Electronic Supplementary Information

Three-component aminoselenation of alkenes via visible light enabled Fe-catalysis

Binbin Huang,† Yanan Li,† Chao Yang* and Wujiong Xia*

State Key Lab of Urban Water Resource and Environment, School of Science, Harbin Institute of Technology (Shenzhen), Shenzhen, China 518055.

Table of Contents

1. General and Experimental Details

1.1 General Information

All commercially available reagents were directly used as received without further purification. Solvent was freshly distilled prior to use unless otherwise noted. Flash column chromatography was performed using 200-300 mesh silica gel. All the reactions were carried out under air atmosphere. Reactions were monitored by thin-layer chromatography (TLC) and visualized by blue LEDs. All yields of products refer to the isolated yields after chromatography. ^{1}H NMR (400 or 600 MHz), ^{13}C NMR (100 or 150 MHz) and ^{19}F NMR (376 MHz) spectra were recorded on a Bruker AV-400 spectrometer in $CDCl_3$. For ^{1}H NMR, $CDCl_3$ (δ = 7.26 ppm) or tetramethylsilane (TMS, δ = 0 ppm) serves as the internal standard; for ^{13}C NMR, $CDCl_3$ (δ = 77.16 ppm) serves as the internal standard. Data are reported as follows: chemical shift (in ppm), multiplicity (s =singlet, d = doublet, t = triplet, q = quartet, m = multiplet, br = broad), coupling constant (in Hz), and integration. GC analysis was performed on 7890B/Agilent, while GC-MS analysis was performed on 7890A-5975C/Agilent. IR spectra were performed on a PerkinElmer FT-IR spectrometer (Spectrum 100). HR-MS spectra were recorded on a Bruker Esquire LC mass spectrometer using electrospray ionization.

1.2 Typical Procedures for Preparation of Substrates

Substrates **3b-3f** were synthesized according to literature procedures, and the NMR spectra are in accordance with those data.[1,2]

1.3 General Procedure for the Selenoamination

To an oven dried 10 mL reaction vial equipped with a stirring bar, **1a** (0.1 mmol), **2a** (0.15 mmol), **3a** (0.06 mmol), catalyst $FeBr_3$ (0.01 mmol) and solvent EtOAc (1.0 mL) were sequentially added at room temperature. To avoid evaporation of the solvent, the system was then closed with a rubber septum under air atmosphere. The resulting mixture was subjected under the irradiation of two blue LEDs (15 W) at room temperature. After the indicated reaction time, the mixture was filtered through a short pad of silica gel and rinsed with EtOAc. The obtained filtrate was then concentrated under reduced pressure and the resulting residue was purified by silica gel flash

column chromatography (eluent: petroleum ether/EtOAc = 100:1 - 50:1) to afford the desired products **4**-**6**.

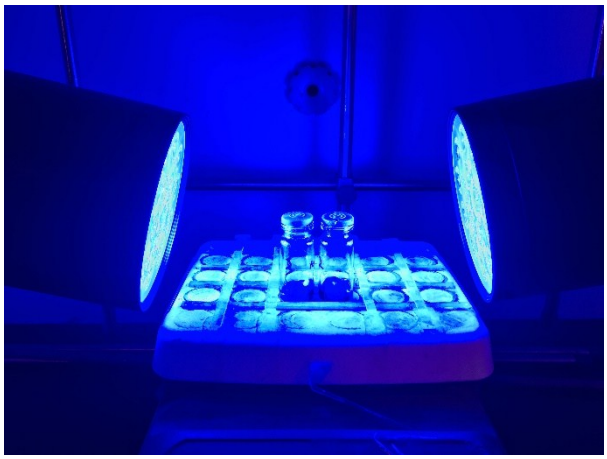
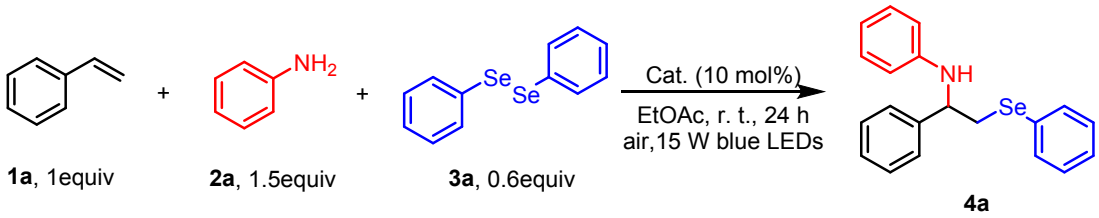


