 132.0, 133.0, 133.9, 134.3, 137.8, 138.1, 139.4, 139.8, 142.2, 198.2 ppm. HRMS (ESI^+): calcd for $C_{22}H_{22}NaOSi^+$ $[M+Na]^+$ 353.1332, found 353.1331.

8.2 Kumada-type cross-coupling starting from product 4a with aryl Grignard reagents 9

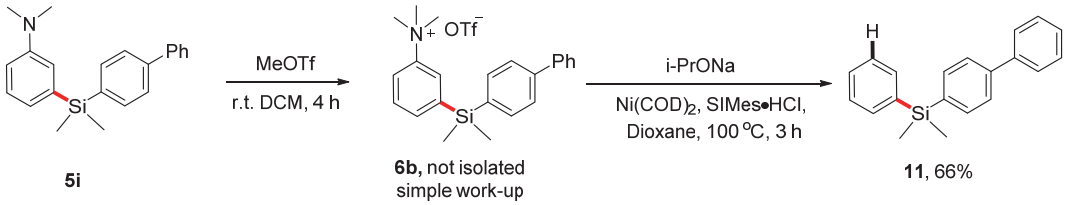


(4'-Methoxybiphenyl-3-yl)dimethyl(phenyl)silane 10 According to the literature procedures,[7] to a dry 20-mL Schlenk tube equipped with a magnetic stir bar was charged product **4a** (63.8 mg, 0.25 mmol) and CH_2Cl_2 (2 mL). To the resultant stirring solution was added dropwise methyl trifluoromethanesulfonate (49.5 mg, 1.2 equiv) at r.t. The solution was stirred at r.t. for 4 h, at which time TLC analysis indicated complete consumption of **4a**. The reaction mixture was concentrated to remove CH_2Cl_2 and the residue was washed with MTBE and hexanes, and dried under vacuum to give product **8** as thick oil, which was used directly for the next step.

In a glovebox, to a dry 20-mL Schlenk tube equipped with a magnetic stir bar was charged obtained product **6a**, $PdCl_2(PPh_3)_2$ (3.5 mg, 0.005 mmol) and THF (1.5 mL), and the resultant slurry was stirred for 5 minutes. Then 4-methoxyphenylmagnesium bromide (0.5M solution in THF, 0.55 mL, 0.275 mmol, 1.1 equiv) was added dropwise at r.t. The solution was stirred at r.t for 4 h. The reaction mixture was quenched by the addition of water (5 mL) and 2N HCl (1 mL), and extracted with MTBE. The organic extract was dried ($MgSO_4$), filtered, and concentrated, and the crude product was purified by silica gel chromatography (hexanes/CH_2Cl_2 = 2/1) to afford the desired products **10** (55.6 mg, 70% yield). ^1H NMR (500 MHz, $CDCl_3$): δ = 0.58 (s, 6H), 3.82 (s, 3H), 6.96 (d, *J* = 9.0 Hz, 2H), 7.34-7.36 (m, 3H), 7.39 (t, *J* = 7.5 Hz, 1H), 7.46 (d, *J* = 7.5 Hz, 1H), 7.49 (d, *J* = 8.5 Hz, 2H), 7.53-7.56 (m, 3H),

7.69 (s, 1H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.2, 55.5, 114.3, 127.8, 128.0, 128.3, 128.4, 129.3, 132.66, 132.73, 134.2, 134.3, 138.3, 138.8, 140.3, 159.3 ppm. HRMS (EI^+): calcd for $C_{21}H_{22}OSi^+$ $[M]^+$ 318.1434, found 318.1435.

8.3 Removal of dialkyl amino group in product 5i



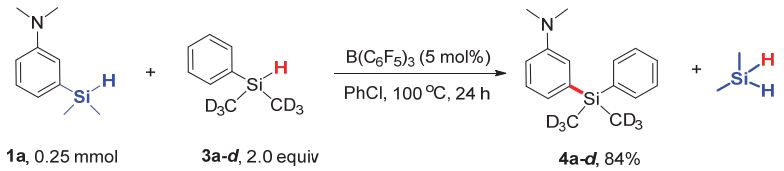
5i **6b,** not isolated simple work-up **11**, 66%

Biphenyl-4-yldimethyl(phenyl)silane 11 According to the literature procedures,[7,9] to a dry 20-mL Schlenk tube equipped with a magnetic stir bar was charged product **5i** (167 mg, 0.50 mmol) and CH_2Cl_2 (4 mL). To the resultant stirring solution was added dropwise methyl trifluoromethanesulfonate (100 mg, 1.2 equiv) at r.t. The solution was stirred at r.t. for 4 h, at which time TLC analysis indicated complete consumption of **5i**. The reaction mixture was concentrated to remove CH_2Cl_2 and the residue was washed with MTBE and hexanes, and dried under vacuum to give product **6b** as thick oil, which was used directly for the next step.

In a glovebox, a dry 20-mL Schlenk tube equipped with a magnetic stir bar was charged with obtained product **11**, $Ni(COD)_2$ (13.8 mg, 0.05 mmol, 10 mol%), SIMes·HCl (18.4 mg, 0.05 mmol, 10 mol%), *i*-PrONa (125 mg, 1.5 mmol, 3 equiv) and dioxane (2 mL). The Schlenk tube was taken out of the glovebox and was heated to 100 °C and stirred for 3 h. The solvent was removed in vacuo and the residue was purified by silica gel chromatography (hexanes) to afford the desired products **11** (95.2 mg, 66% yield). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 0.58 (s, 6H), 7.31-7.36 (m, 4H), 7.42 (t, *J* = 7.5 Hz, 2H), 7.54-7.59 (m, 8H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = -2.2, 126.7, 127.3, 127.5, 128.0, 128.9, 129.3, 134.3, 134.8, 137.1, 138.3, 141.2, 142.0 ppm. Spectroscopic data for **11** match those previously reported in the literature.[10]

9. Control Experiments for Mechanism Study

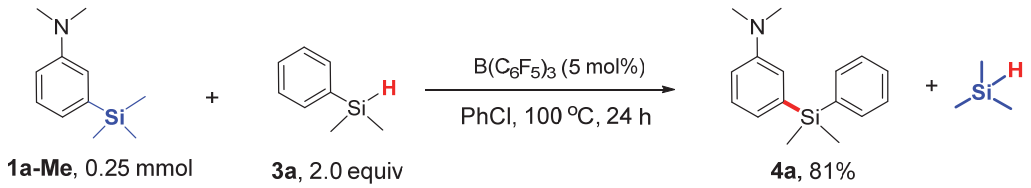
9.1 Reaction of hydrosilane 1a with $Ph(CD_3)_2SiH$ (3a-*d*)



1a, 0.25 mmol **3a-*d***, 2.0 equiv **4a-*d***, 84%

In a glovebox, hydrosilane **1a** (45 mg, 0.25 mmol) was added to a solution of $B(C_6F_5)_3$ (6.4 mg, 5.0 mol%) in chlorobenzene (0.5 mL) in a 20-mL Schlenk tube with a magnetic stir bar. $Ph(CD_3)_2SiH$ (**3a-*d***) (71 mg, 0.5 mmol)**,** which was prepared from reaction of phenyldichlorosilane with methyl-D_3-magnesium iodide solution,[11] was then added. The Schlenk tube was taken out of the glovebox and the reaction mixture was stirred at 100 °C (oil bath) for 24 h. After completion of the reaction, the mixture was cooled to room temperature. The mixture was diluted with 10 mL of CH_2Cl_2 and analyzed by TLC. The combined organic phases were concentrated and the resulting residue was purified by column chromatography on silica gel to provide the product **4a-*d*** in 84% yield (54.8 mg). ^{1}H NMR (500 MHz, $CDCl_3$): δ = 2.91 (s, 6H), 6.75-6.77 (m, 1H), 6.88-6.89 (m, 2H), 7.21-7.25 (m, 1H), 7.33-7.34 (m, 3H), 7.53-7.54 (m, 2H) ppm. ^{13}C NMR (126 MHz, $CDCl_3$): δ = 40.7, 113.7, 118.4, 122.8, 127.9, 128.7, 129.1, 134.4, 138.7, 138.8, 150.1 ppm. HRMS (ESI^+): calcd for $C_{16}H_{16}D_6NSi^+$ $[M+H]^+$ 262.1893, found 262.1895.

9.2 Reaction of (*m*-$Me_2NC_6H_4$)Me_3Si (1a-Me) with $PhMe_2SiH$ 3a

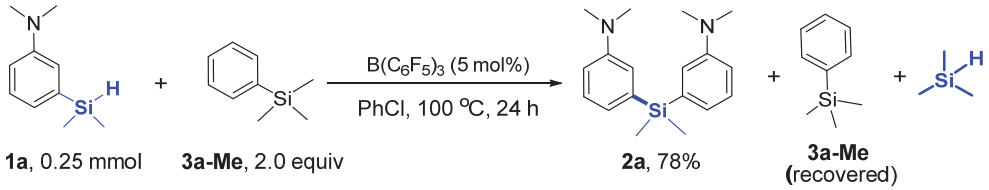


1a-Me, 0.25 mmol **3a**, 2.0 equiv **4a**, 81%

In a glovebox, hydrosilane **1a-Me** (48.3 mg, 0.25 mmol) was added to a solution of $B(C_6F_5)_3$ (6.4 mg, 5.0 mol%) in chlorobenzene (0.5 mL) in a 20-mL Schlenk tube with a magnetic stir bar. Hydrosilane **3a** (68 mg, 0.5 mmol) was then added. The Schlenk tube was taken out of the glovebox and the reaction mixture was stirred at

100 °C (oil bath) for 24 h. After completion of the reaction, the mixture was cooled to room temperature. The mixture was diluted with 10 mL of CH_2Cl_2 and analyzed by TLC. The combined organic phases were concentrated and the resulting residue was purified by column chromatography on silica gel to provide the product **4a** in 81% yield (51.5 mg).

9.3 Reaction of hydrosilane 1a with $PhMe_3Si$ (3a-Me)



In a glovebox, hydrosilane **1a** (45 mg, 0.25 mmol) was added to a solution of $B(C_6F_5)_3$ (6.4 mg, 5.0 mol%) in chlorobenzene (0.5 mL) in a 20-mL Schlenk tube with a magnetic stir bar. $PhMe_3Si$ **(3a-Me)** (75 mg, 0.5 mmol) was then added. The Schlenk tube was taken out of the glovebox and the reaction mixture was stirred at 100 °C (oil bath) for 24 h. After completion of the reaction, the mixture was cooled to room temperature. The mixture was diluted with 10 mL of CH_2Cl_2 and analyzed by TLC. The combined organic phases were concentrated and the resulting residue was purified by column chromatography on silica gel to provide the product **2a** in 78% yield (29.1 mg).

10. References

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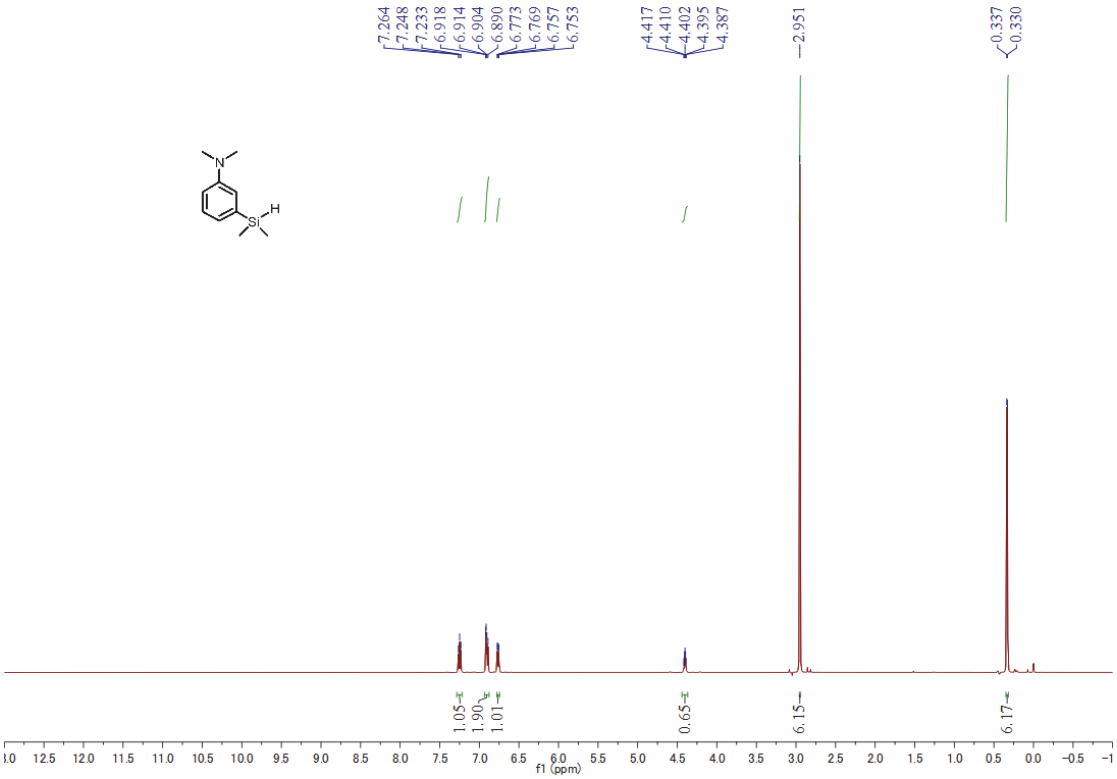
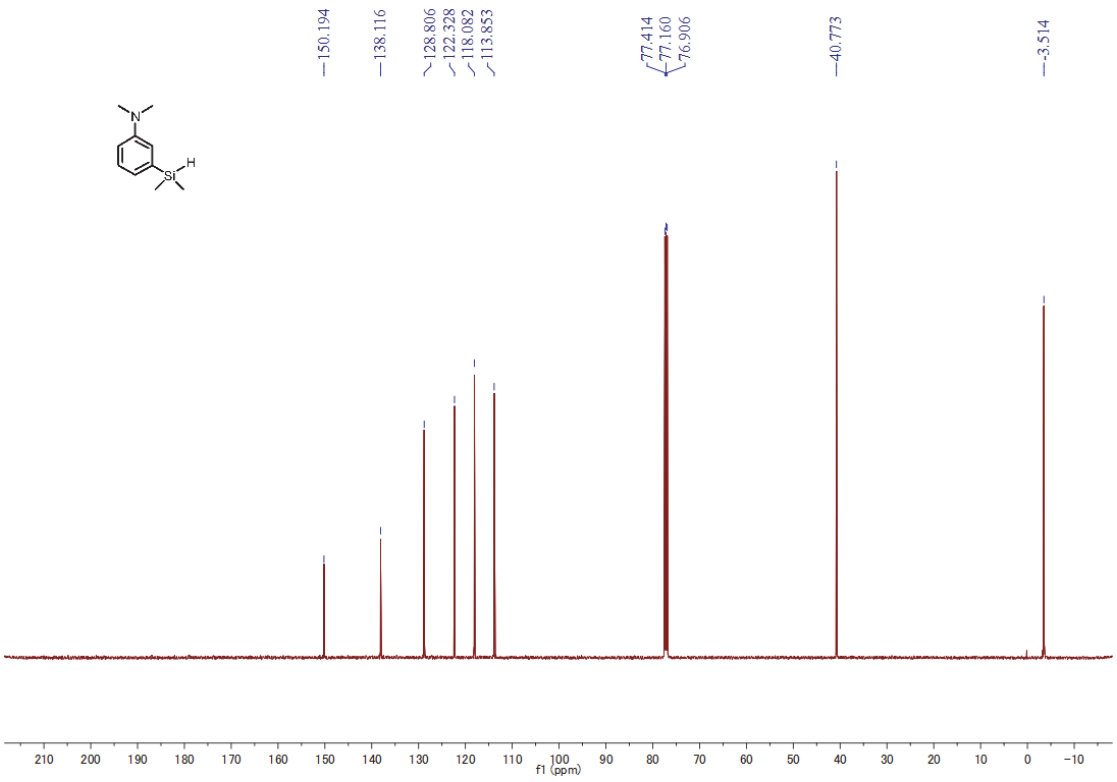
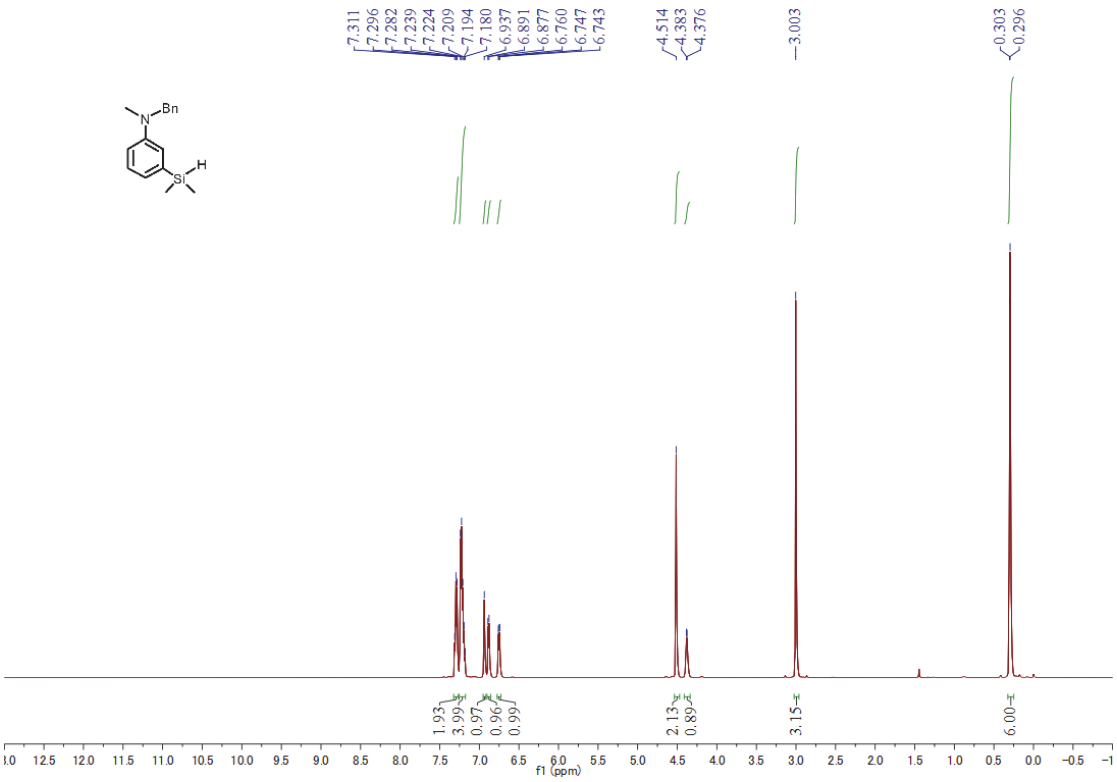
11. Copies of ^{1}H and ^{13}C NMR spectra



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7.224
7.209
7.194
7.180
6.937
6.891
6.877
6.760
6.747
6.743
4.514
4.383
4.376
3.003
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0.296
1.93
3.99
0.97
0.96
0.99
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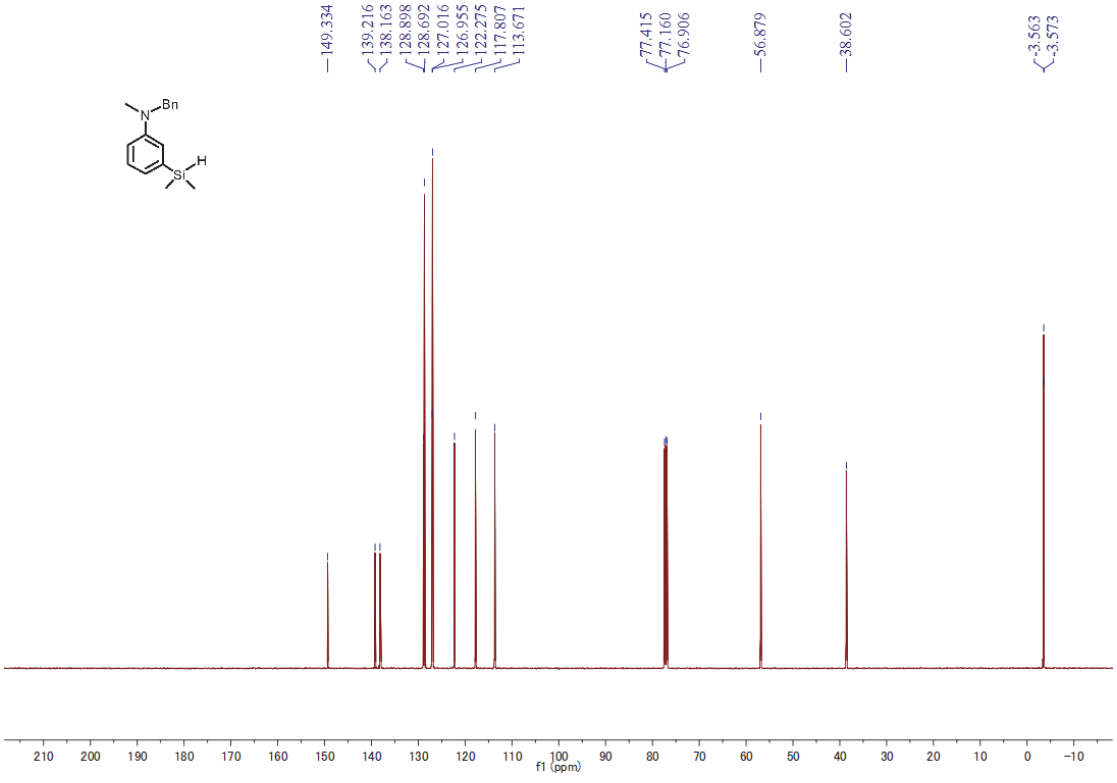
0.89
3.15
6.00
f1 (ppm)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138.163
128.898
128.692
127.016
126.955
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113.671
77.415
77.160
76.906
56.879
38.602
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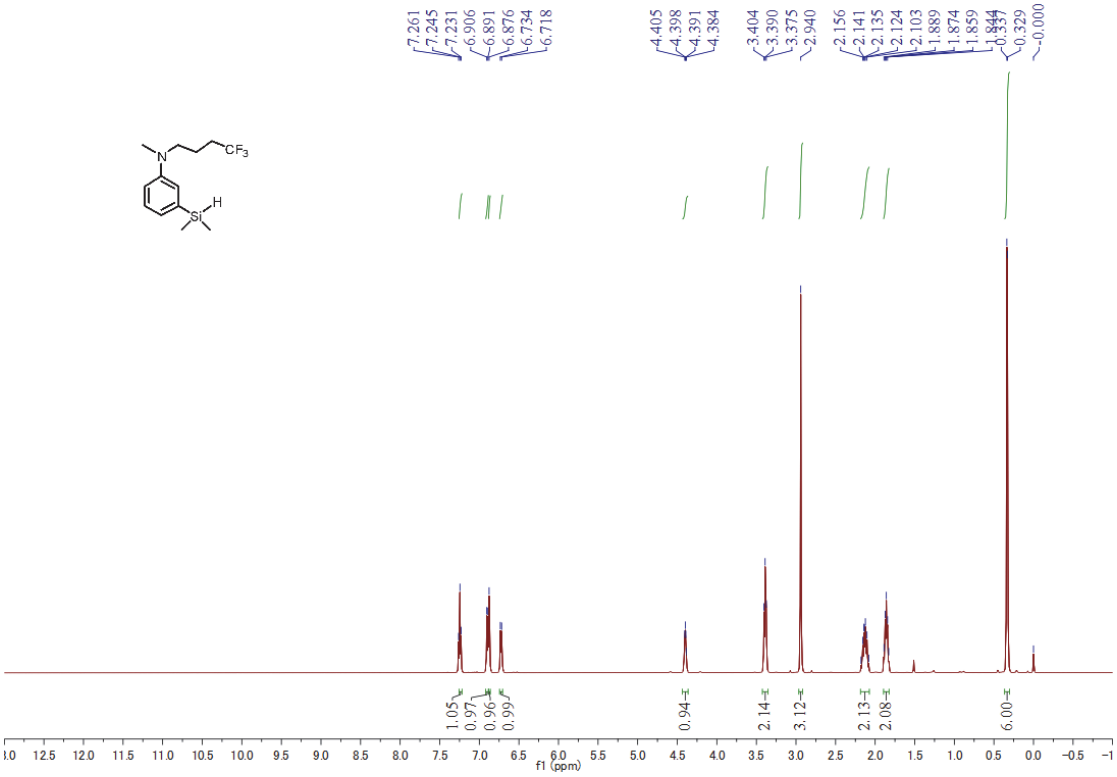
-3.573
f1 (ppm)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7.231
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6.734
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4.391
4.384
3.404
3.390
3.375
2.940
2.156
2.141
2.135
2.124
2.103
1.889
1.874
1.859
0.337
0.329
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0.96
0.99
0.94
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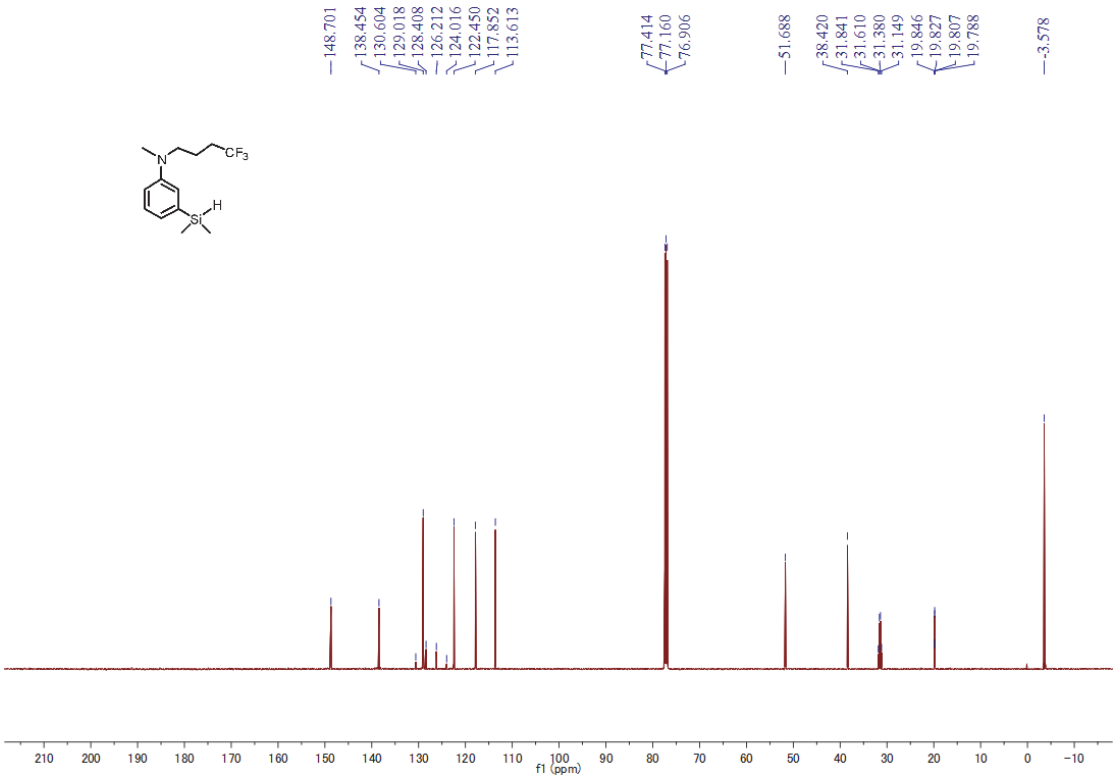
3.12
2.13
2.08
6.00
f1 (ppm)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124.016
122.450
117.852
113.613
77.414
77.160
76.906
51.688
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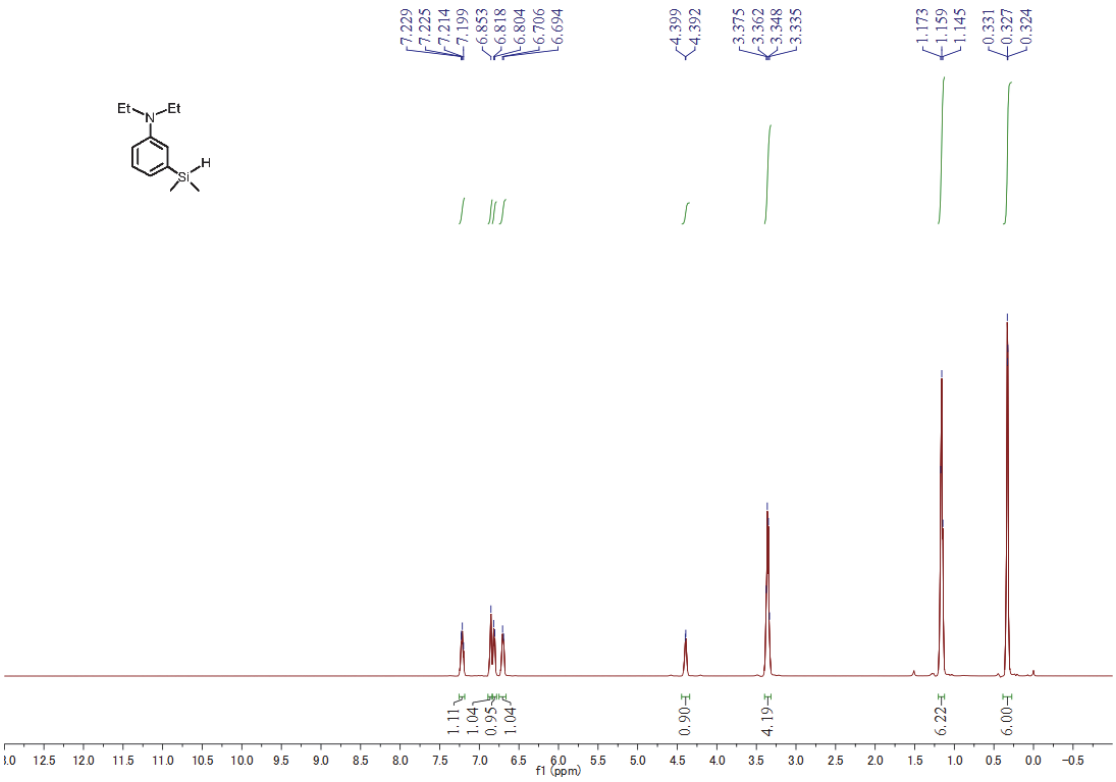
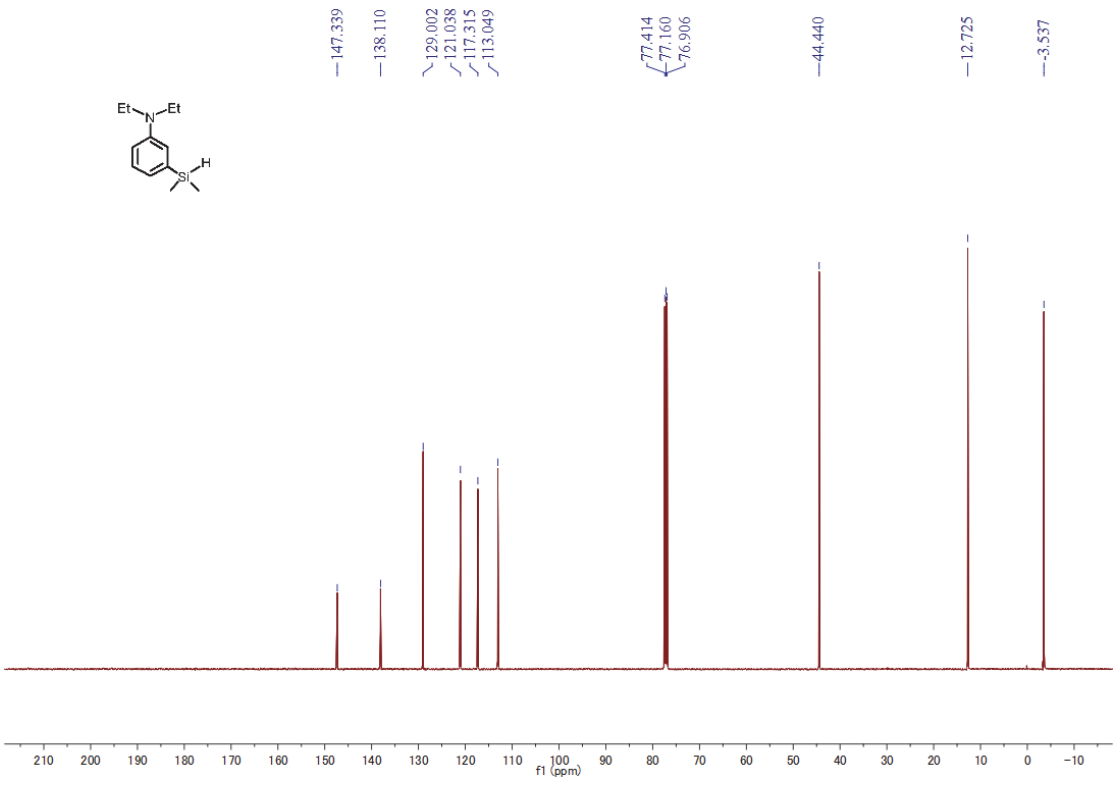
31.610
31.380
31.149
19.846
19.827
19.807
19.788
3.578
f1 (ppm)


7.229
7.225
7.214
7.199
6.853
6.818
6.804
6.706
6.694
4.399
4.392
3.375
3.362
3.348
3.335
1.173
1.159
1.145
0.331
0.327
0.324
Et
N
Et
Si
H
1.11
1.04
0.95
1.04
0.90
4.19
6.22
6.00
f1 (ppm)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138.110
129.002
121.038
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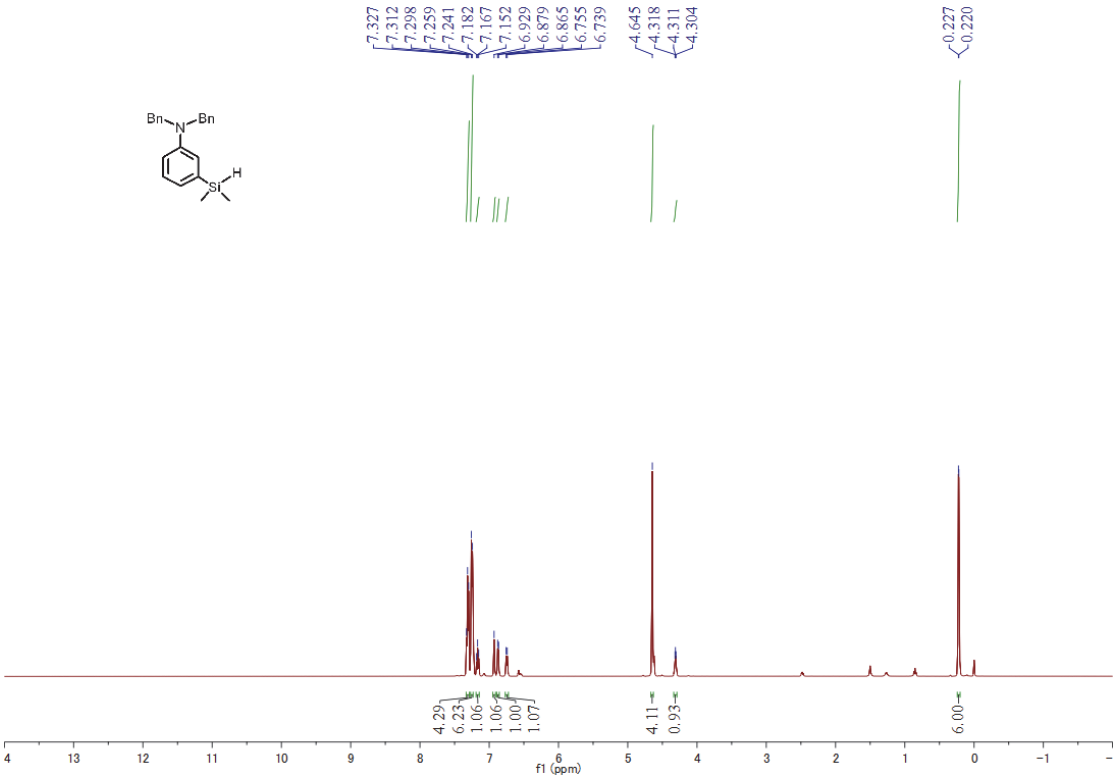
77.160
76.906
44.440
12.725
-3.537
Et
N
Et
Si
H
f1 (ppm)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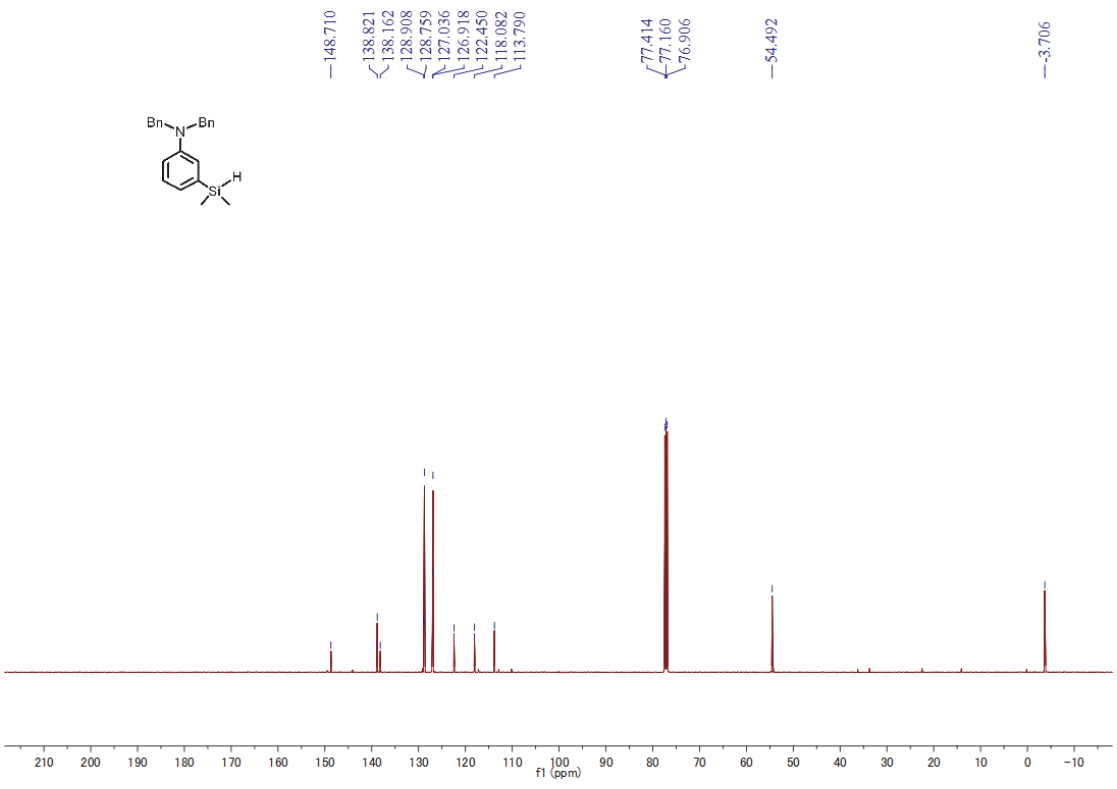
7.259
7.241
7.182
7.167
7.152
6.929
6.879
6.865
6.755
6.739
4.645
4.318
4.311
4.304
0.227
0.220
Bn
N
Bn
Si
H
4.29
6.23
1.06
1.06
1.00
1.07
4.11
0.93
6.00
f1 (ppm)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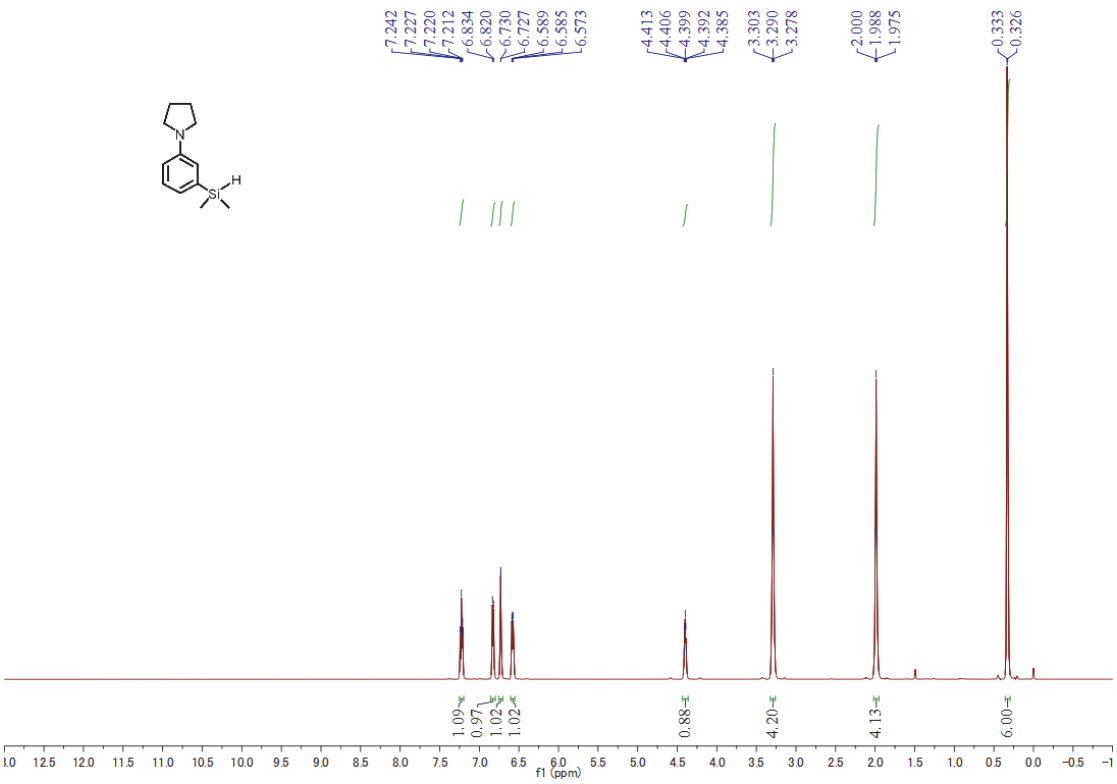
128.908
128.759
127.036
126.918
122.450
118.082
113.790
77.414
77.160
76.906
54.492
-3.706
Bn
N
Bn
Si
H
f1 (ppm)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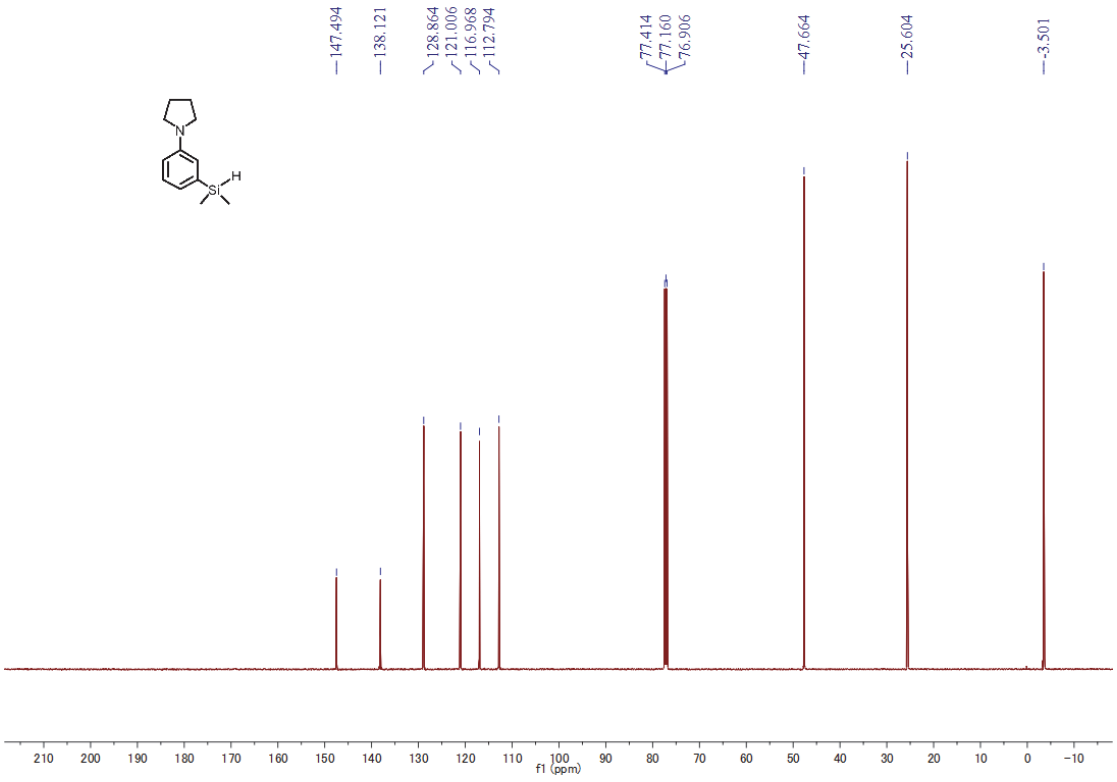
7.227
7.220
7.212
6.834
6.820
6.730
6.727
6.589
6.585
6.573
4.413
4.406
4.399
4.392
4.385
3.303
3.290
3.278
2.000
1.988
1.975
0.333
0.326
1.09
0.97
1.02
1.02
0.88
4.20
4.13
6.00
f1 (ppm)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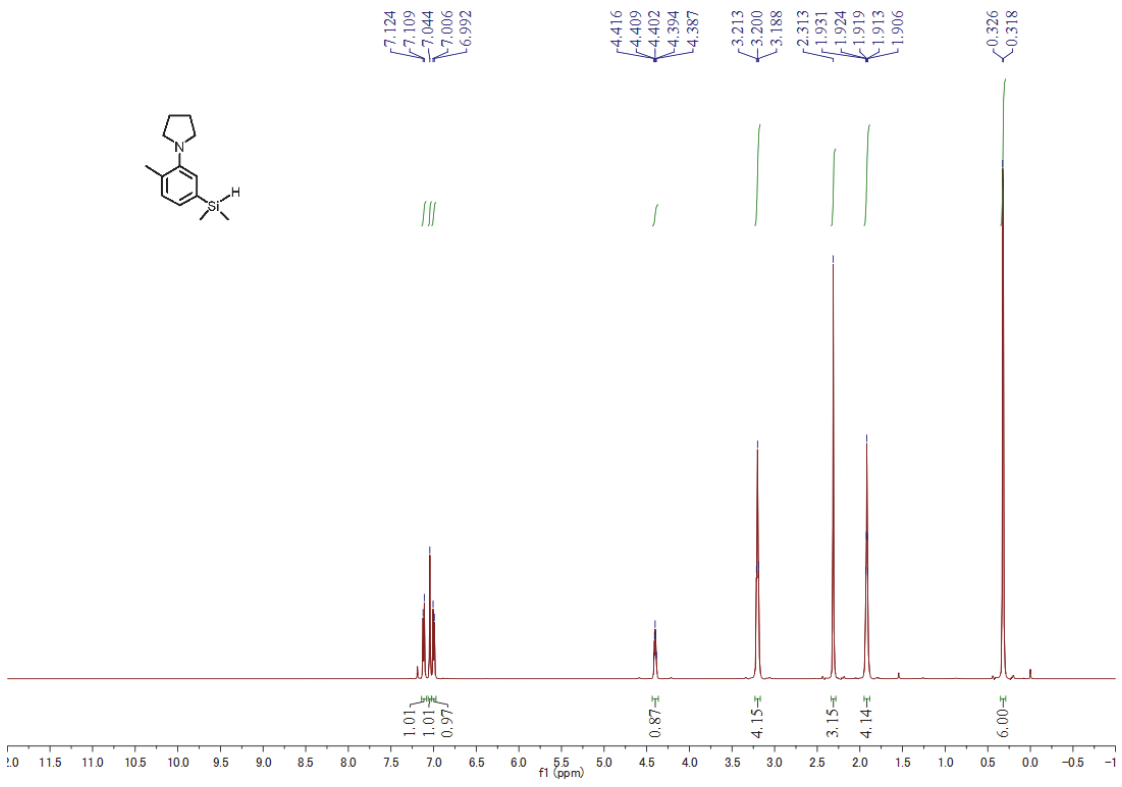
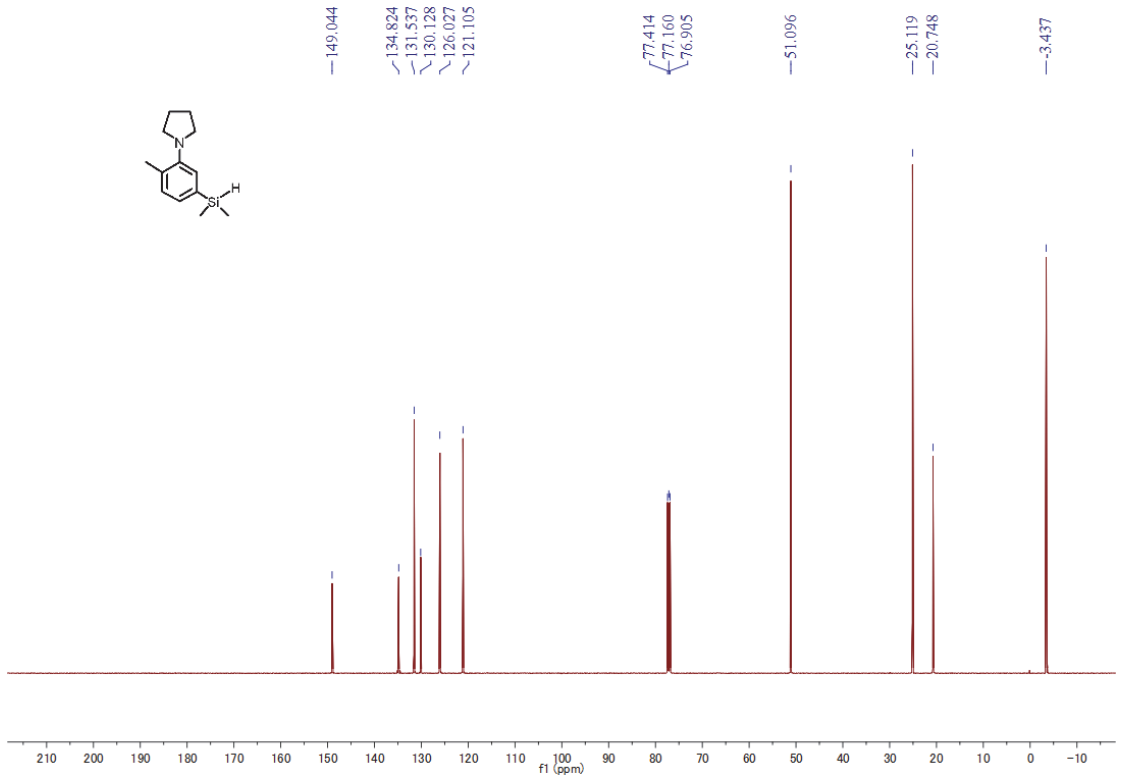
77.414
77.160
76.906
47.664
25.604
-3.501
f1 (ppm)