Fig. S1. Reaction Setup

2. Optimization of Reaction Conditions

Table S1. Optimization of Photocatalysts and Control Experiments[a]

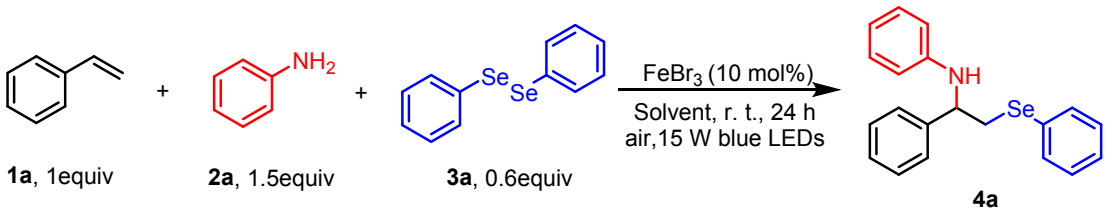


1a, 1equiv **2a**, 1.5equiv **3a**, 0.6equiv **4a**

Entry	Catalyst	Yield (%)[b]
1	CuBr	35
2	CuI	trace
3	$CuBr_2$	57
4	$CuCl_2$	15
5	$FeCl_3$	35
6	$Cu(OAc)_2$	trace
7	CuOTf	23
8	$FeCl_2{\cdot}4H_2O$	10
9	$Ru(bpy)_3Cl_2{\cdot}6H_2O$	trace
10	Eosin Y	trace
11	$MesAcr^+ClO_4^-$	trace
12	$Ir(ppy)_2(dtbbpy)PF_6$	trace
13	$Cu(MeCN)_4PF_6$	19
14	$Cu(acac)_2$	trace
15	$Fe(acac)_3$	trace
16	CuSCN	NR
17	$NiCl_2$	NR
18	$CrCl_2$	NR
19	NaCl	NR
20	$CoCl_2$	5
21	$CoBr_2$	62
22	**$FeBr_3$**	**82**
23	-	NR
24[c]	$FeBr_3$	NR

a Standard reaction conditions: **1a** (0.1 mmol), **2a** (0.15 mmol), **3a** (0.06 mmol), Catalyst (10 mol%), EtOAc (1 mL), room temperature, stirred in the air, under the irradiation of two 15W blue LEDs for 24 h. *b* Isolated yield after column chromatography. *c* Without light irradiation. NR: No Reaction.

Table S2. Solvent Screening[a]

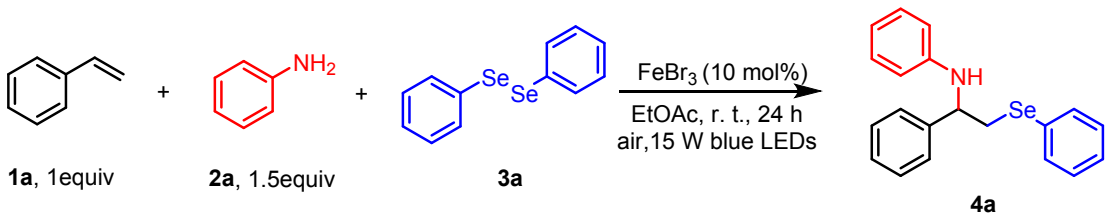


1a, 1equiv **2a**, 1.5equiv **3a**, 0.6equiv **4a**

Entry	Solvent	Yield (%)[b]
1	DCM	17
2	DCE	32
3	MeCN	trace
4	1,4-dioxane	24
5	THF	42
6	**EtOAc**	**82**
7	MeOH	31
8	EtOH	6
9	DMF	7
10	DMSO	trace
11	HFIP	trace

a Standard reaction conditions:**1a** (0.1 mmol), **2a** (0.15 mmol), **3a** (0.06 mmol), $FeBr_3$ (10 mol%), solvent (1 mL), room temperature, stirred in the air, under the irradiation of two 15W blue LEDs for 24 h. *b* Isolated yield after column chromatography.

Table S3. Optimization of the Amount of the Amine and Diselenide[a]

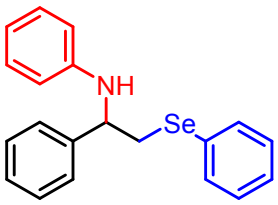


1a, 1equiv **2a**, 1.5equiv **3a** **4a**

Entry	Equivalents of **2a**	Equivalents of **3a**	Yield (%)[b]
1	**1.5 equiv**	**0.6 equiv**	**82**
2	1.5 equiv	0.5 equiv	59
3	1.5 equiv	0.75 equiv	58
4	1.2 equiv	0.6 equiv	73
5	1.0 equiv	0.6 equiv	68
6	1.0 equiv	0.5 equiv	51

a Standard reaction conditions: **1a** (0.1 mmol), **2a** (0.15 mmol), **3a** (0.06 mmol), $FeBr_3$ (10 mol%), EtOAc (1 mL), room temperature, stirred in the air, under the irradiation of two 15W blue LEDs for 24 h. *b* Isolated yield after column chromatography.

3. Characterization Data of New Compounds



N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (4a)

Colorless oil, 28.9 mg, 82% yield.

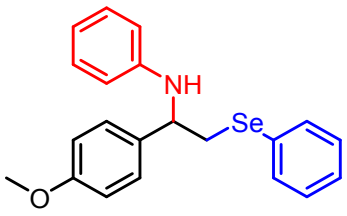
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.50 (dd, J = 7.2, 2.1 Hz, 2H, Ar-**H**), 7.33 (d, J = 7.0 Hz, 2H, Ar-**H**), 7.30 (t, J = 7.5 Hz, 2H, Ar-**H**), 7.26 – 7.21 (m, 4H, Ar-**H**), 7.05 (t, J = 7.7 Hz, 2H, Ar-**H**), 6.65 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.43 (d, J = 8.0 Hz, 2H, Ar-**H**), 4.47 – 4.43 (m, 2H, N-**H** and the C-**H** adjacent to N atom), 3.34 (dd, J = 12.6, 4.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.19 (dd, J = 12.6, 8.9 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 147.11, 142.72, 133.59, 129.37, 129.34, 129.13, 128.88, 127.60, 127.57, 126.37, 117.85, 113.77 (12 **C**$_{Ar}$s), 57.88 (**C**H adjacent to N atom), 36.54 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3401, 3056, 2925, 2834, 1603, 1502, 1255, 1034, 745, 698.

GC-MS (EI): 196.1, 182.1, 156.9, 118.1, 104.0, 91.0, 77.1.

HRMS (ESI) calcd for $C_{20}H_{19}NaNSe^+$ m/z $[M+Na]^+$: 376.0575; found: 376.0580.



N-(1-(4-methoxyphenyl)-2-(phenylselanyl)ethyl)aniline (4b)

Colorless oil, 23.4 mg, 61% yield.