7.124
7.109
7.044
7.006
6.992
4.416
4.409
4.402
4.394
4.387
3.213
3.200
3.188
2.313
1.931
1.924
1.919
1.913
1.906
0.326
0.318
1.01
1.01
0.97
0.87
4.15
3.15
4.14
6.00
f1 (ppm)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131.537
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77.160
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25.119
20.748
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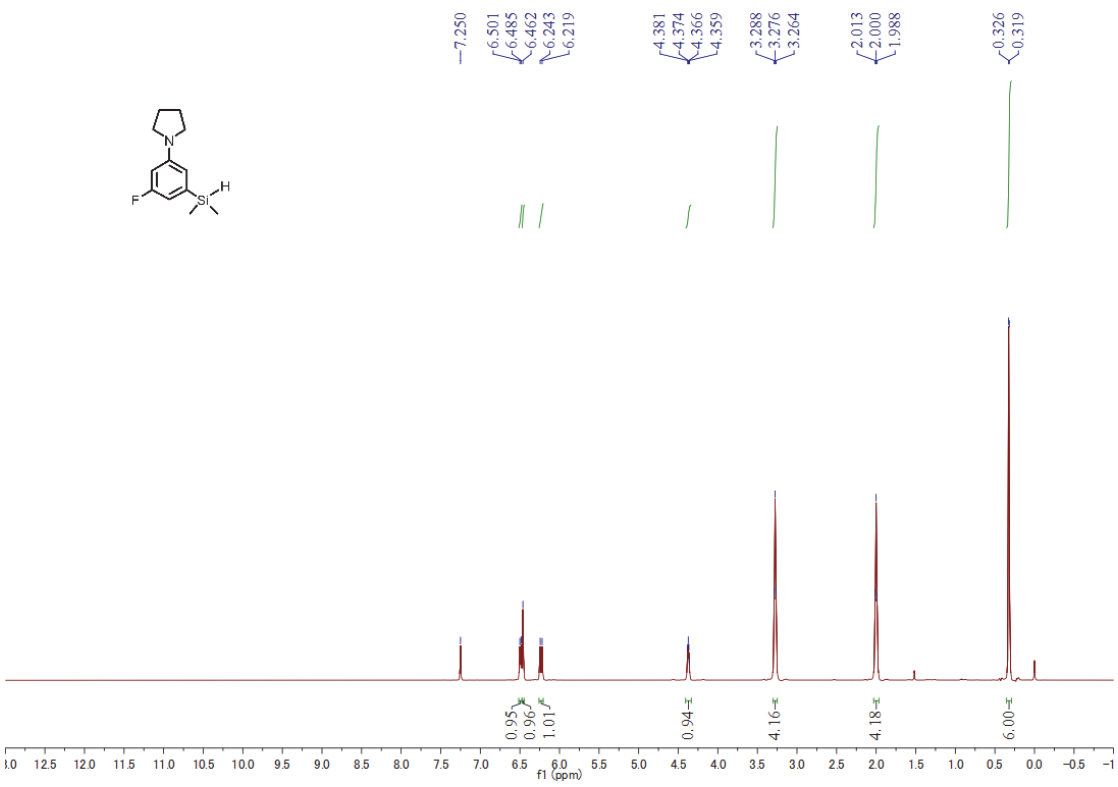
f1 (ppm)


7.250
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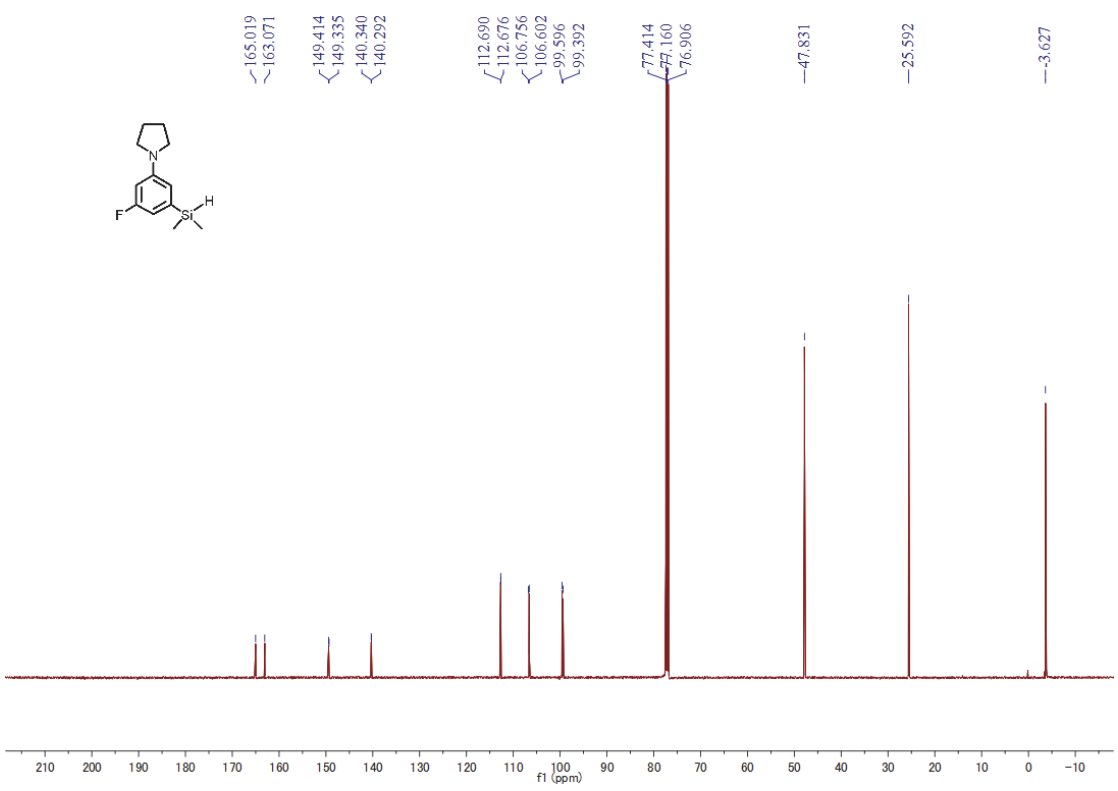
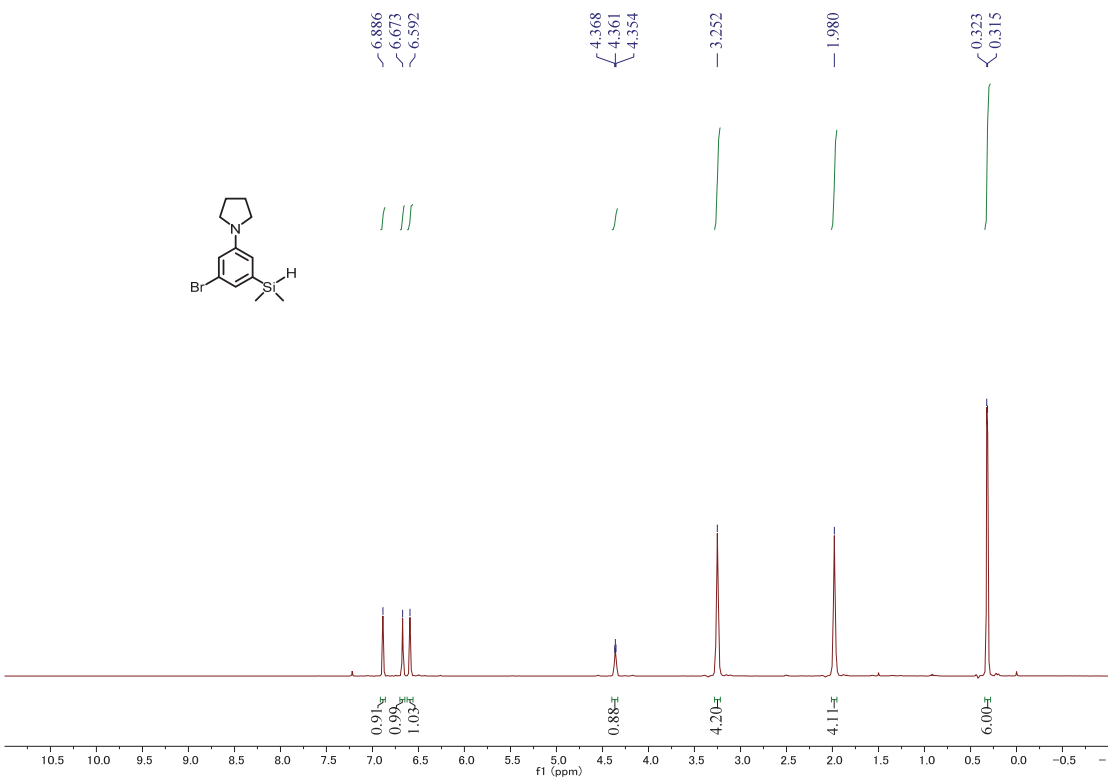
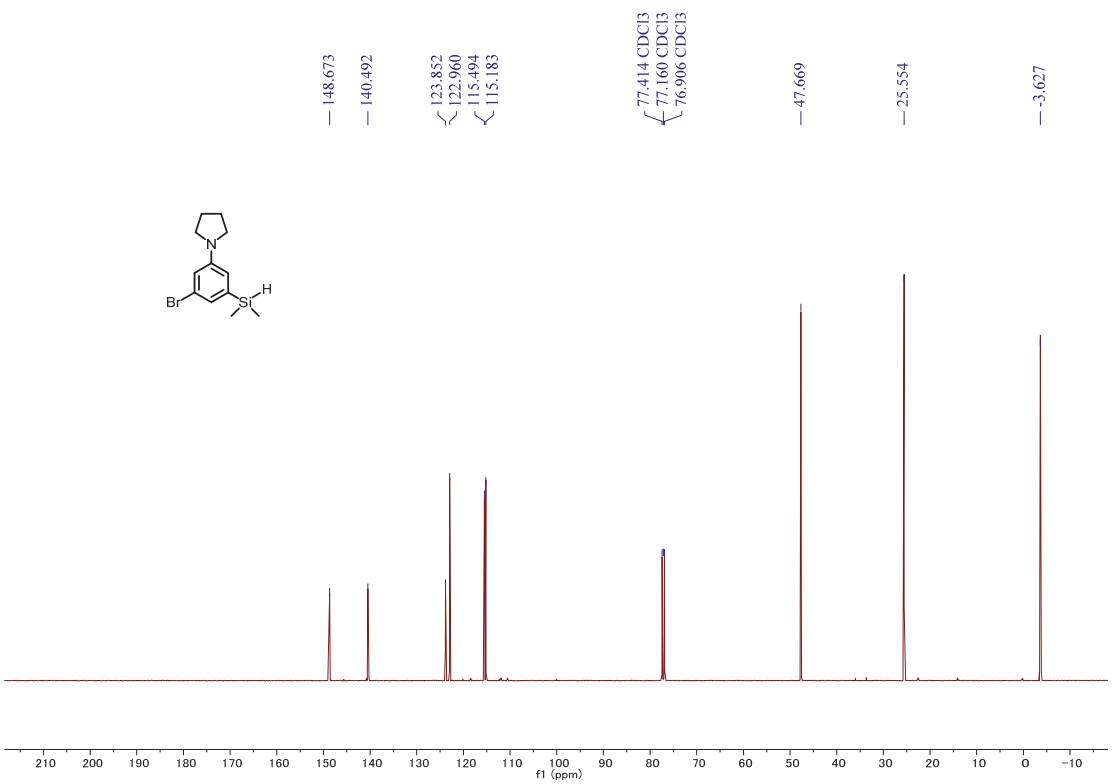
6.485
6.462
6.243
6.219
4.381
4.374
4.366
4.359
3.288
3.276
3.264
2.013
2.000
1.988
0.326
0.319
0.95
0.96
1.01
0.94
4.16
4.18
6.00
f1 (ppm)


165.019
163.071
149.414
149.335
140.340
140.292
112.690
112.676
106.756
106.602
99.596
99.392
77.414
77.160
76.906
47.831
25.592
3.627
f1 (ppm)


6.886
6.673
6.592
4.368
4.361
4.354
3.252
1.980
0.323
0.315
Br
Si
H
N
0.91
0.99
1.03
0.88
4.20
4.11
6.00
f1 (ppm)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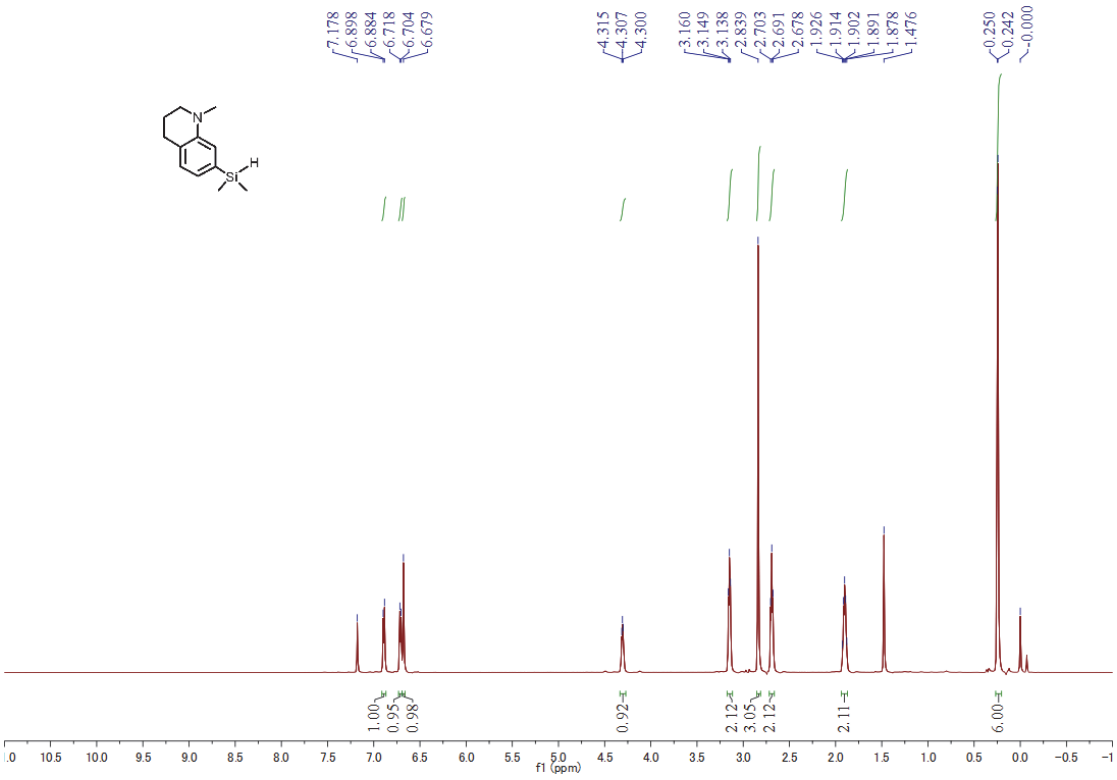
140.492
123.852
122.960
115.494
115.183
77.414 CDCl3
77.160 CDCl3
76.906 CDCl3
47.669
25.554
-3.627
Br
Si
H
N
f1 (ppm)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6.898
6.884
6.718
6.704
6.679
4.315
4.307
4.300
3.160
3.149
3.138
2.839
2.703
2.691
2.678
1.926
1.914
1.902
1.891
1.878
1.476
0.250
0.242
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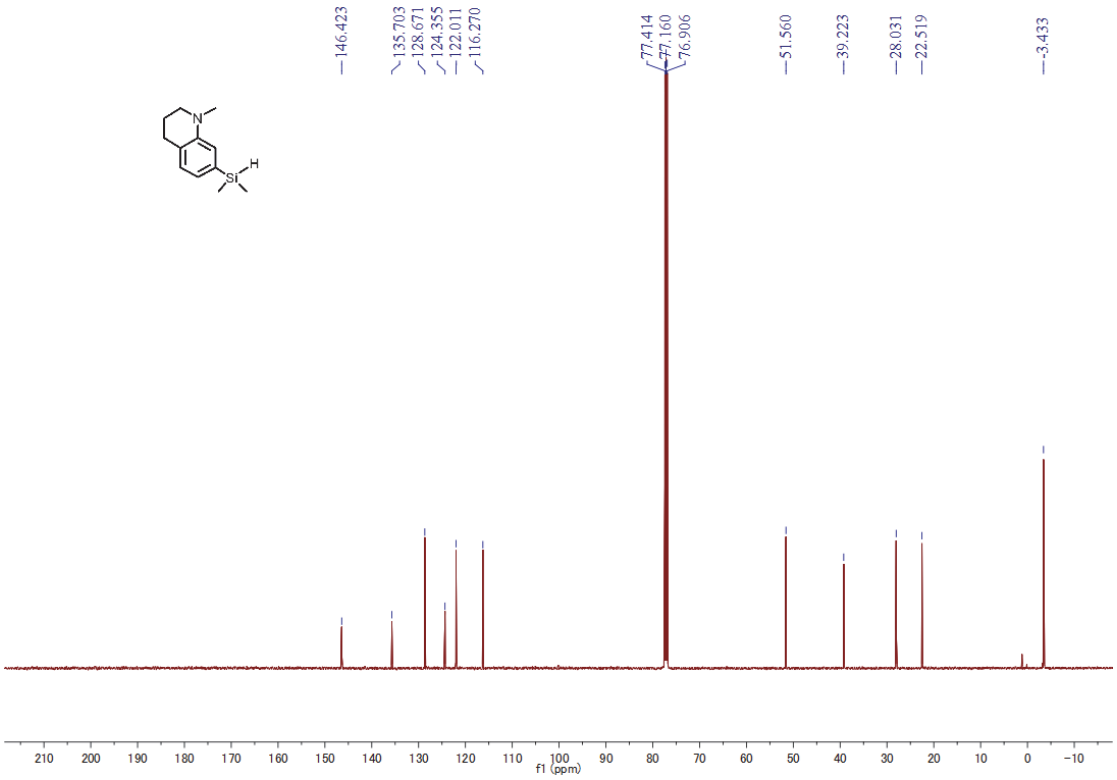
1.00
0.95
0.98
0.92
2.12
3.05
2.12
2.11
6.00
f1 (ppm)


146.423
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77.160
76.906
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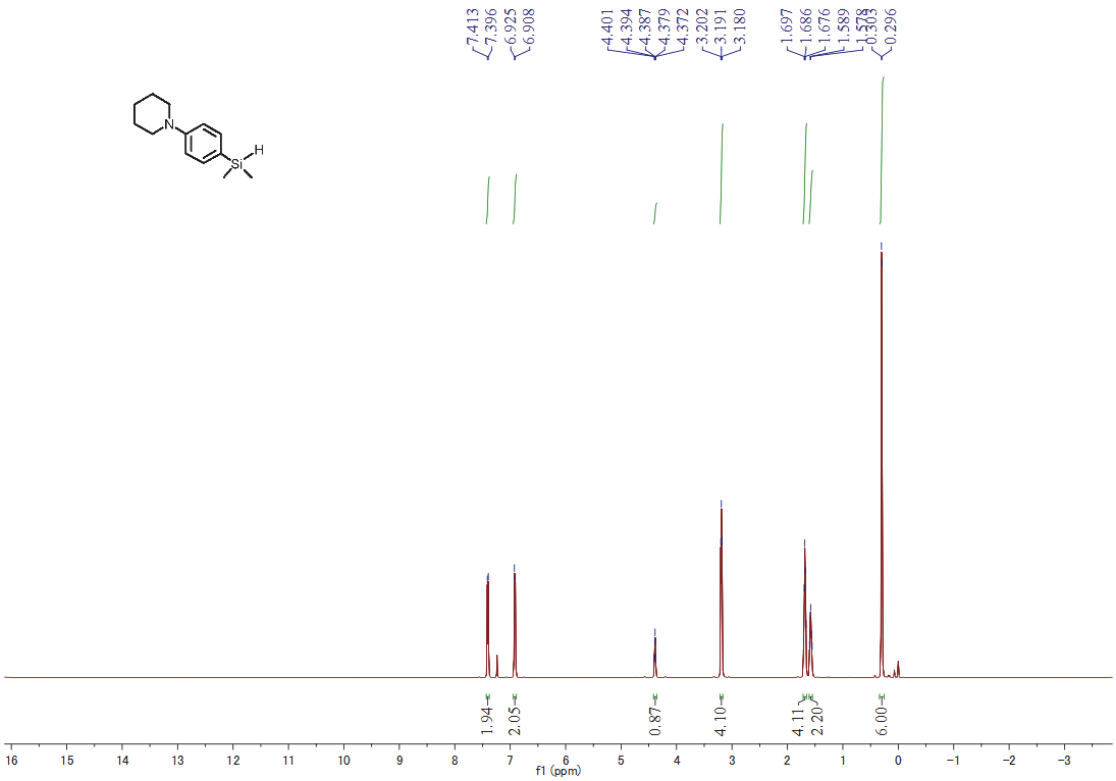
28.031
22.519
-3.433
f1 (ppm)


7.413
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6.908
4.401
4.394
4.387
4.379
4.372
3.202
3.191
3.180
1.697
1.686
1.676
1.589
1.578
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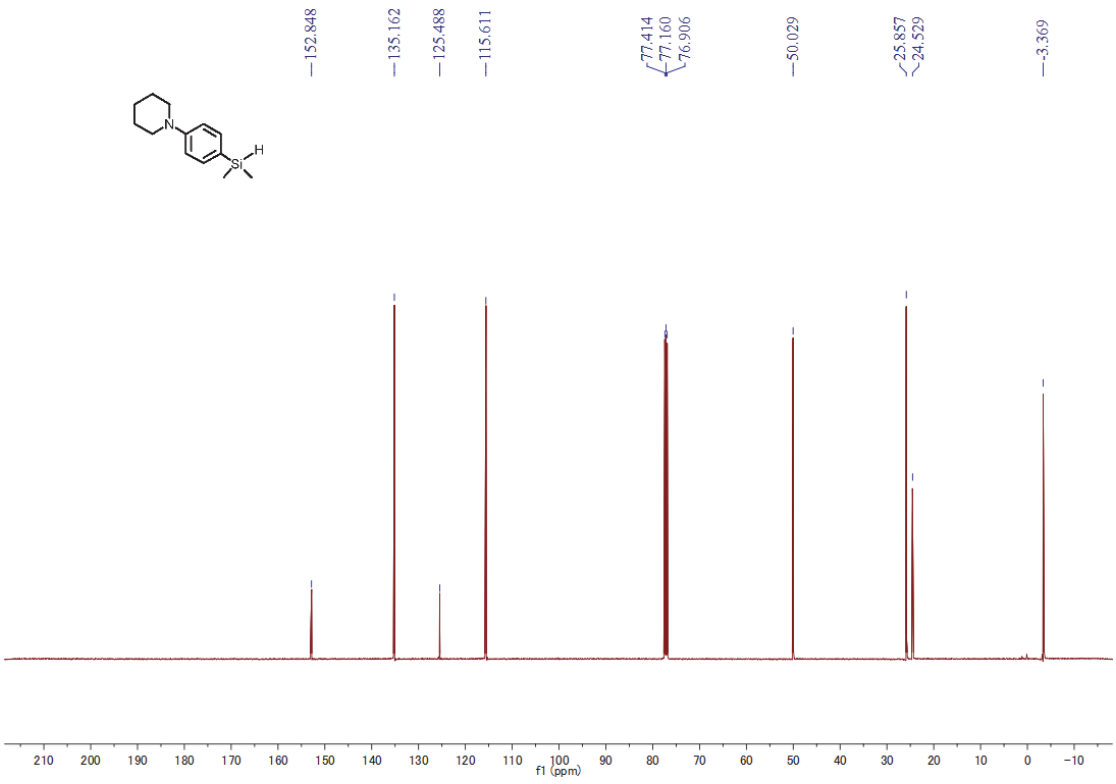
0.296
1.94
2.05
0.87
4.10
4.11
2.20
6.00
f1 (ppm)


152.848
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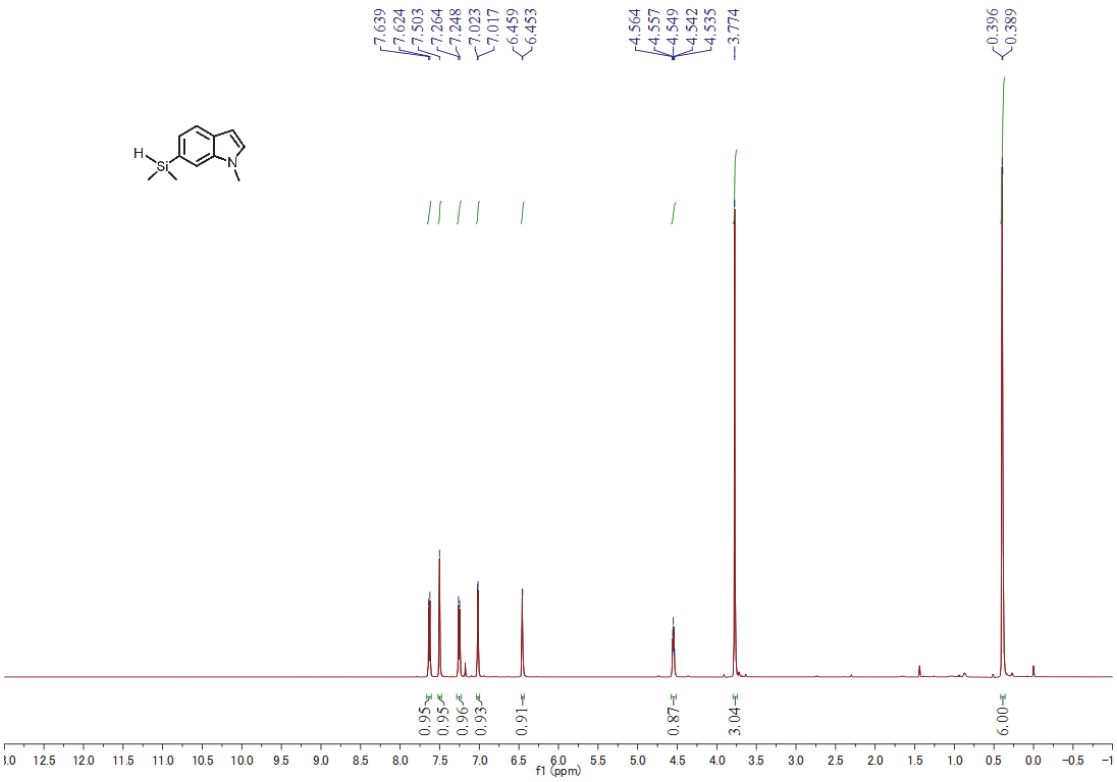
77.160
76.906
50.029
25.857
24.529
-3.369
f1 (ppm)


7.639
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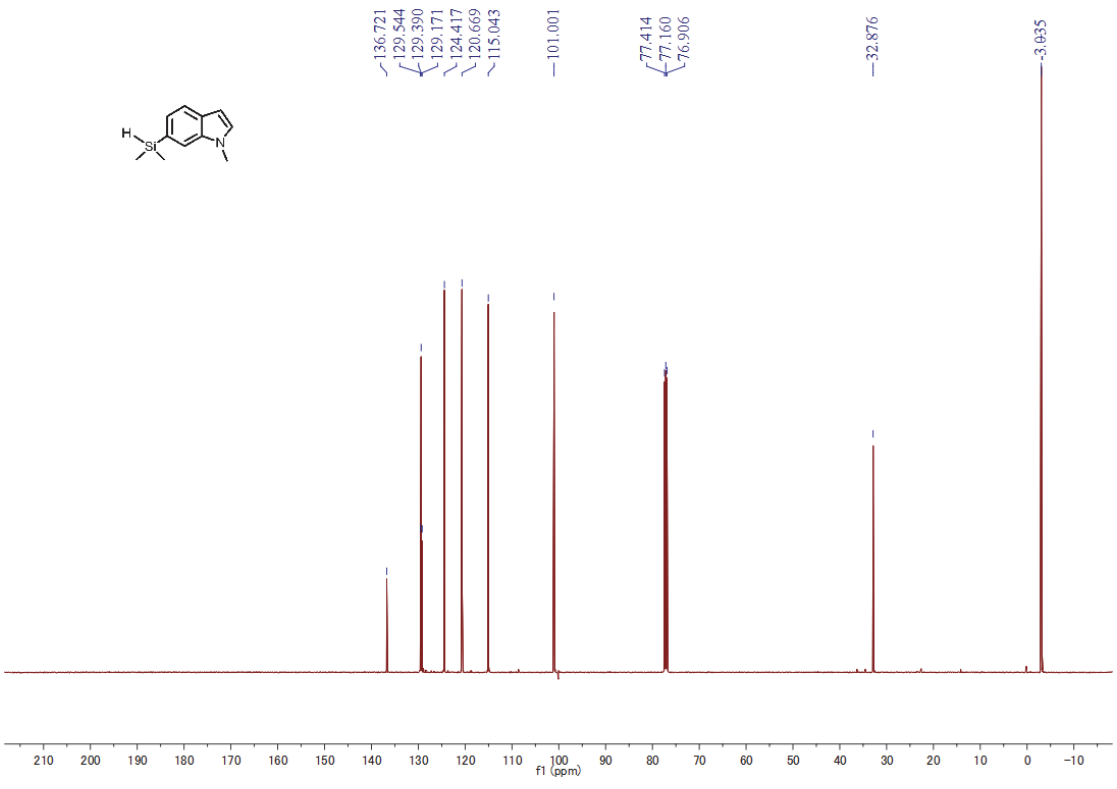
7.503
7.264
7.248
7.023
7.017
6.459
6.453
4.564
4.557
4.549
4.542
4.535
3.774
0.396
0.389
0.95
0.95
0.96
0.93
0.91
0.87
3.04
6.00
f1 (ppm)


136.721
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129.390
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120.669
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101.001
77.414
77.160
76.906
32.876
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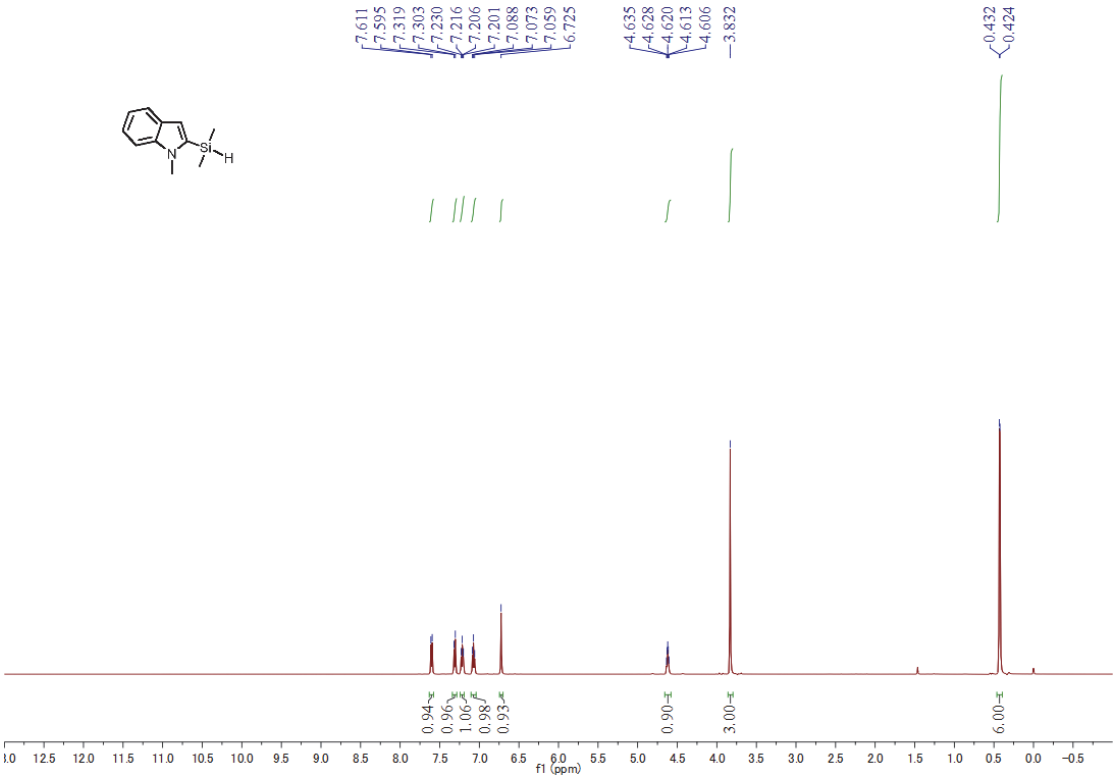
f1 (ppm)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7.303
7.230
7.216
7.206
7.201
7.088
7.073
7.059
6.725
4.635
4.628
4.620
4.613
4.606
3.832
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0.424
0.94
0.96
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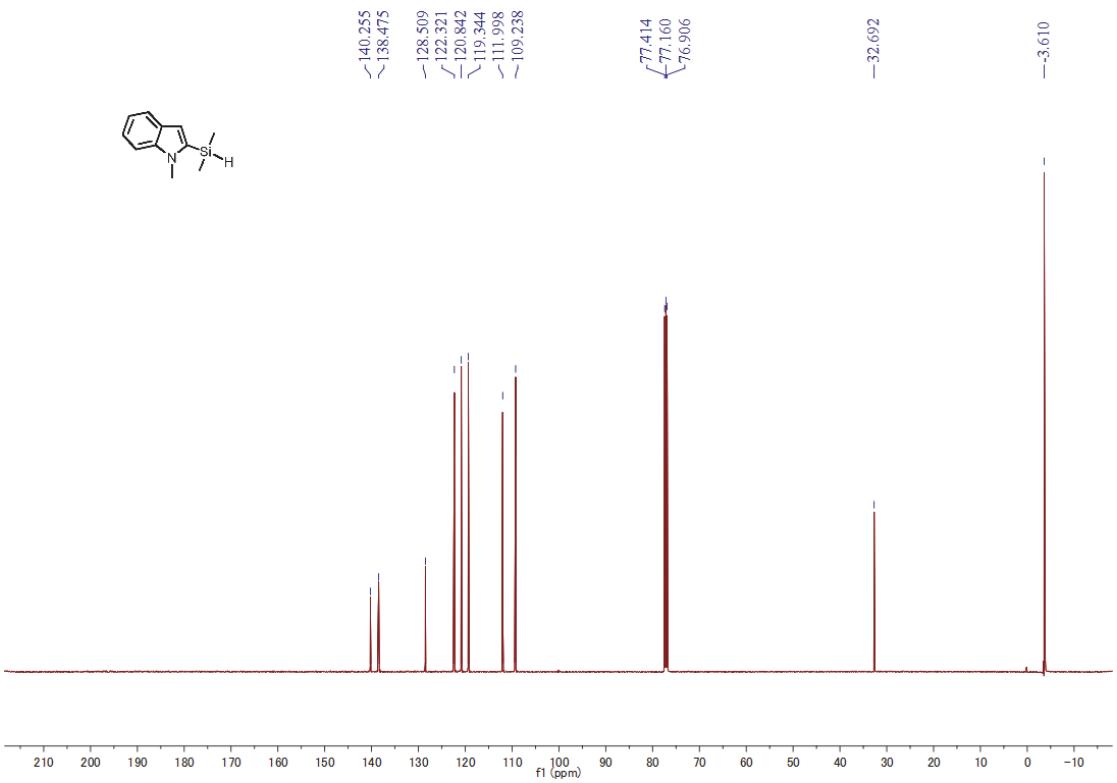
0.90
3.00
6.00
f1 (ppm)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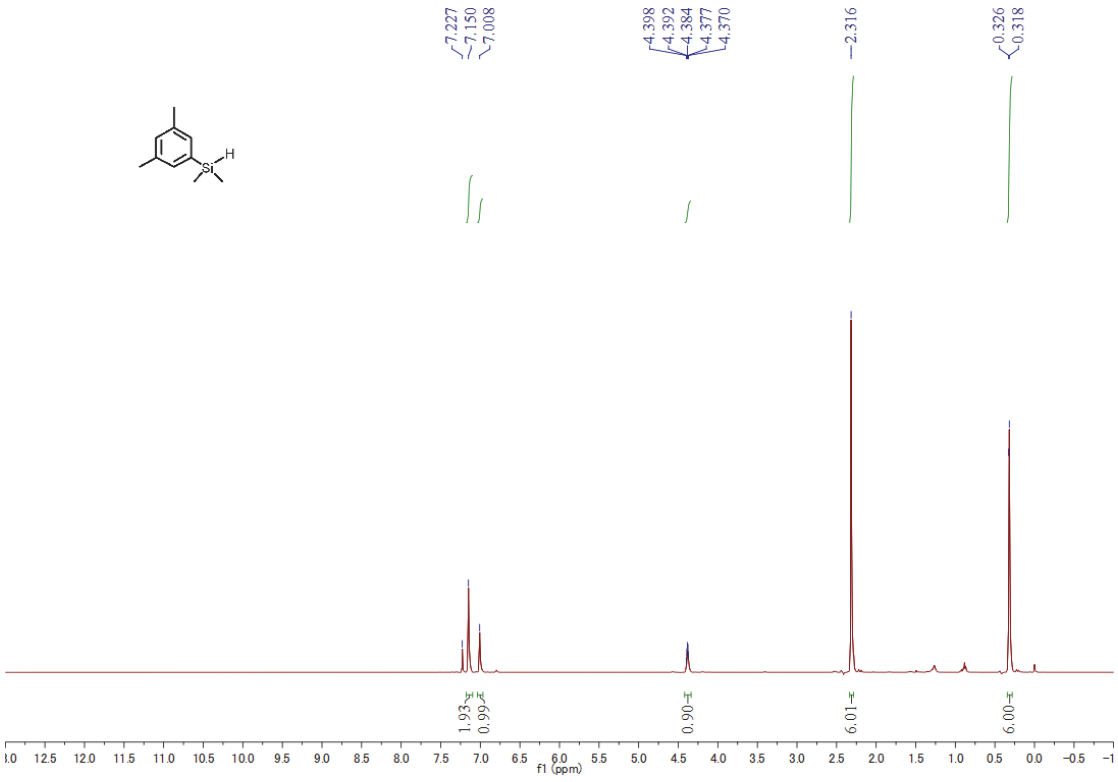
76.906
32.692
-3.610
f1 (ppm)


7.227
7.150
7.008
4.398
4.392
4.384
4.377
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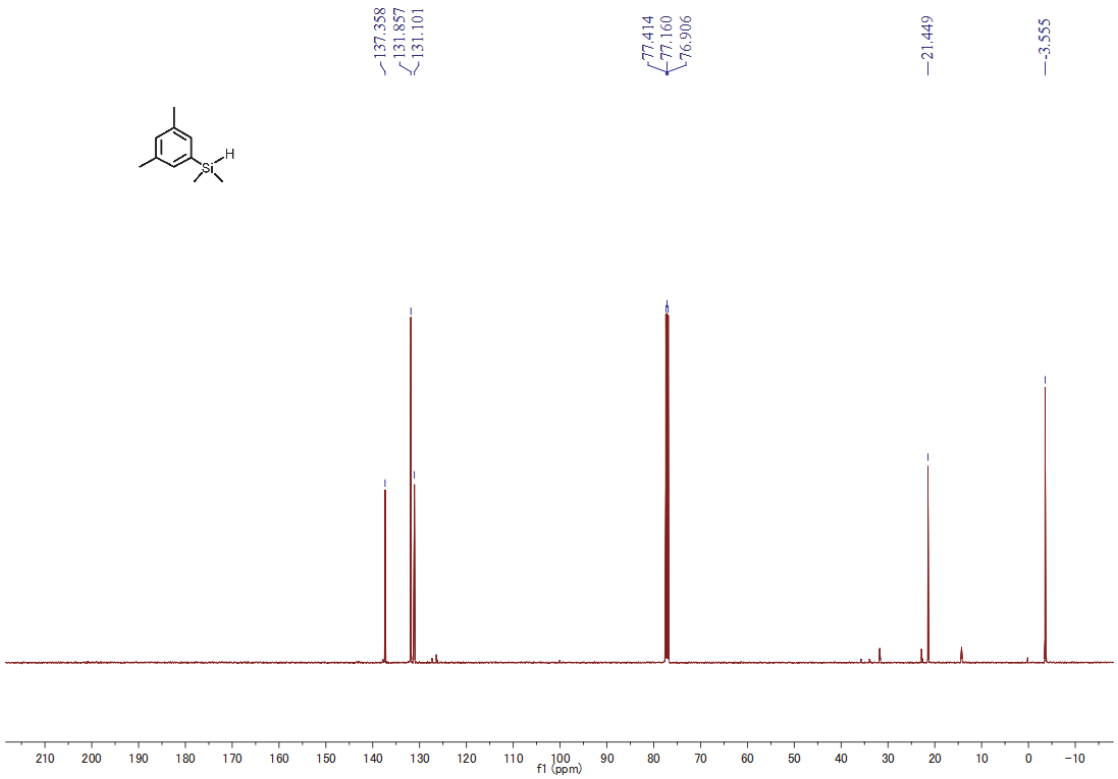
0.318
1.93
0.99
0.90
6.01
6.00
f1 (ppm)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76.906
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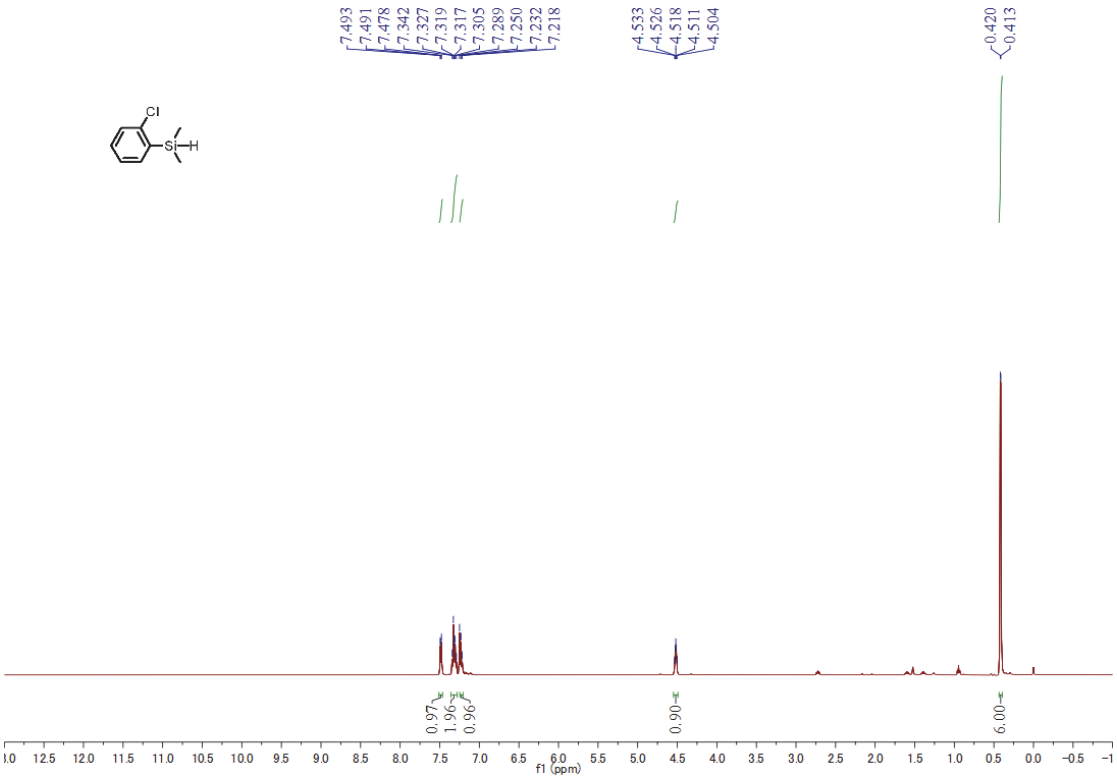
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7.317
7.305
7.289
7.250
7.232
7.218
4.533
4.526
4.518
4.511
4.504
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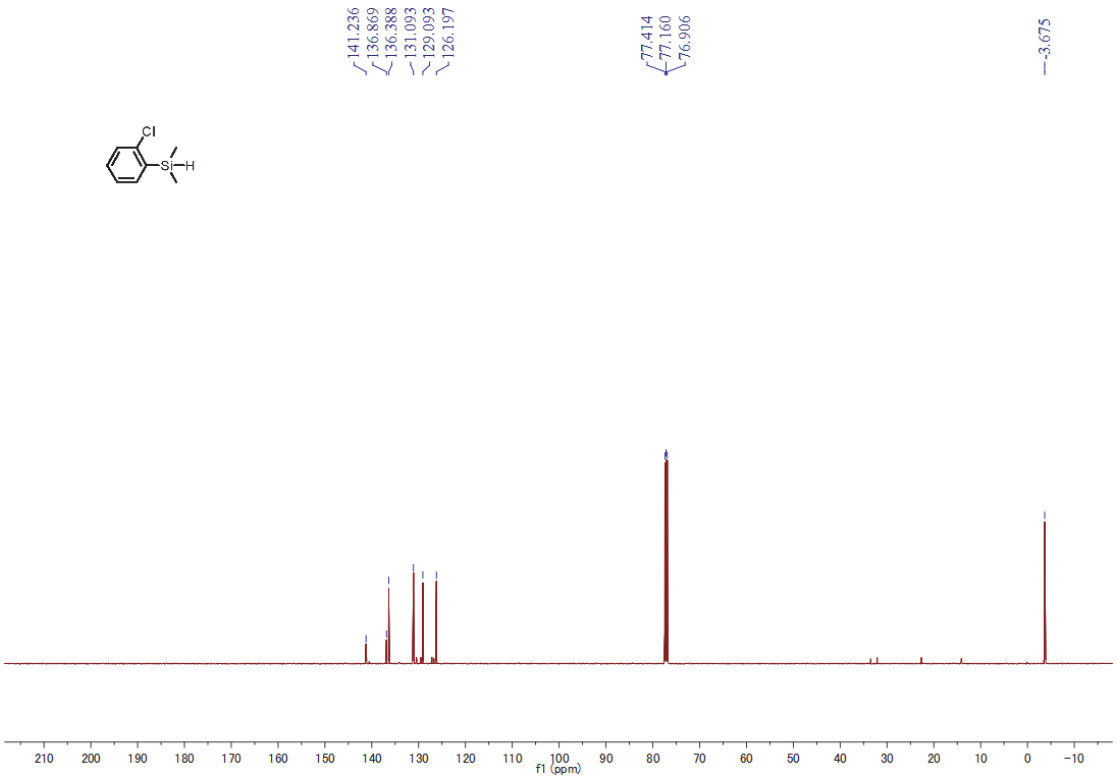
0.413
Cl
Si
H
0.97
1.96
0.96
0.90
6.00
f1 (ppm)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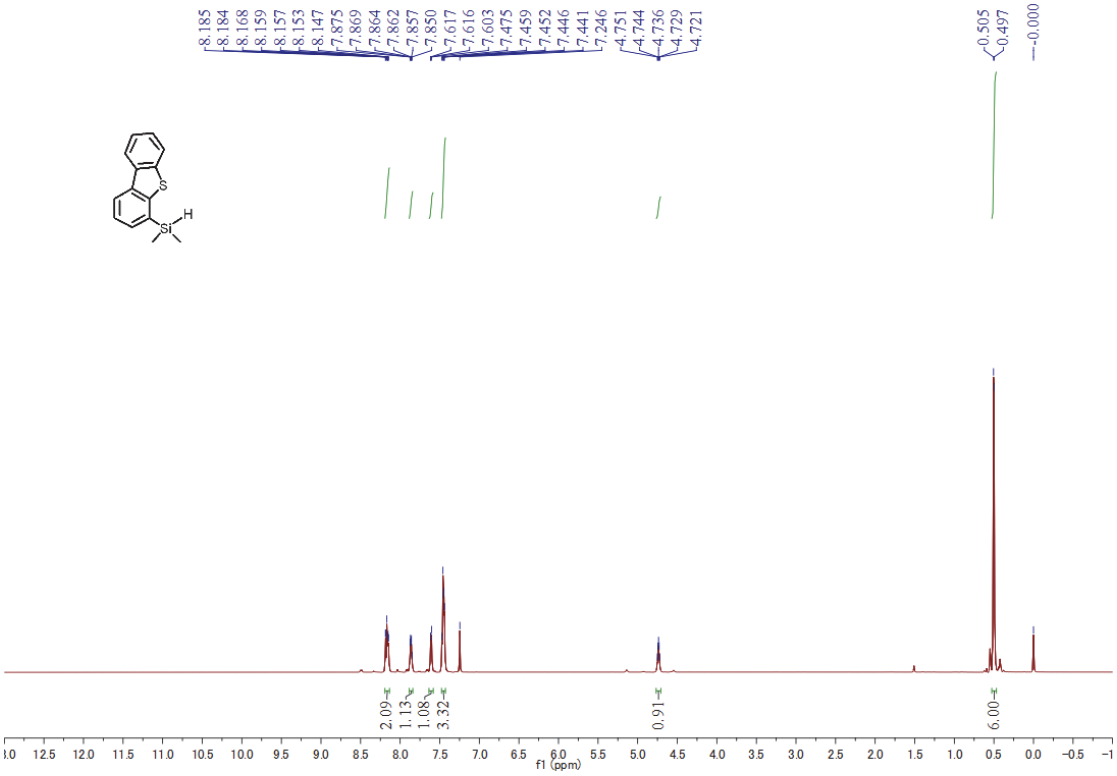
77.160
76.906
-3.675
Cl
Si
H
f1 (ppm)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8.168
8.159
8.157
8.153
8.147
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7.864
7.862
7.857
7.850
7.617
7.616
7.603
7.475
7.459
7.452
7.446
7.441
7.246
4.751
4.744
4.736
4.729
4.721
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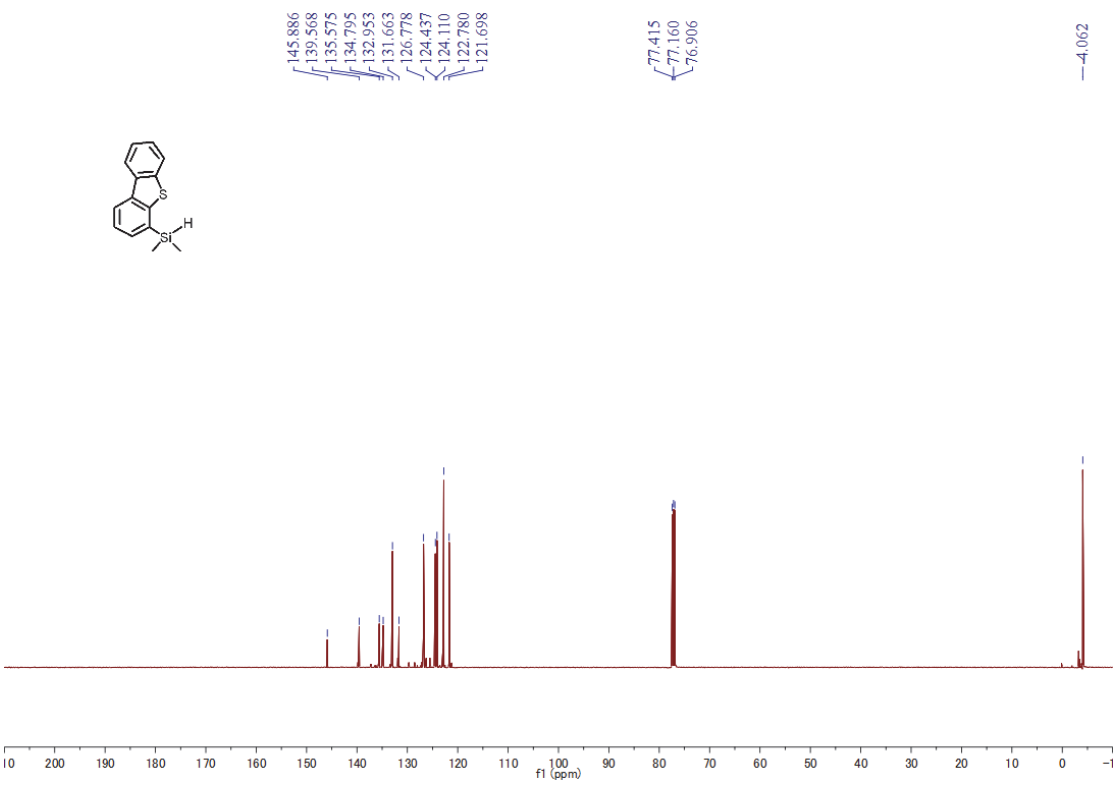
0.497
0.000
2.09
1.13
1.08
3.32
0.91
6.00
f1 (ppm)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135.575
134.795
132.953
131.663
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124.437
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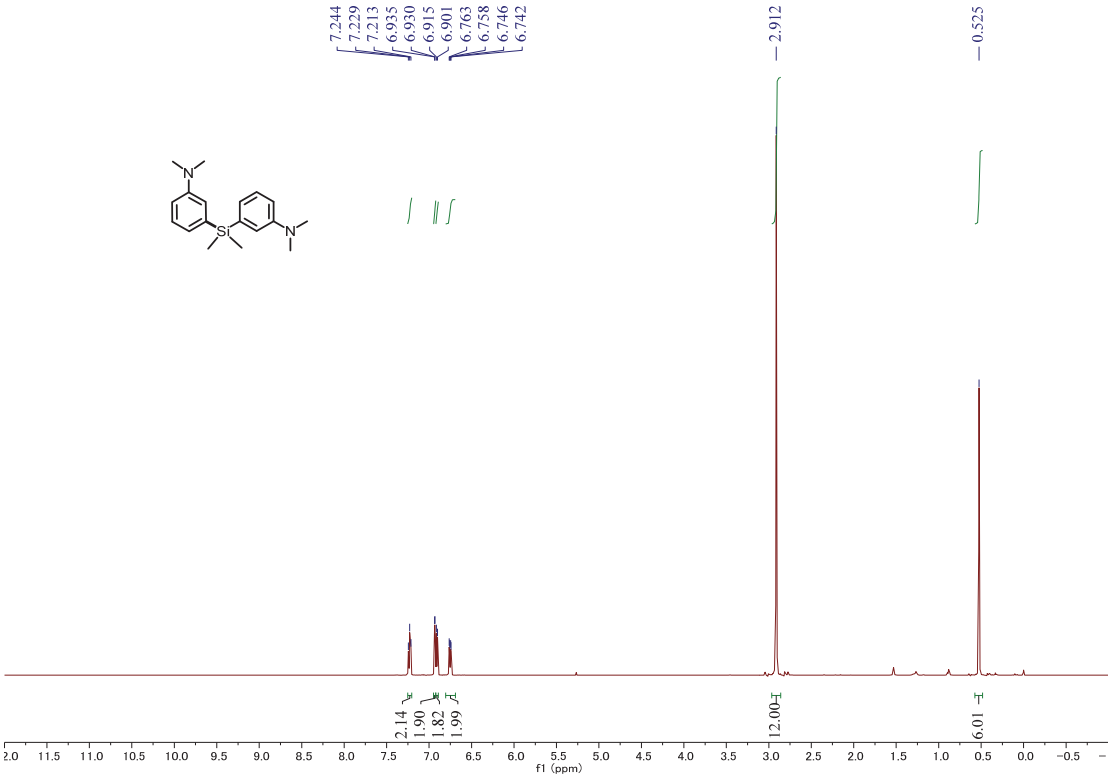
122.780
121.698
77.415
77.160
76.906
4.062
f1 (ppm)