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.53 – 7.49 (m, 2H, Ar-**H**), 7.27 – 7.24 (m, 5H, Ar-**H**), 7.06 (dd, J = 8.6, 7.4 Hz, 2H, Ar-**H**), 6.84 (d, J = 8.7 Hz, 2H, Ar-**H**), 6.65 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.44 (dd, J = 8.6, 1.1 Hz, 2H, Ar-**H**), 4.46 – 4.39 (m, 2H, N-**H** and the C-**H** adjacent to N atom), 3.77 (s, 3H,

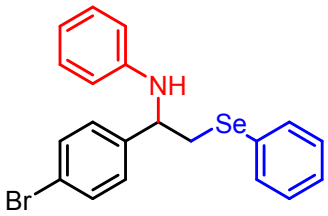
-OC**H$_3$**), 3.33 (dd, *J* = 12.5, 4.7 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.20 (dd, *J* = 12.5, 8.6 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (101 MHz, $CDCl_3$) δ 159.00, 147.15, 134.64, 133.51, 129.46, 129.25, 129.07, 127.45, 127.43, 117.77, 114.21, 113.77 (12 **C**$_{Ar}$s), 57.28 (**C**H adjacent to N atom), 55.27 (-OC**H$_3$**), 36.58(**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3400, 3052, 2832, 1601, 1507, 1248, 1034, 735, 691.

GC-MS (EI): 381.0, 366.1, 212.1, 180.0, 156.8, 134.1, 90.8.

HRMS (ESI) calcd for $C_{21}H_{22}NOSe^+$ m/z $[M+H]^+$: 384.0861; found: 384.0856.



N-(1-(4-bromophenyl)-2-(phenylselanyl)ethyl)aniline (4c)

Colorless oil, 19.4 mg, 45% yield.

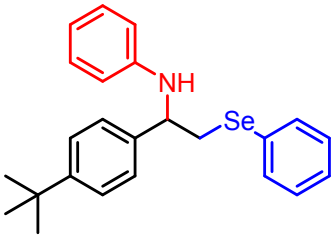
^{1}H NMR (400 MHz, $CDCl_3$) δ 7.49 (dd, *J* = 7.6, 1.8 Hz, 2H, Ar-**H**), 7.41 (d, *J* = 8.4 Hz, 2H, Ar-**H**), 7.27 (s, 2H, Ar-**H**), 7.25 (s, 1H, Ar-**H**), 7.21 (d, *J* = 8.4 Hz, 2H, Ar-**H**), 7.09 – 7.04 (m, 2H, Ar-**H**), 6.67 (t, *J* = 7.4 Hz, 1H, Ar-**H**), 6.40 (d, *J* = 7.8 Hz, 2H, Ar-**H**), 4.47 – 4.37 (m, 2H, N-**H** and the C-**H** adjacent to N atom), 3.31 (dd, *J* = 12.7, 4.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.15 (dd, *J* = 12.7, 8.6 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (101 MHz, $CDCl_3$) δ 146.78, 141.78, 133.71, 131.93, 129.34, 129.14, 129.00, 128.14, 127.69, 121.28, 118.13, 113.79 (12 **C**$_{Ar}$s), 57.36 (**C**H adjacent to N atom), 36.32 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3399, 3052, 2924, 1602, 1503, 1316, 1071, 1009, 739, 691.

GC-MS (EI): 431.1, 262.1, 194.2, 180.1, 157.0, 118.1, 91.1.

HRMS (ESI) calcd for $C_{20}H_{19}BrNSe^+$ m/z $[M+H]^+$: 431.9861; found: 431.9860.



N-(1-(4-(tert-butyl)phenyl)-2-(phenylselanyl)ethyl)aniline (4d)

Colorless oil, 18.0 mg, 44% yield.

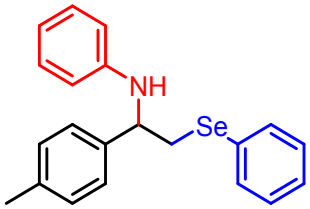
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.48 (d, J = 5.0 Hz, 2H, Ar-**H**), 7.30 (d, J = 7.0 Hz, 2H, Ar-**H**), 7.24 (d, J = 12.4 Hz, 5H, Ar-**H**), 7.06 (s, 2H, Ar-**H**), 6.65 (td, J = 7.4, 2.8 Hz, 1H, Ar-**H**), 6.48 – 6.41 (m, 2H, Ar-**H**), 4.46 (s, 1H, N-**H**), 4.41 (m, 1H, C-**H** adjacent to N atom), 3.34 (d, J = 12.7 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.20 (t, J = 10.6 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 1.28 (s, 9H, -C(C**H$_3$**)$_3$).

^{13}C NMR (151 MHz, $CDCl_3$) δ 150.38, 147.21, 139.52, 133.48, 129.58, 129.26, 129.12, 127.44, 126.01, 125.74, 117.71, 113.72 (12 **C**$_{Ar}$s), 57.54 (**C**H adjacent to N atom), 36.48 (**C**H_2 adjacent to Se atom), 34.55 (-**C**$(CH_3)_3$), 31.43 (-C(**C**H_3)$_3$).

IR (neat, cm^{-1}): 3405, 3039, 2965, 2866, 1608, 1505, 1447, 1308, 1267, 1050, 741, 700.

GC-MS (EI): 409.1, 238.3, 223.1, 208.1, 145.0, 117.1, 91.1, 77.1.

HRMS (ESI) calcd for $C_{24}H_{28}NSe^+$ m/z $[M+H]^+$: 410.1381; found: 410.1383.



N-(2-(phenylselanyl)-1-(p-tolyl)ethyl)aniline (4e)

Colorless oil, 22.0 mg, 60% yield.

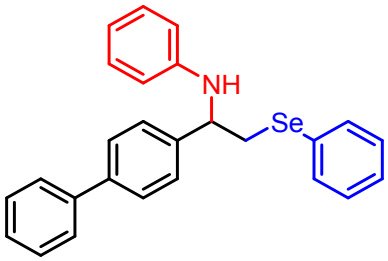
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.50 (d, J = 5.0 Hz, 2H, Ar-**H**), 7.27 – 7.20 (m, 5H, Ar-**H**), 7.11 (d, J = 6.8 Hz, 2H, Ar-**H**), 7.05 (t, J = 5.9 Hz, 2H, Ar-**H**), 6.65 (t, J = 6.0 Hz, 1H, Ar-**H**), 6.43 (d, J = 7.0 Hz, 2H, Ar-**H**), 4.47 – 4.37 (m, 2H, N-**H** and the C-**H** adjacent to N atom), 3.33 (d, J = 12.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.19 (t, J = 9.8 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.30 (s, 3H, -C**H$_3$**).

^{13}C NMR (151 MHz, $CDCl_3$) δ 147.17, 139.66, 137.23, 133.52, 129.56, 129.46, 129.29, 129.11, 127.49, 126.26, 117.76, 113.74 (12 **C**$_{Ar}$s), 57.57 (**C**H adjacent to N atom), 36.54 (**C**H_2 adjacent to Se atom), 21.19 (-**C**H_3).

IR (neat, cm^{-1}): 3400, 3016, 2928, 1604, 1505, 1322, 1268, 1031, 747, 691.

GC-MS (EI): 367.1, 196.1, 157.0, 117.1, 91.1, 77.1.

HRMS (ESI) calcd for $C_{21}H_{22}NSe^+$ m/z $[M+H]^+$: 368.0912; found: 368.0921.



N-(1-([1,1'-biphenyl]-4-yl)-2-(phenylselanyl)ethyl)aniline (4f)

White solid, 33.0 mg, 77% yield.