7.244
7.229
7.213
6.935
6.930
6.915
6.901
6.763
6.758
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2.912
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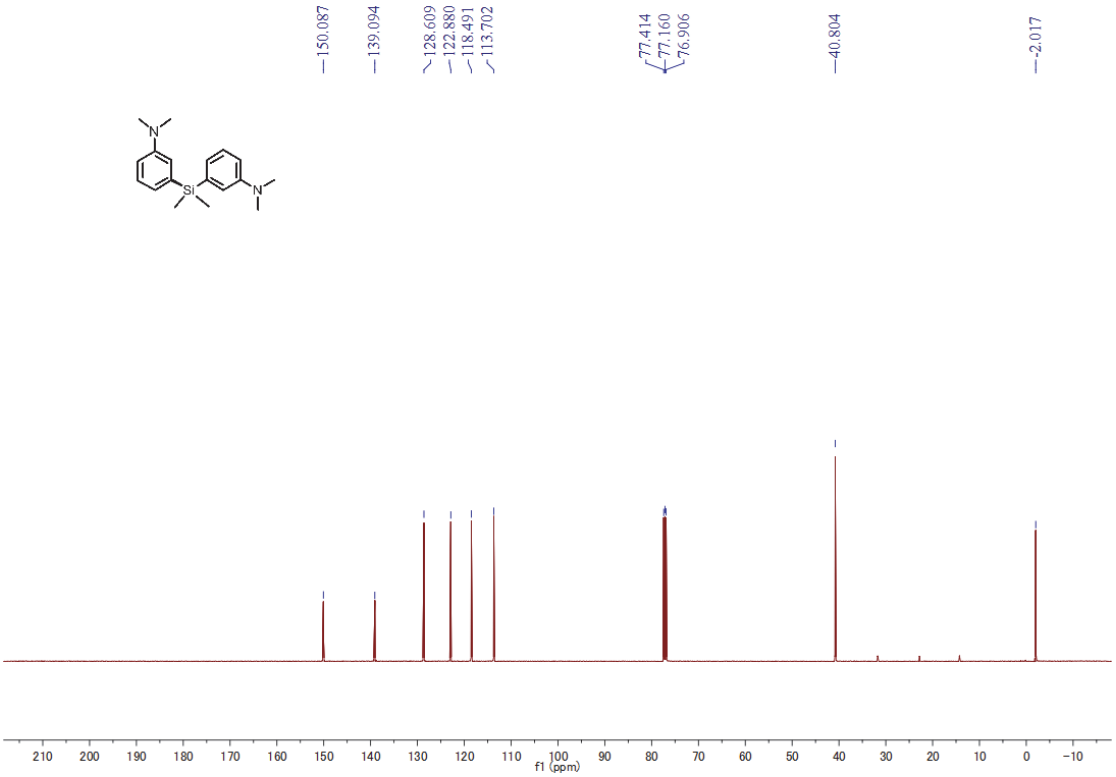
1.82
1.99
12.00
6.01
f1 (ppm)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118.491
113.702
77.414
77.160
76.906
40.804
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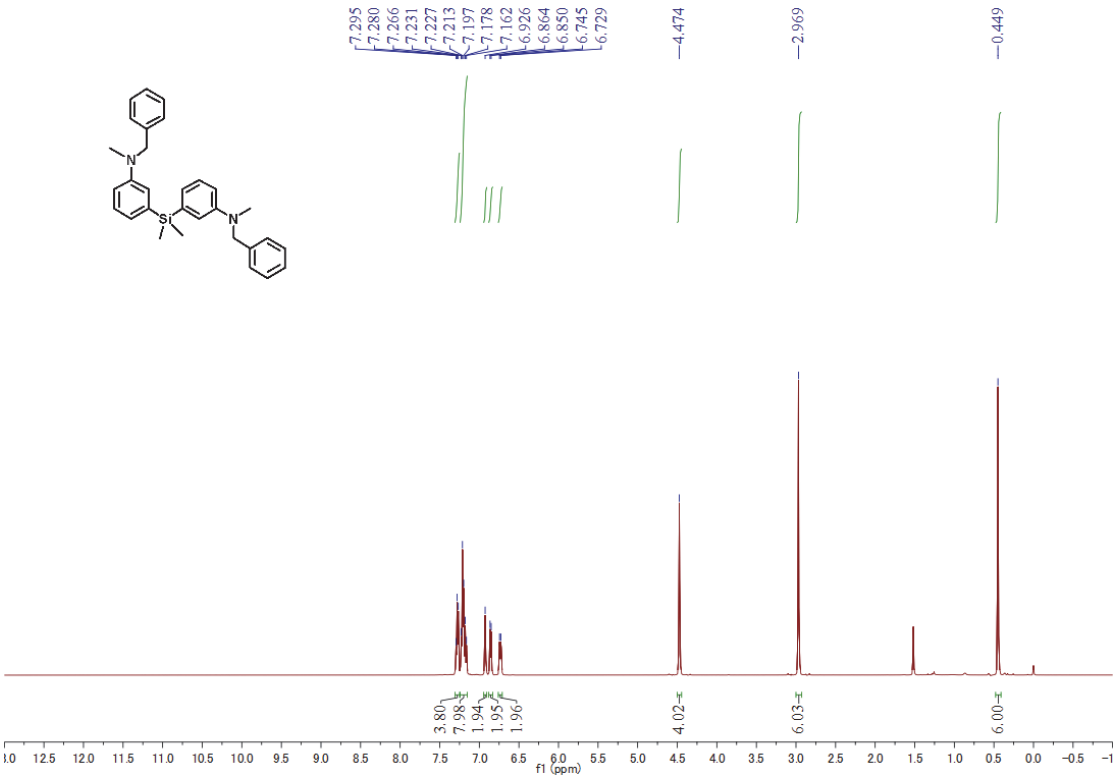
f1 (ppm)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7.178
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6.850
6.745
6.729
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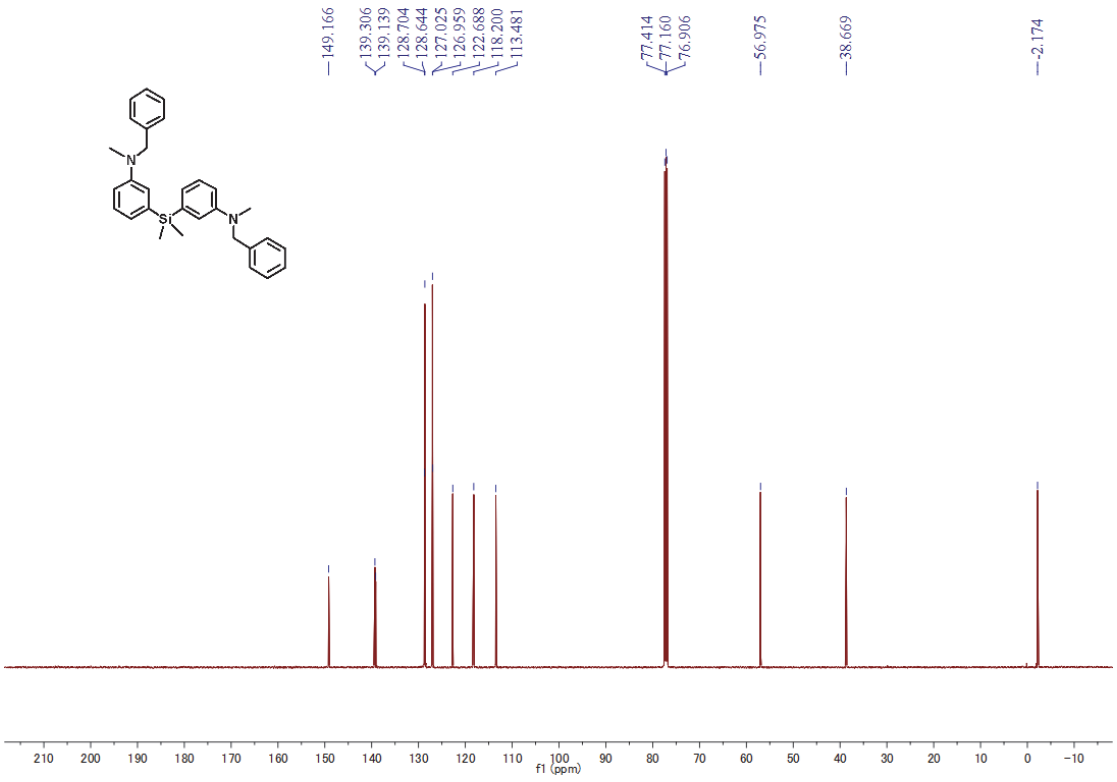
1.94
1.95
1.96
4.02
6.03
6.00
f1 (ppm)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77.160
76.906
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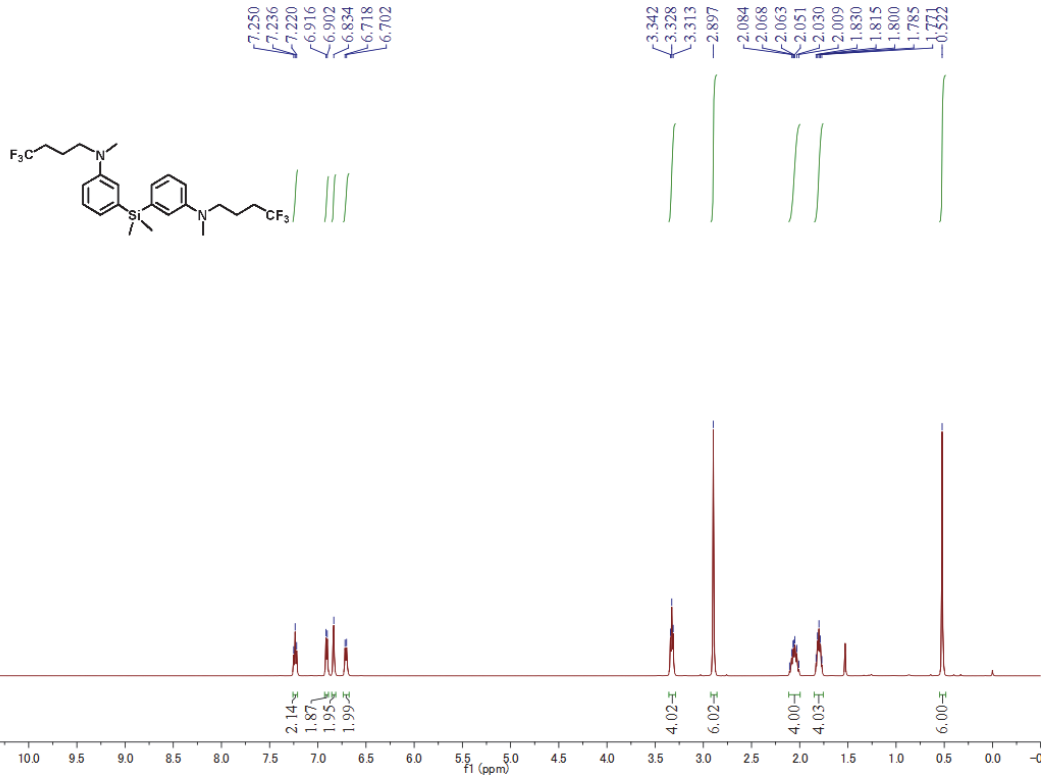
f1 (ppm)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3.313
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2.084
2.068
2.063
2.051
2.030
2.009
1.830
1.815
1.800
1.785
1.771
0.522
F3C
N
Si
N
CF3
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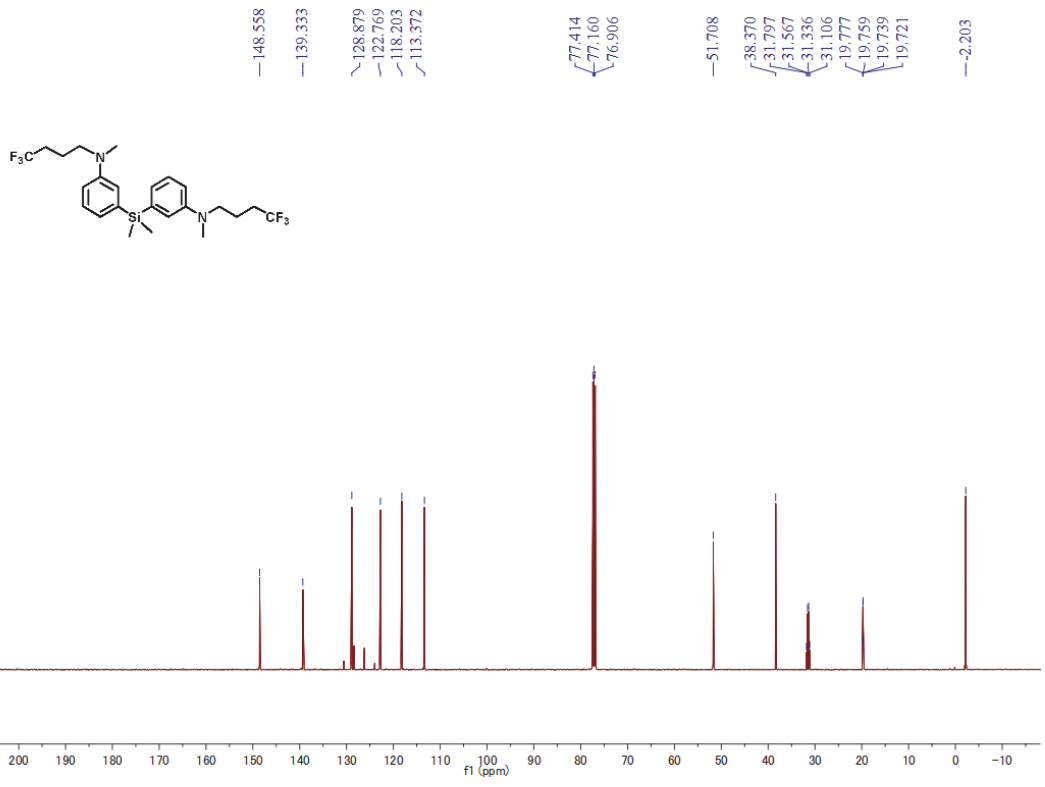
1.87
1.95
1.99
4.02
6.02
4.00
4.03
6.00
f1 (ppm)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19.721
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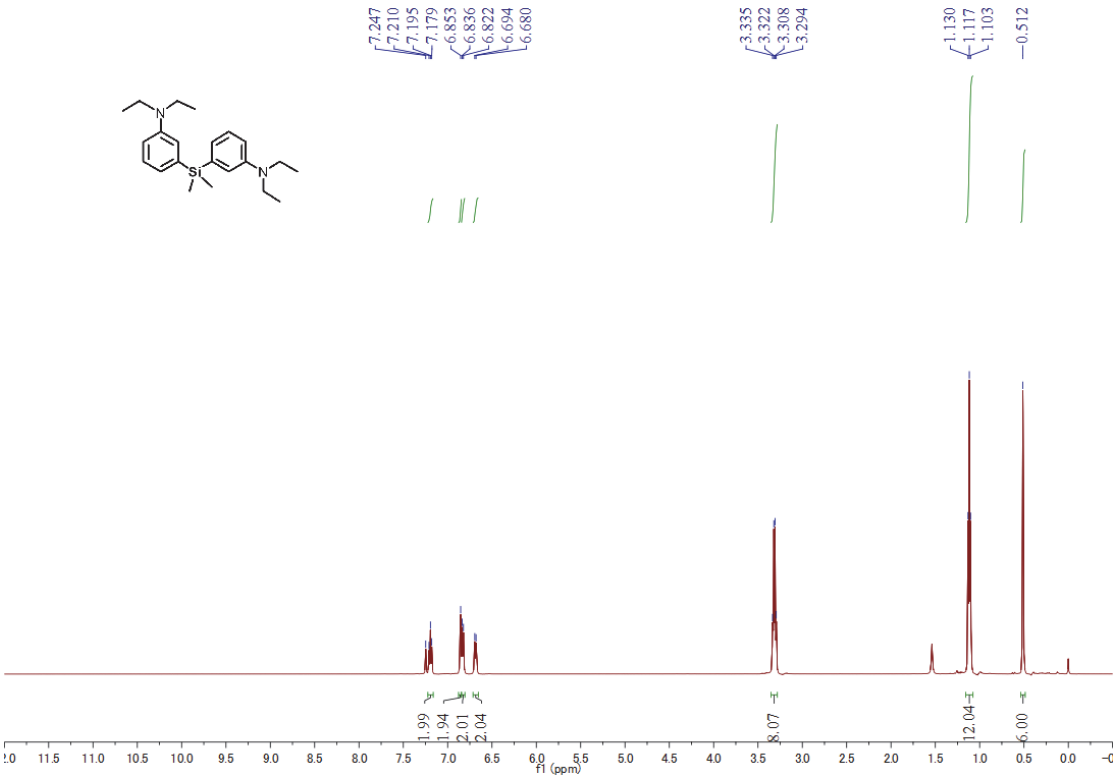
F3C
N
Si
N
CF3
f1 (ppm)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3.294
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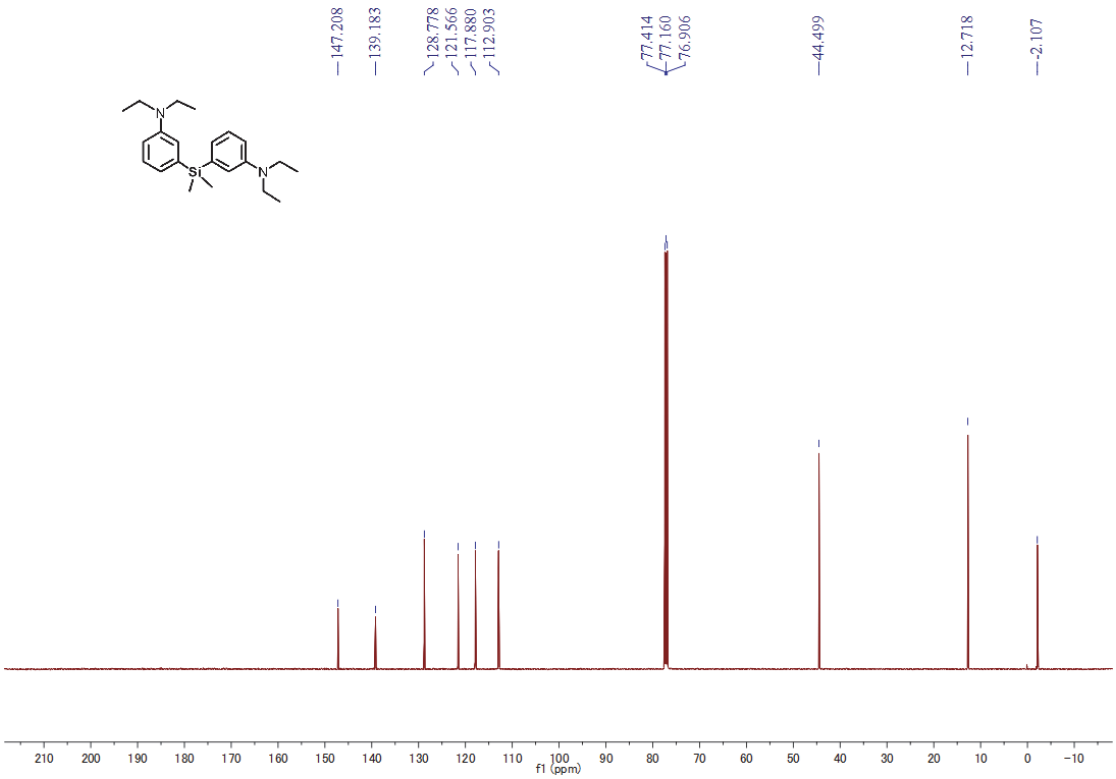
6.00
f1 (ppm)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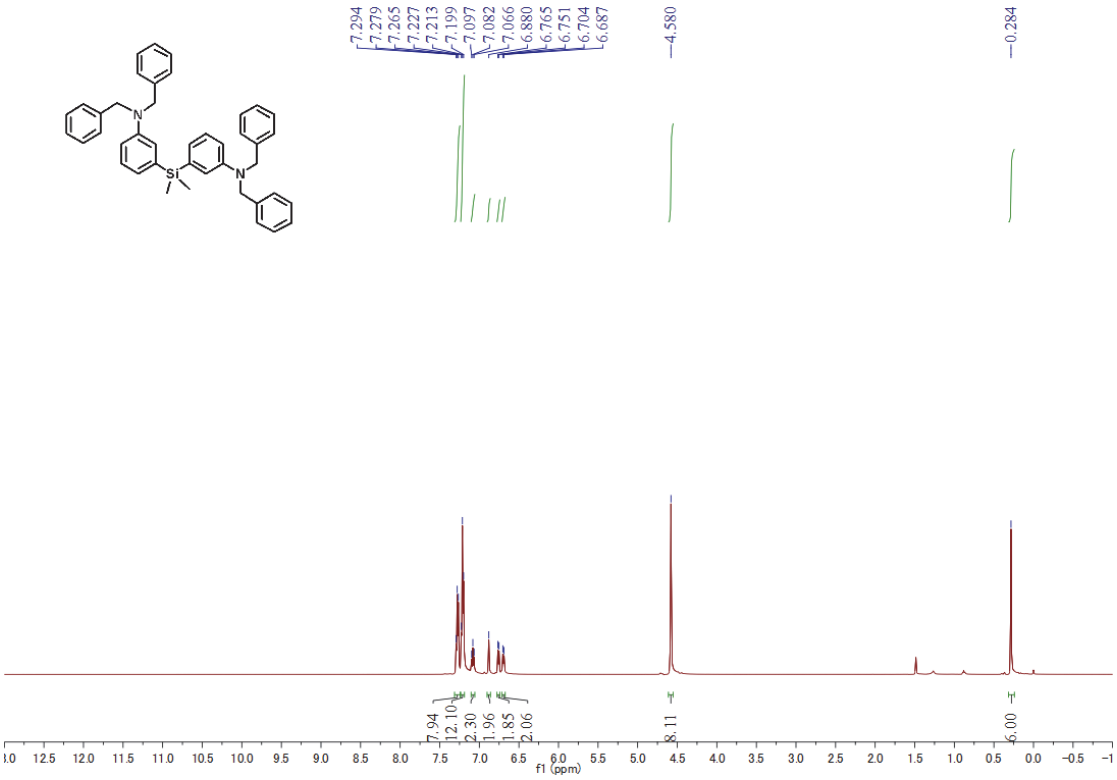
f1 (ppm)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6.880
6.765
6.751
6.704
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2.06
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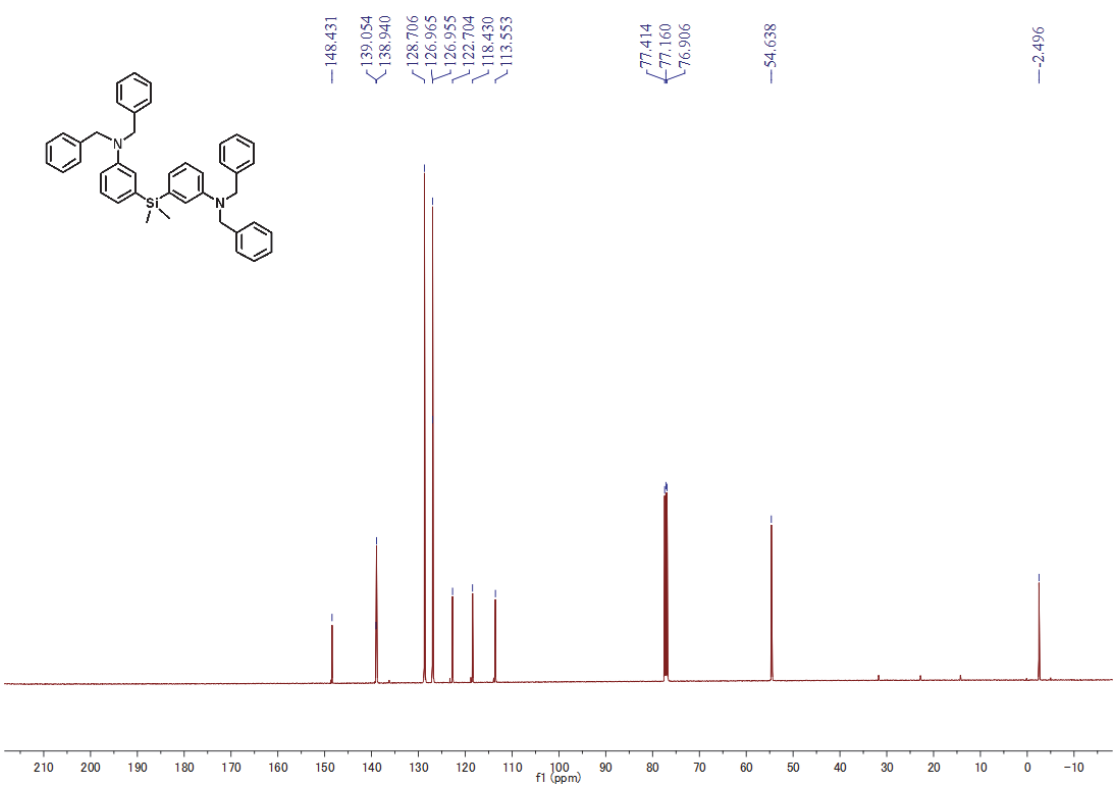
6.00
f1 (ppm)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76.906
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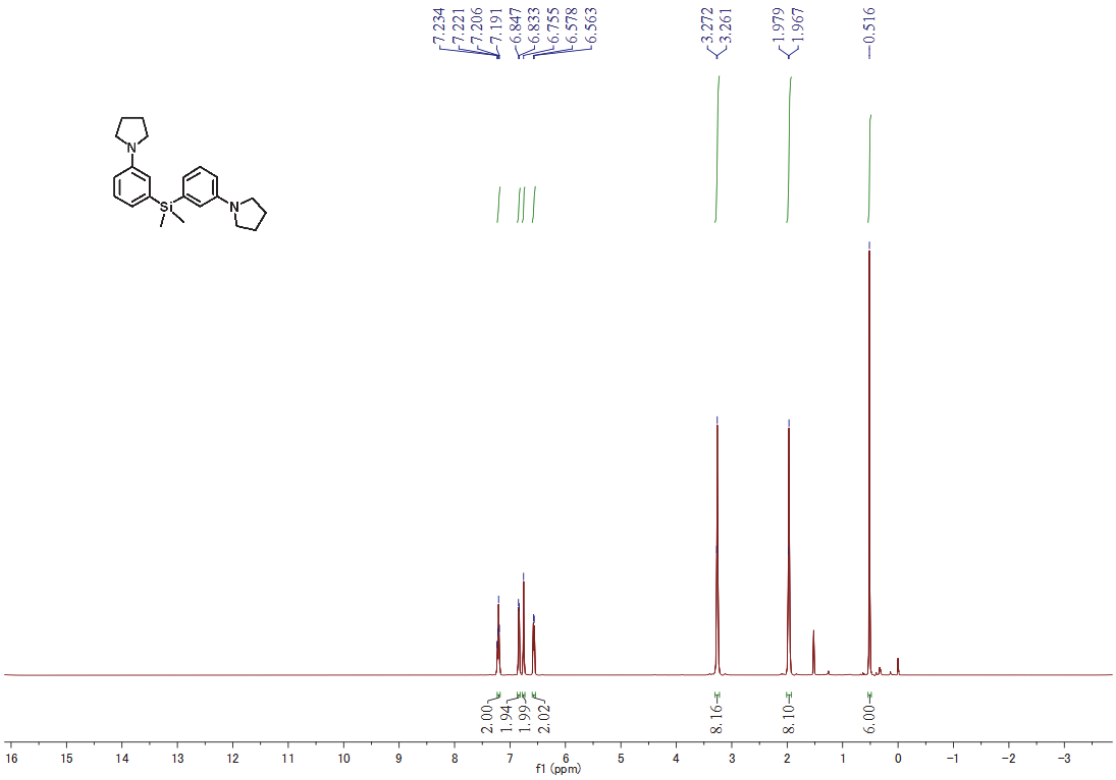
f1 (ppm)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6.578
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3.272
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1.94
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8.16
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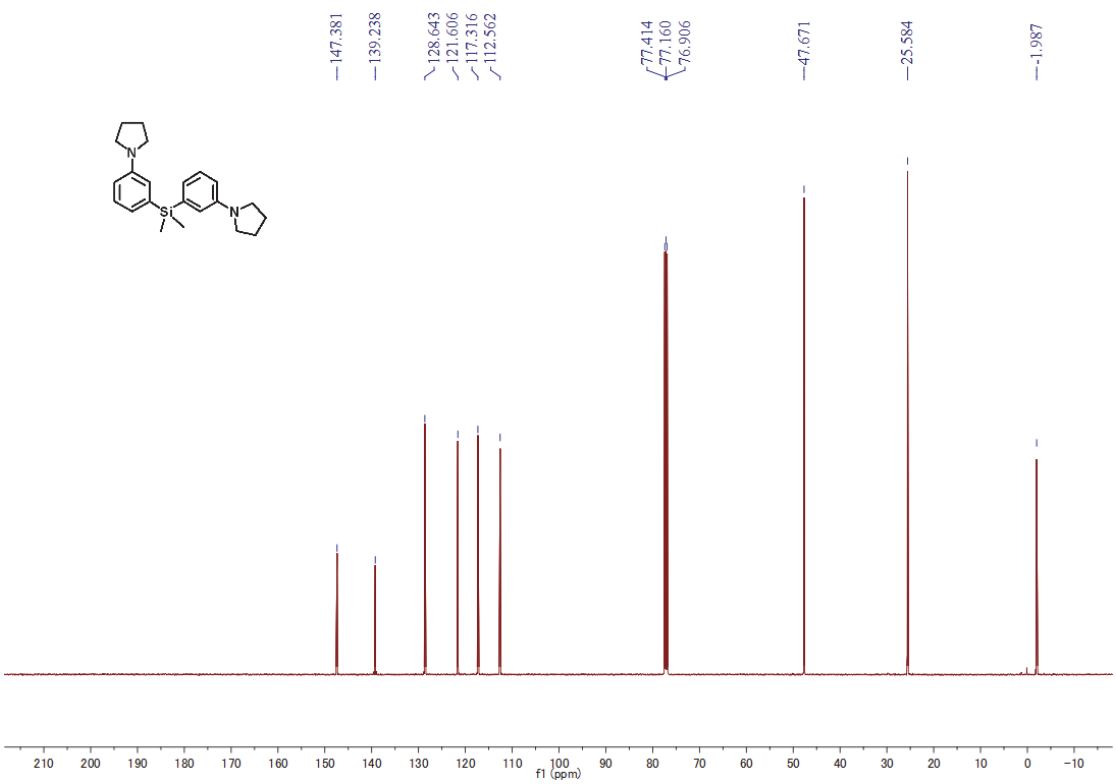
6.00
f1 (ppm)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77.160
76.906
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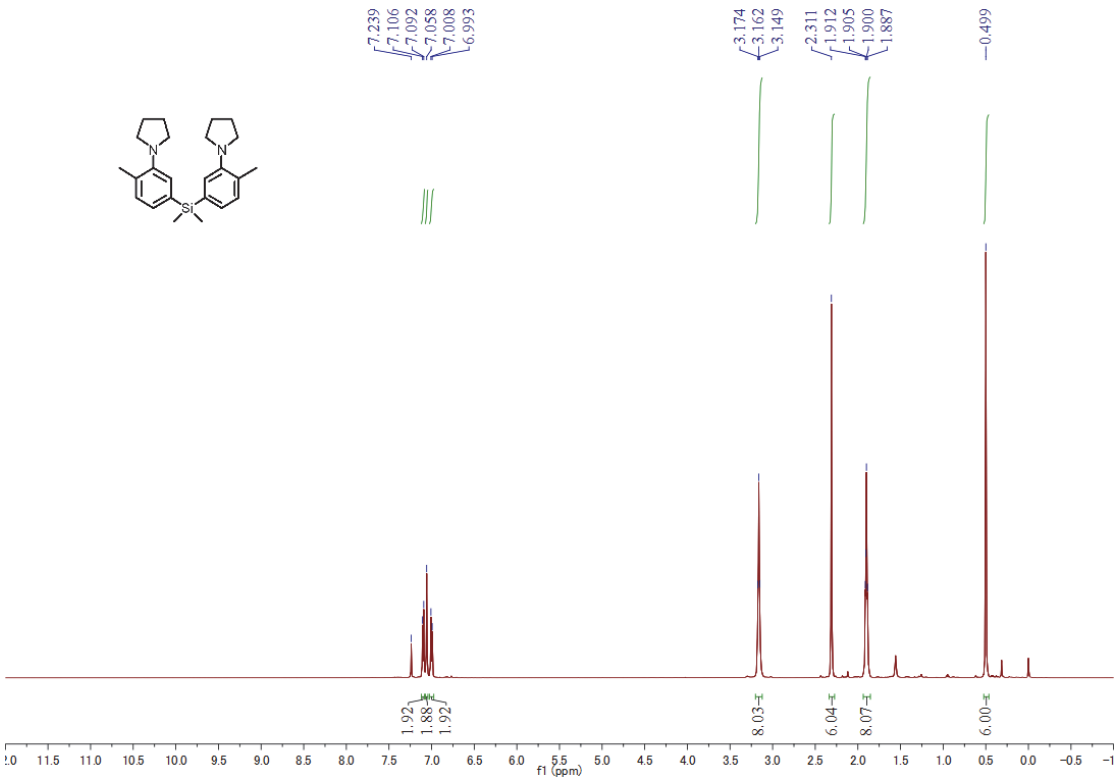
f1 (ppm)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7.106
7.092
7.058
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3.162
3.149
2.311
1.912
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1.900
1.887
0.499
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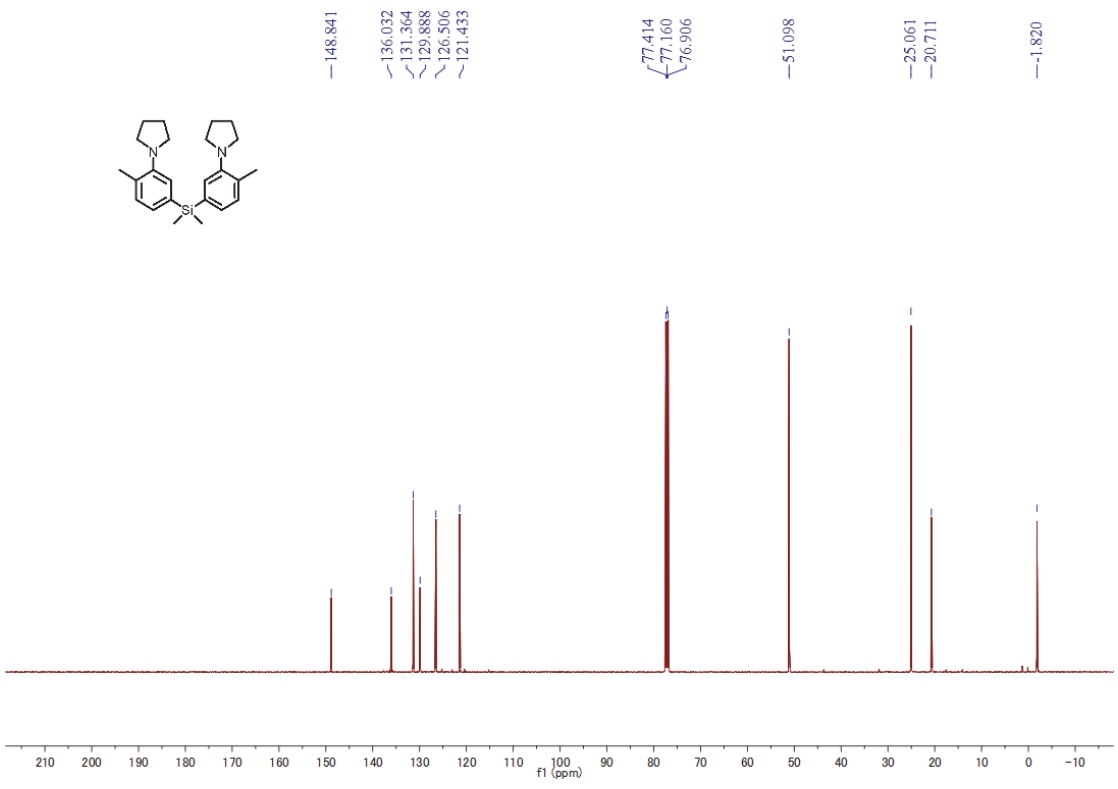
1.88
1.92
8.03
6.04
8.07
6.00
f1 (ppm)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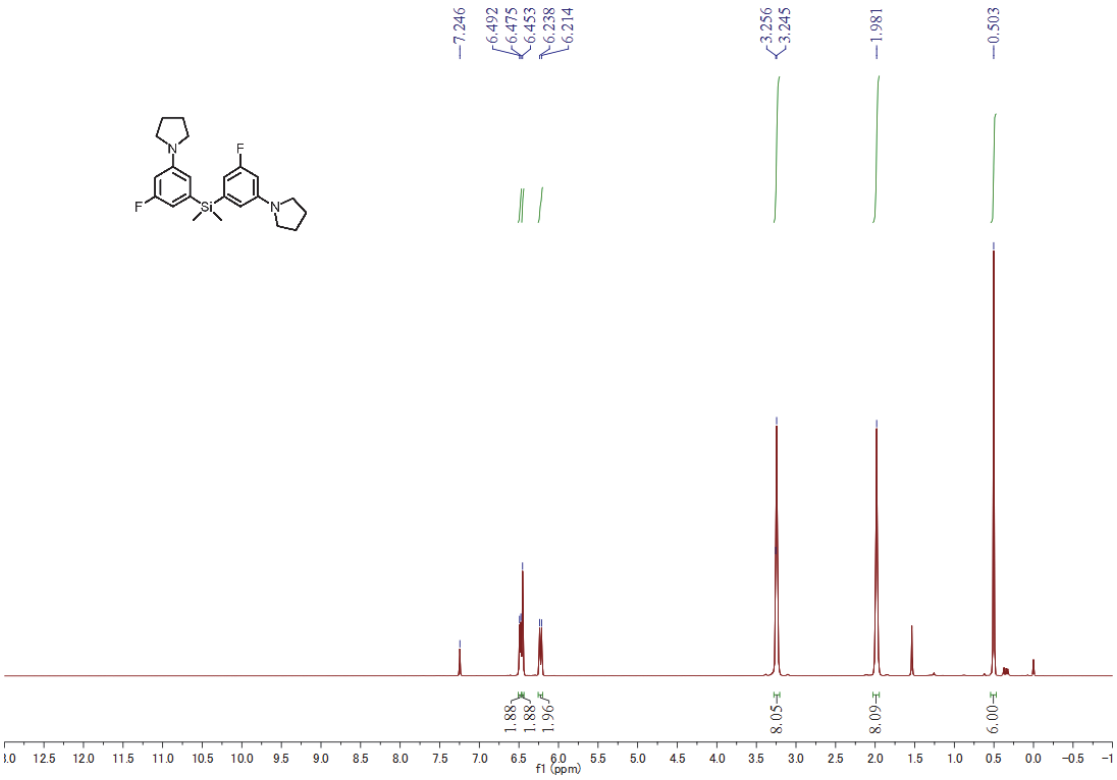
f1 (ppm)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6.238
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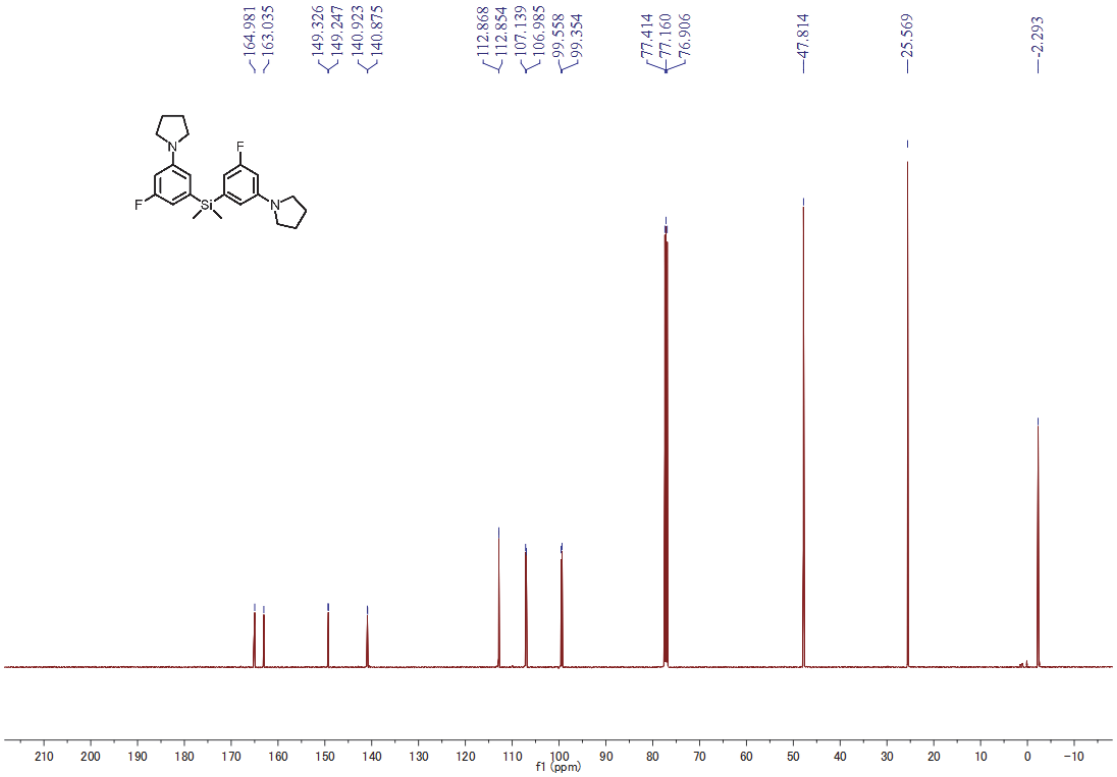
1.88
1.96
8.05
8.09
6.00
f1 (ppm)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163.035
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140.923
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112.868
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99.354
77.414
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47.814
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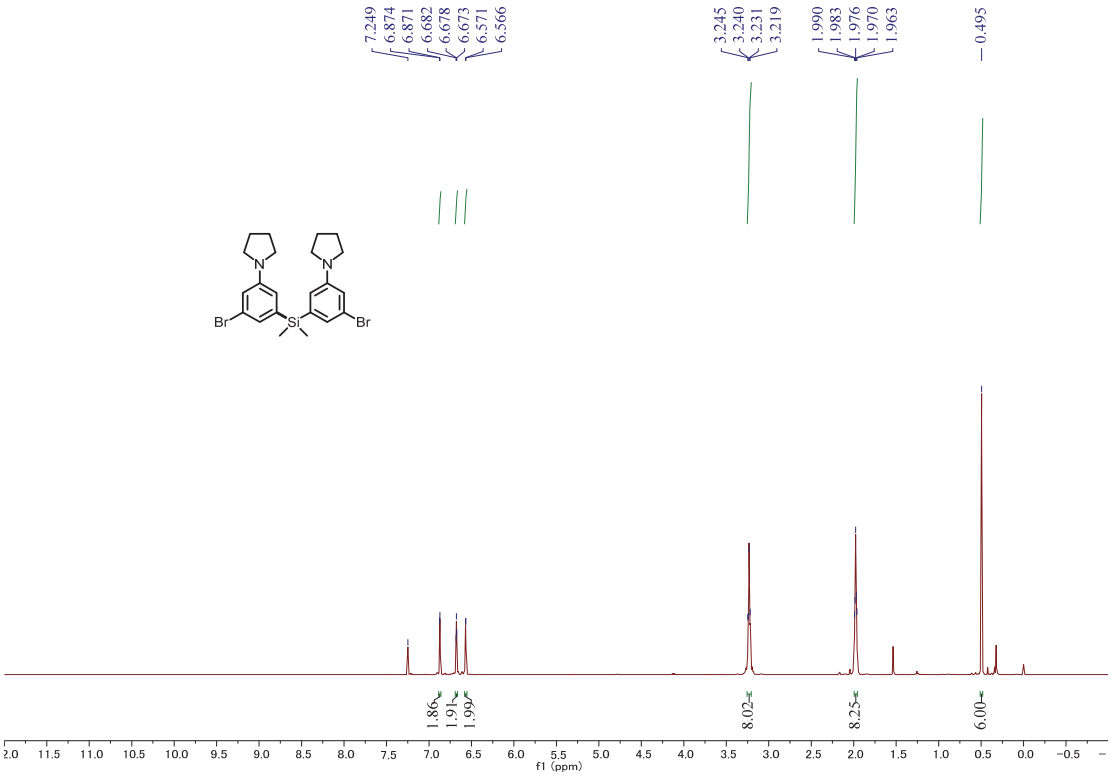
f1 (ppm)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6.678
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6.571
6.566
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3.240
3.231
3.219
1.990
1.983
1.976
1.970
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Br
Si
Br
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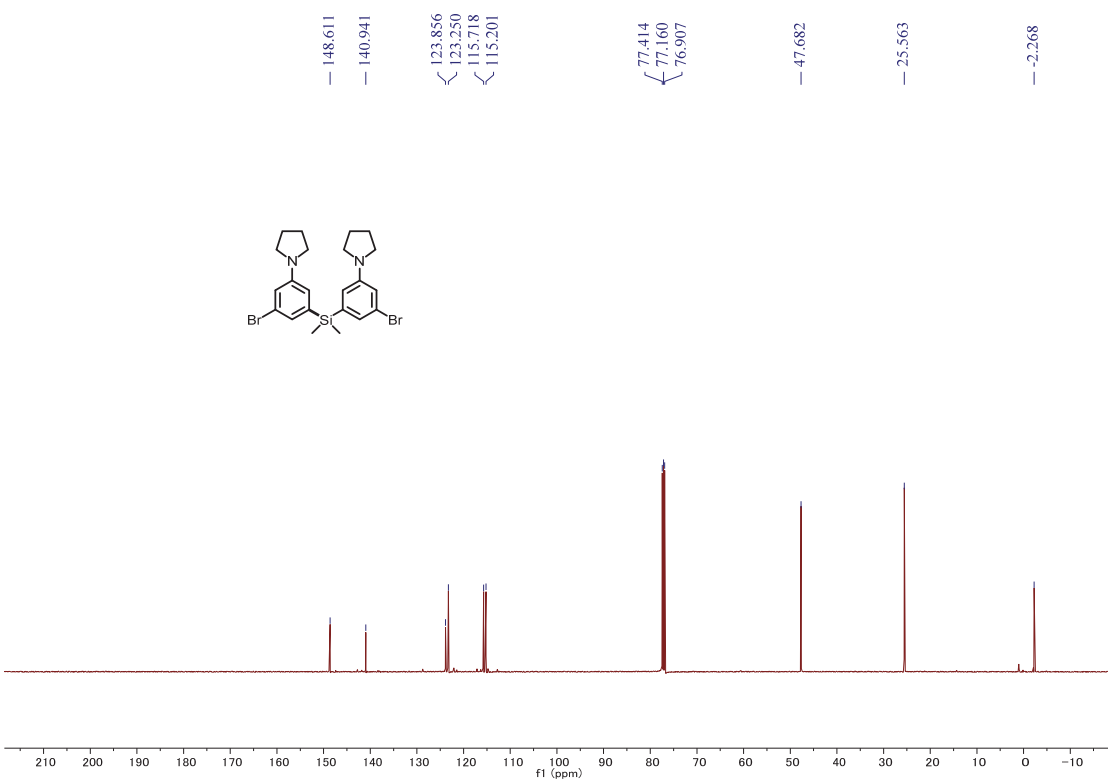
1.91
1.99
8.02
8.25
6.00
f1 (ppm)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76.907
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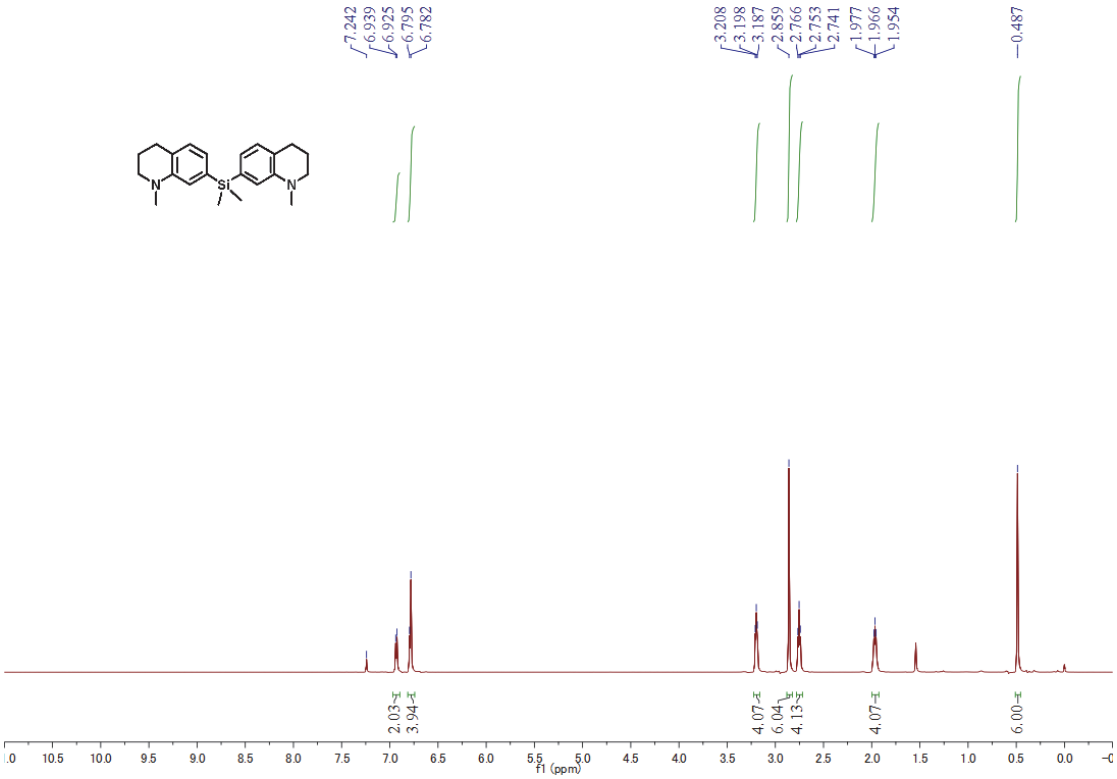
Si
Br
f1 (ppm)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3.187
2.859
2.766
2.753
2.741
1.977
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3.94
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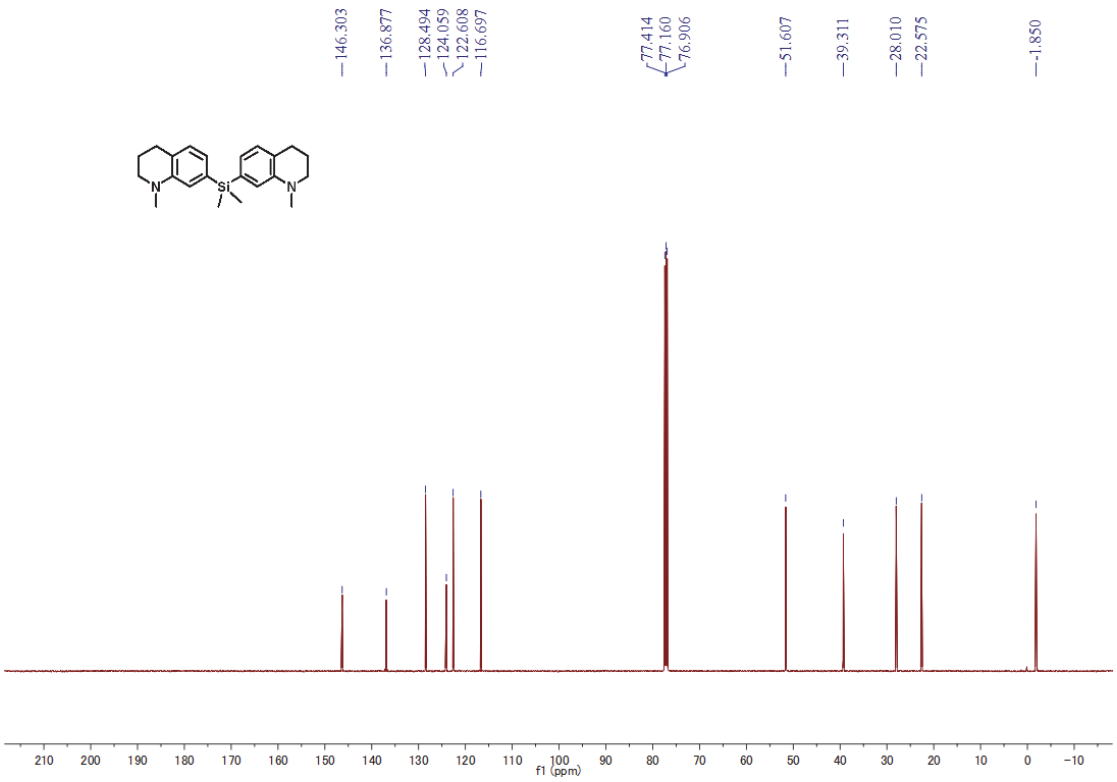