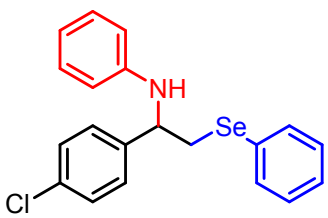
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.53 (dd, J = 18.6, 7.2 Hz, 6H, Ar-**H**), 7.40 (q, J = 7.5 Hz, 4H, Ar-**H**), 7.32 (dd, J = 8.4, 6.3 Hz, 1H, Ar-**H**), 7.25 (d, J = 6.9 Hz, 3H, Ar-**H**), 7.08 (t, J = 7.7 Hz, 2H, Ar-**H**), 6.67 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.47 (d, J = 7.7 Hz, 2H, Ar-**H**), 4.50 (d, J = 12.9 Hz, 2H, N-**H** and the C-**H** adjacent to N atom), 3.38 (dd, J = 12.6, 4.4 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.23 (q, J = 11.3, 10.4 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 147.10, 141.74, 140.81, 140.48, 133.63, 129.33, 129.17, 128.82, 127.61, 127.58, 127.32, 127.11, 126.82, 117.92, 113.81 (16 **C**$_{Ar}$s, one of which overlaps with another), 57.61 (**C**H adjacent to N atom), 36.50 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3401, 3052, 2925, 1601, 1503, 1317, 1262, 739, 692.

GC-MS (EI): 429.1, 258.1, 180.1, 165.0, 152.0, 104.0, 91.1.

HRMS (ESI) calcd for $C_{26}H_{24}NSe^+$ m/z $[M+H]^+$: 430.1068; found: 430.1061.



N-(1-(4-chlorophenyl)-2-(phenylselanyl)ethyl)aniline (4g)

Colorless oil, 20.5 mg, 53% yield.

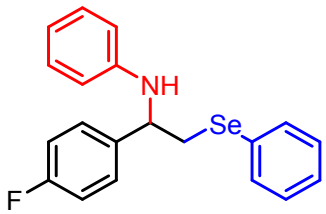
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.50 (m, 2H, Ar-**H**), 7.26 (m, 7H, Ar-**H**), 7.07 (m, 2H, Ar-**H**), 6.68 (m, 1H, Ar-**H**), 6.41 (m, 2H, Ar-**H**), 4.43 (m, 2H, N-**H** and the C-**H** adjacent to N atom), 3.31 (d, J = 12.9 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.15 (t, J = 9.3 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 146.76, 141.20, 133.69, 133.16, 129.36, 129.14, 129.00, 127.76, 127.70, 118.10, 113.78 (12 **C**$_{Ar}$s, one of which overlaps with another), 57.29 (**C**H adjacent to N atom), 36.38 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3400, 3052, 2926, 1602, 1503, 1434, 1316, 1260, 1089, 1013, 824, 739, 692.

GC-MS (EI): 387.2, 216.1, 180.1, 157.0, 138.0, 104.1, 91.1.

HRMS (ESI) calcd for $C_{20}H_{19}ClNSe^+$ m/z $[M+H]^+$: 388.0366; found: 388.0361.



N-(1-(4-fluorophenyl)-2-(phenylselanyl)ethyl)aniline (4h)

Colorless oil, 19.3 mg, 52% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.50 (d, J = 6.7 Hz, 2H, Ar-**H**), 7.31 – 7.28 (m, 2H, Ar-**H**), 7.27 – 7.23 (m, 3H, Ar-**H**), 7.07 (t, J = 7.4 Hz, 2H, Ar-**H**), 6.98 (t, J = 8.1 Hz, 2H, Ar-**H**), 6.67 (t, J = 7.1 Hz, 1H, Ar-**H**), 6.41 (d, J = 7.8 Hz, 2H, Ar-**H**), 4.44 (m, 2H, N-**H** and the C-**H** adjacent to N atom), 3.31 (dd, J = 12.6, 3.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.19 – 3.14 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