4.13
4.07
6.00
f1 (ppm)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77.160
76.906
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28.010
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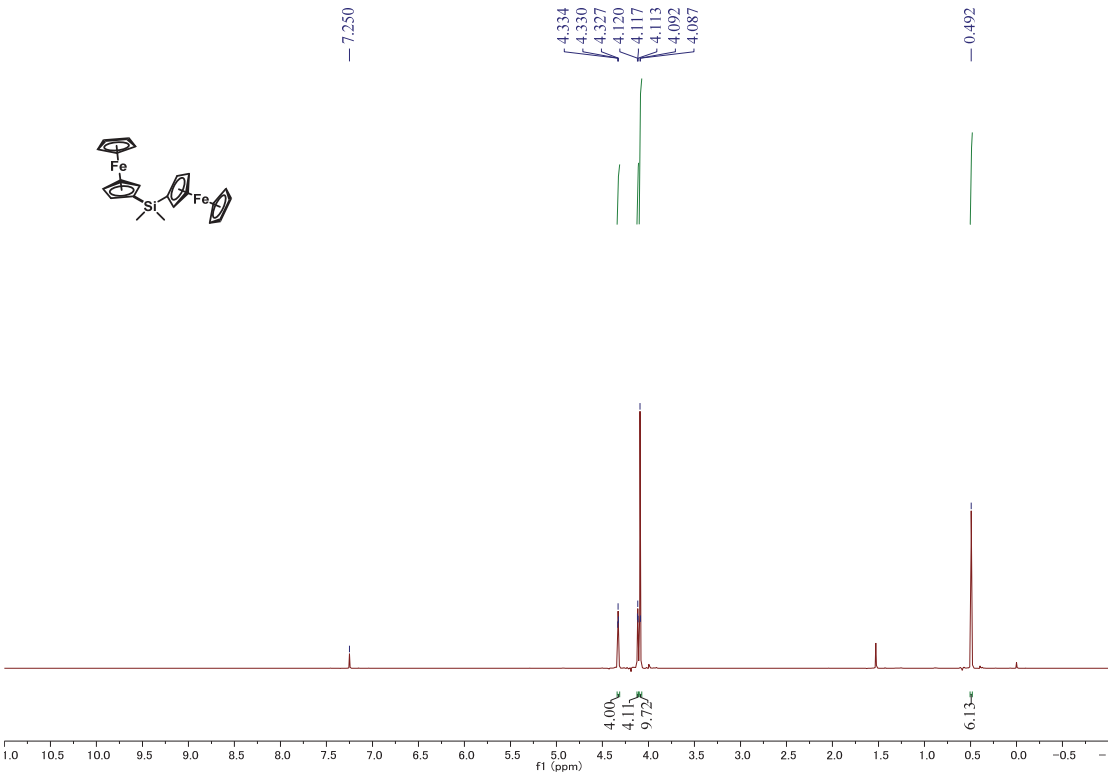
f1 (ppm)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Si
Fe
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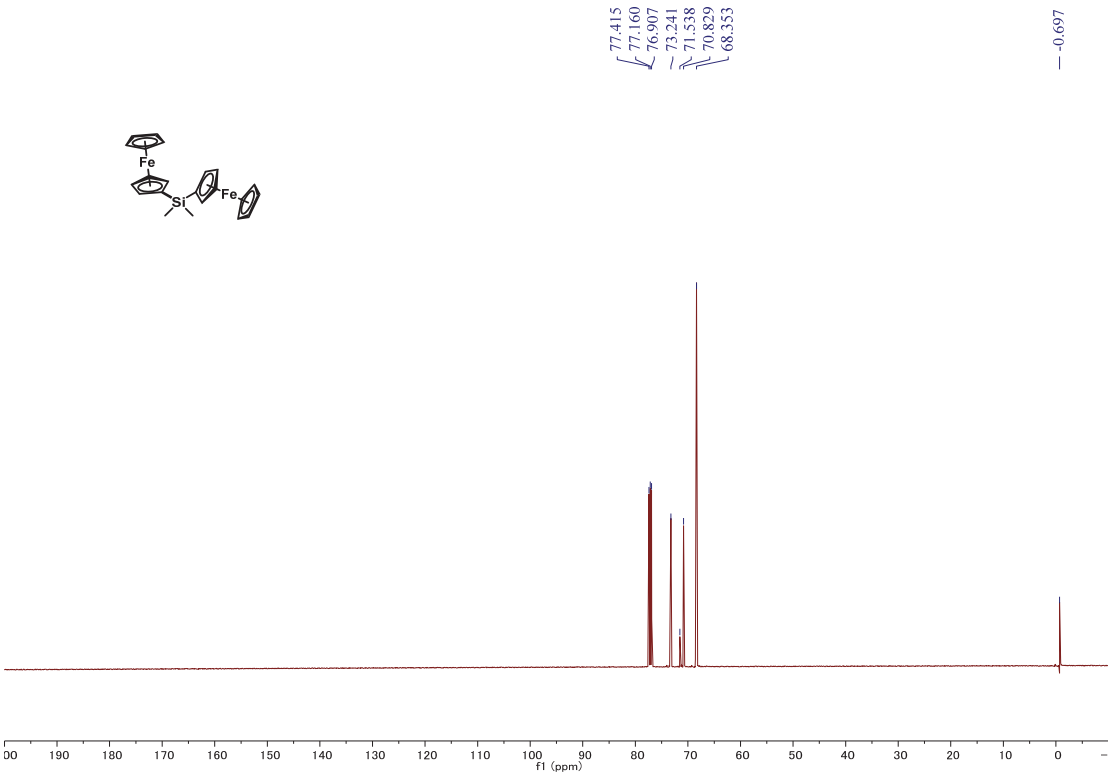
f1 (ppm)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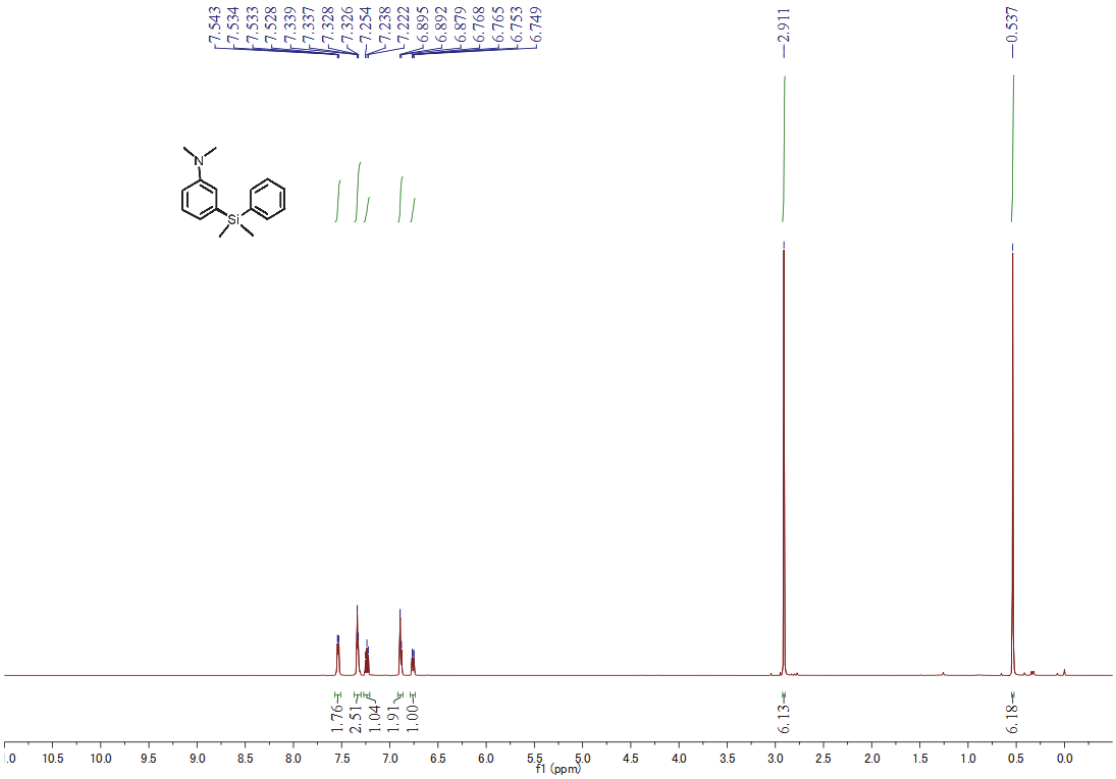
Fe
Si
Fe
f1 (ppm)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6.892
6.879
6.768
6.765
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6.18
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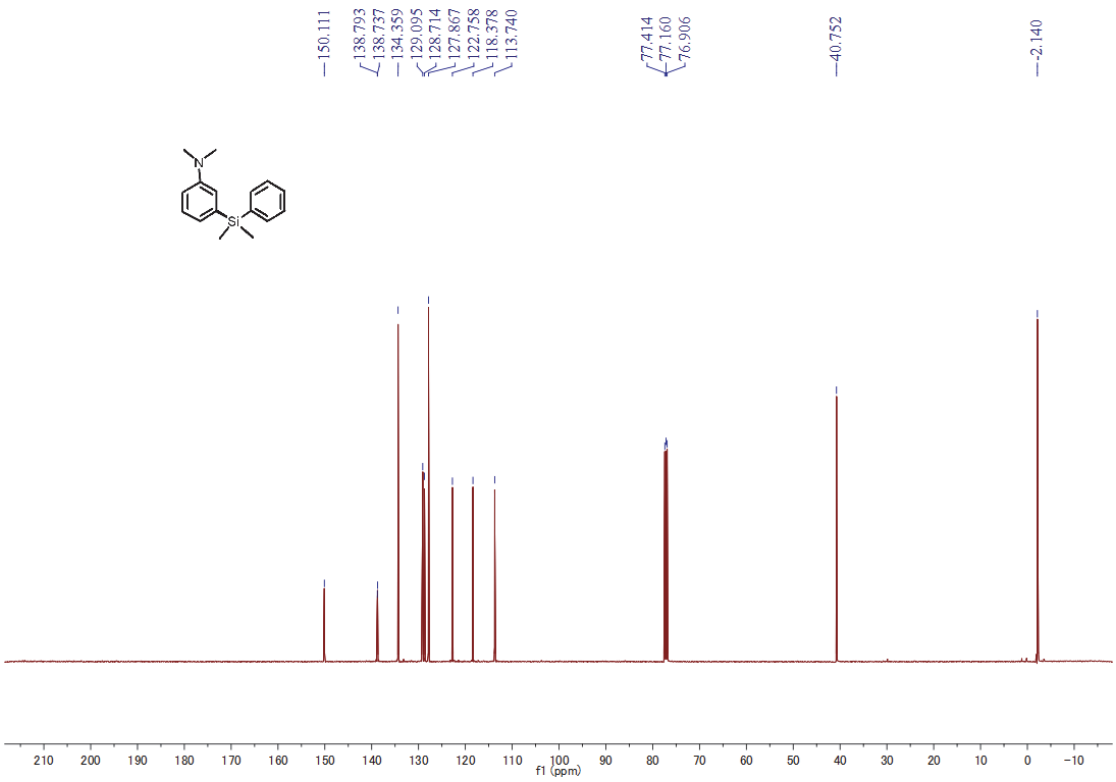
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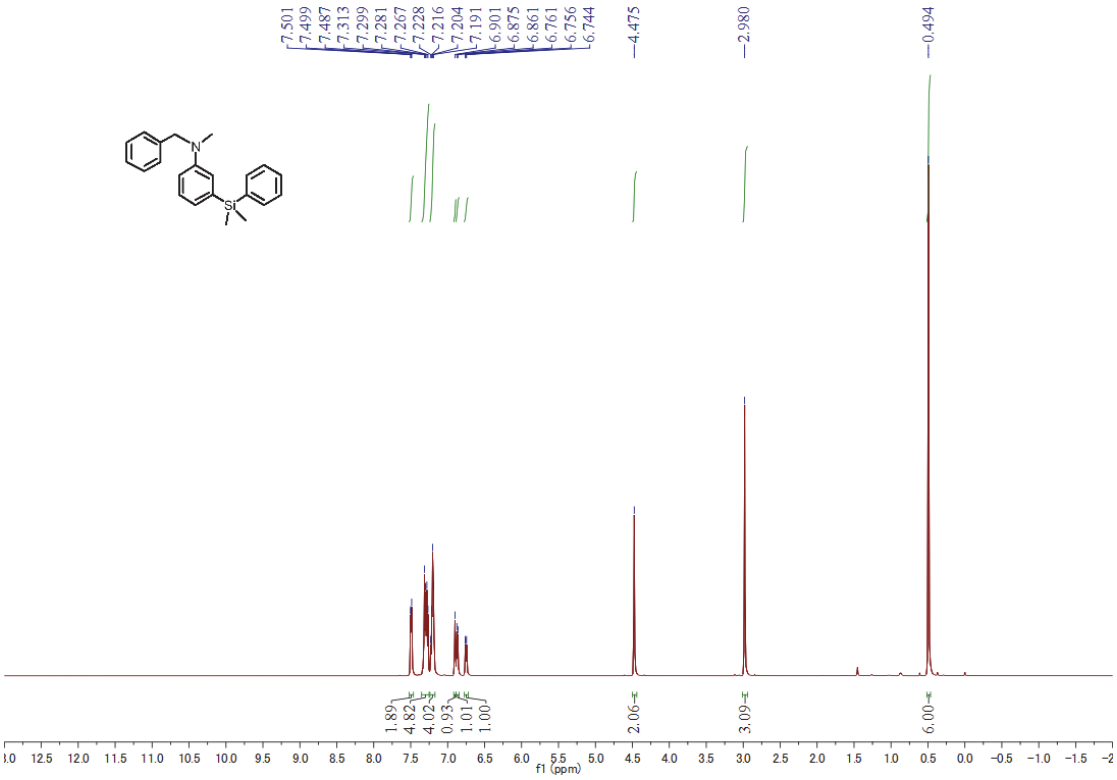
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7.204
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6.875
6.861
6.761
6.756
6.744
4.475
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1.01
1.00
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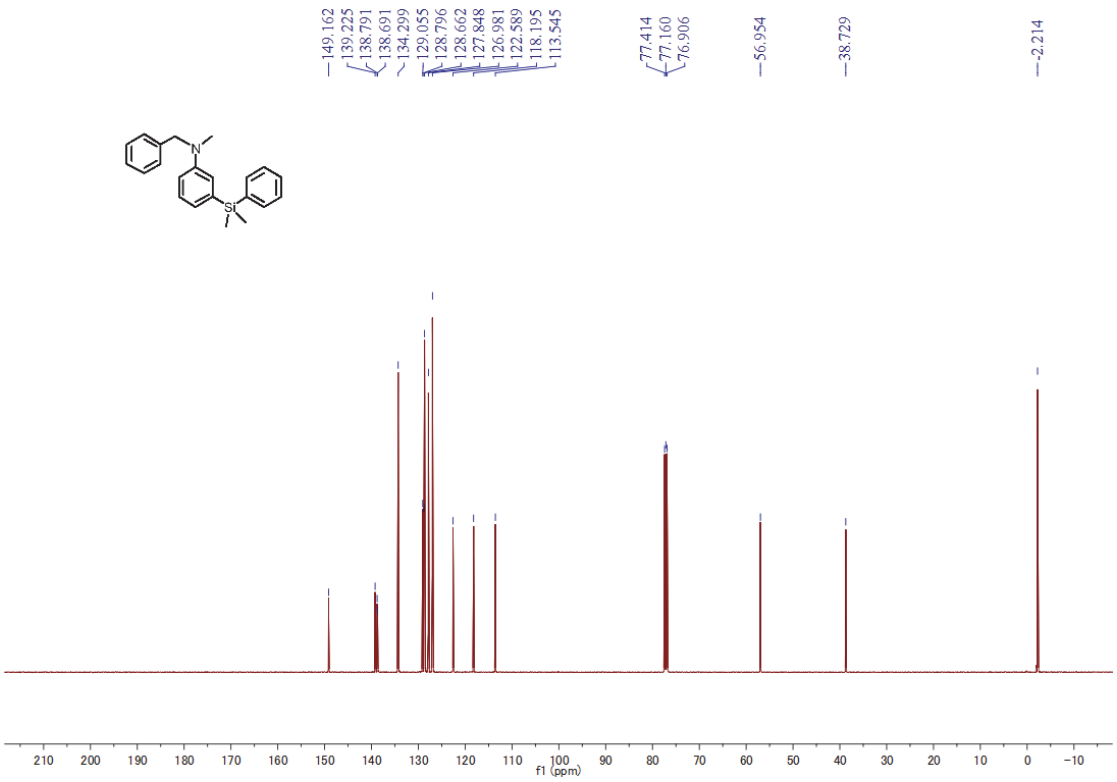
6.00
f1 (ppm)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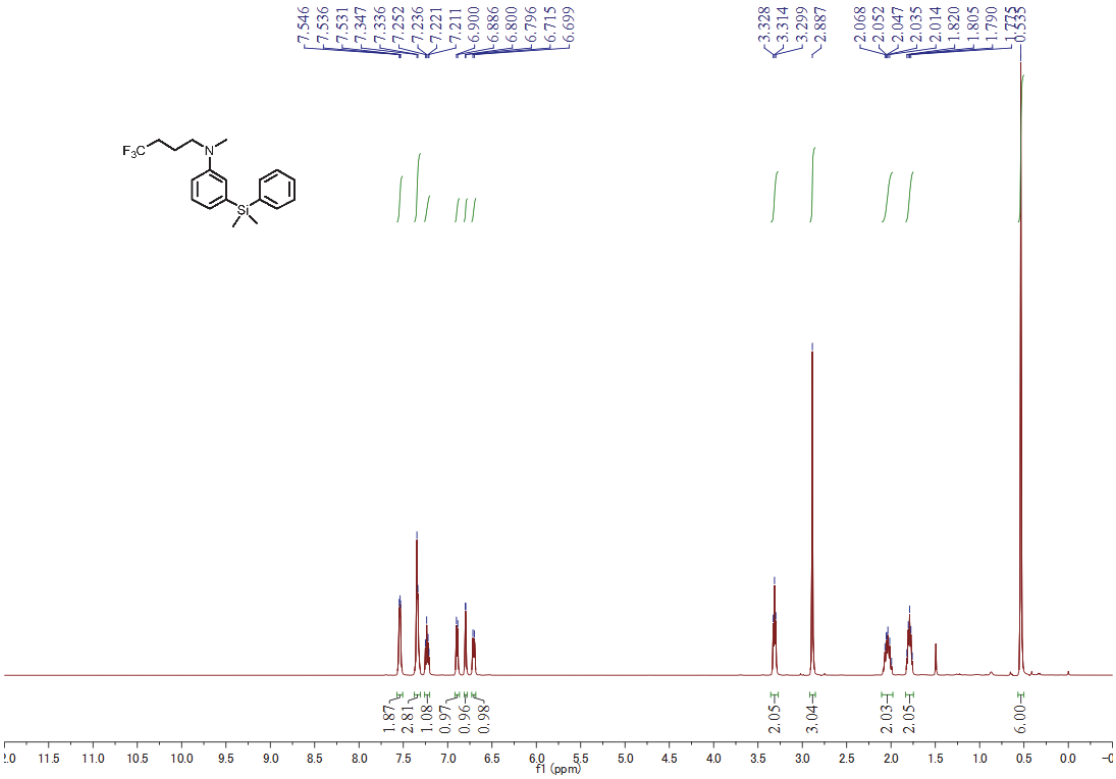
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6.715
6.699
3.328
3.314
3.299
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2.068
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2.047
2.035
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1.805
1.790
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0.98
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3.04
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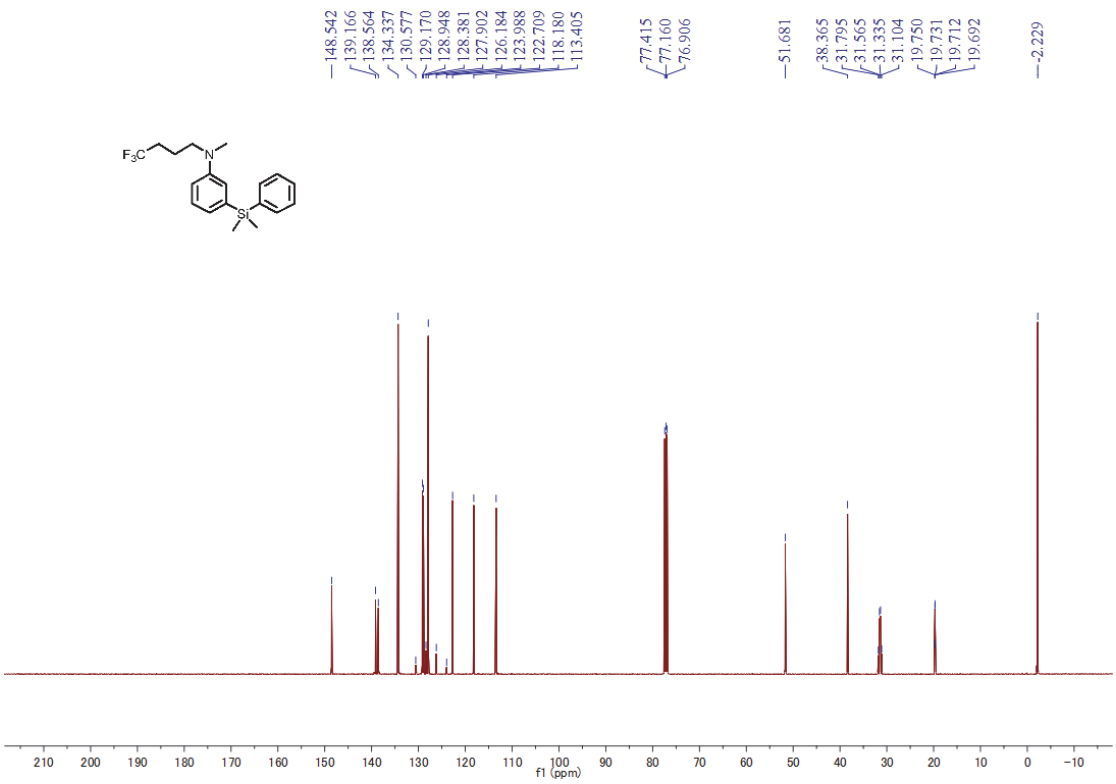
6.00
f1 (ppm)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113.405
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19.712
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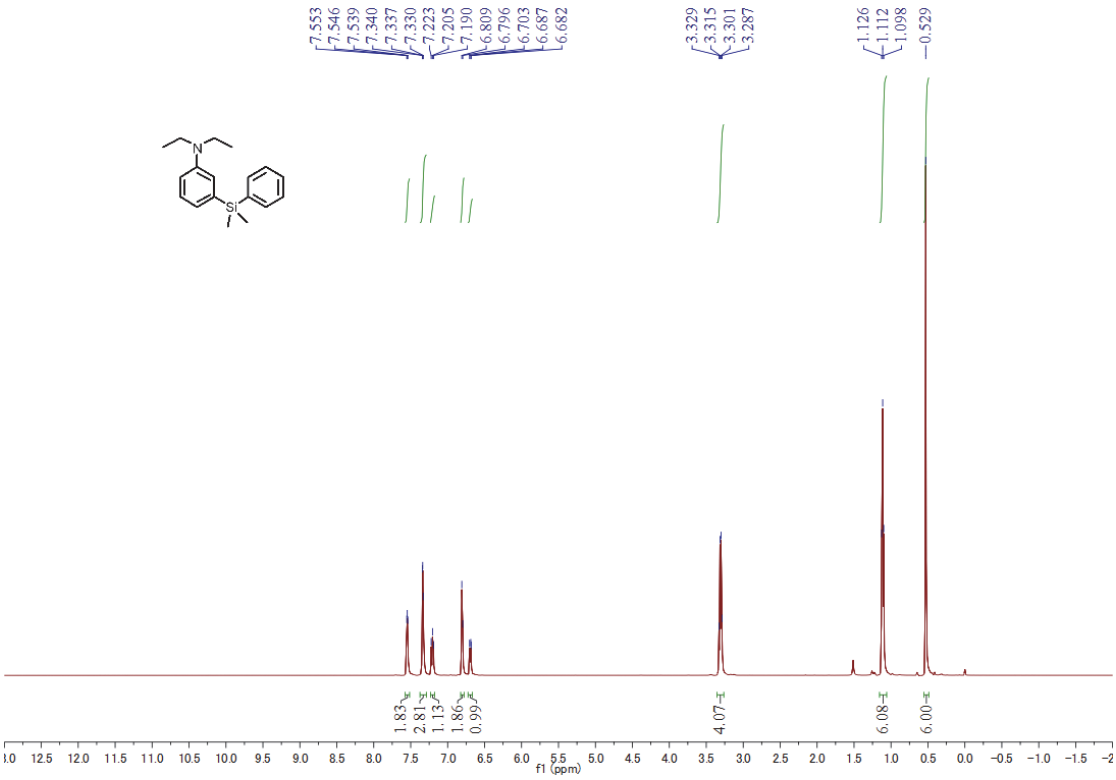
f1 (ppm)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3.329
3.315
3.301
3.287
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1.13
1.86
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4.07
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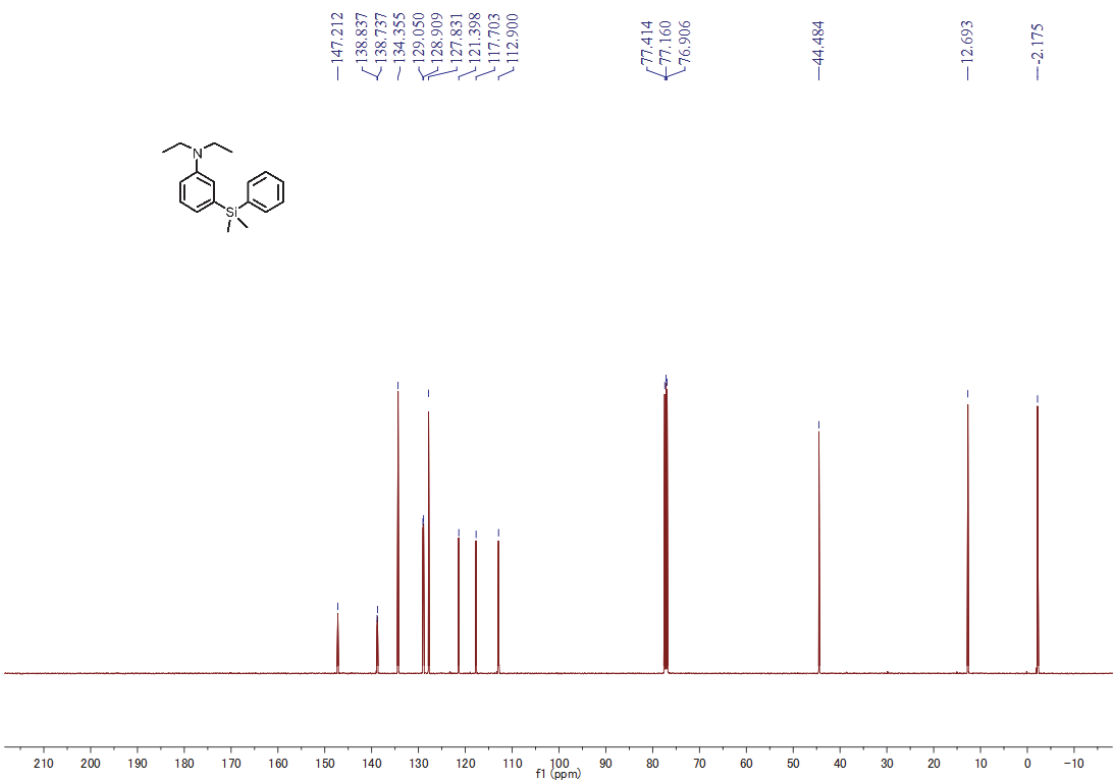
6.00
f1 (ppm)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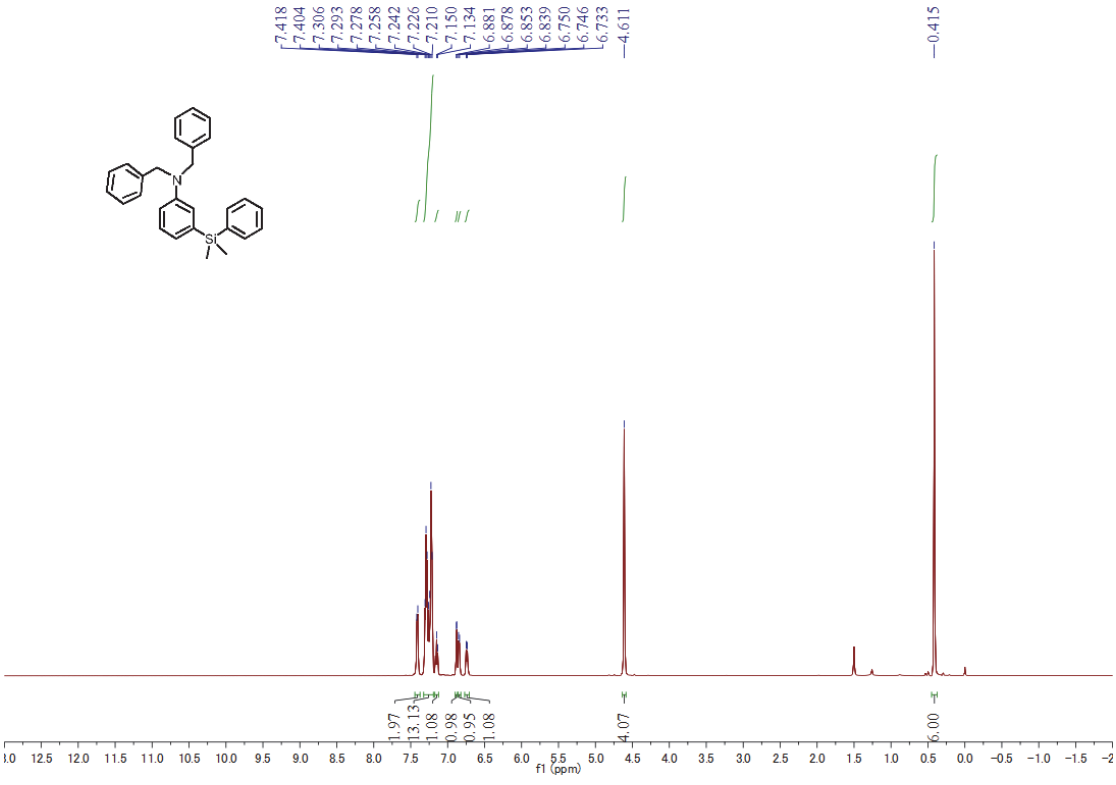
f1 (ppm)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6.839
6.750
6.746
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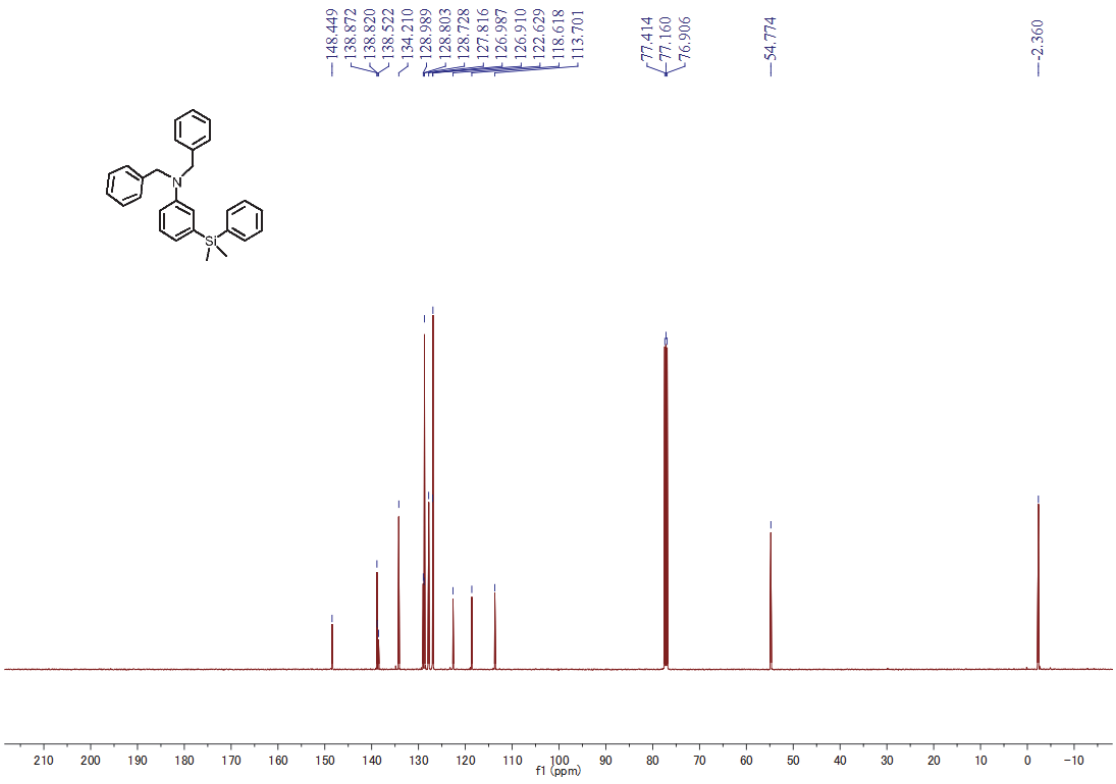
6.00
f1 (ppm)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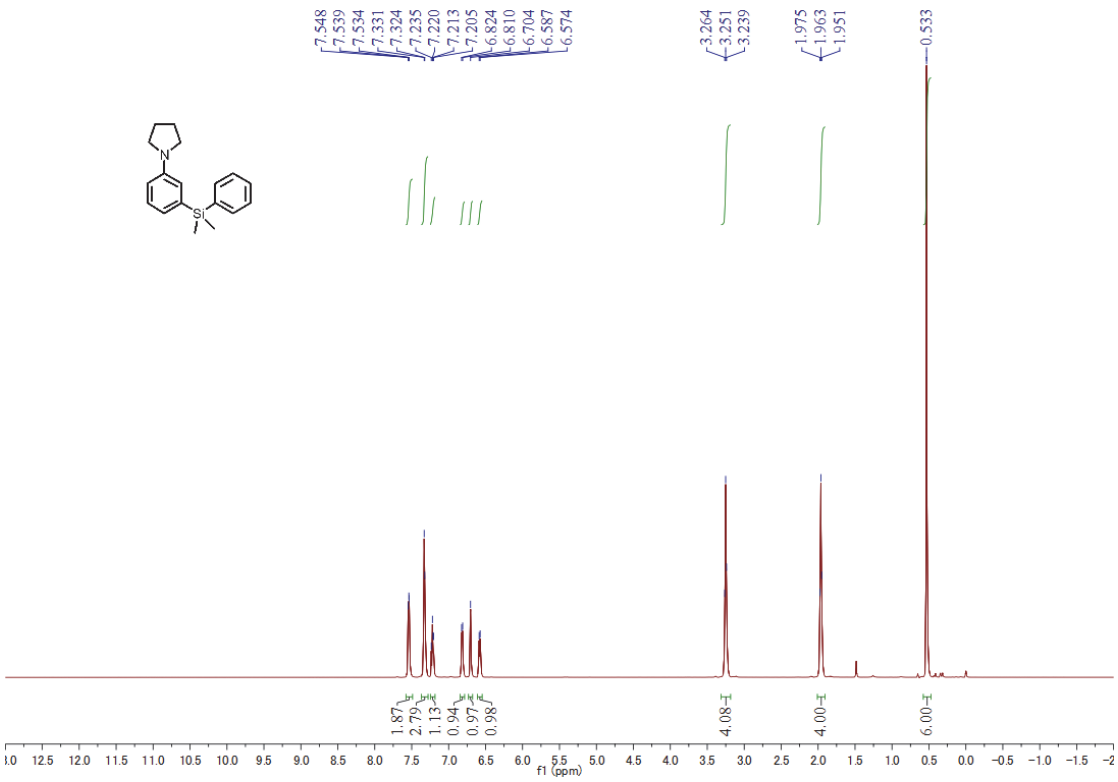
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6.574
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3.251
3.239
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1.963
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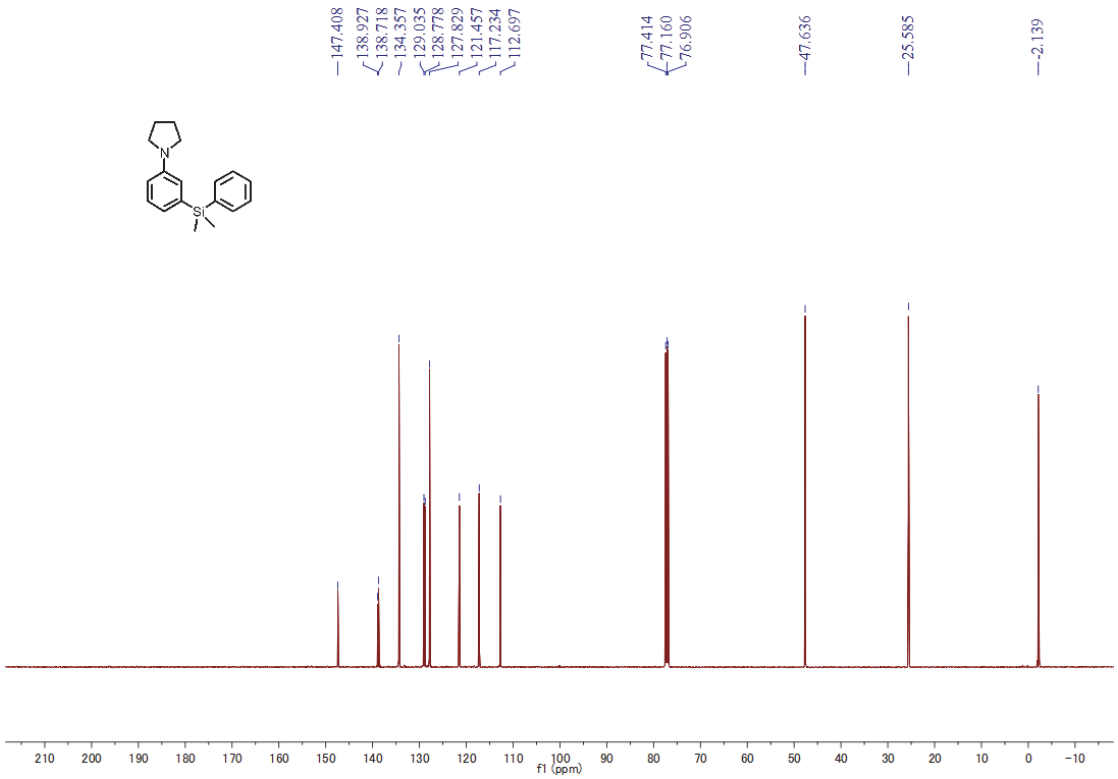
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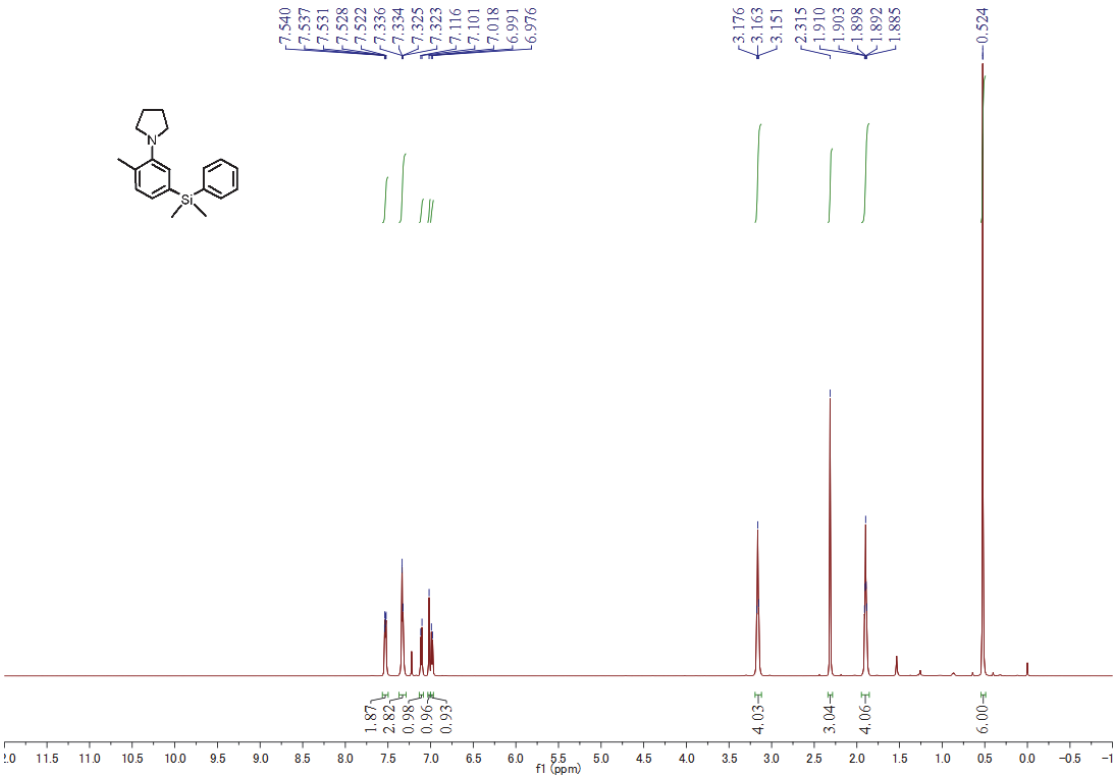
-2.139
f1 (ppm)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6.976
3.176
3.163
3.151
2.315
1.910
1.903
1.898
1.892
1.885
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0.96
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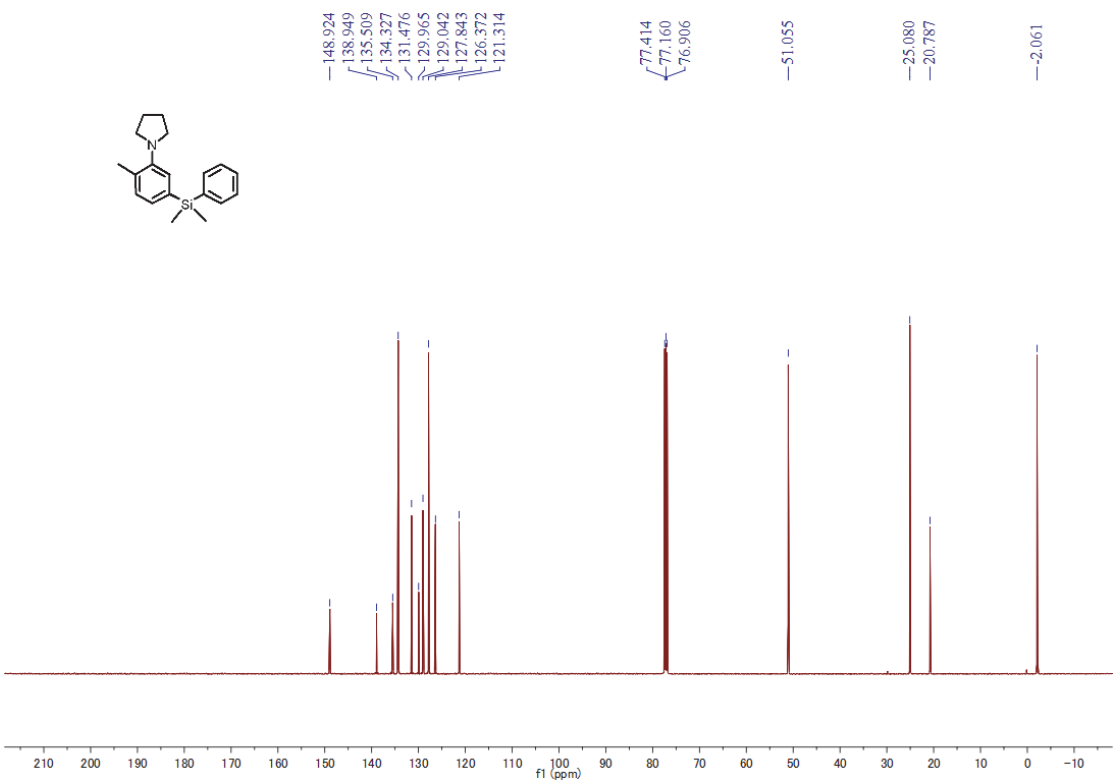
3.04
4.06
6.00
f1 (ppm)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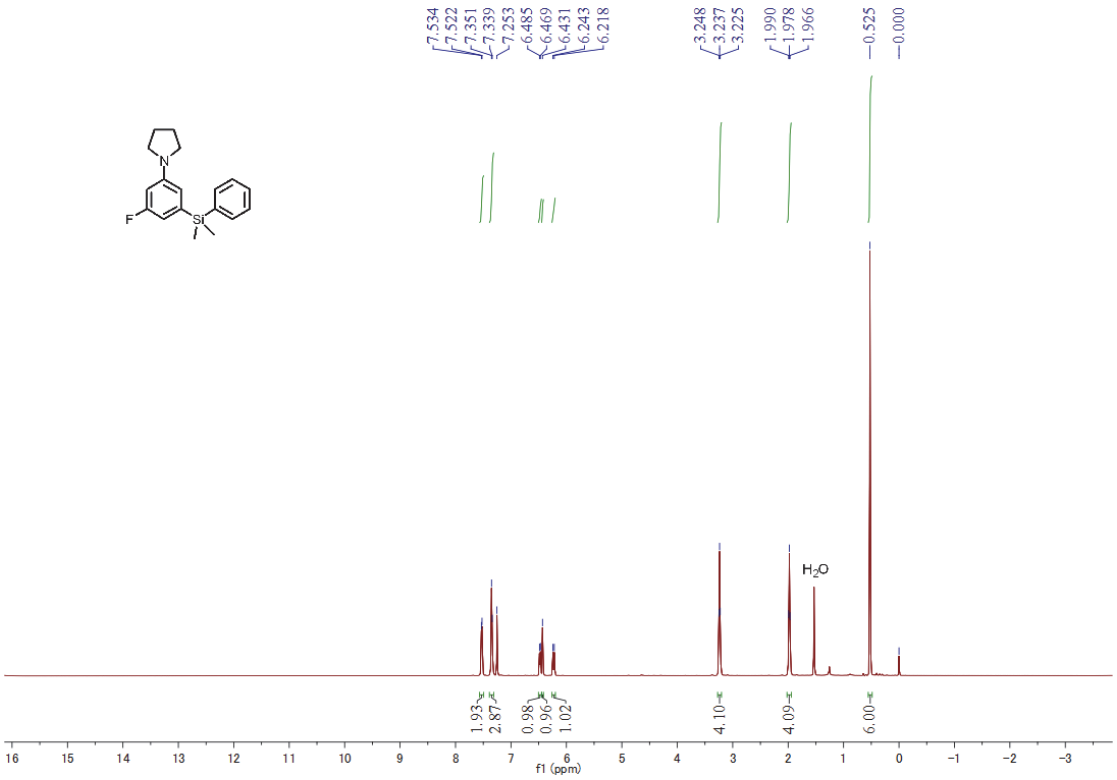
-2.061
f1 (ppm)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3.237
3.225
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1.978
1.966
0.525
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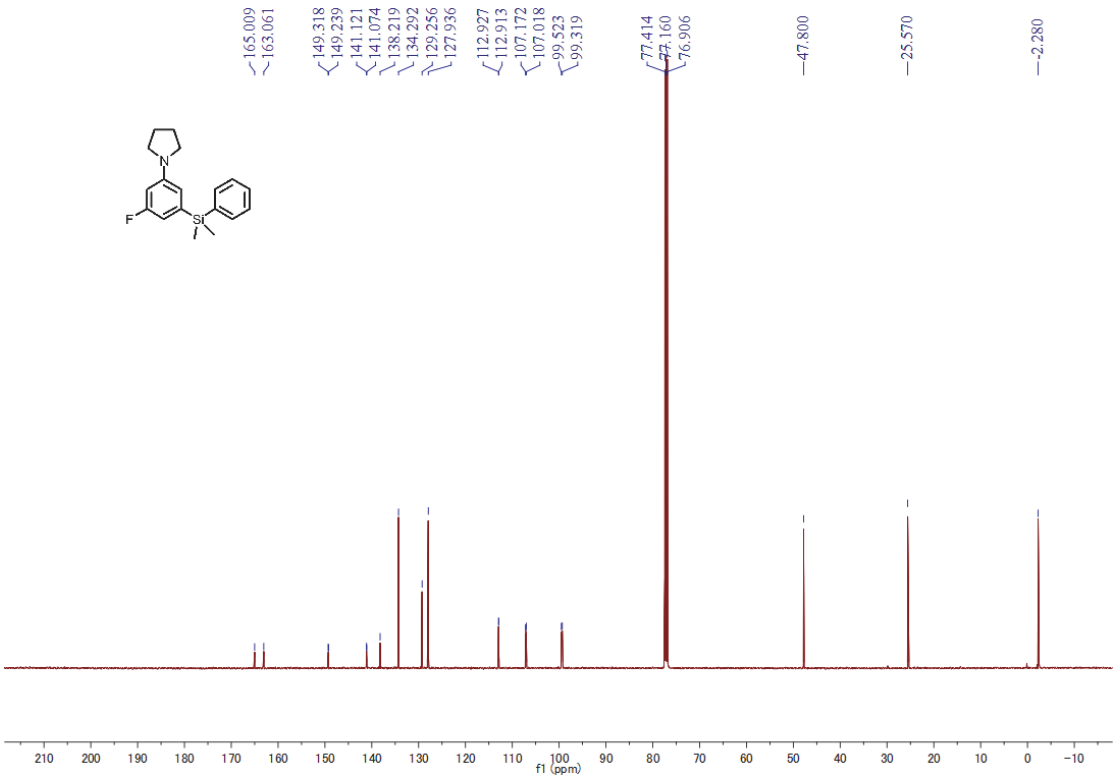
6.00
f1 (ppm)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112.913
107.172
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77.160
76.906
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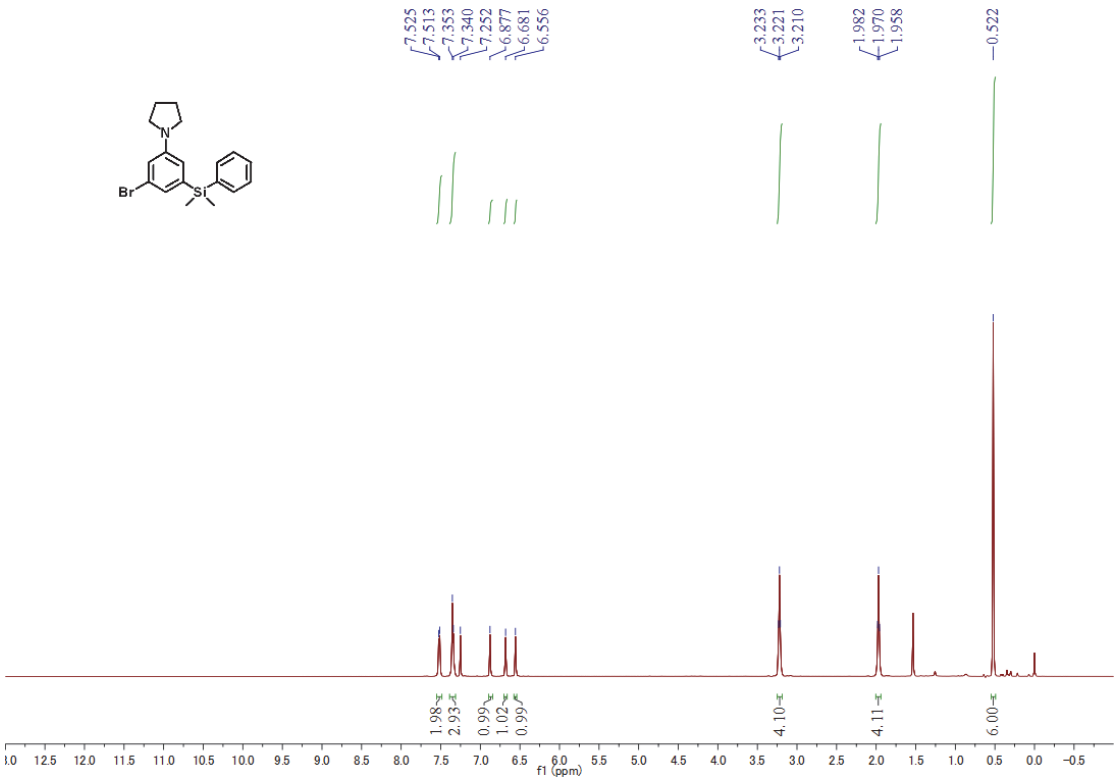
F
Si
f1 (ppm)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6.556
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3.221
3.210
1.982
1.970
1.958
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Br
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N
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1.02
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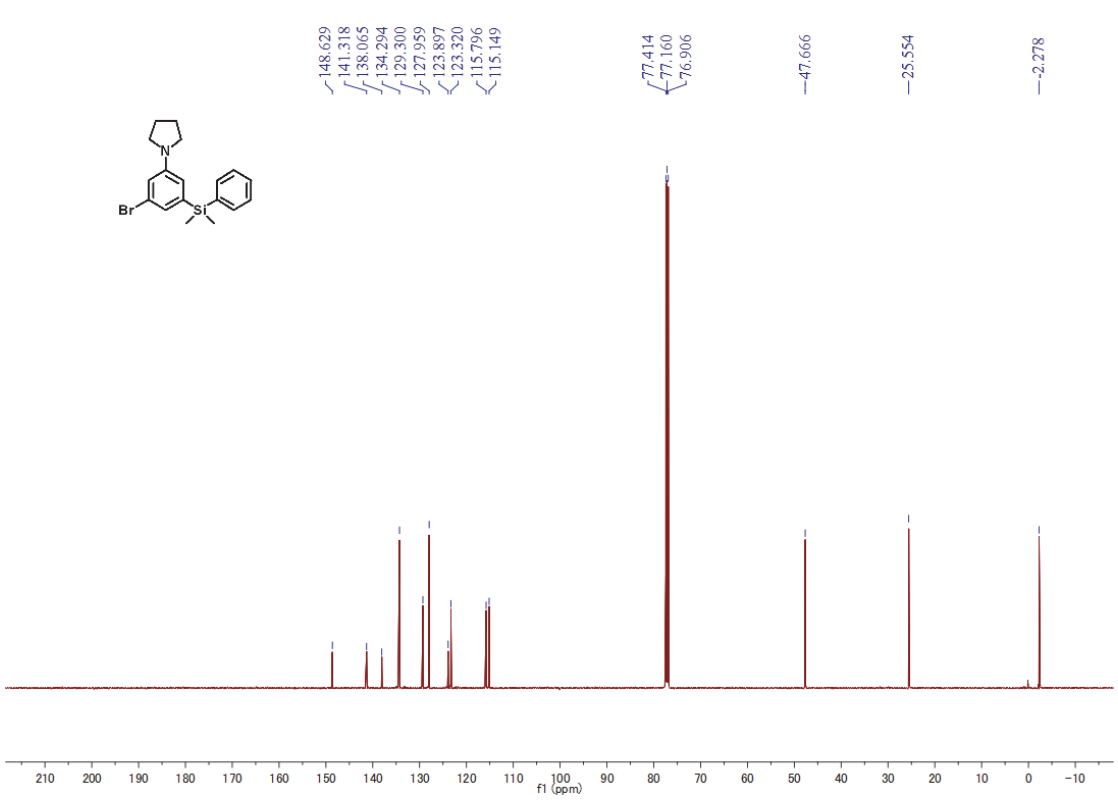
4.10
4.11
6.00
f1 (ppm)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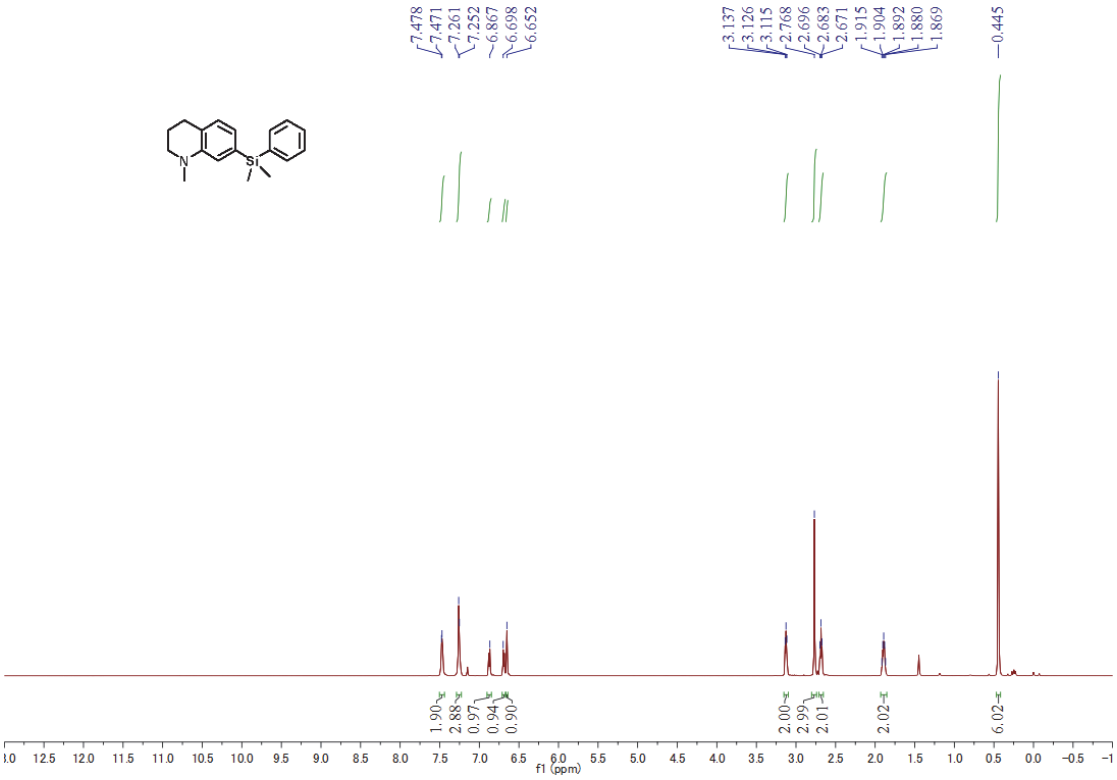
Br
Si
N
f1 (ppm)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2.683
2.671
1.915
1.904
1.892
1.880
1.869
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0.90
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2.01
2.02
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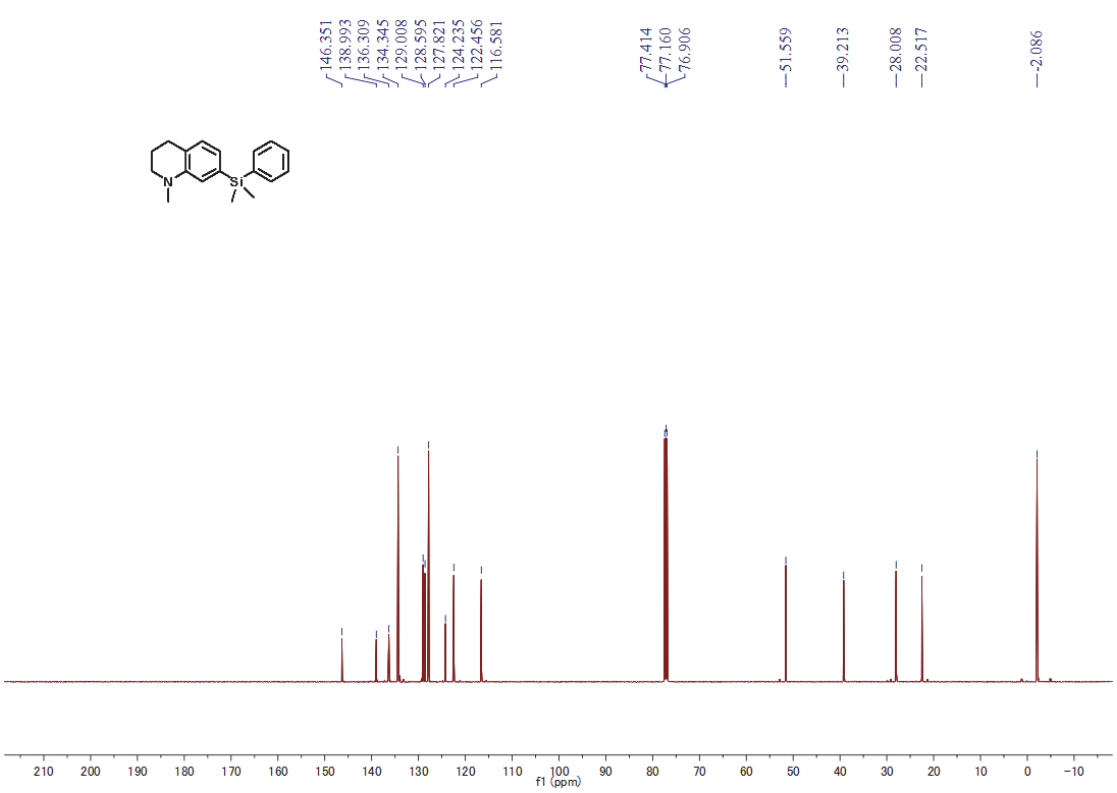
f1 (ppm)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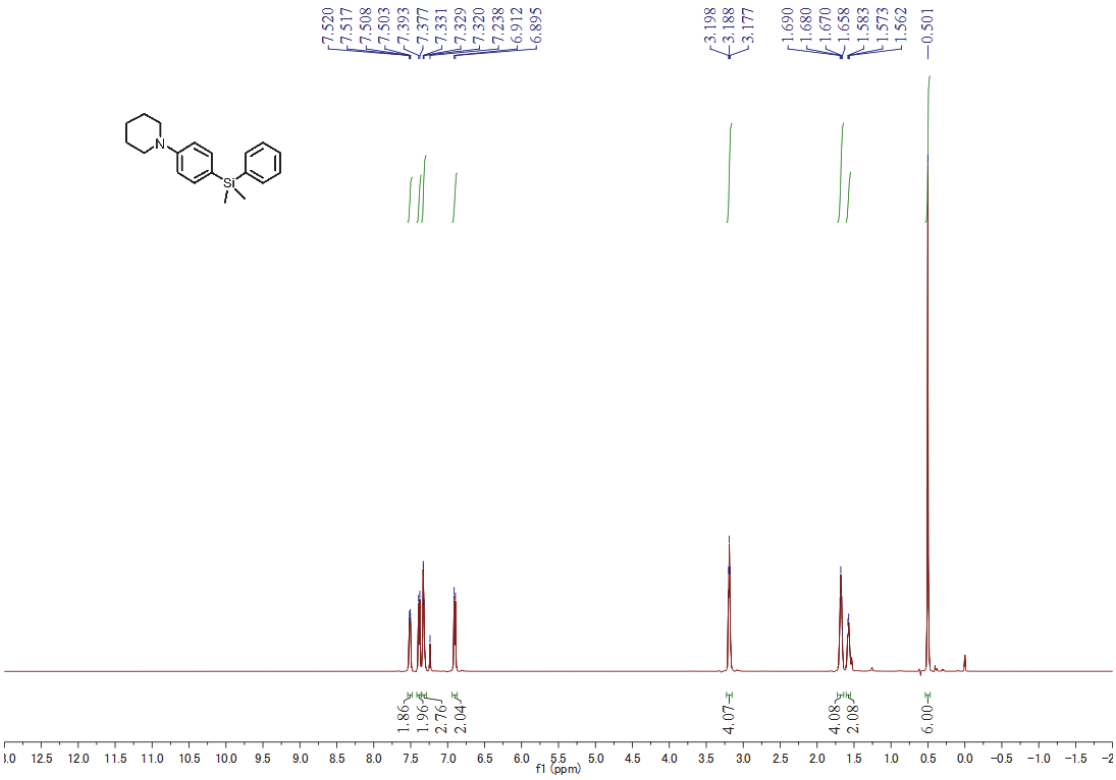
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7.329
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3.198
3.188
3.177
1.690
1.680
1.670
1.658
1.583
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2.76
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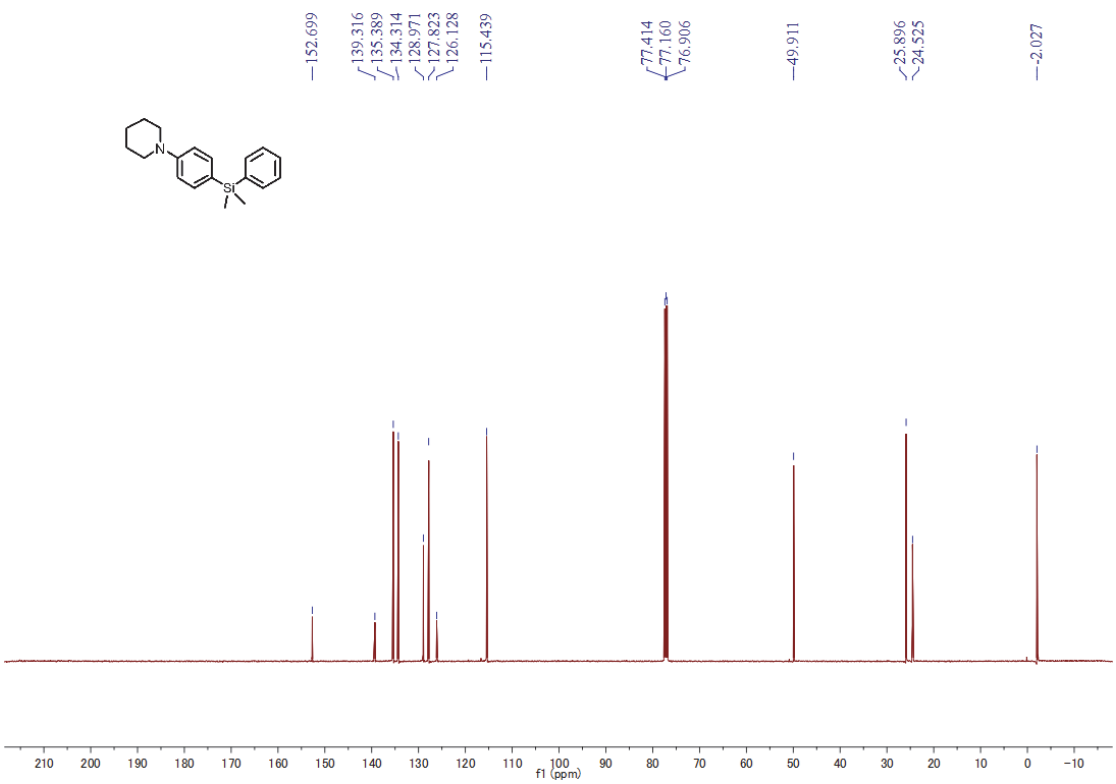
4.08
2.08
6.00
f1 (ppm)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77.160
76.906
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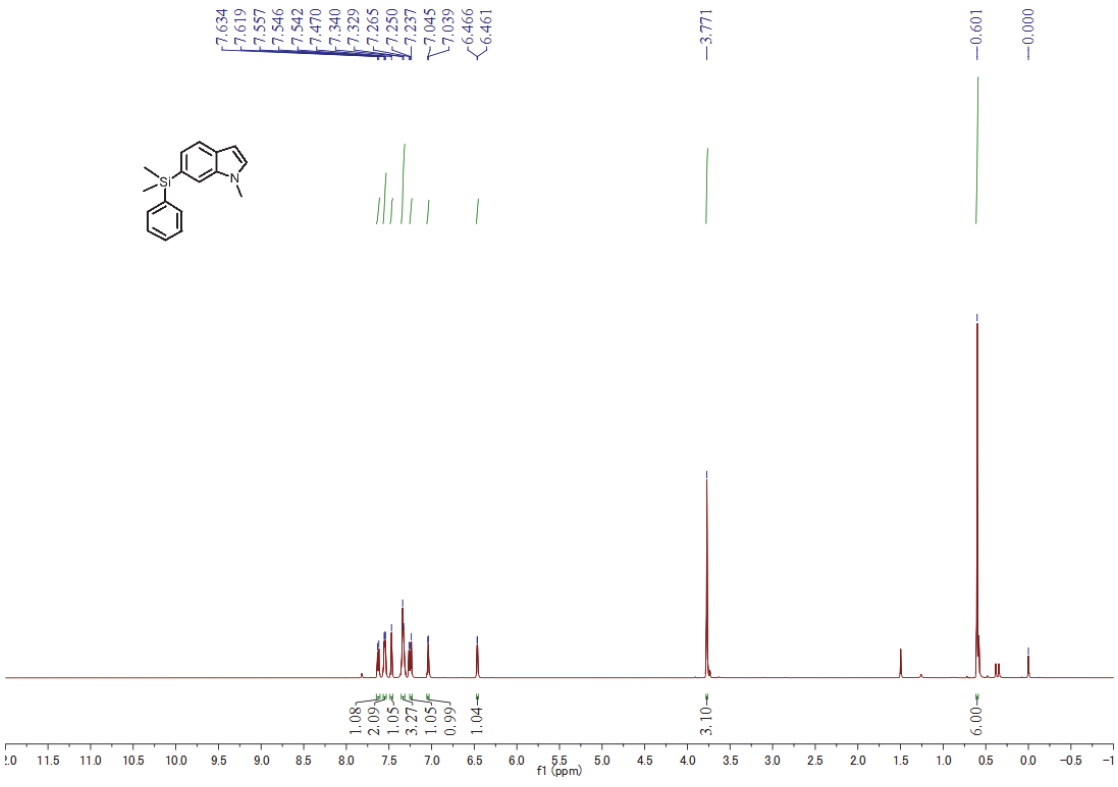
25.896
24.525
-2.027
f1 (ppm)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7.542
7.470
7.340
7.329
7.265
7.250
7.237
7.045
7.039
6.466
6.461
3.771
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0.000
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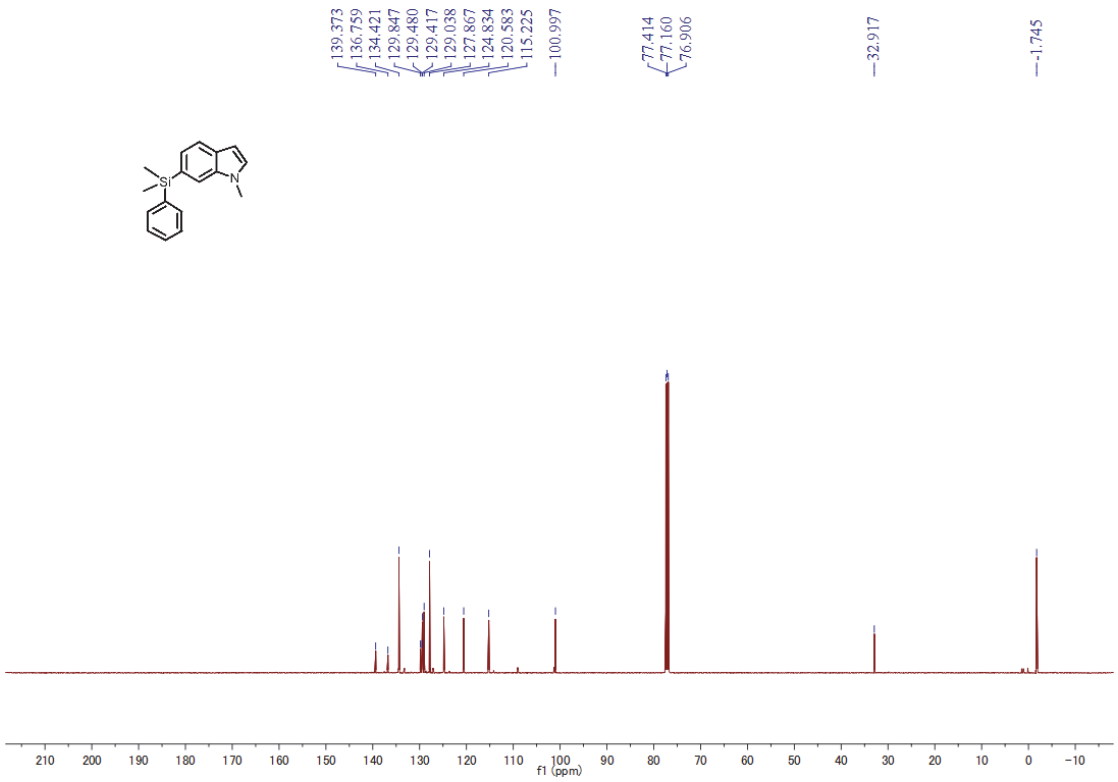
2.09
1.05
3.27
1.05
0.99
1.04
3.10
6.00
f1 (ppm)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76.906
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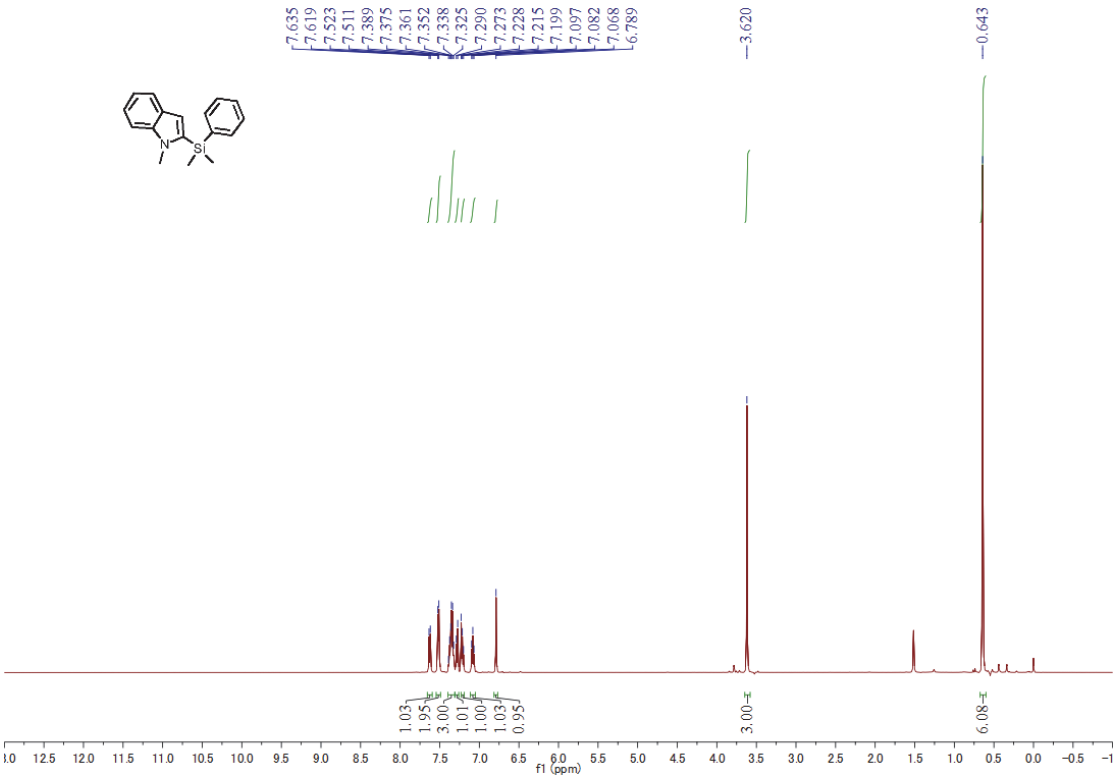
f1 (ppm)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7.325
7.290
7.273
7.228
7.215
7.199
7.097
7.082
7.068
6.789
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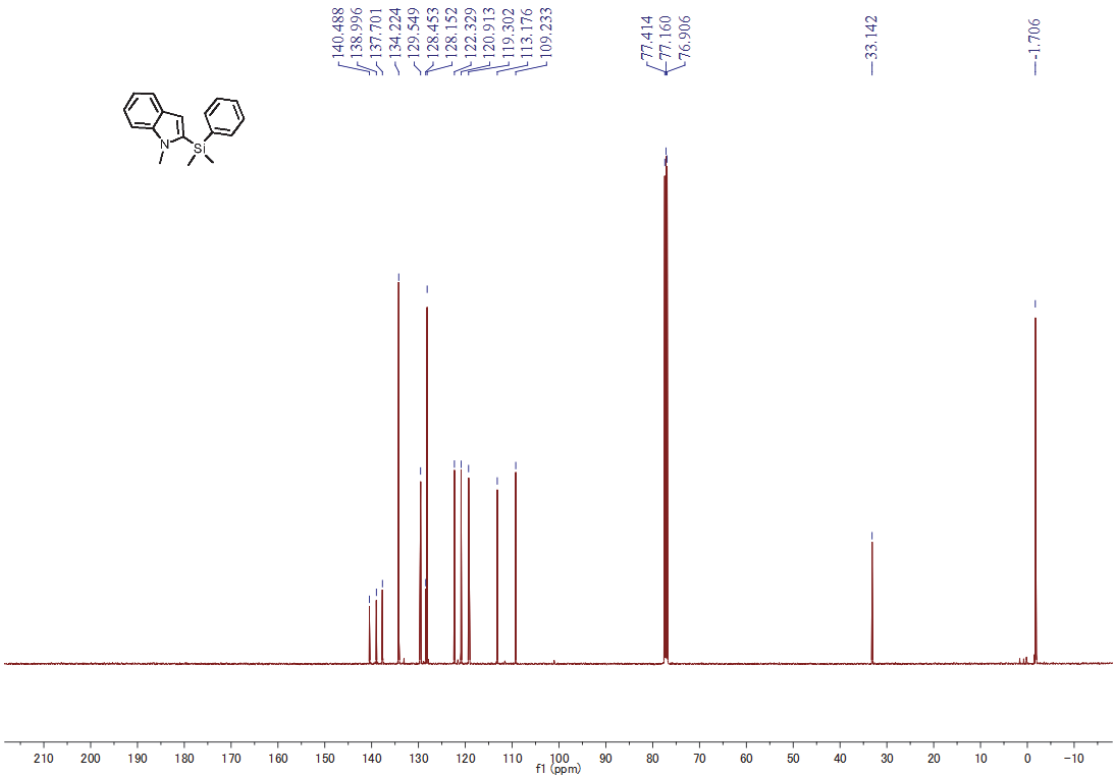
1.95
3.00
1.01
1.00
1.03
0.95
3.00
6.08
f1 (ppm)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76.906
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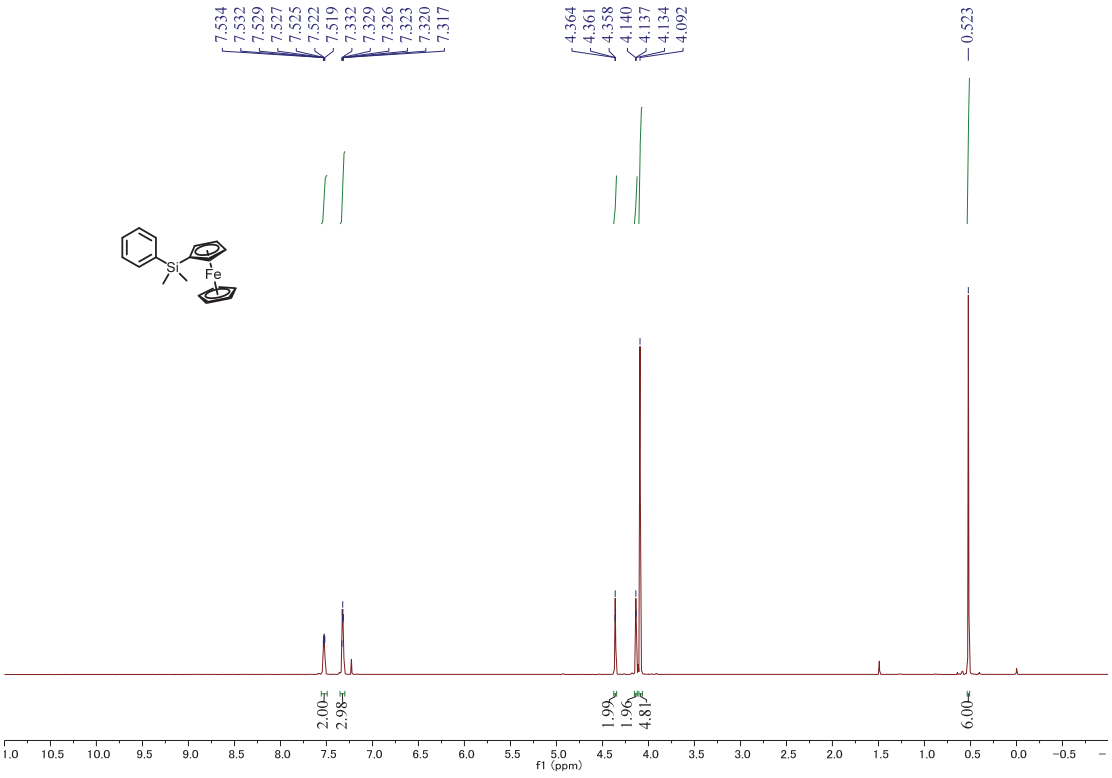
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7.522
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7.332
7.329
7.326
7.323
7.320
7.317
4.364
4.361
4.358
4.140
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Si
Fe
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1.96
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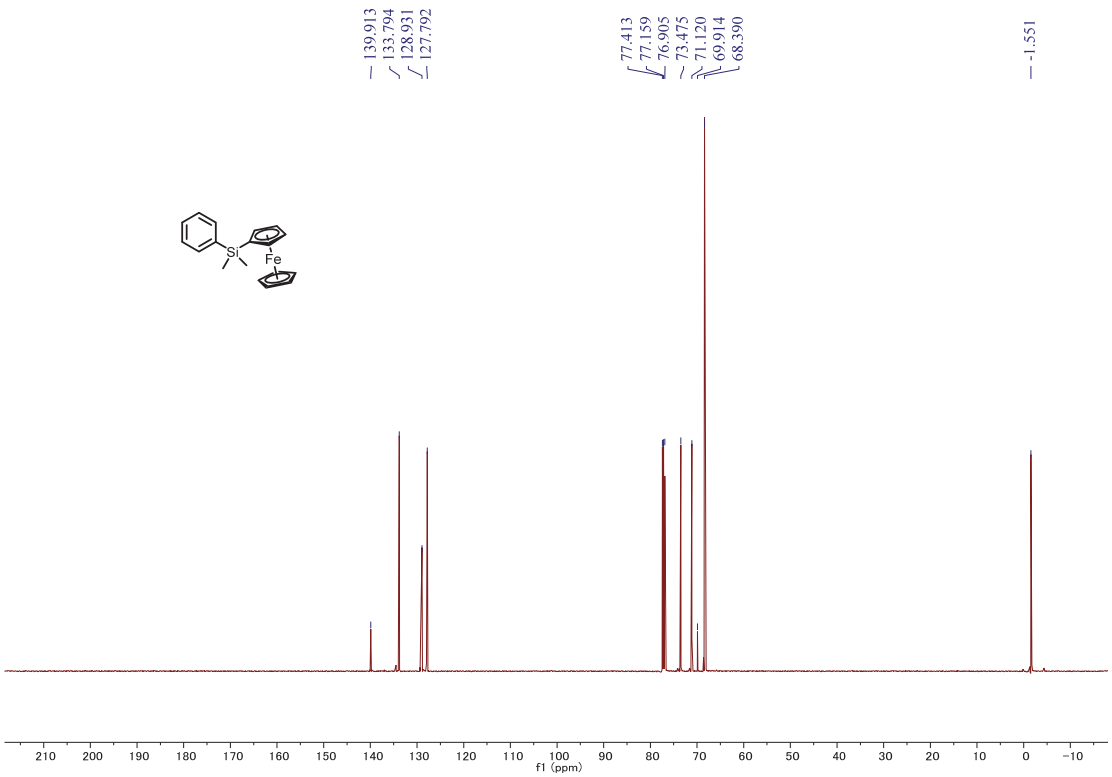
6.00
f1 (ppm)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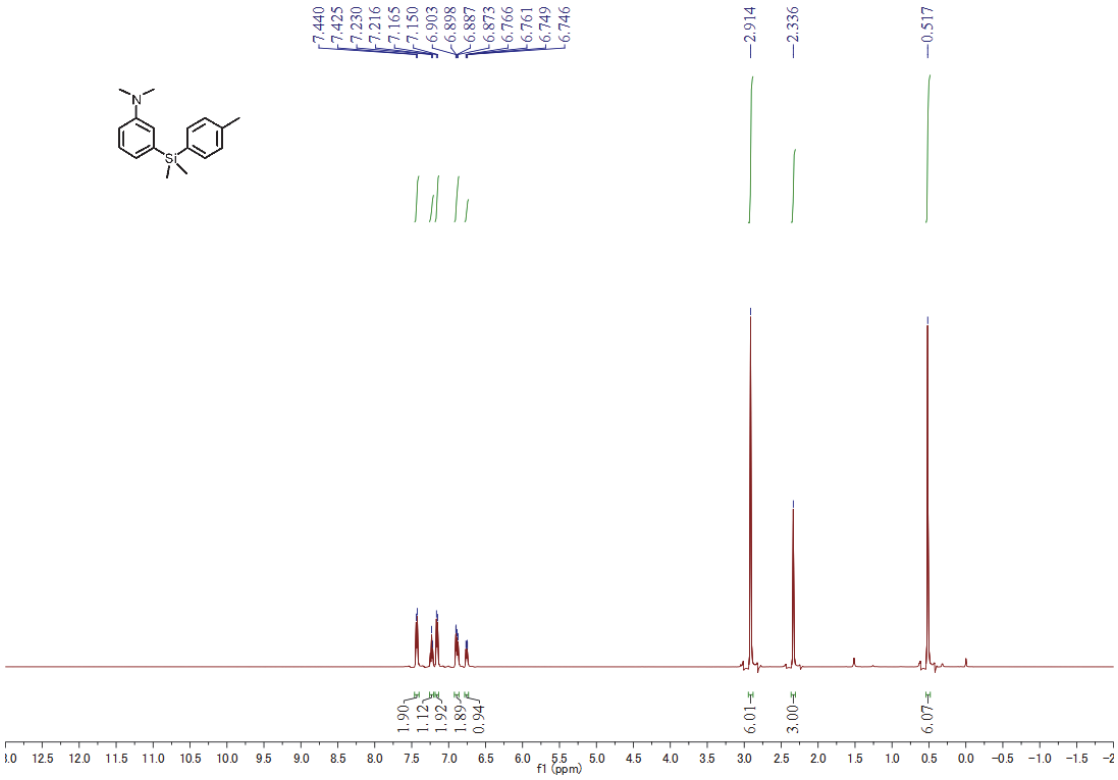
Si
Fe
f1 (ppm)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6.887
6.873
6.766
6.761
6.749
6.746
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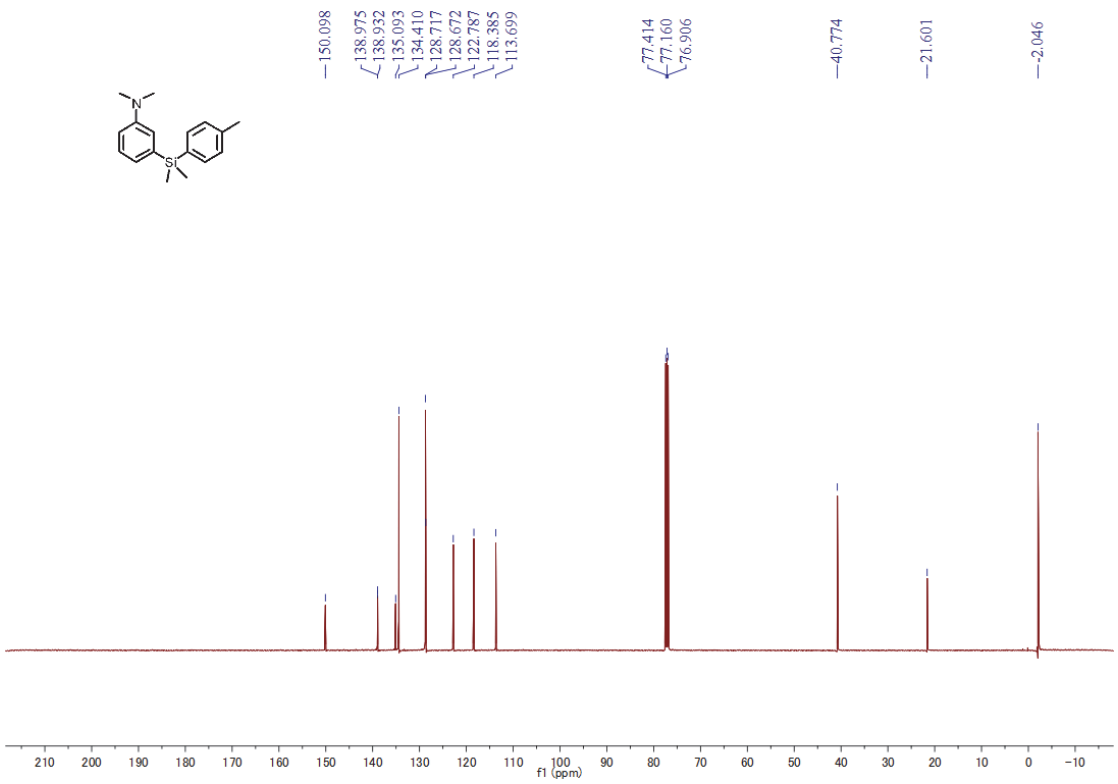
3.00
6.07
f1 (ppm)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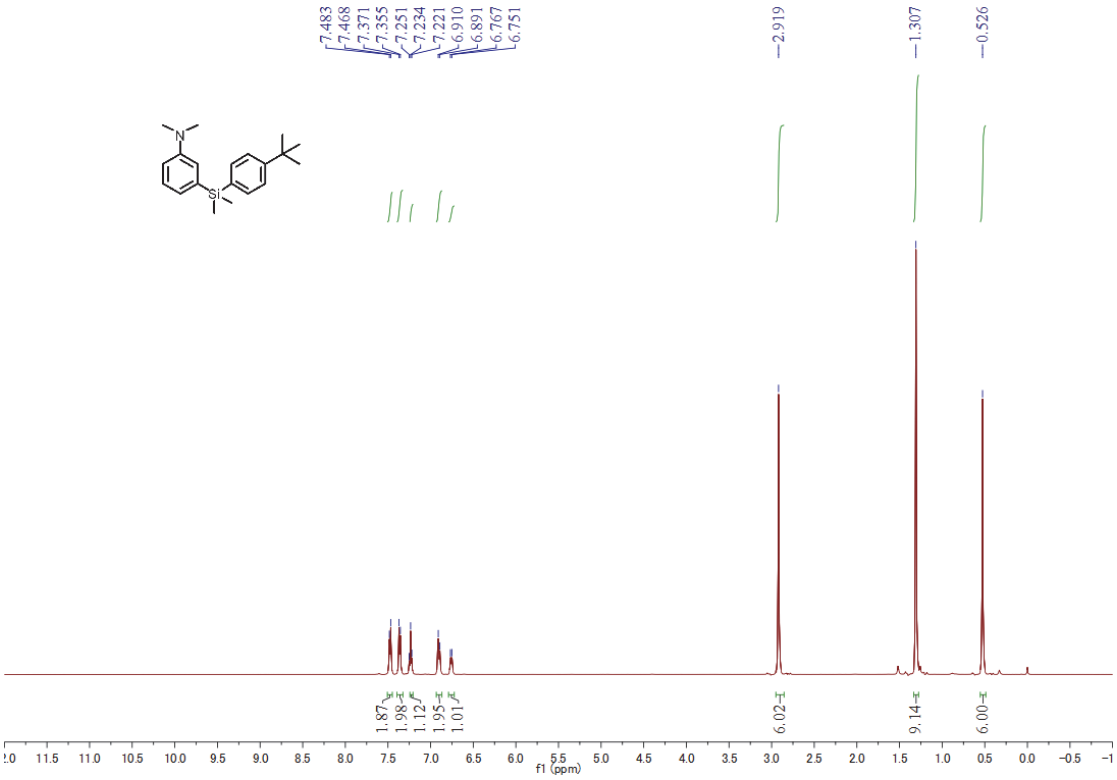
f1 (ppm)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7.221
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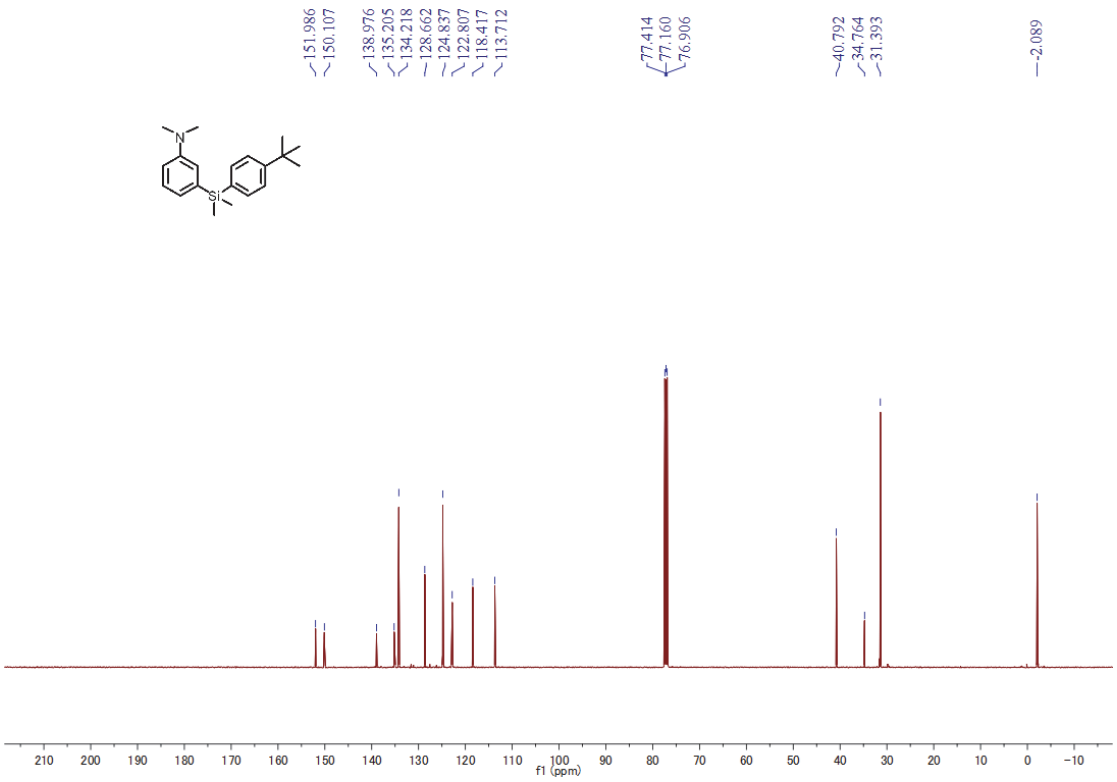
f1 (ppm)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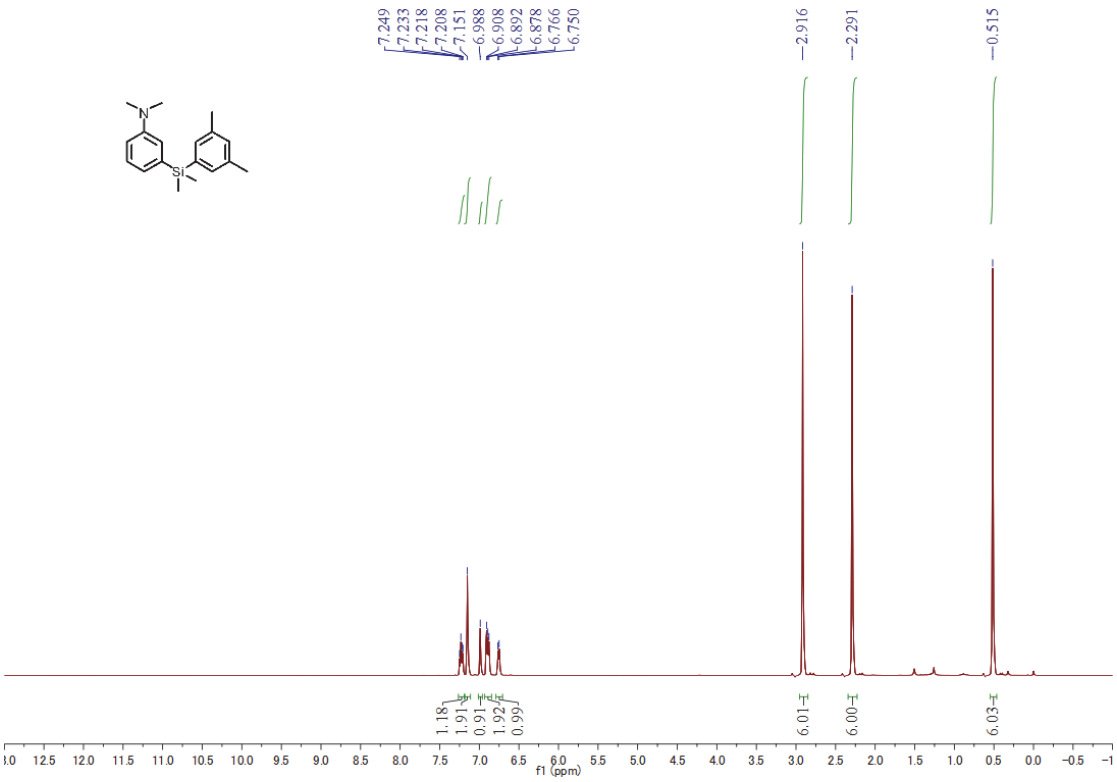
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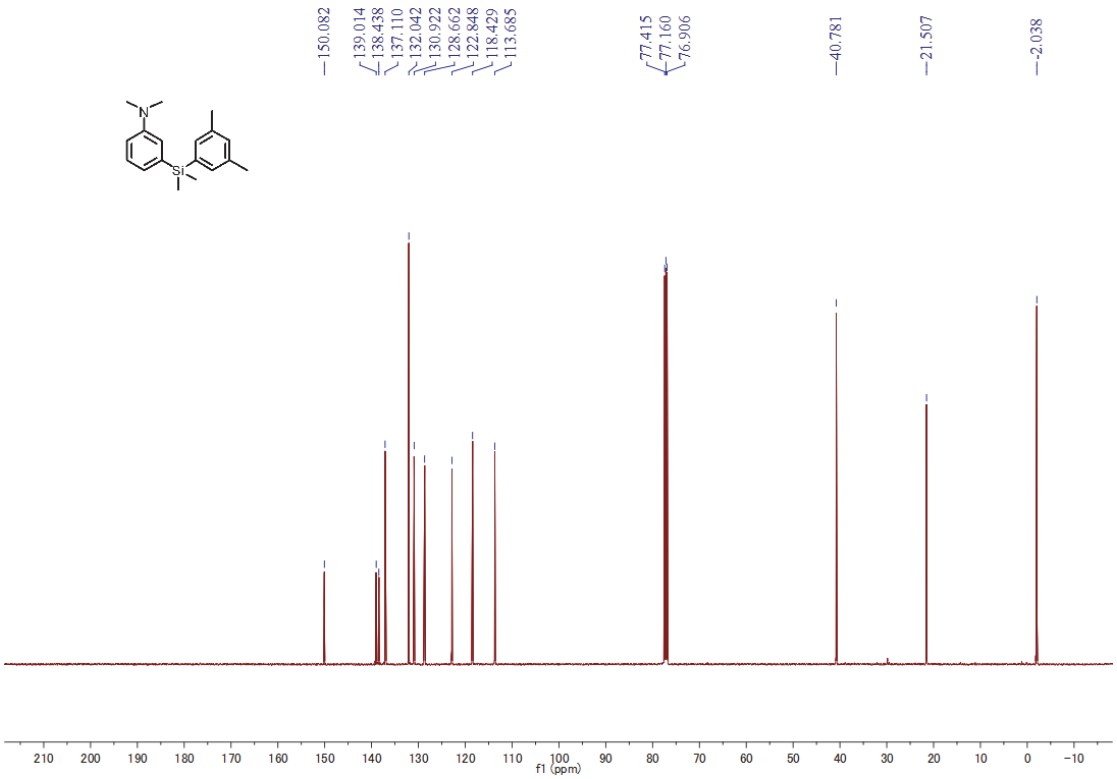
6.00
6.03
f1 (ppm)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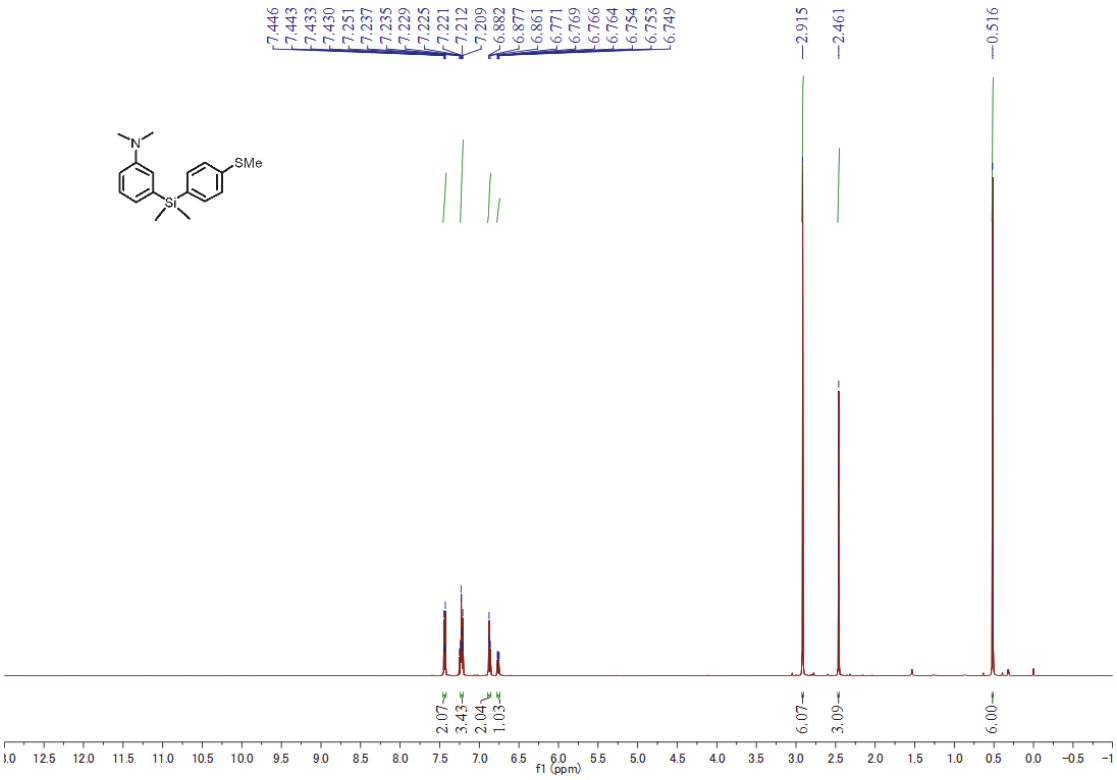
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6.861
6.771
6.769
6.766
6.764
6.754
6.753
6.749
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SMe
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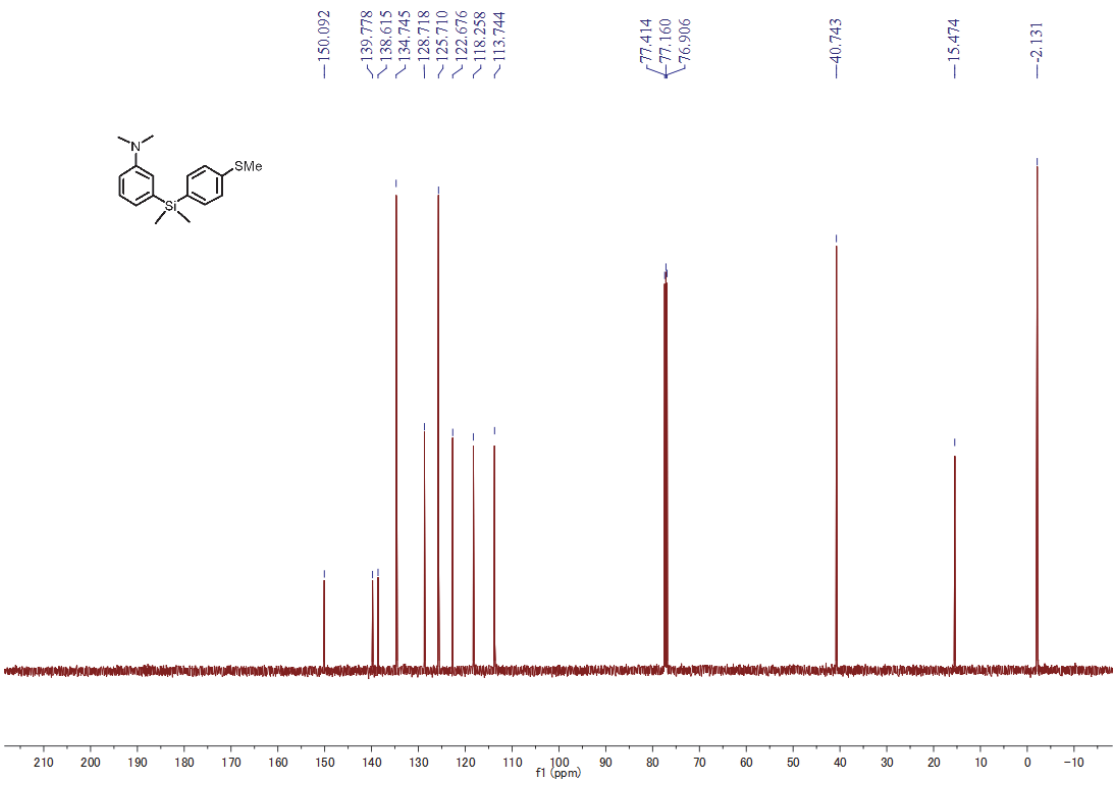
3.43
2.04
1.03
6.07
3.09
6.00
f1 (ppm)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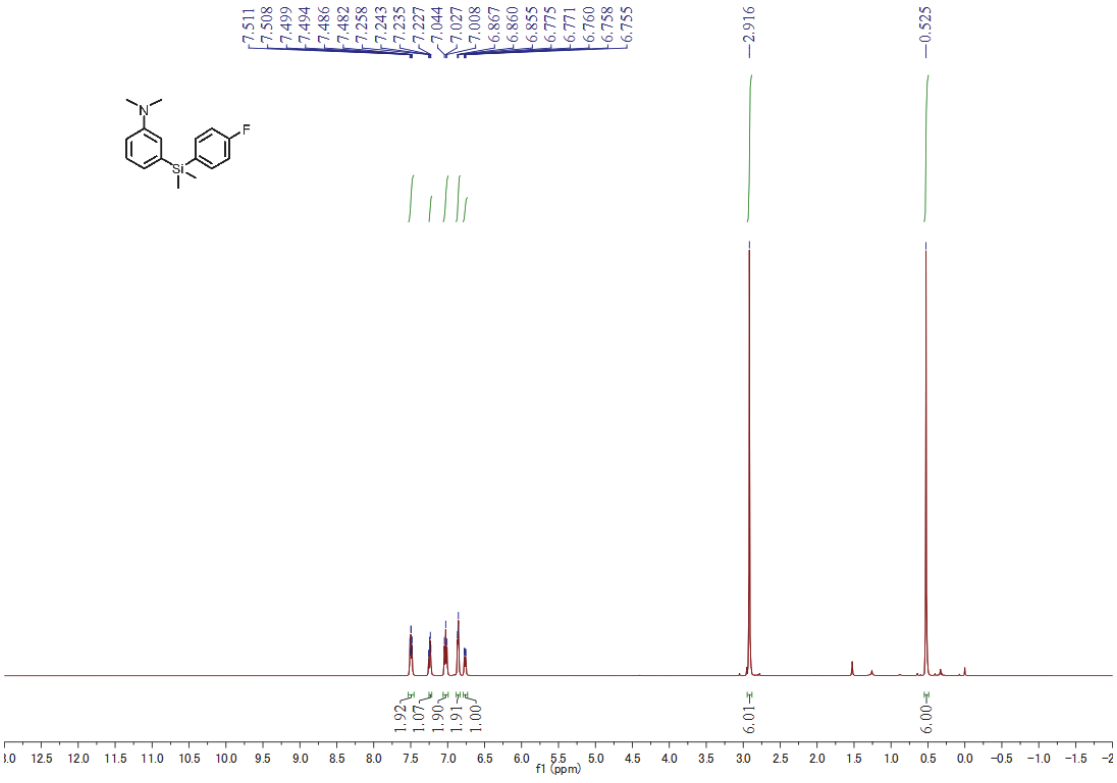
SMe
f1 (ppm)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6.860
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6.771
6.760
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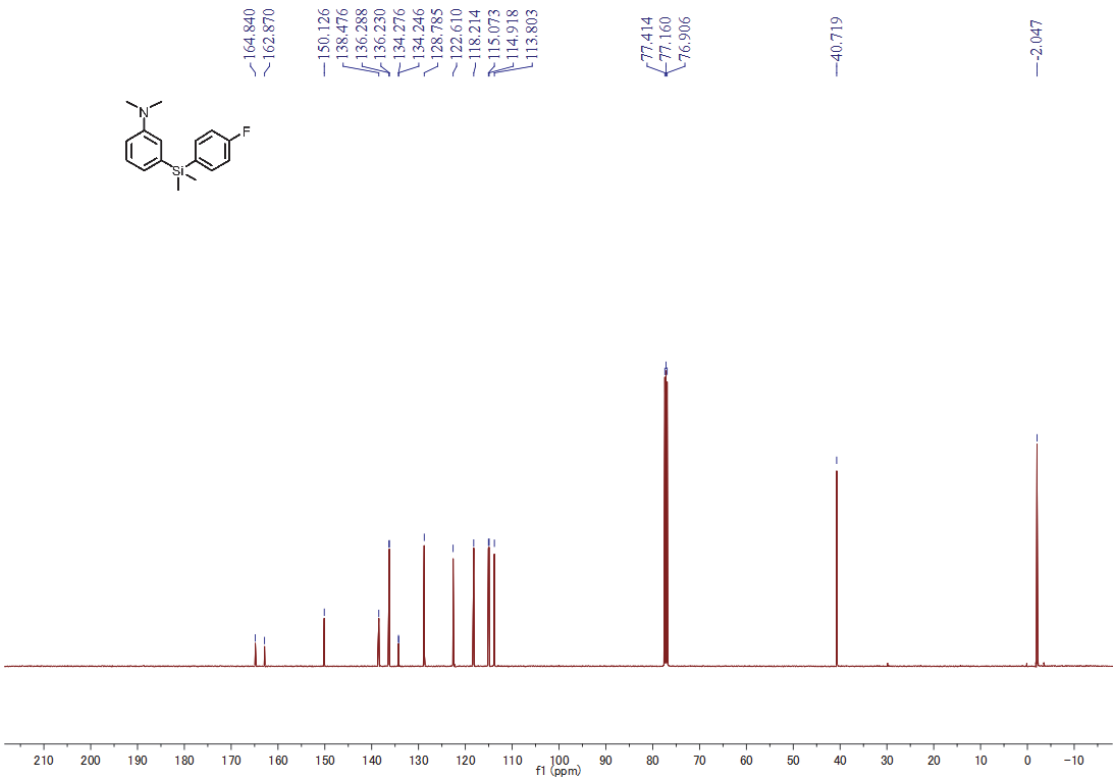
6.00
f1 (ppm)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76.906
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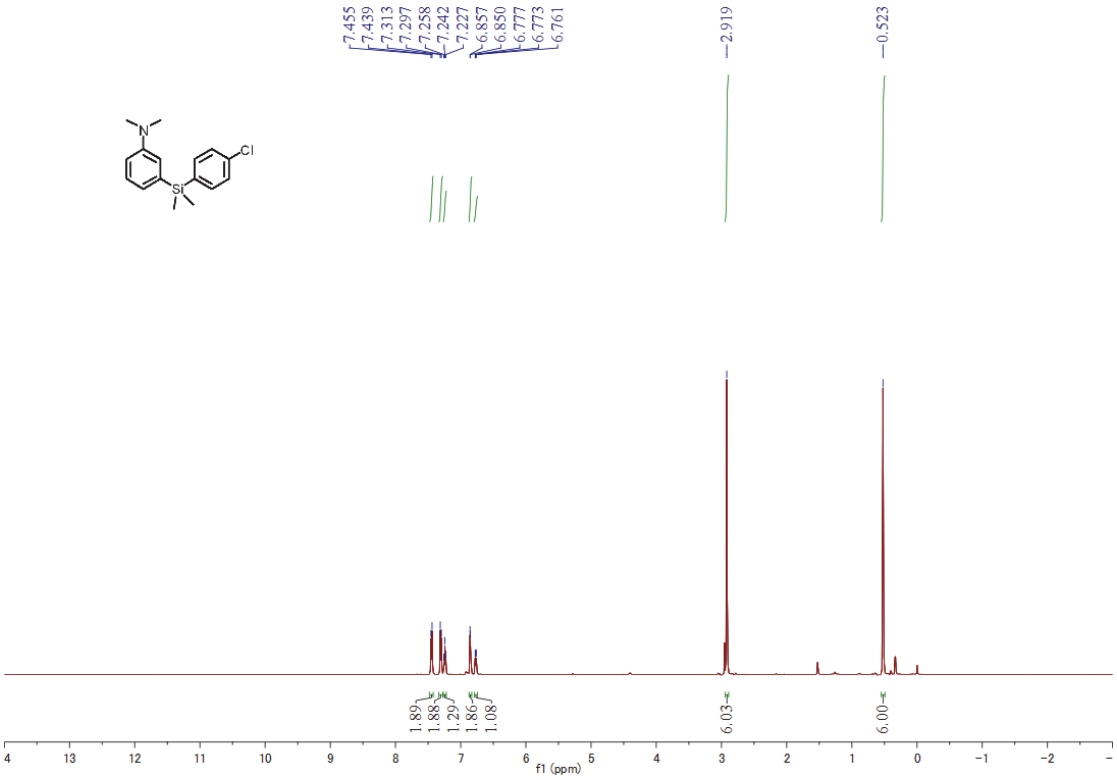
-2.047
f1 (ppm)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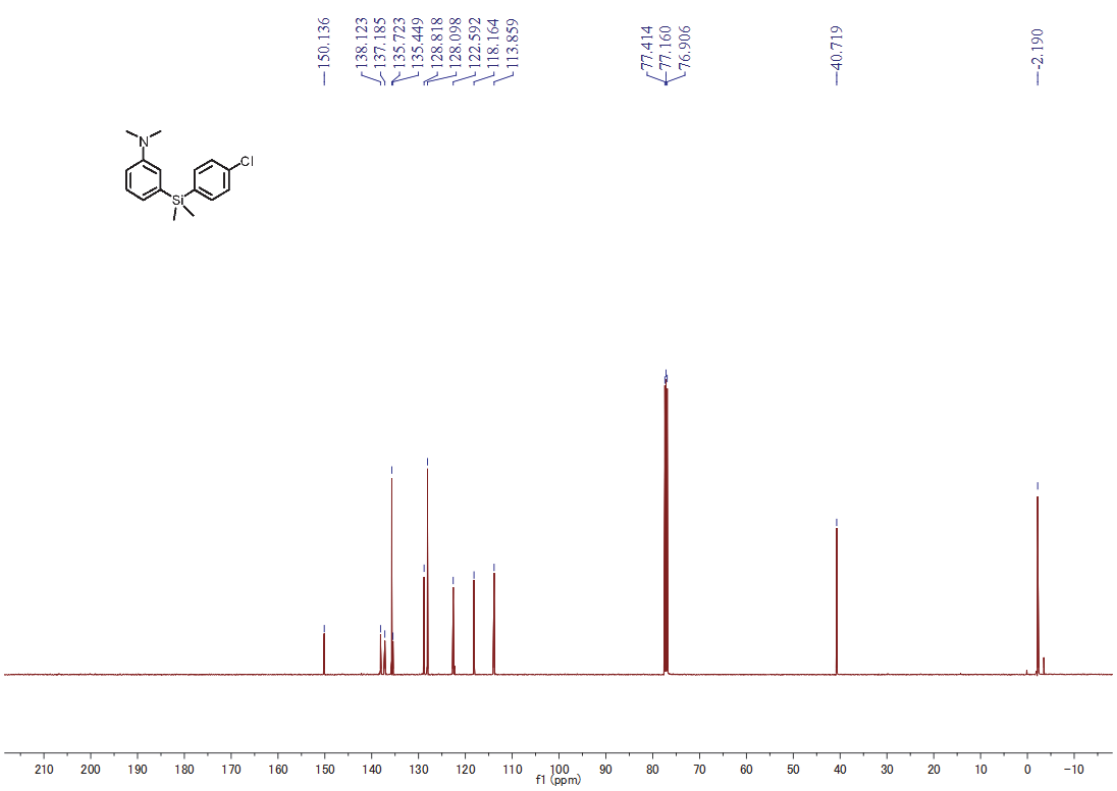
6.00
f1 (ppm)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Cl
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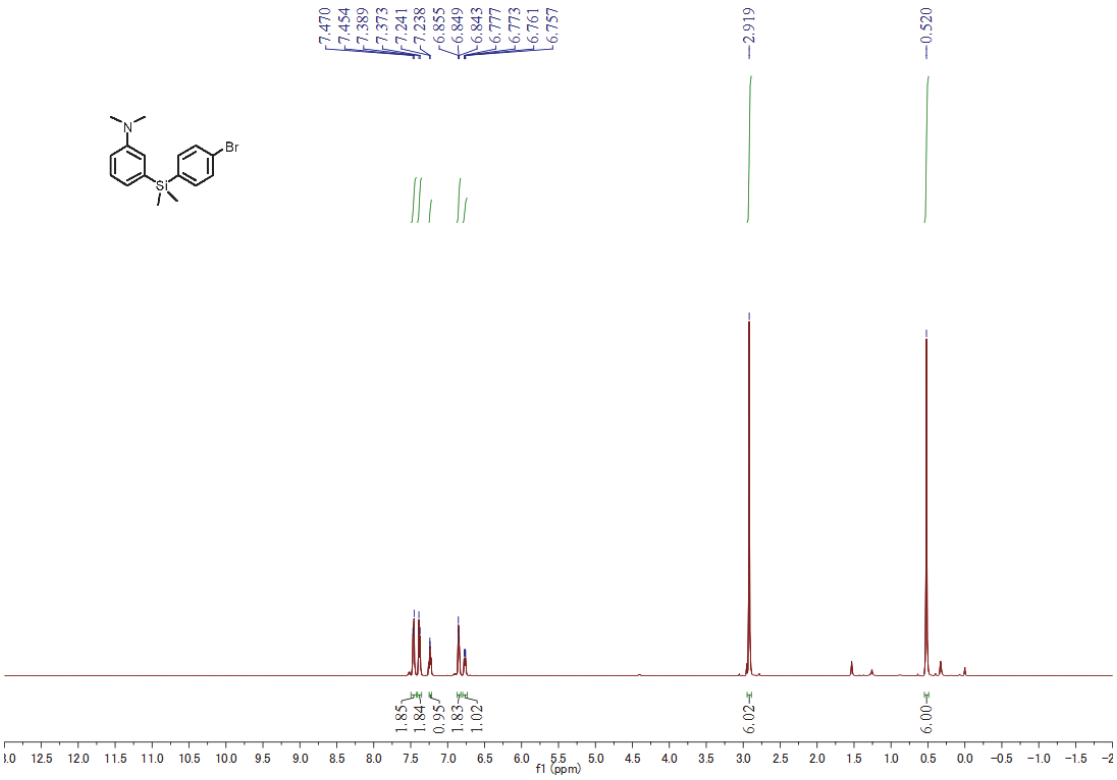
f1 (ppm)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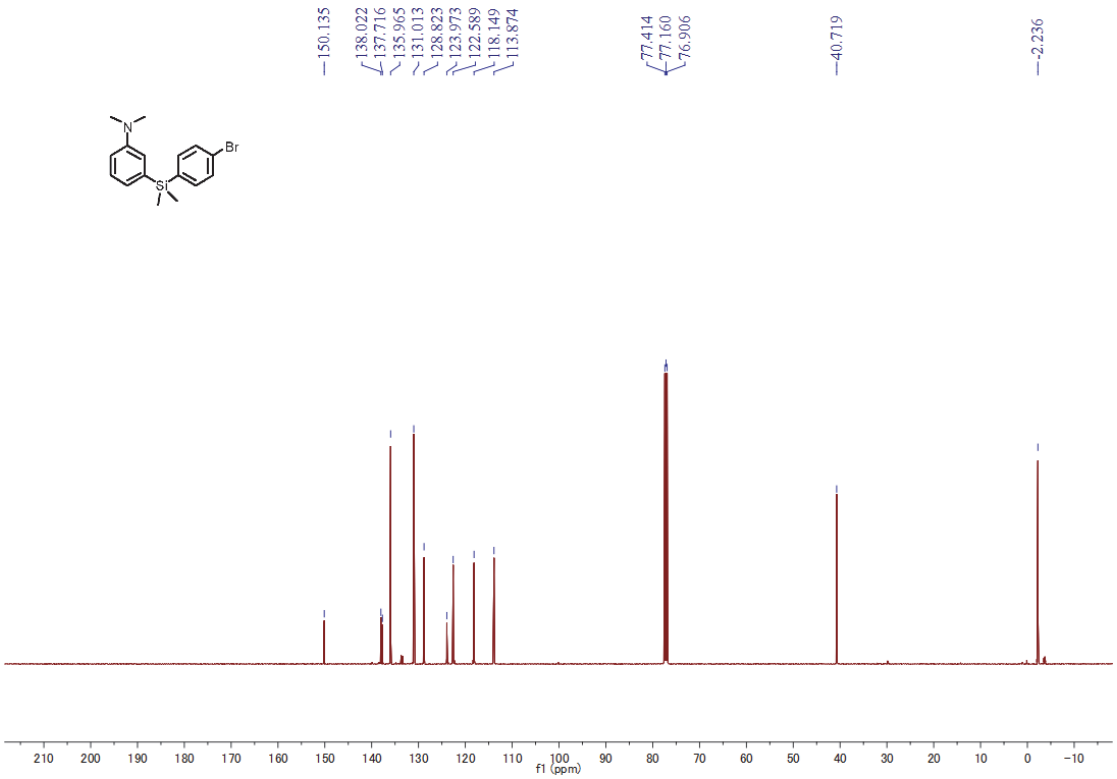