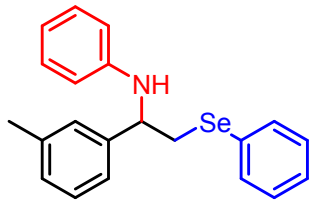
^{13}C NMR (151 MHz, $CDCl_3$) δ 162.12 (d, J = 245.6 Hz, **C**$_{Ar}$ adjacent to F atom), 146.88, 138.32 (d, J = 3.2 Hz, **C**$_{Ar}$ *para-* to F atom), 133.64, 129.34, 129.13, 129.10, 127.91 (d, J = 8.0 Hz, **C**$_{Ar}$s *meta-* to F atom), 127.66, 118.01, 115.69 (d, J = 21.5 Hz, **C**$_{Ar}$s *ortho-* to F atom), 113.76 (12 **C**$_{Ar}$s), 57.21 (**C**H adjacent to N atom), 36.57 (**C**H_2 adjacent to Se atom).

^{19}F NMR (376 MHz, $CDCl_3$) δ -115.06.

IR (neat, cm^{-1}): 3400, 3052, 2924, 1602, 1505, 1316, 1223, 1155, 835, 740, 691.

GC-MS (EI): 371.1, 279.0, 214.1, 198.3, 172.0, 157.0, 122.1.

HRMS (ESI) calcd for $C_{20}H_{19}FNSe^+$ m/z $[M+H]^+$: 372.0661; found: 372.0655.



N-(2-(phenylselanyl)-1-(m-tolyl)ethyl)aniline (4i)

Colorless oil, 23.1 mg, 63% yield.

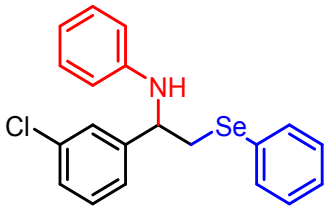
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.52 – 7.48 (m, 2H, Ar-**H**), 7.24 (s, 3H, Ar-**H**), 7.20 – 7.17 (m, 1H, Ar-**H**), 7.13 (m, 2H, Ar-**H**), 7.05 (d, J = 7.1 Hz, 3H, Ar-**H**), 6.65 (t, J = 6.6 Hz, 1H, Ar-**H**), 6.44 (d, J = 7.4 Hz, 2H, Ar-**H**), 4.41 (m, 2H, N-**H** and the C-**H** adjacent to N atom), 3.33 (d, J = 12.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.18 (t, J = 10.3 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.30 (s, 3H, -C**H$_3$**).

^{13}C NMR (151 MHz, $CDCl_3$) δ 147.24, 142.73, 138.51, 133.58, 129.43, 129.30, 129.13, 128.76, 128.42, 127.53, 126.99, 123.44, 117.79, 113.75 (14 **C**$_{Ar}$s), 57.95 (**C**H adjacent to N atom), 36.52 (**C**H_2 adjacent to Se atom), 21.61 (-**C**H_3).

IR (neat, cm^{-1}): 3386, 3018, 2918, 1601, 1505, 1323, 1266, 754, 731, 691.

GC-MS (EI): 367.2, 208.2, 195.1, 180.1, 157.0, 117.1, 91.1.

HRMS (ESI) calcd for $C_{21}H_{22}NSe^+$ m/z $[M+H]^+$: 368.0912; found: 368.0905.



N-(1-(3-chlorophenyl)-2-(phenylselanyl)ethyl)aniline (4j)

Colorless oil, 17.4 mg, 45% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.50 (d, J = 6.4 Hz, 2H, Ar-**H**), 7.33 (s, 1H, Ar-**H**), 7.24 (dd, J = 20.2, 11.0 Hz, 6H, Ar-**H**), 7.08 (d, J = 7.9 Hz, 2H, Ar-**H**), 6.68 (t, J = 7.2 Hz, 1H, Ar-**H**), 6.42 (d, J = 7.7 Hz, 2H, Ar-**H**), 4.45 (s, 1H, N-**H**), 4.39 (dd, J = 8.7, 4.2 Hz, 1H, C-**H** adjacent to N atom),