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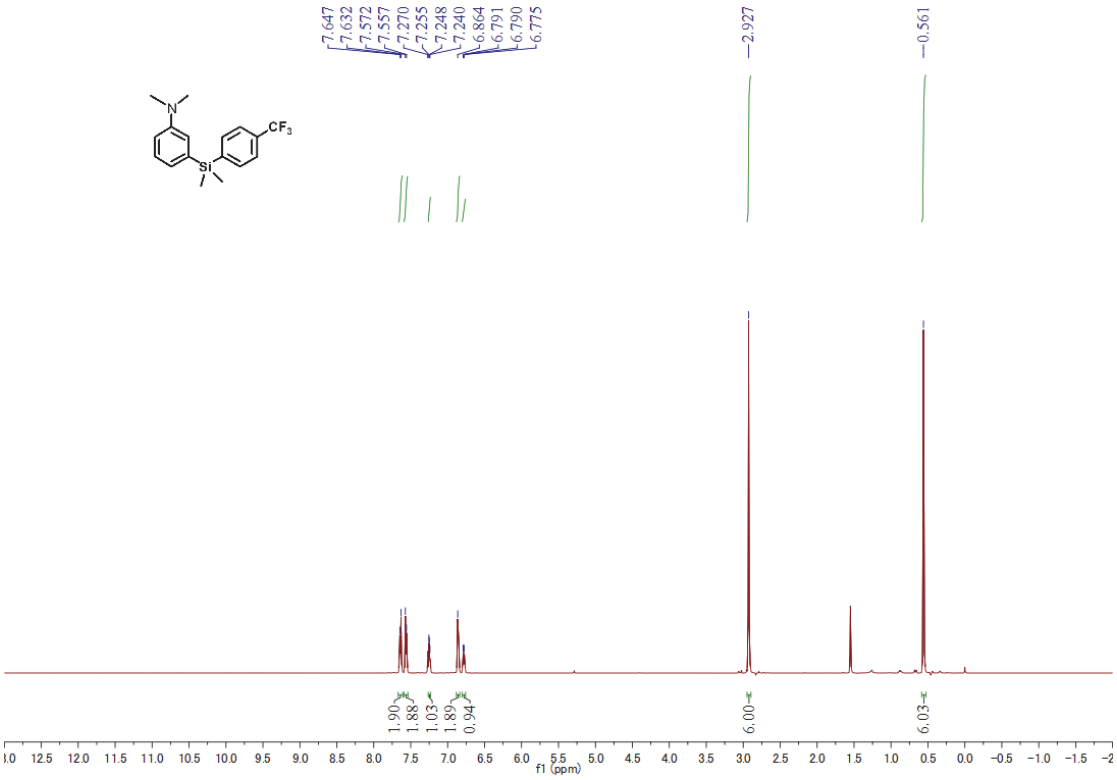
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6.791
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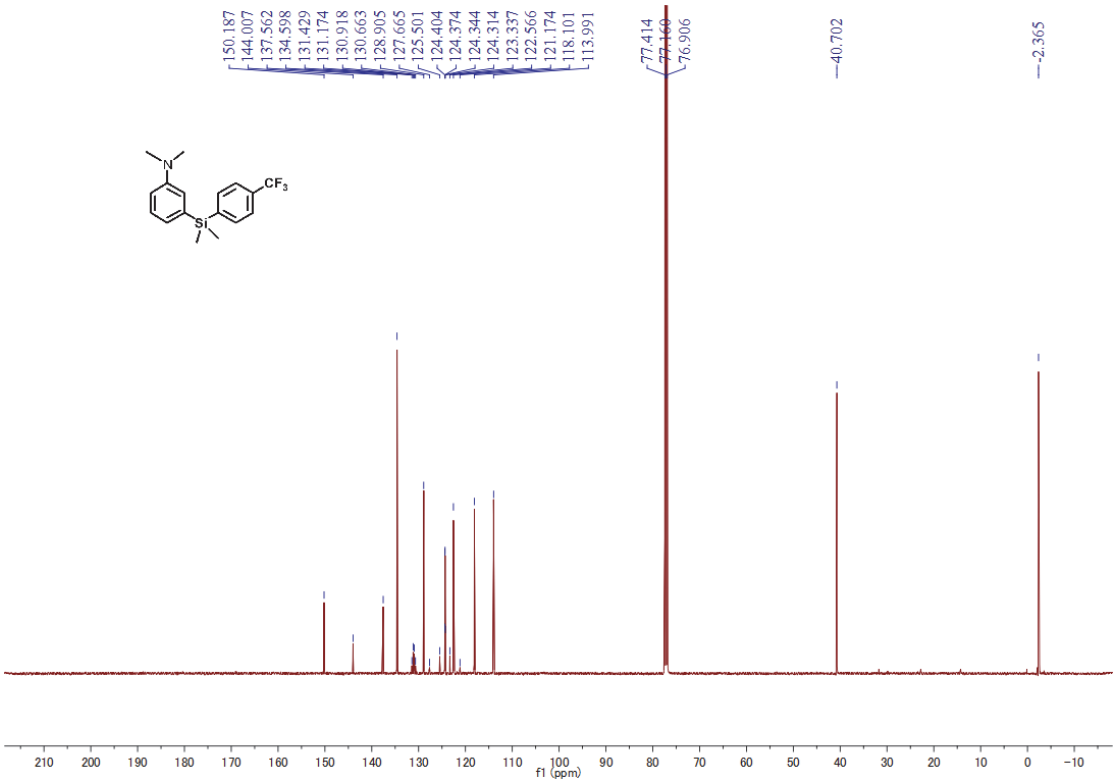
6.03
f1 (ppm)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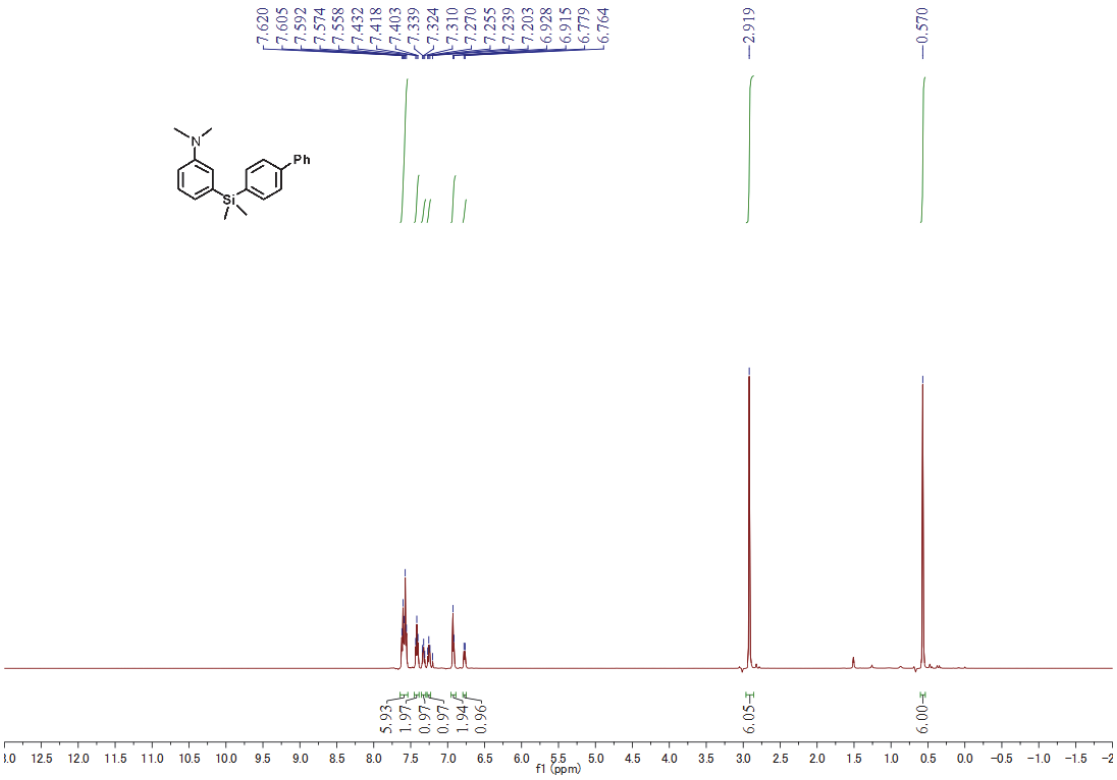
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7.203
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6.915
6.779
6.764
2.919
0.570
Ph
Si
N
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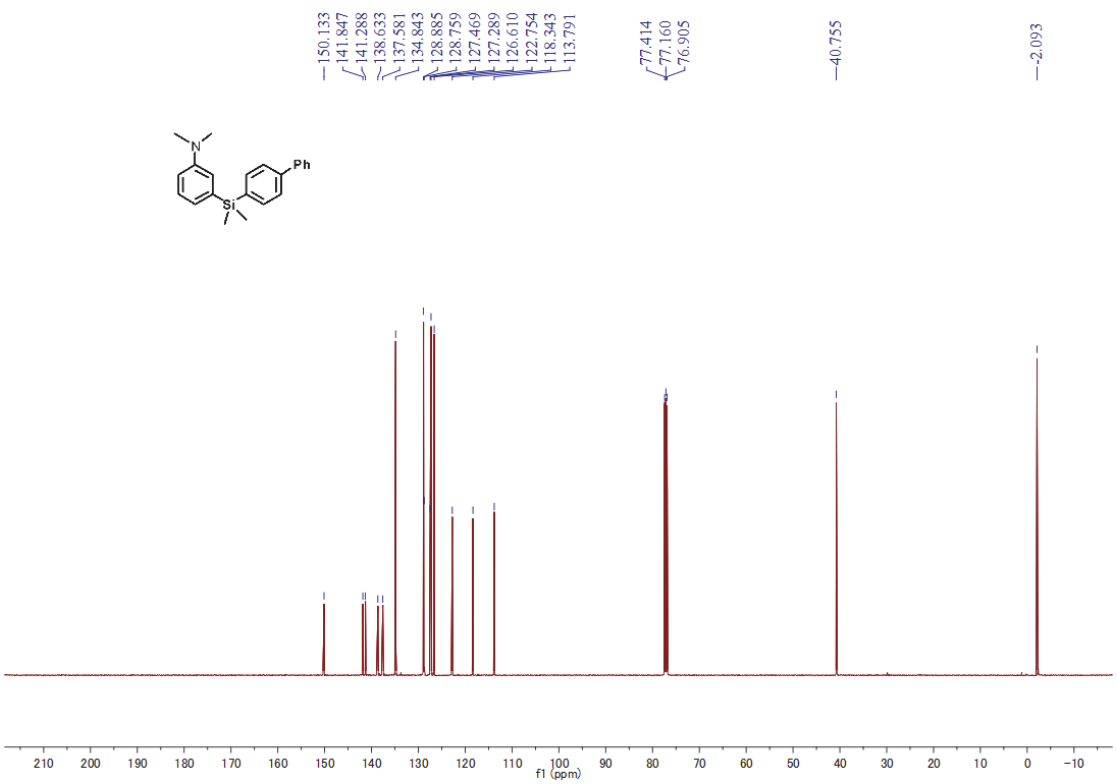
1.97
0.97
0.97
1.94
0.96
6.05
6.00
f1 (ppm)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127.289
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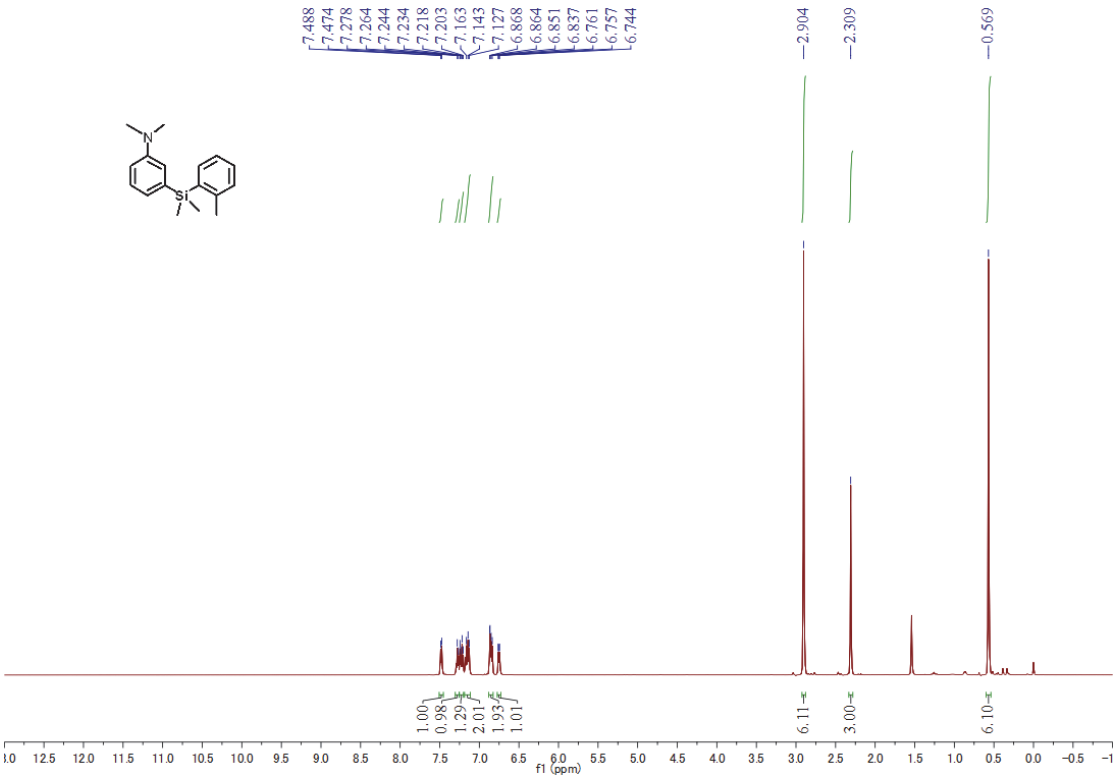
77.414
77.160
76.905
40.755
-2.093
Ph
Si
N
f1 (ppm)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7.218
7.203
7.163
7.143
7.127
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6.864
6.851
6.837
6.761
6.757
6.744
2.904
2.309
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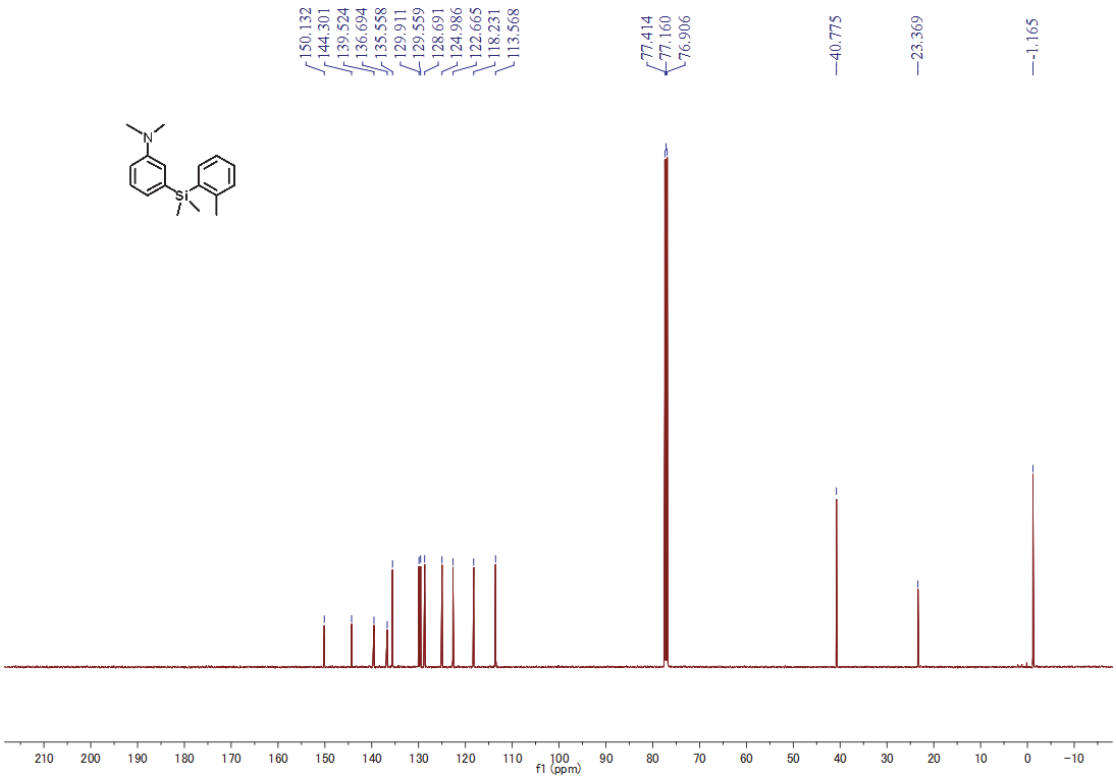
0.98
1.29
2.01
1.93
1.01
6.11
3.00
6.10
f1 (ppm)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128.691
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76.906
40.775
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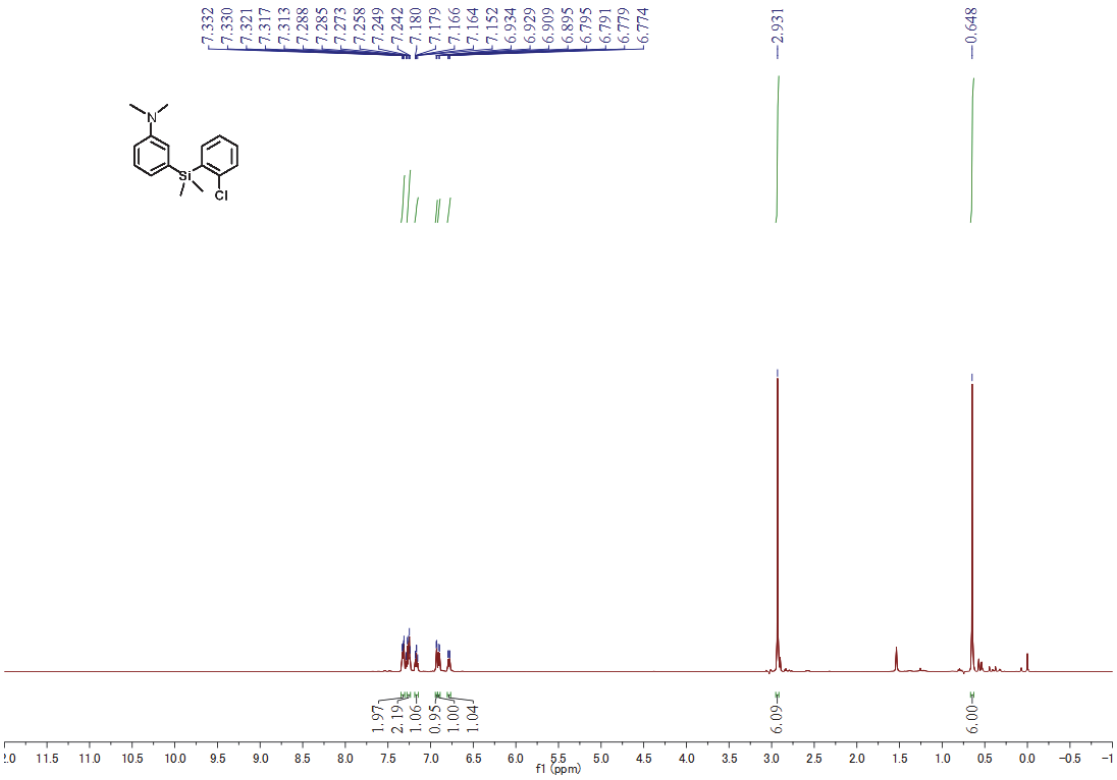
f1 (ppm)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7.273
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7.249
7.242
7.180
7.179
7.166
7.164
7.152
6.934
6.929
6.909
6.895
6.795
6.791
6.779
6.774
2.931
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Si
Cl
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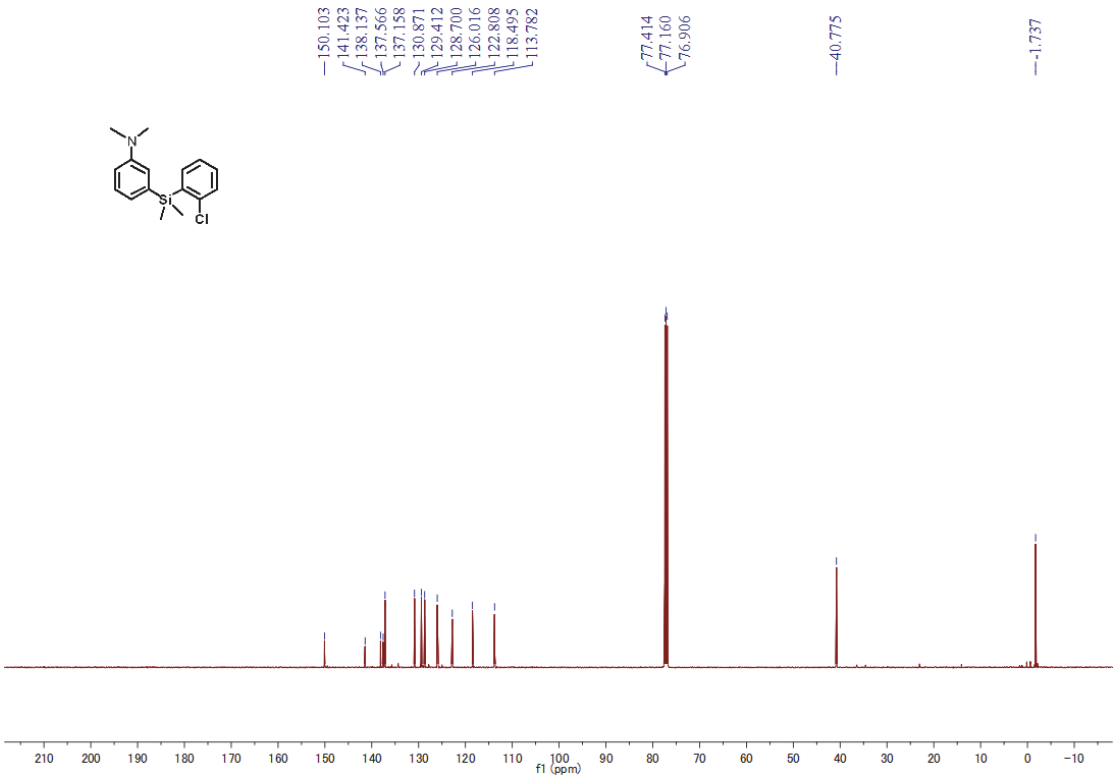
2.19
1.06
0.95
1.00
1.04
6.09
6.00
f1 (ppm)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77.160
76.906
40.775
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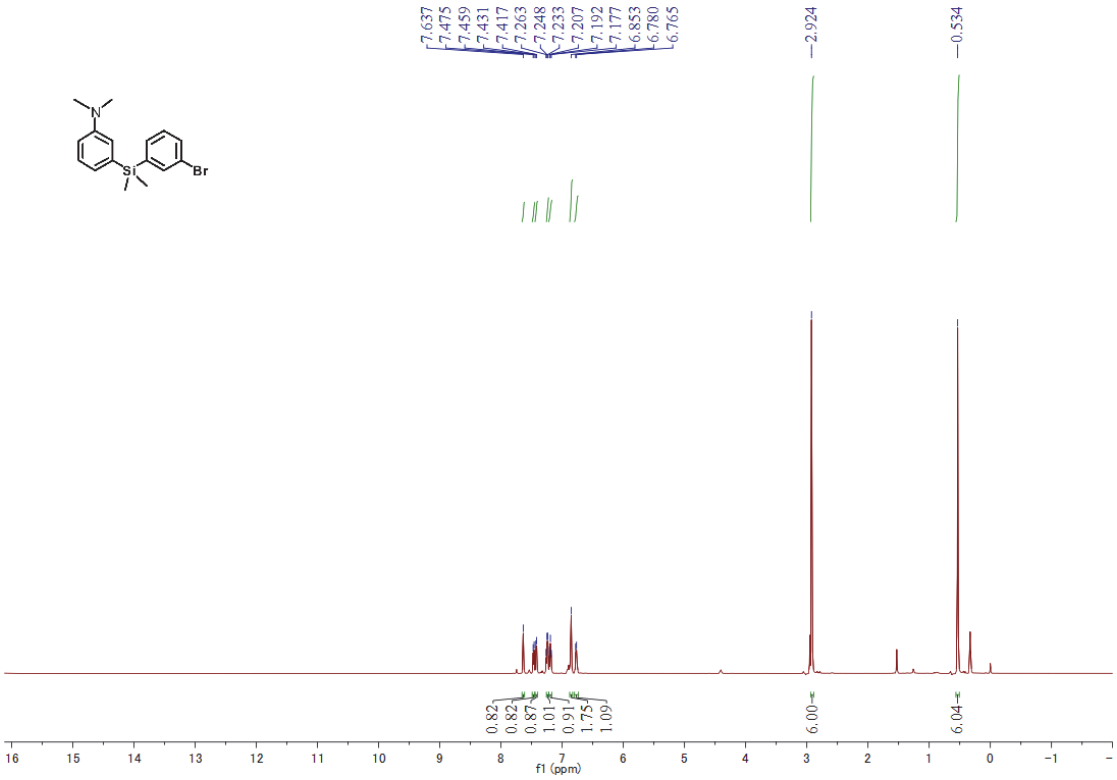
Si
Cl
f1 (ppm)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7.248
7.233
7.207
7.192
7.177
6.853
6.780
6.765
2.924
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Br
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0.82
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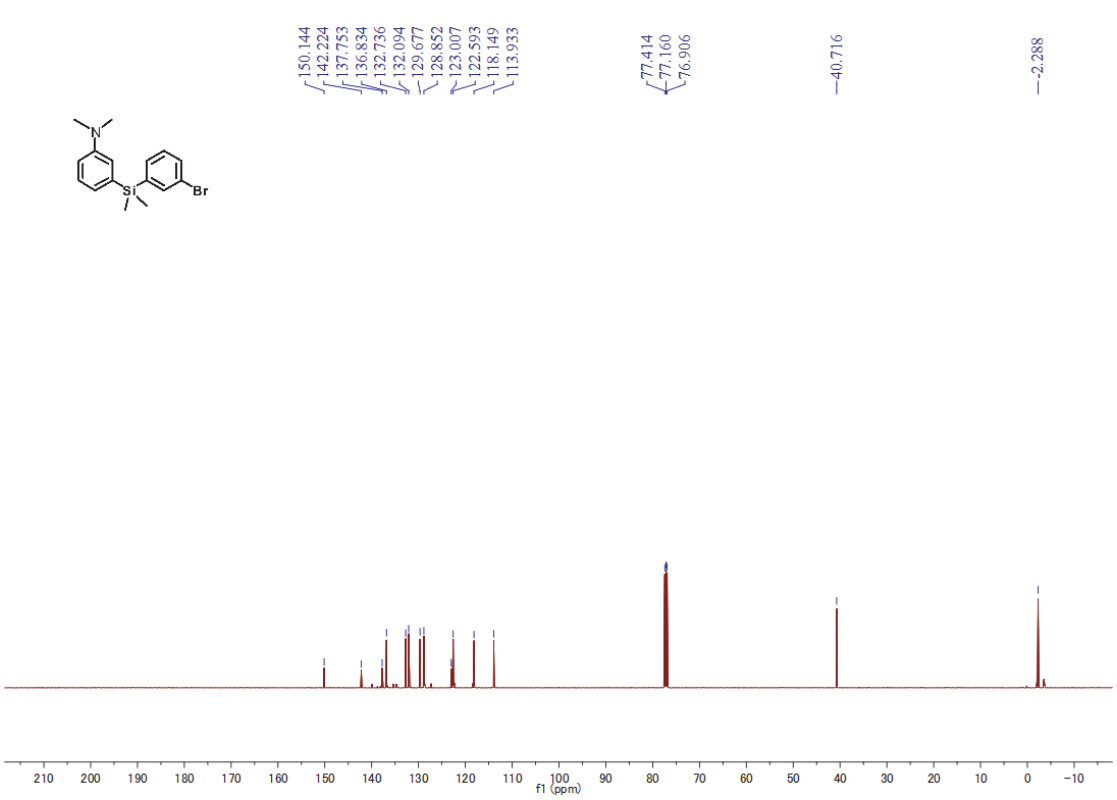
1.01
0.91
1.75
1.09
6.00
6.04
f1 (ppm)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128.852
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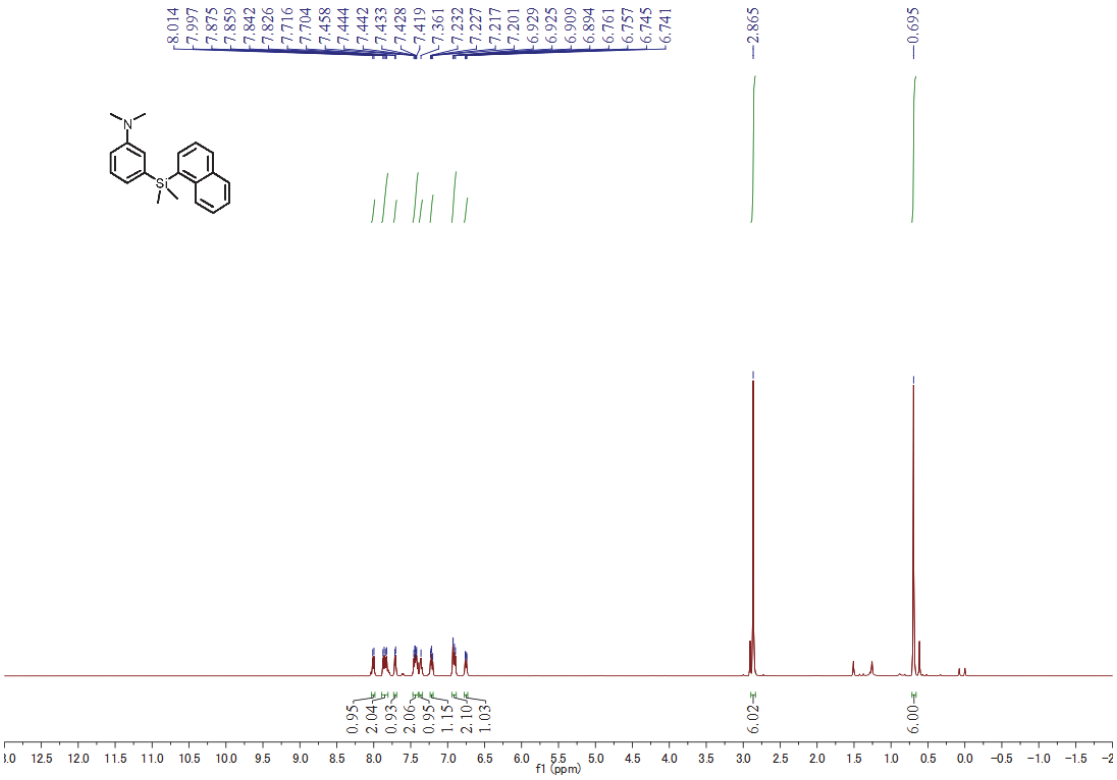
77.160
76.906
40.716
-2.288
Br
f1 (ppm)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7.875
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7.826
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7.704
7.458
7.444
7.442
7.433
7.428
7.419
7.361
7.232
7.227
7.217
7.201
6.929
6.925
6.909
6.894
6.761
6.757
6.745
6.741
2.865
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0.95
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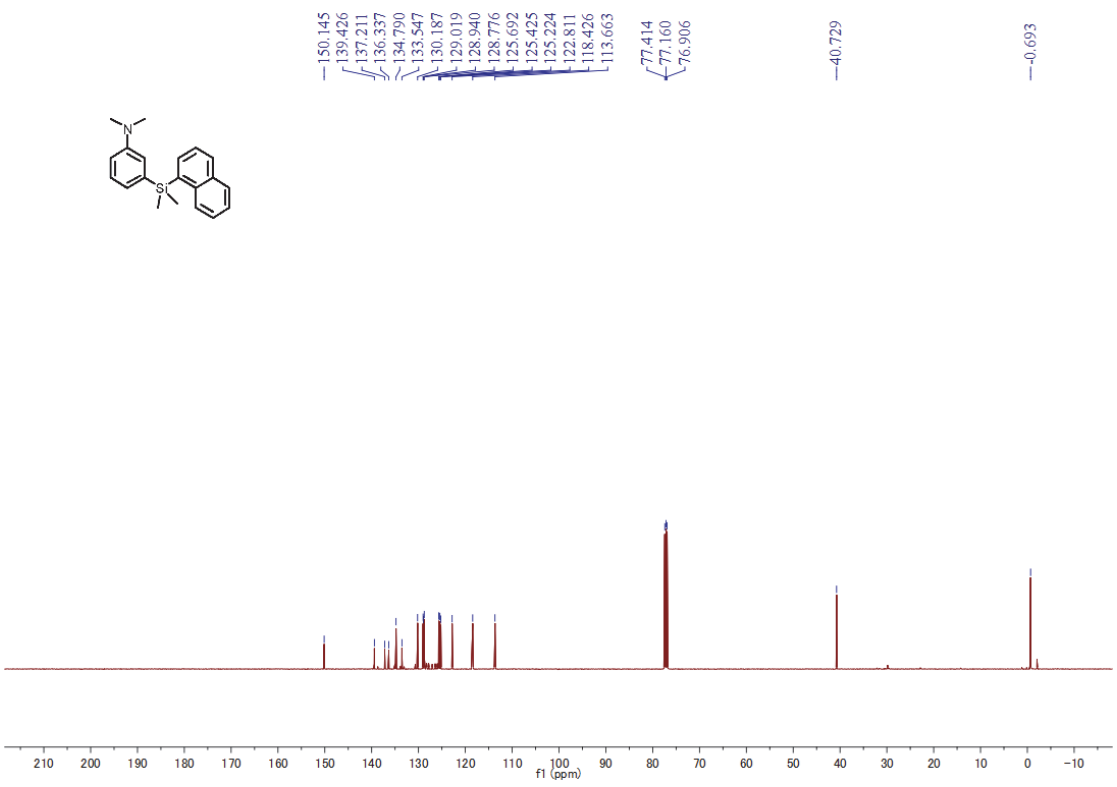
0.93
2.06
0.95
1.15
2.10
1.03
6.02
6.00
f1 (ppm)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137.211
136.337
134.790
133.547
130.187
129.019
128.940
128.776
125.692
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125.224
122.811
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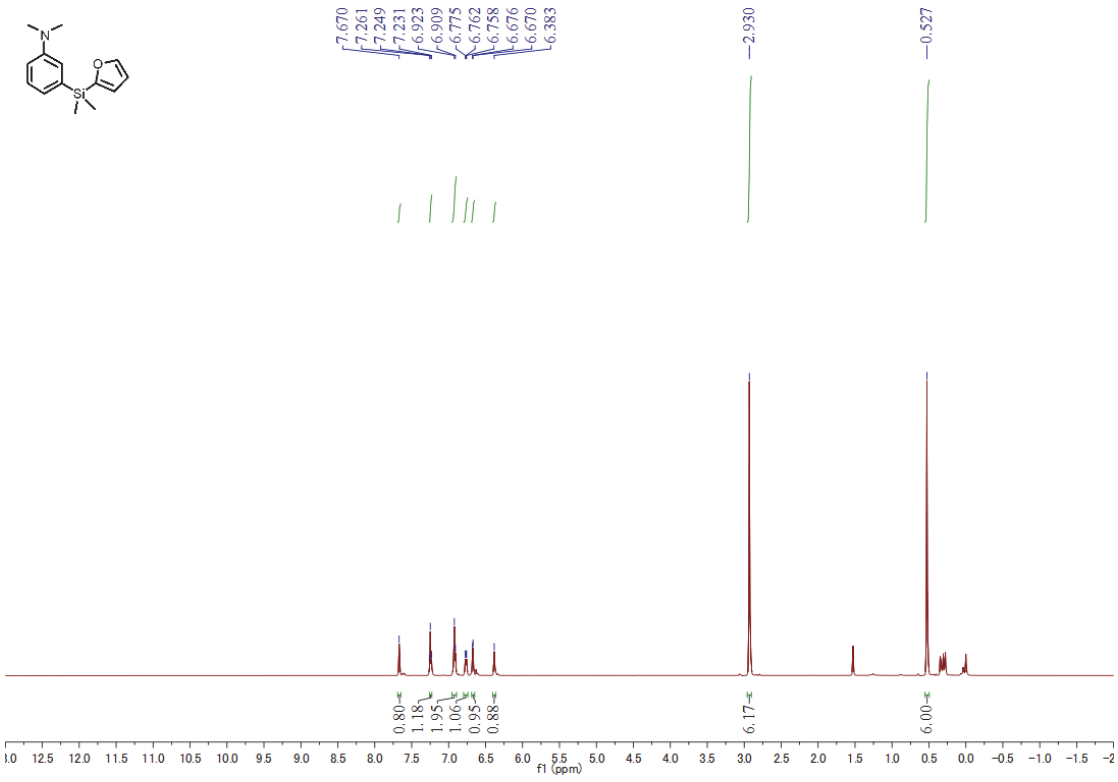
113.663
77.414
77.160
76.906
40.729
0.693
f1 (ppm)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7.261
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7.231
6.923
6.909
6.775
6.762
6.758
6.676
6.670
6.383
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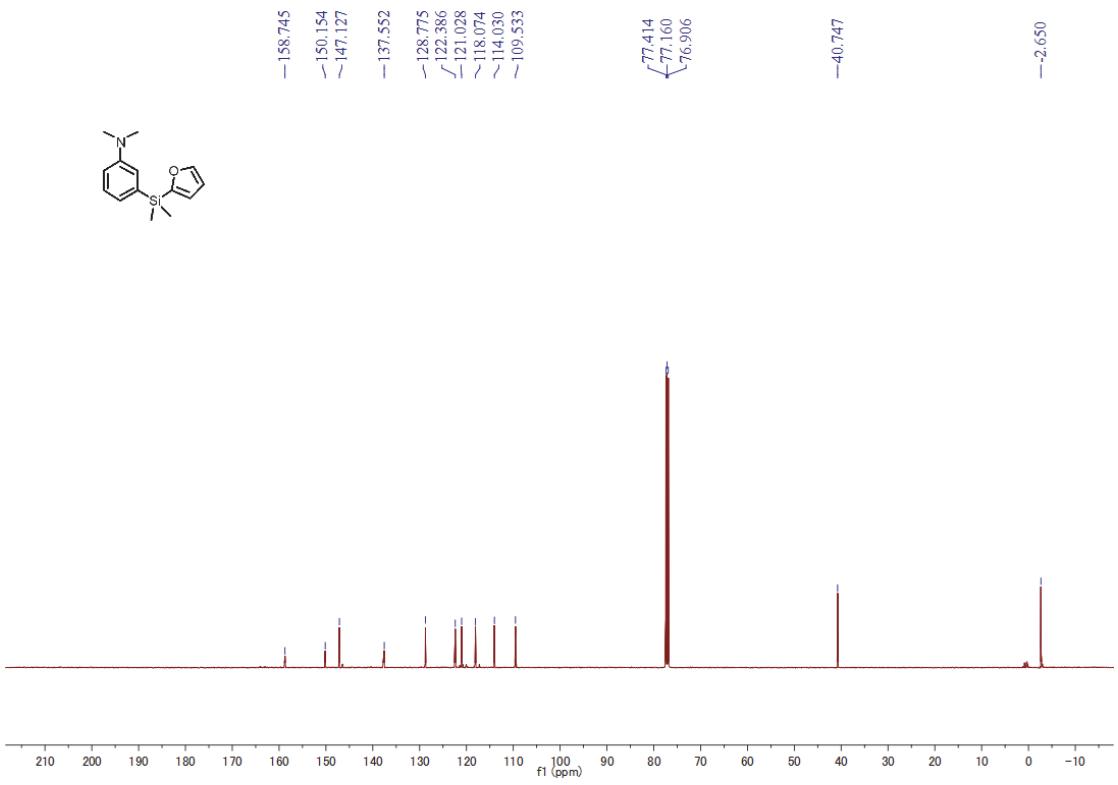
0.80
1.18
1.95
1.06
0.95
0.88
6.17
6.00
f1 (ppm)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147.127
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109.533
77.414
77.160
76.906
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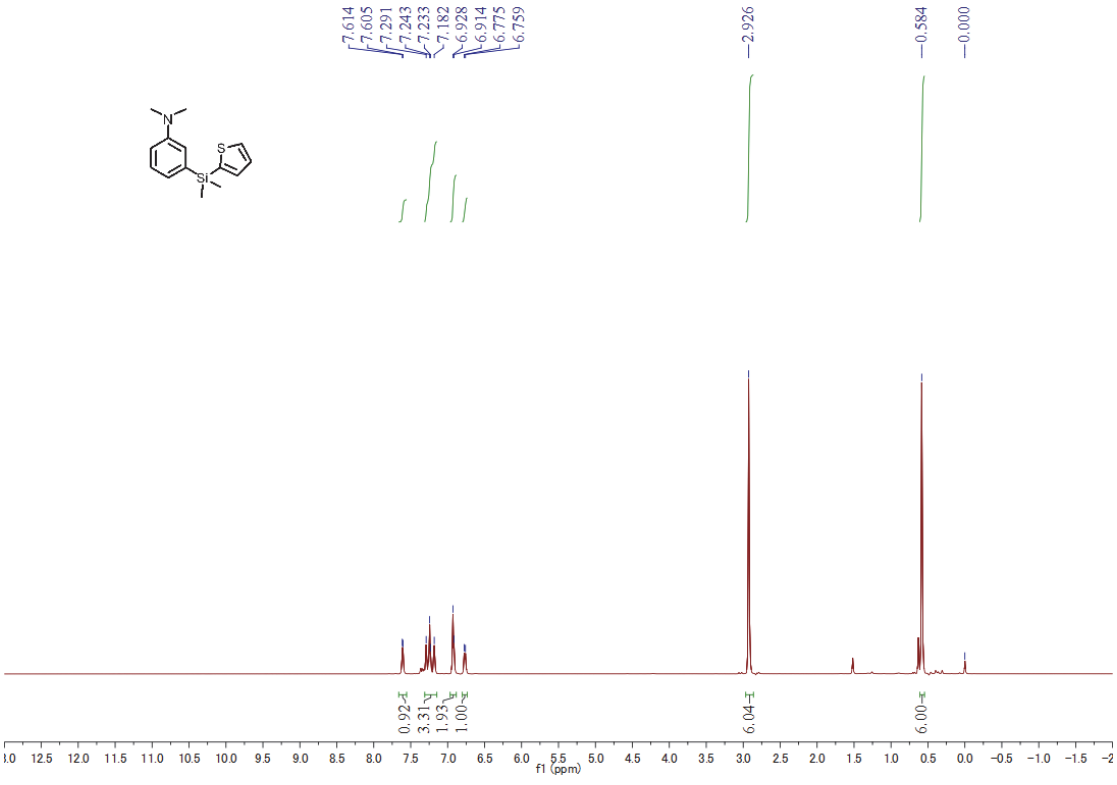
-2.650
f1 (ppm)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7.605
7.291
7.243
7.233
7.182
6.928
6.914
6.775
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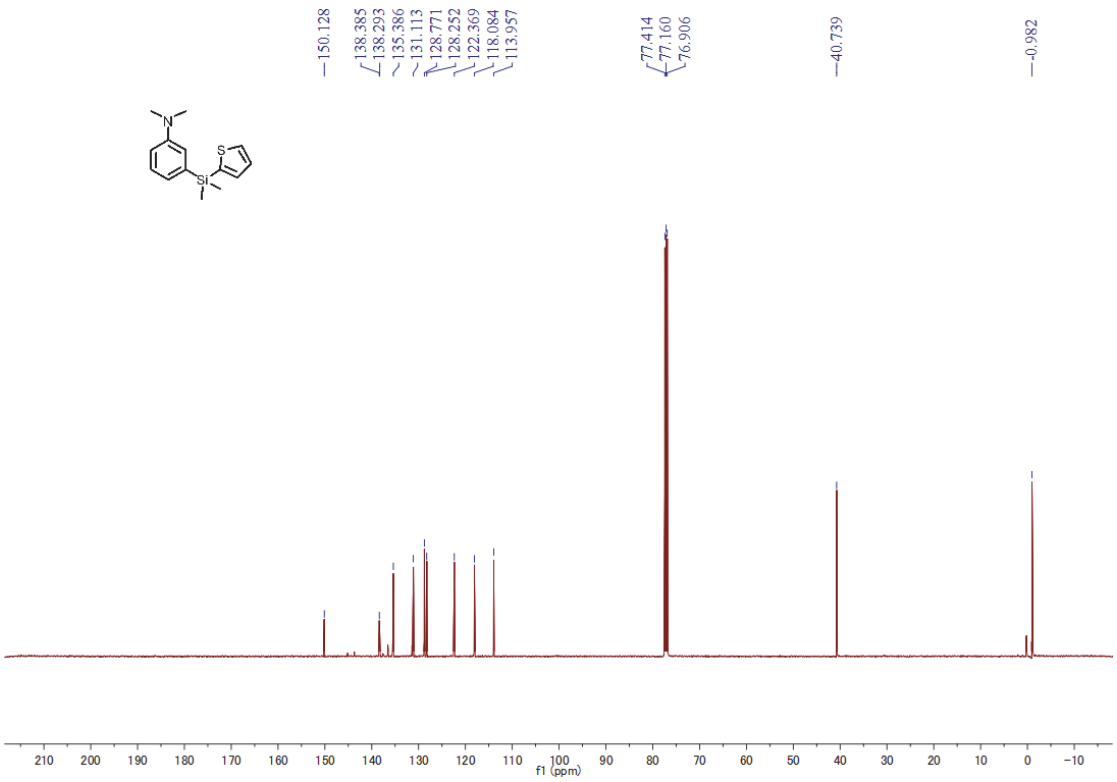
0.000
0.92
3.31
1.93
1.00
6.04
6.00
f1 (ppm)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138.293
135.386
131.113
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122.369
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113.957
77.414
77.160
76.906
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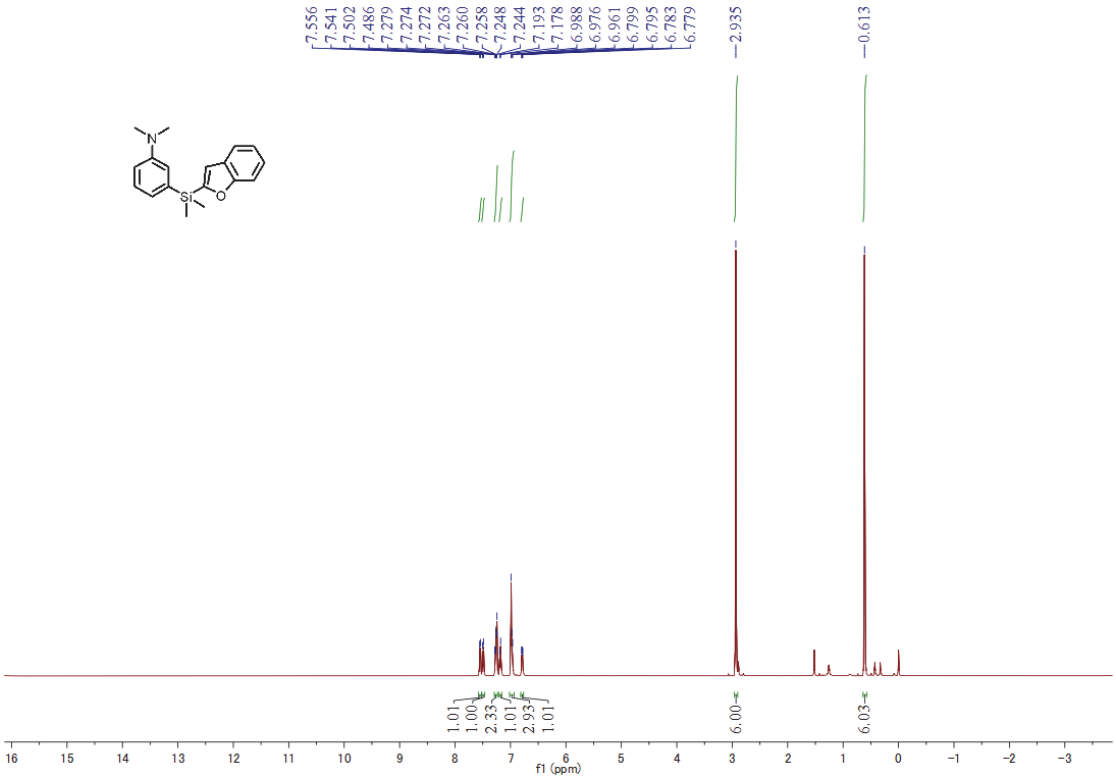
f1 (ppm)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7.274
7.272
7.263
7.260
7.258
7.248
7.244
7.193
7.178
6.988
6.976
6.961
6.799
6.795
6.783
6.779
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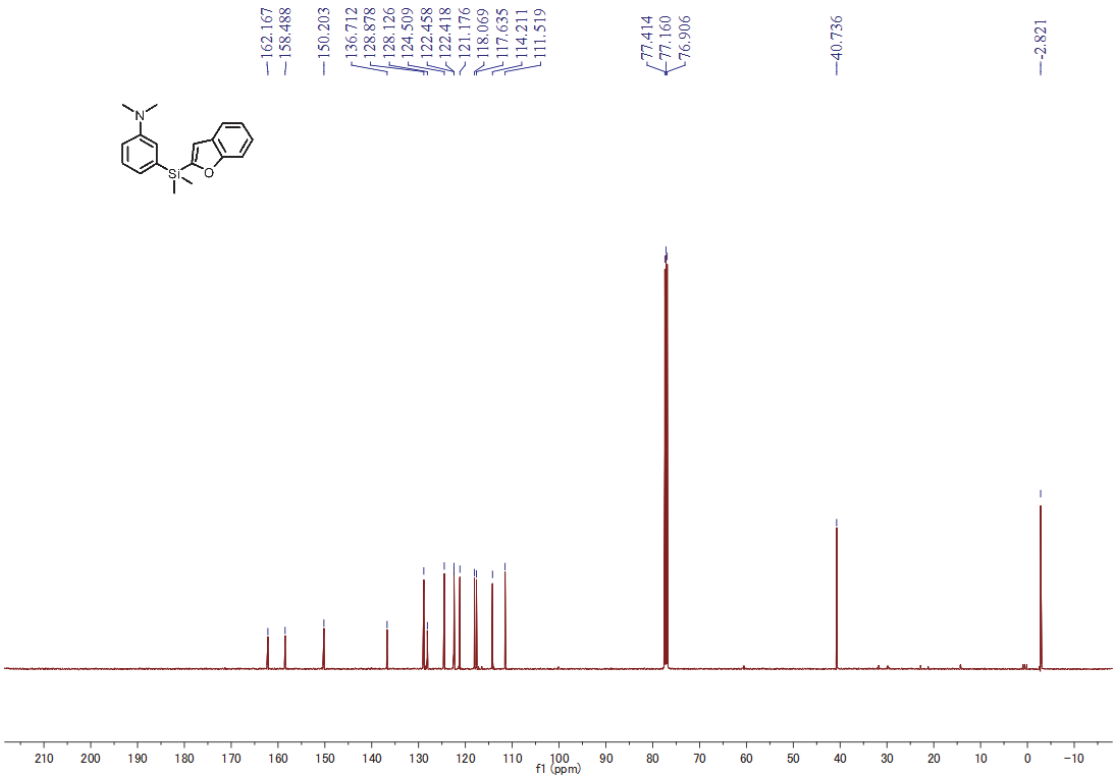
1.01
1.00
2.33
1.01
2.93
1.01
6.00
6.03
f1 (ppm)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128.126
124.509
122.458
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76.906
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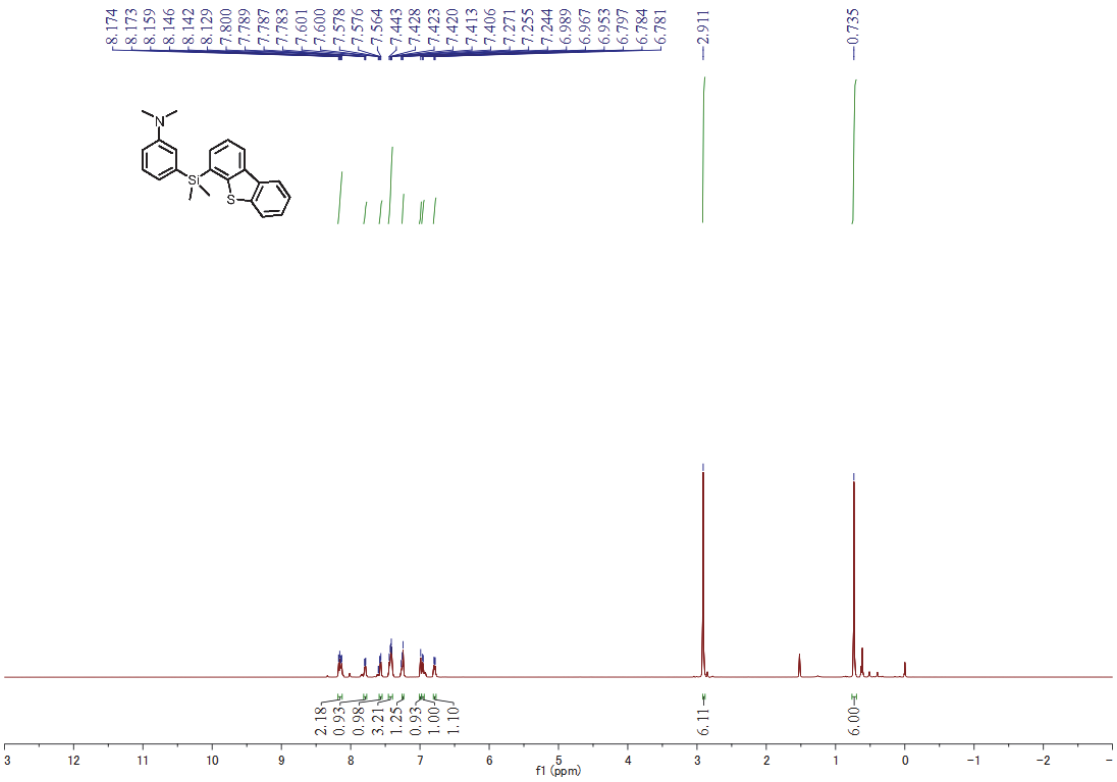
f1 (ppm)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8.173
8.159
8.146
8.142
8.129
7.800
7.789
7.787
7.783
7.601
7.600
7.578
7.576
7.564
7.443
7.428
7.423
7.420
7.413
7.406
7.271
7.255
7.244
6.989
6.967
6.953
6.797
6.784
6.781
2.911
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0.98
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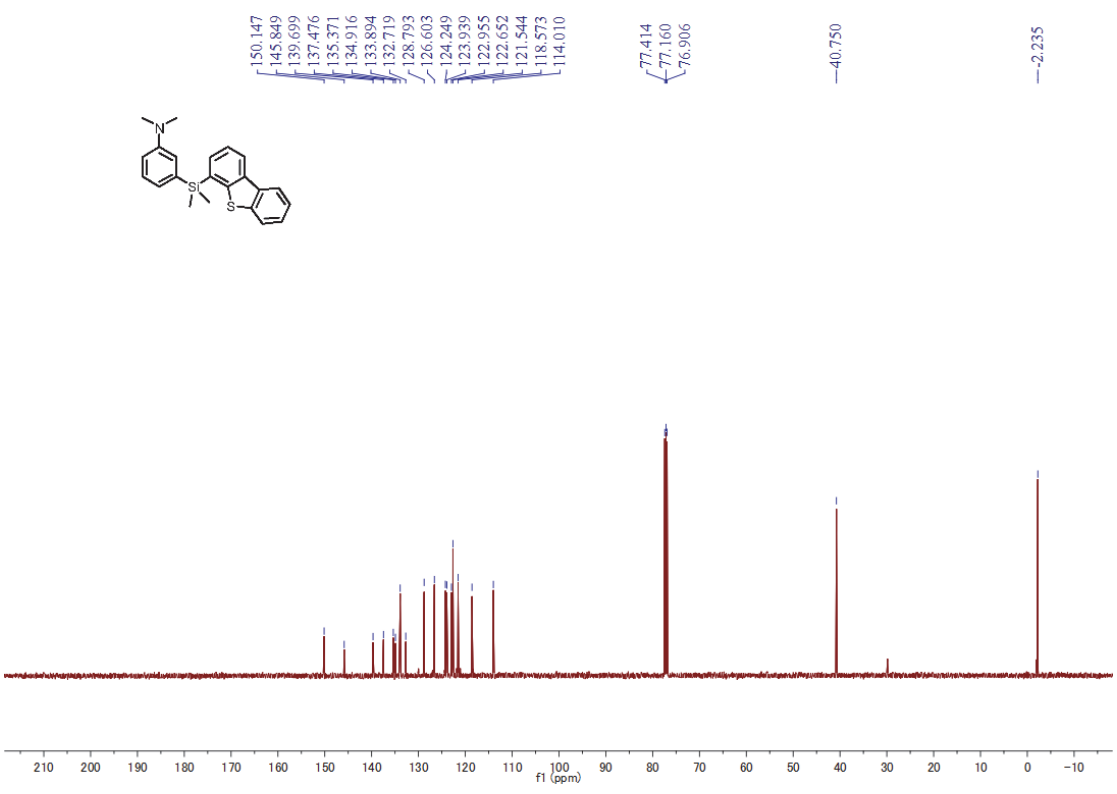
1.25
0.93
1.00
1.10
6.11
6.00
f1 (ppm)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77.414
77.160
76.906
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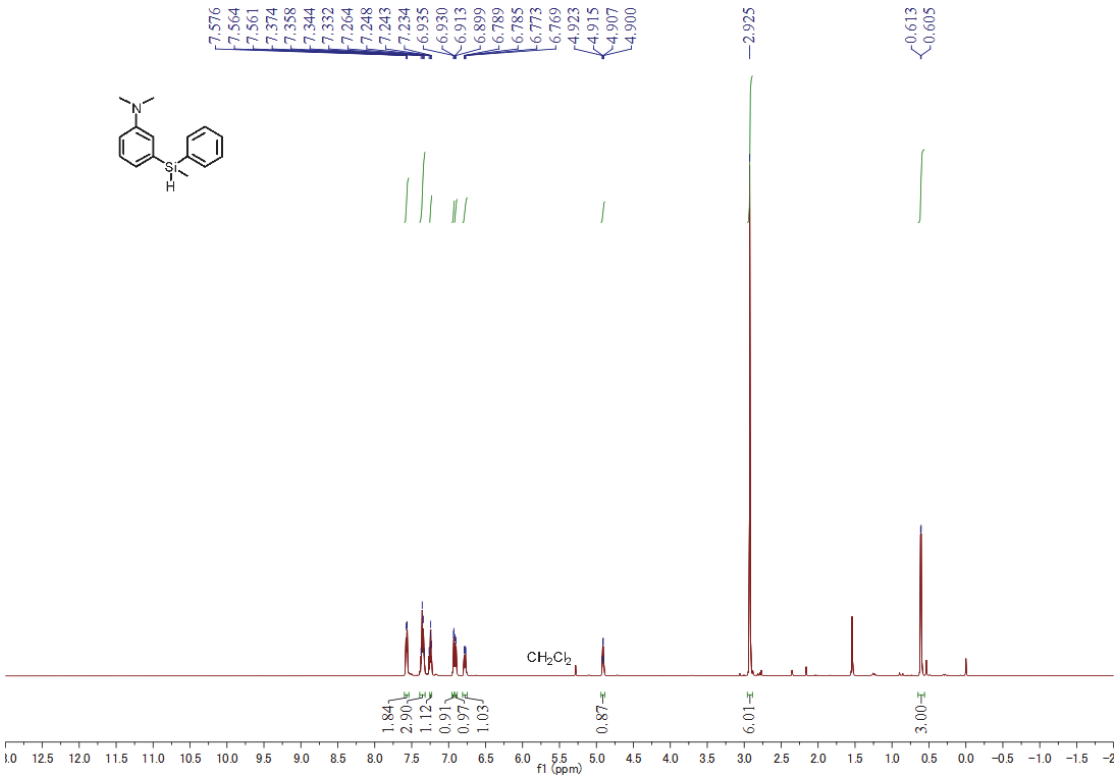
f1 (ppm)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7.243
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6.930
6.913
6.899
6.789
6.785
6.773
6.769
4.923
4.915
4.907
4.900
2.925
0.613
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0.97
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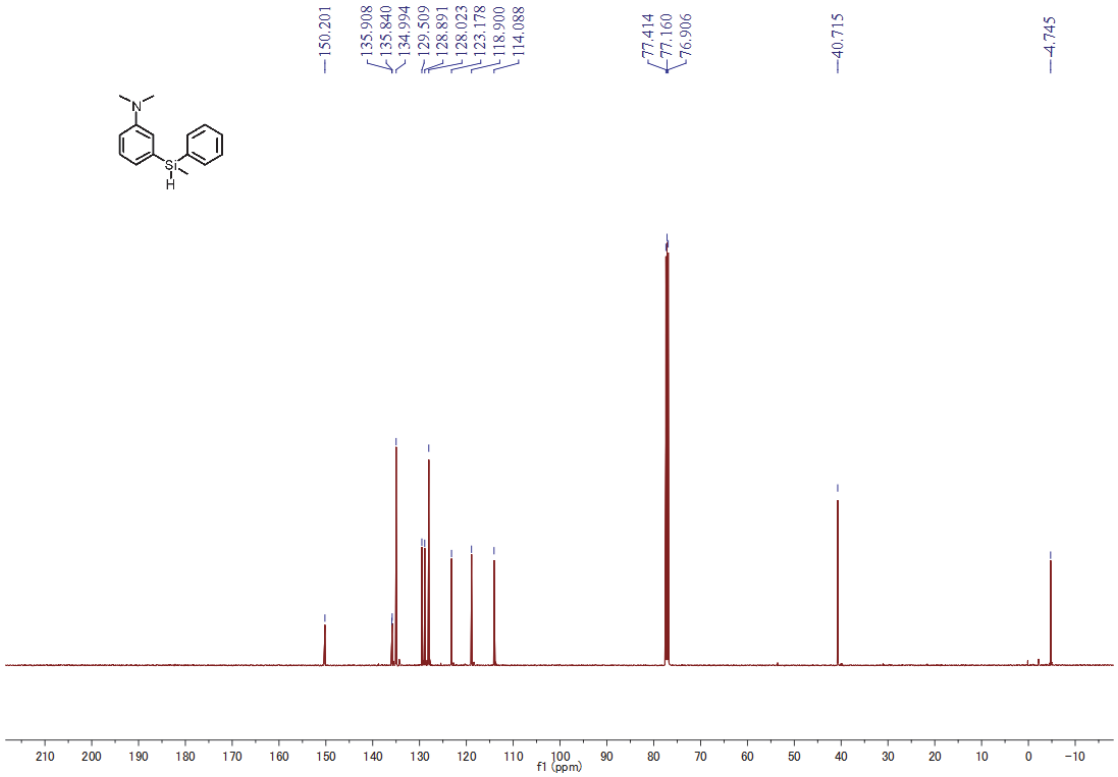
3.00
f1 (ppm)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77.160
76.906
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4.745
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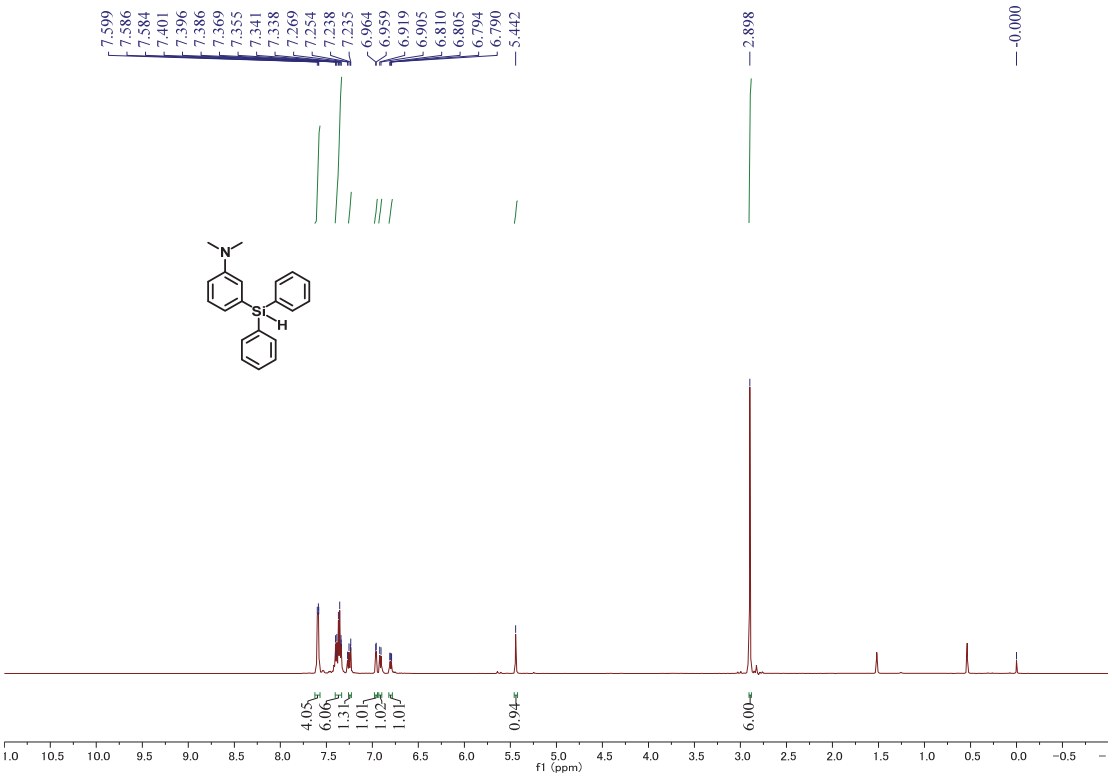
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7.238
7.235
6.964
6.959
6.919
6.905
6.810
6.805
6.794
6.790
5.442
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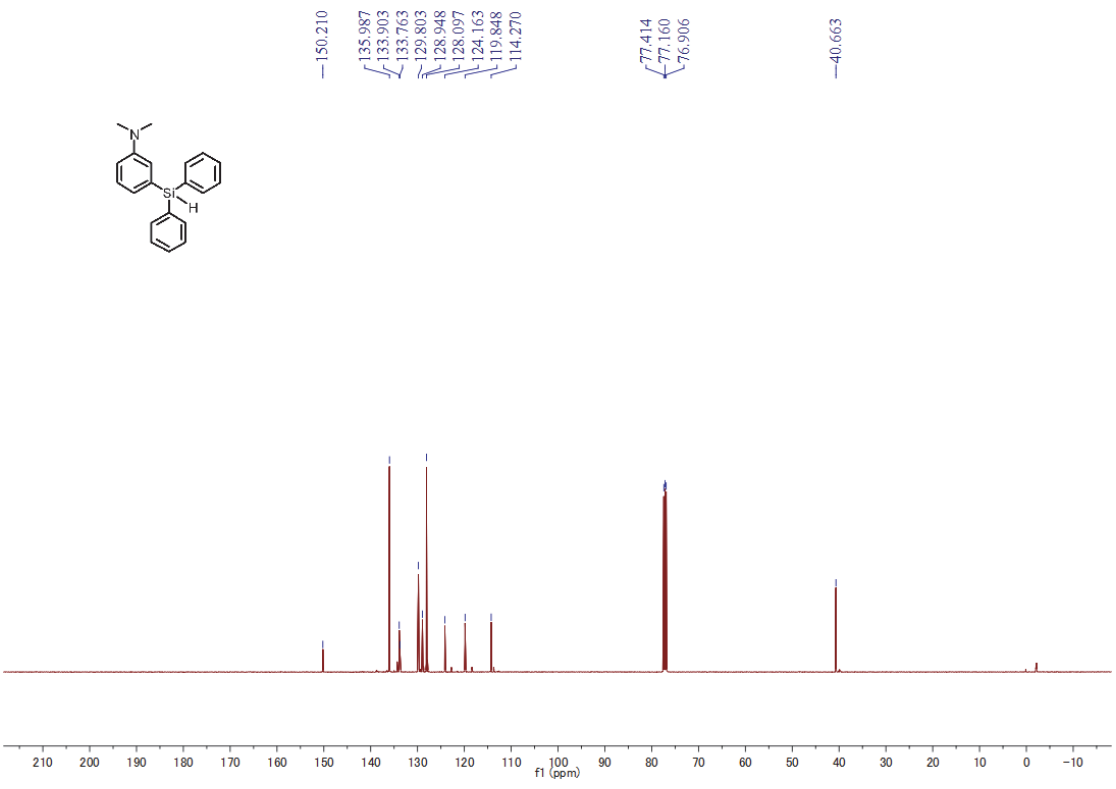
4.05
6.06
1.31
1.01
1.02
1.01
0.94
6.00
f1 (ppm)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77.160
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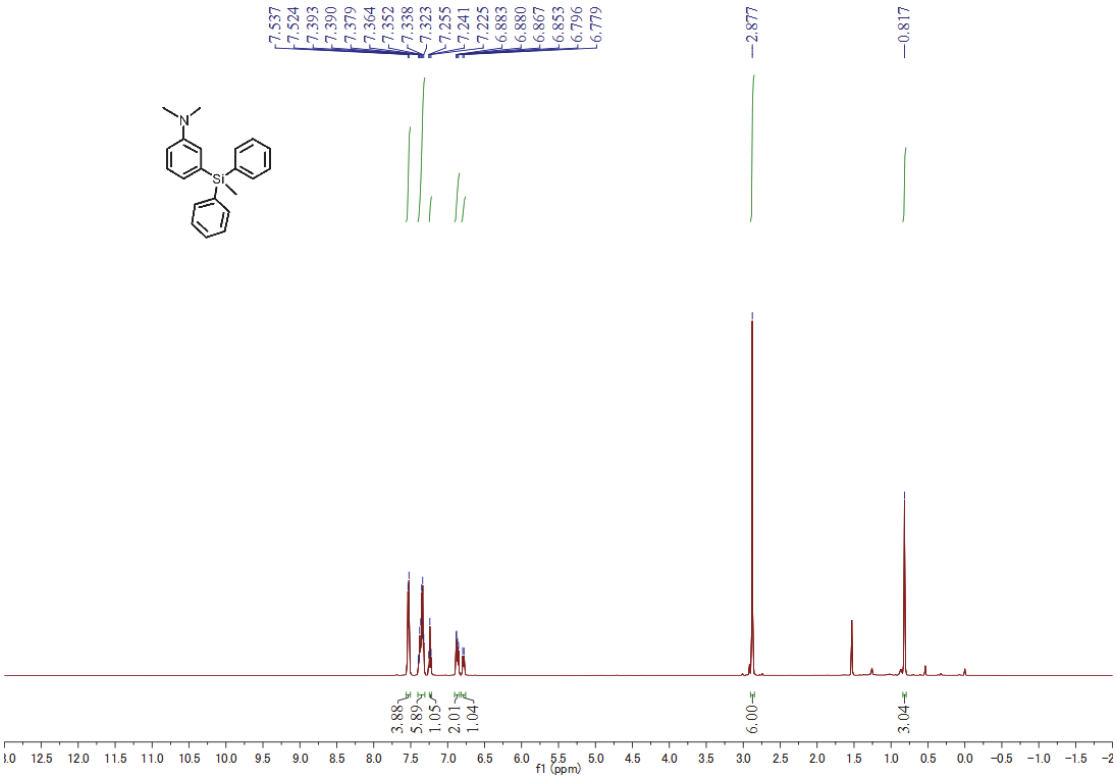
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7.255
7.241
7.225
6.883
6.880
6.867
6.853
6.796
6.779
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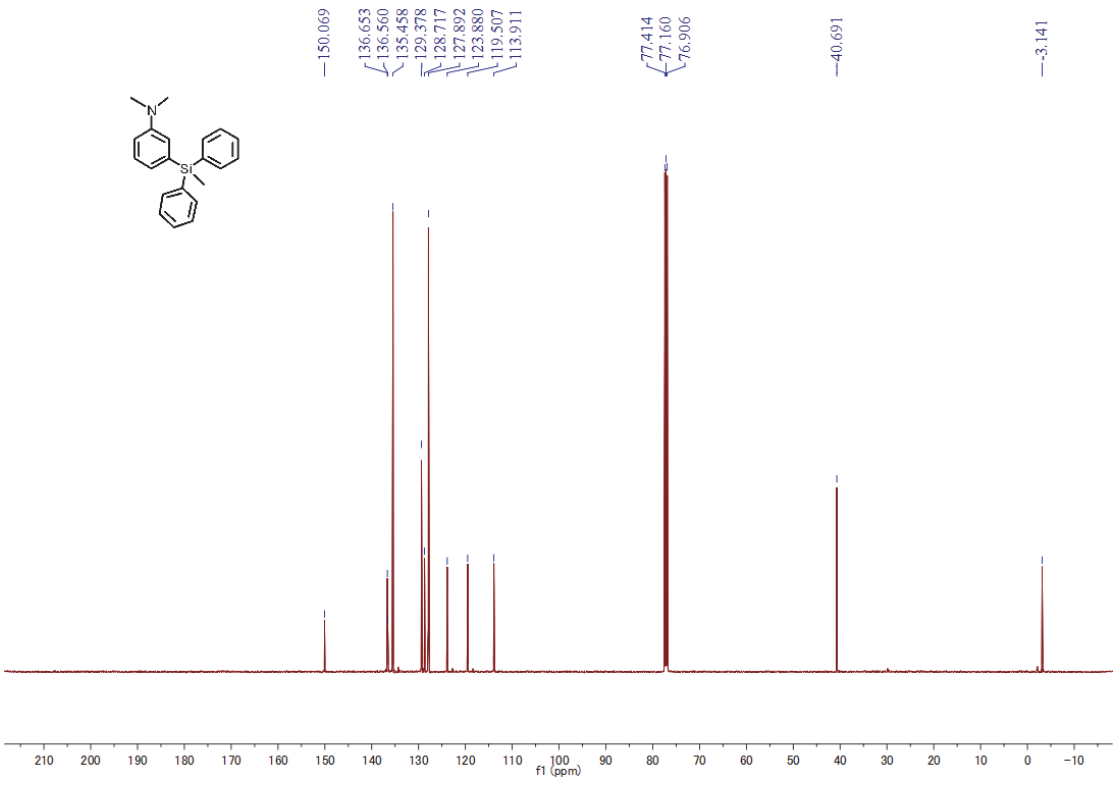
0.817
3.88
5.89
1.05
2.01
1.04
6.00
3.04
f1 (ppm)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77.160
76.906
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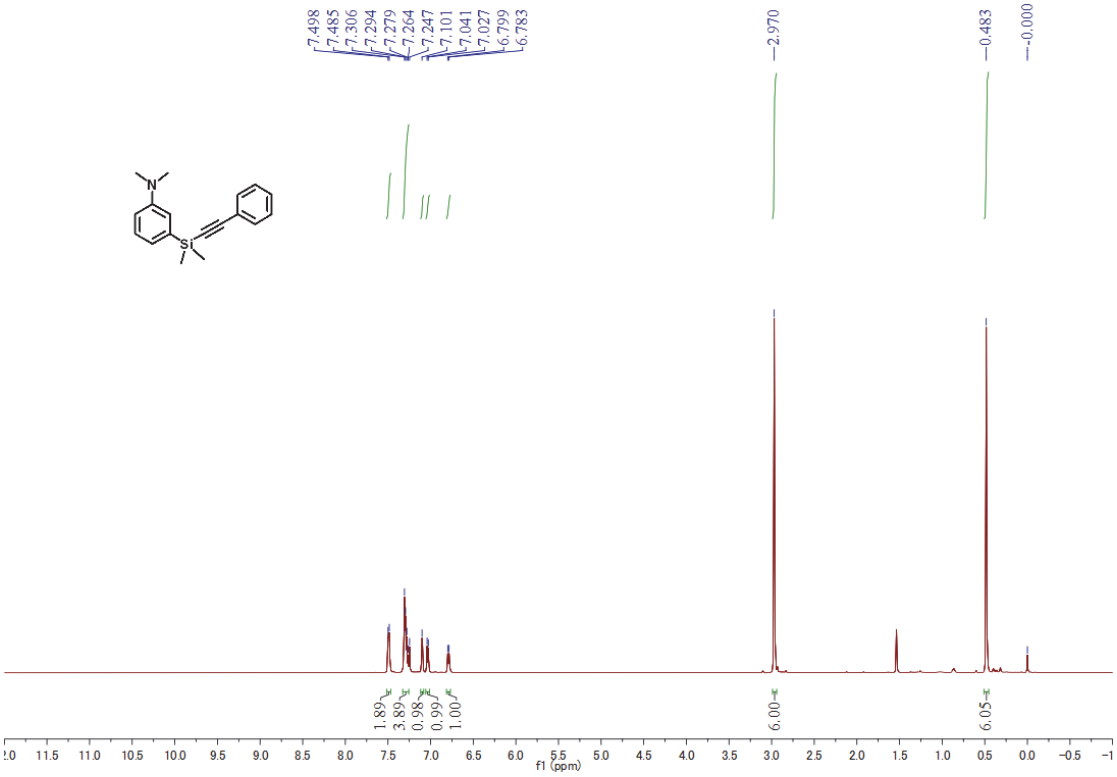
f1 (ppm)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7.041
7.027
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0.000
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3.89
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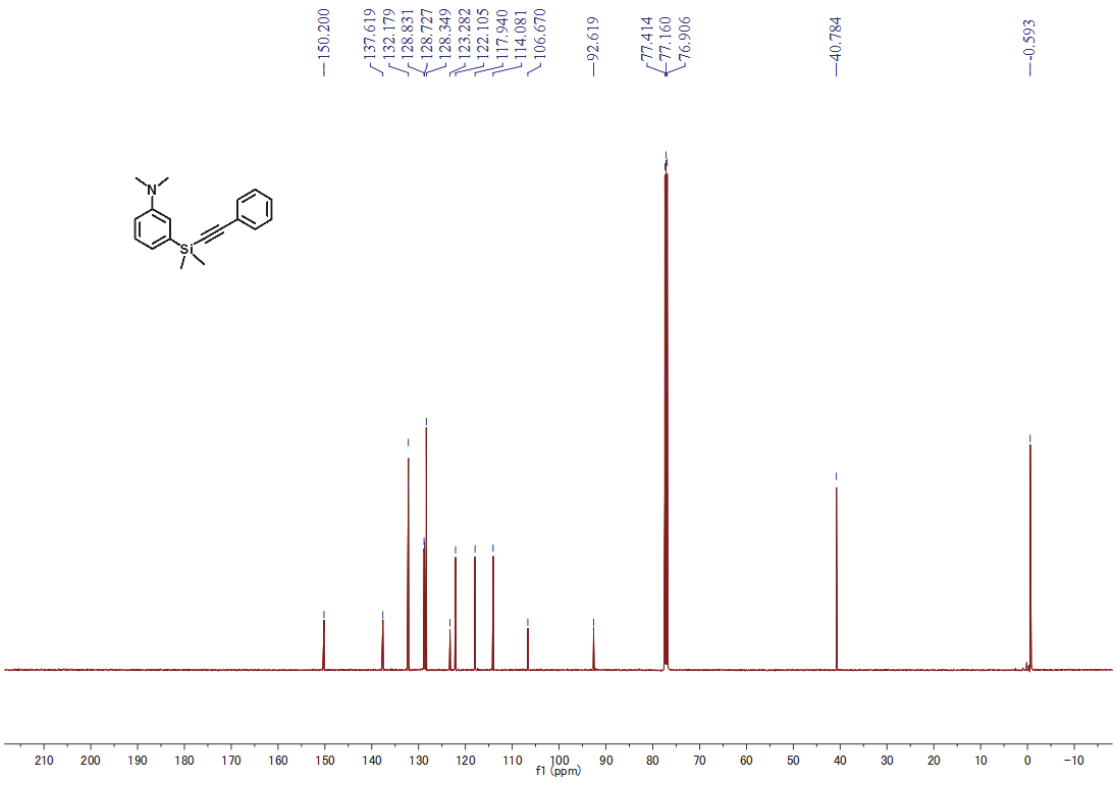
0.99
1.00
6.00
6.05
f1 (ppm)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76.906
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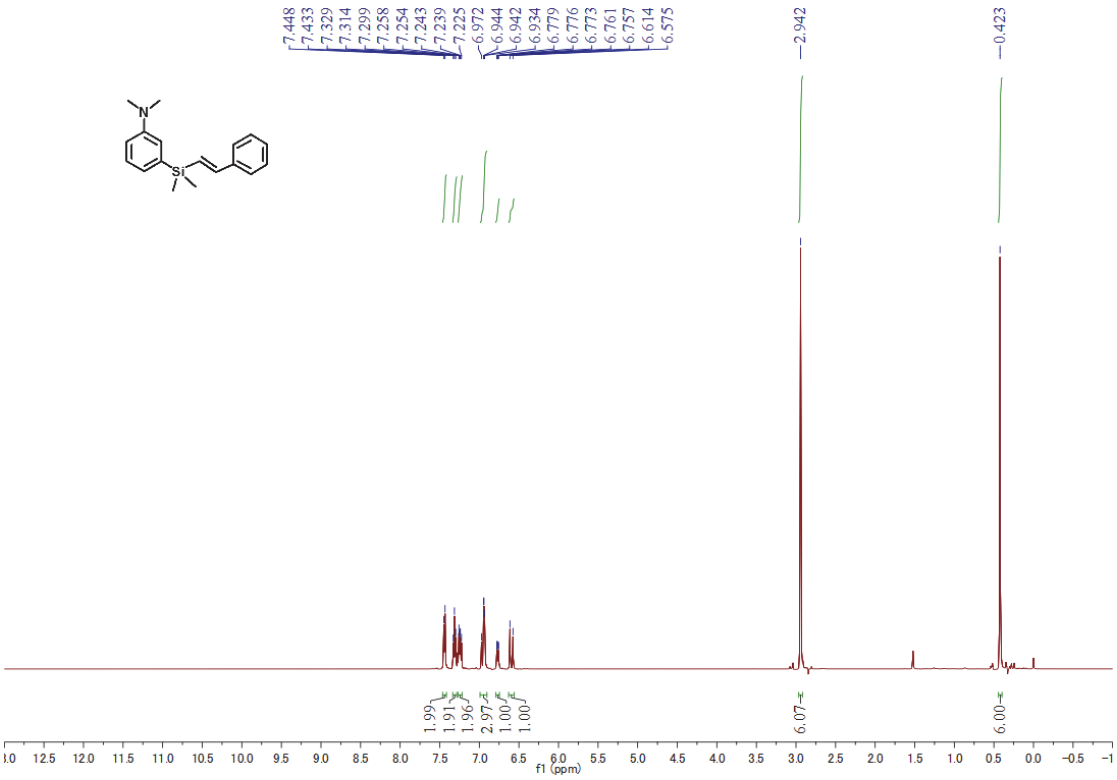
f1 (ppm)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6.934
6.779
6.776
6.773
6.761
6.757
6.614
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1.96
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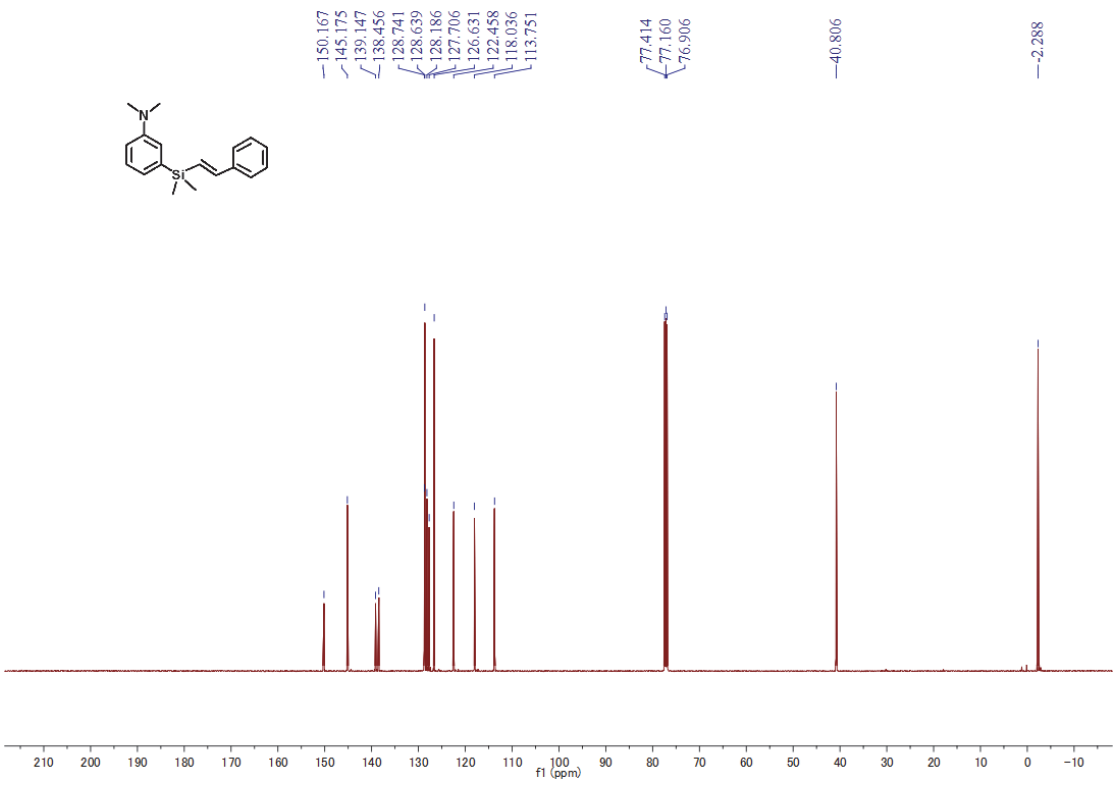
6.00
f1 (ppm)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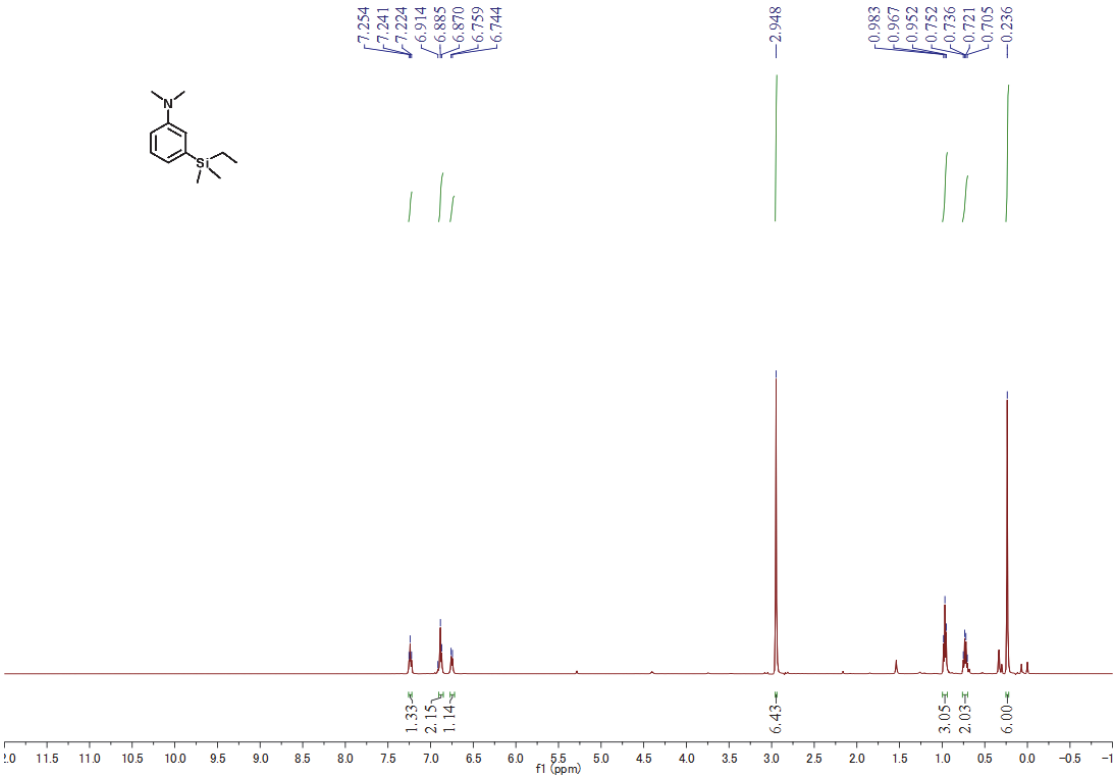
f1 (ppm)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6.744
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0.952
0.752
0.736
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1.14
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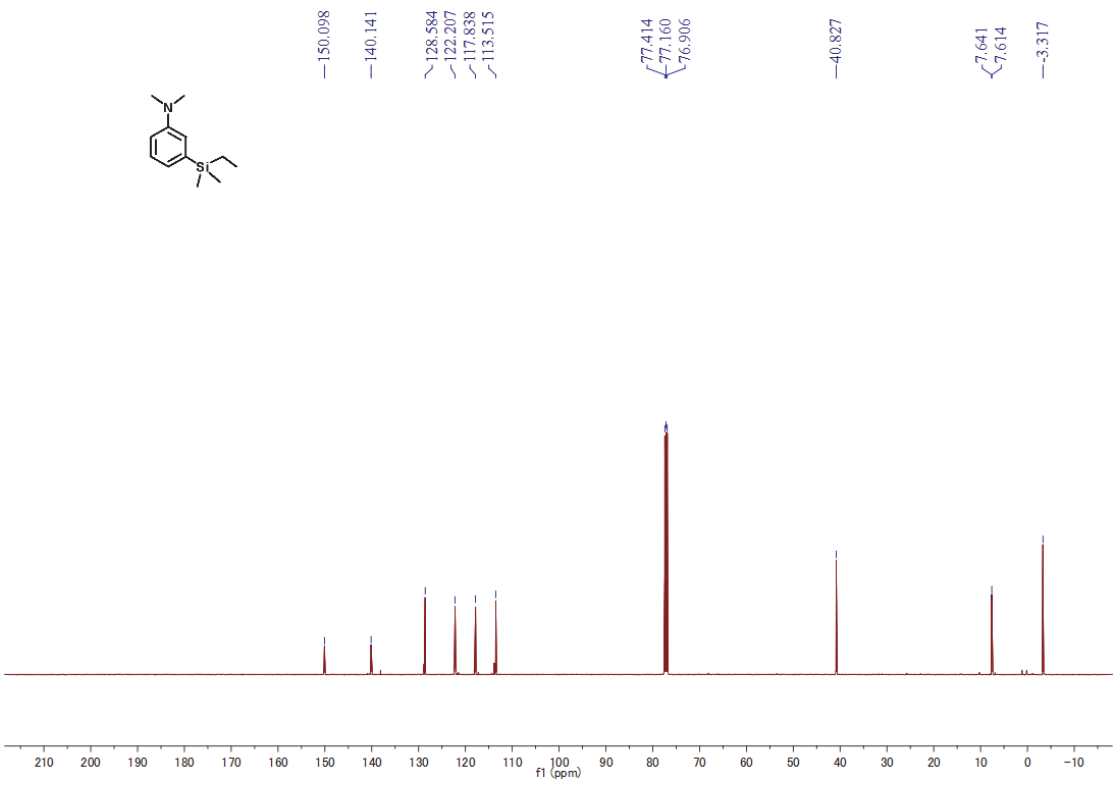
6.00
f1 (ppm)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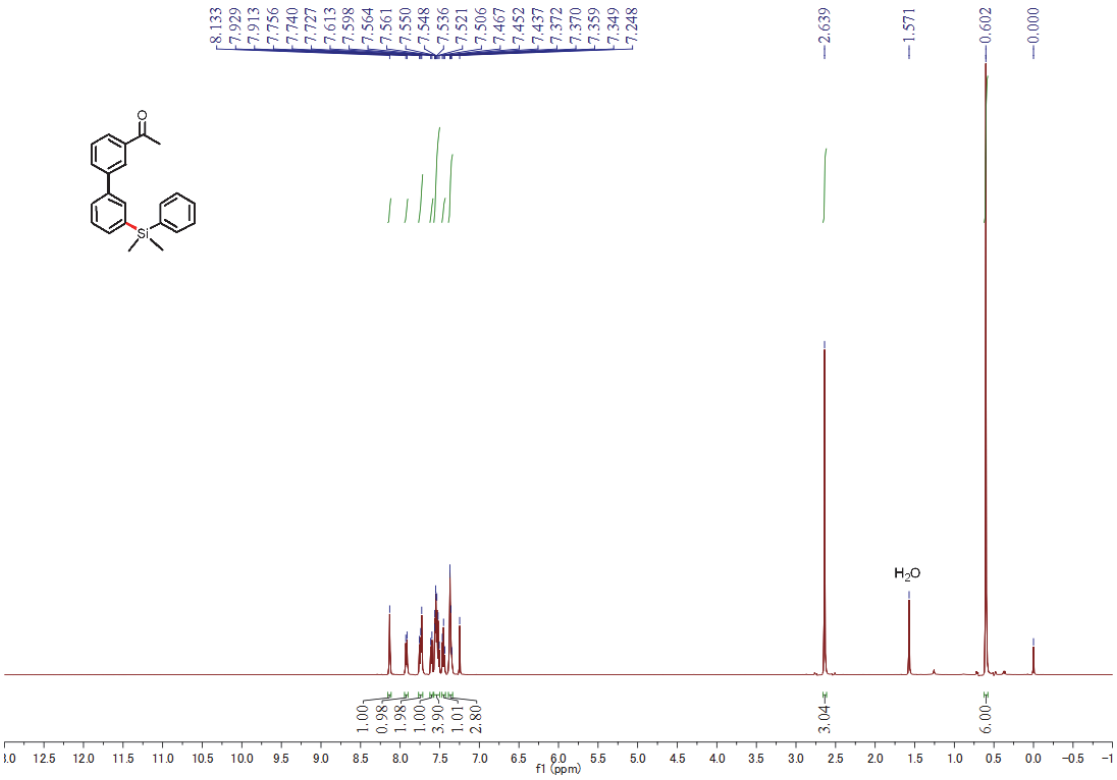
f1 (ppm)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7.536
7.521
7.506
7.467
7.452
7.437
7.372
7.370
7.359
7.349
7.248
2.639
1.571
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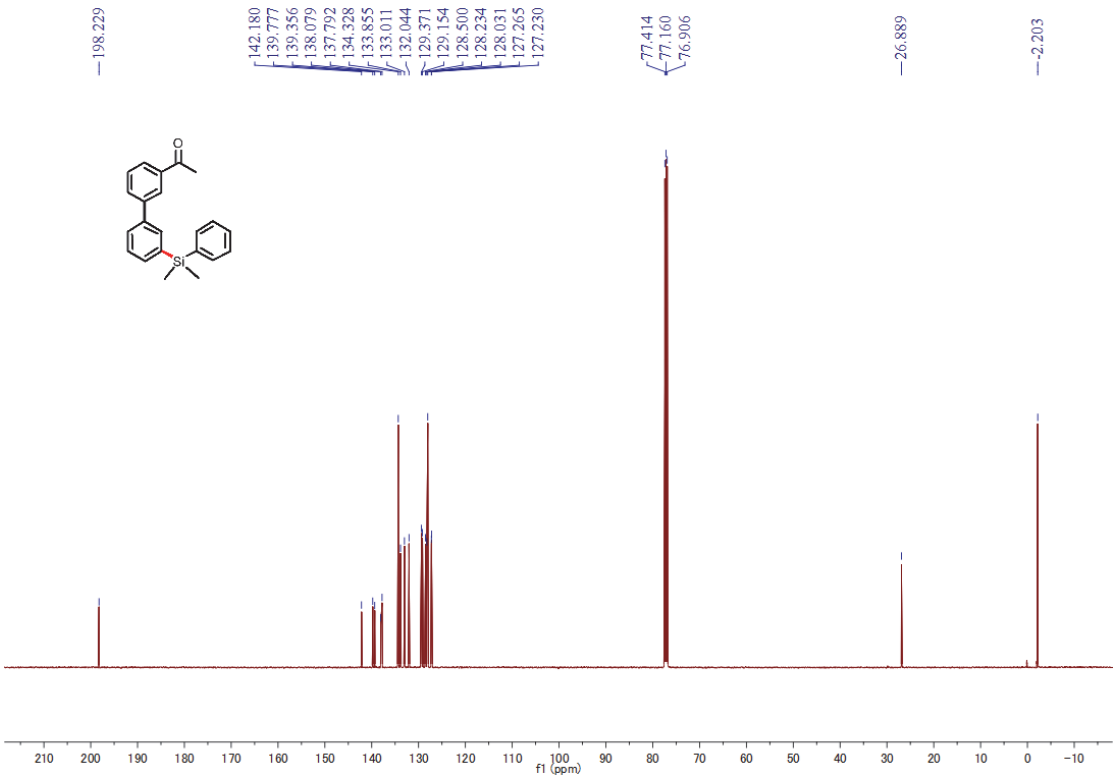
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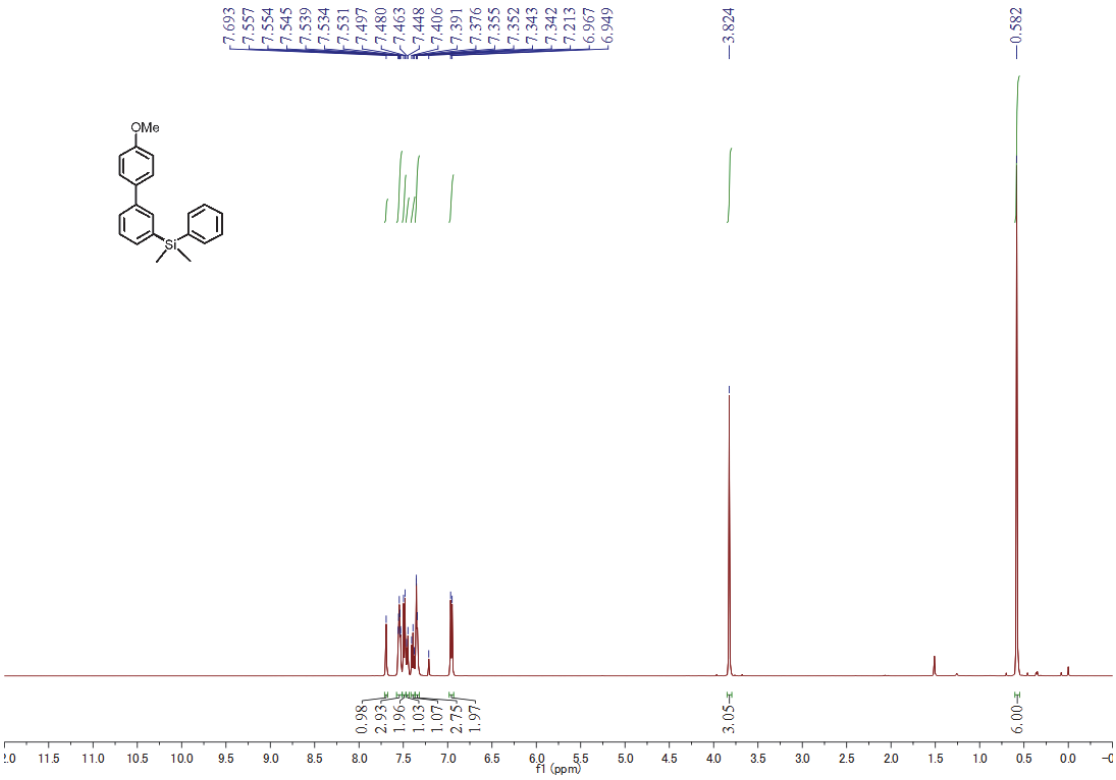
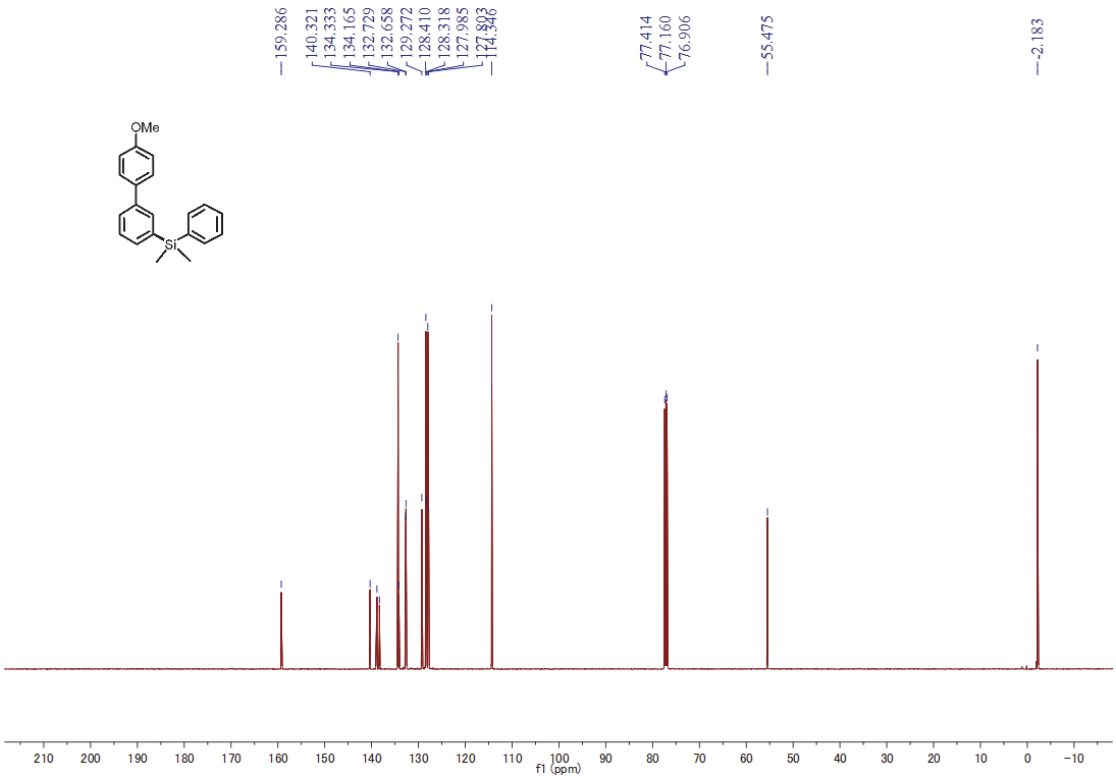
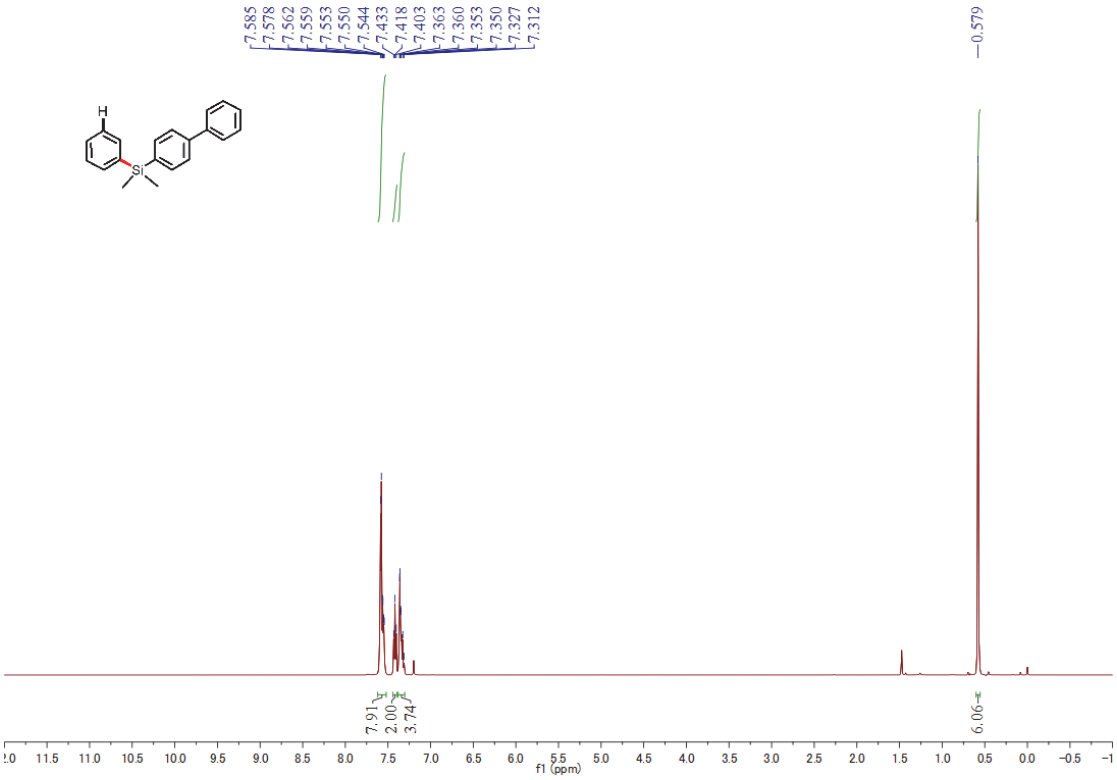
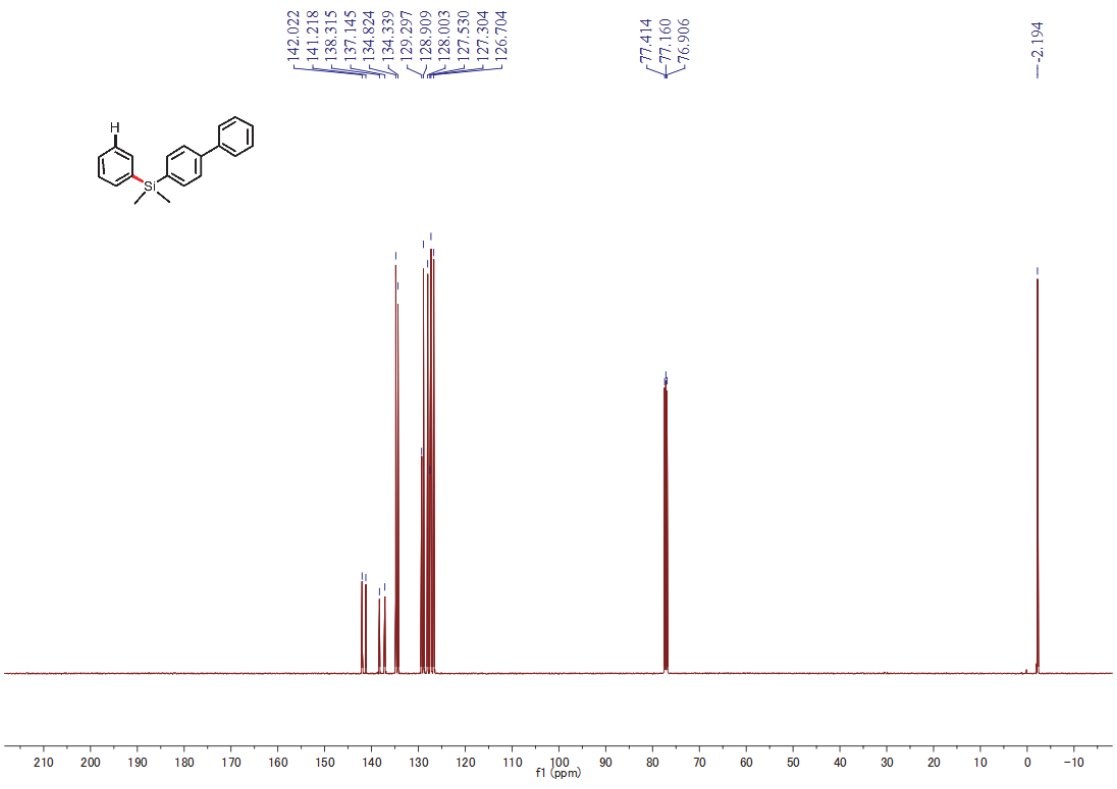
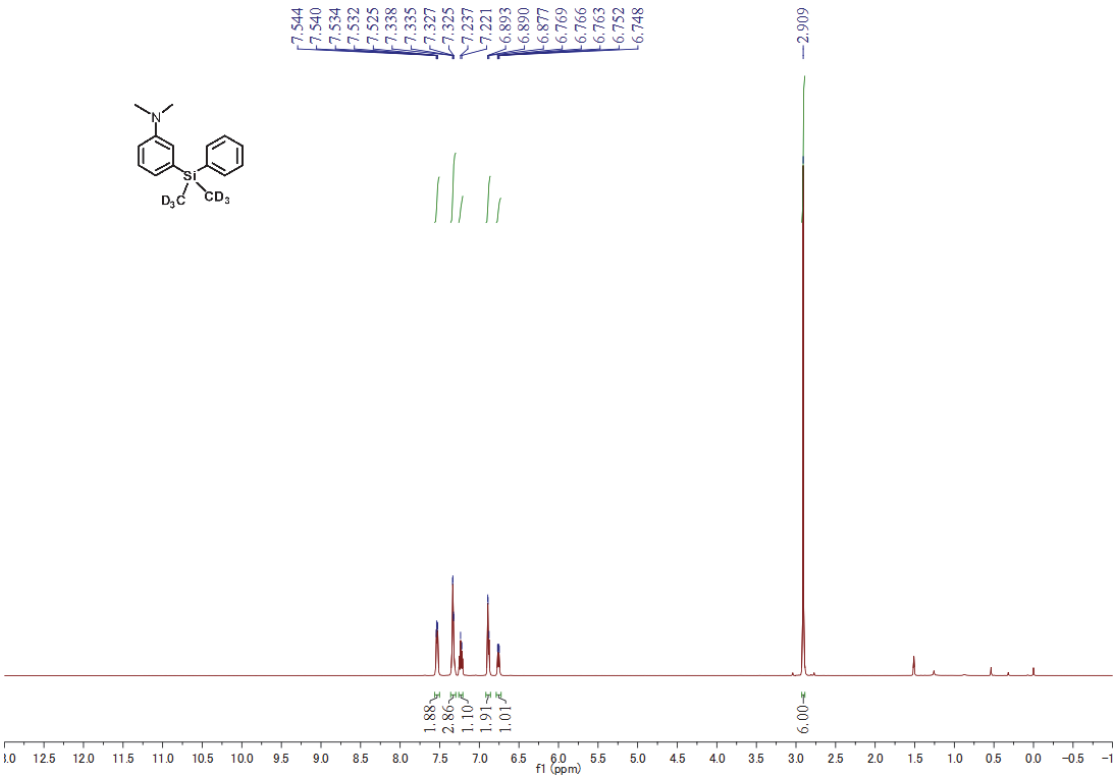
128.500
128.234
128.031
127.265
127.230
77.414
77.160
76.906
26.889
-2.203
f1 (ppm)

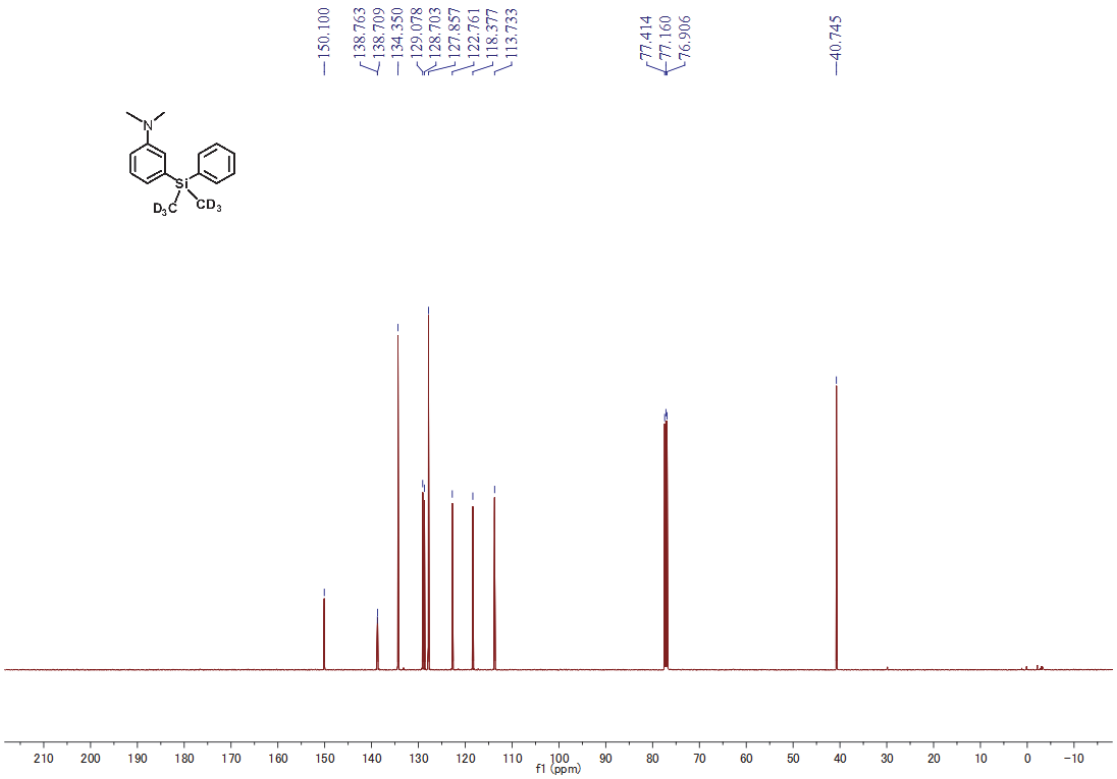

7.693
7.557
7.554
7.545
7.539
7.534
7.531
7.497
7.480
7.463
7.448
7.406
7.391
7.376
7.355
7.352
7.343
7.342
7.213
6.967
6.949
3.824
0.582
OMe
Si
0.98
2.93
1.96
1.03
1.07
2.75
1.97
3.05
6.00
f1 (ppm)


159.286
140.321
134.333
134.165
132.729
132.658
129.272
128.410
128.318
127.985
77.414
77.160
76.906
55.475
-2.183
OMe
Si
f1 (ppm)


7.585
7.578
7.562
7.559
7.553
7.550
7.544
7.433
7.418
7.403
7.363
7.360
7.353
7.350
7.327
7.312
0.579
7.91
2.00
3.74
6.06
f1 (ppm)


142.022
141.218
138.315
137.145
134.824
134.339
129.297
128.909
128.003
127.530
127.304
126.704
77.414
77.160
76.906
-2.194
f1 (ppm)


7.544
7.540
7.534
7.532
7.525
7.338
7.335
7.327
7.325
7.237
7.221
6.893
6.890
6.877
6.769
6.766
6.763
6.752
6.748
2.909
1.88
2.86
1.10
1.91
1.01
6.00
f1 (ppm)


150.100
138.763
138.709
134.350
129.078
128.703
127.857
122.761
118.377
113.733
77.414
77.160
76.906
40.745
f1 (ppm)