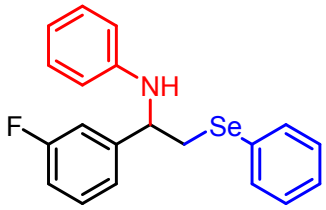
3.38 – 3.29 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.22 – 3.12 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 146.73, 144.99, 134.68, 133.71, 130.09, 129.32, 129.11, 128.85, 127.74, 127.71, 126.45, 124.52, 118.07, 113.69 (14 $\mathbf{C}_{Ar}$s), 57.50 (**C**H adjacent to N atom), 36.27 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3381, 3050, 2867, 1602, 1504, 1320, 1193, 1075, 753, 730, 690.

GC-MS (EI): 387.1, 216.0, 171.0, 118.0, 104.1, 91.0, 77.0.

HRMS (ESI) calcd for $C_{20}H_{19}ClNSe^+$ m/z $[M+H]^+$: 388.0366; found: 388.0362.



N-(1-(3-fluorophenyl)-2-(phenylselanyl)ethyl)aniline (4k)

Colorless oil, 27.1 mg, 73% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.50 (d, J = 5.4 Hz, 2H, Ar-**H**), 7.26 (d, J = 7.2 Hz, 4H, Ar-**H**), 7.14 – 7.03 (m, 4H, Ar-**H**), 6.91 (t, J = 8.1 Hz, 1H, Ar-**H**), 6.68 (d, J = 6.0 Hz, 1H, Ar-**H**), 6.42 (d, J = 7.2 Hz, 2H, Ar-**H**), 4.52 – 4.39 (m, 2H, N-**H** and the C-**H** adjacent to N atom), 3.33 (d, J = 12.7 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.15 (t, J = 10.0 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

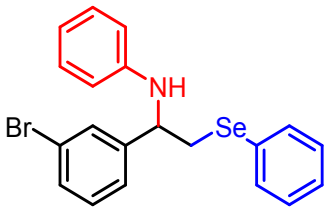
^{13}C NMR (151 MHz, $CDCl_3$) δ 163.27 (d, J = 246.5 Hz, $\mathbf{C}_{Ar}$ adjacent to F atom), 146.82, 145.66 (d, J = 6.3 Hz), 133.71, 130.38 (d, J = 8.2 Hz), 129.37, 129.15, 129.00, 127.74, 121.99 (d, J = 2.8 Hz), 118.10, 114.51 (d, J = 21.2 Hz), 113.75, 113.26 (d, J = 22.0 Hz) (14 $\mathbf{C}_{Ar}$s), 57.52 (**C**H adjacent to N atom), 36.30 (**C**H_2 adjacent to Se atom).

^{19}F NMR (376 MHz, $CDCl_3$) δ -112.43.

IR (neat, cm^{-1}): 3388, 3050, 2871, 1602, 1503, 1318, 1264, 1070, 757, 737, 692.

GC-MS (EI): 371.1, 200.2, 172.0, 156.9, 122.0, 104.1, 91.1.

HRMS (ESI) calcd for $C_{20}H_{19}FNSe^+$ m/z $[M+H]^+$: 372.0661; found: 372.0666.



N-(1-(3-bromophenyl)-2-(phenylselanyl)ethyl)aniline (4l)

Colorless oil, 21.9 mg, 51% yield.

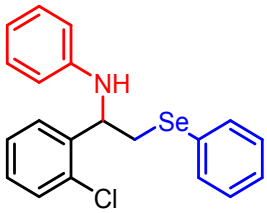
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.56 – 7.47 (m, 3H, Ar-**H**), 7.36 (d, J = 7.9 Hz, 1H, Ar-**H**), 7.28 (d, J = 7.9 Hz, 2H, Ar-**H**), 7.26 (s, 1H, Ar-**H**), 7.25 (s, 1H, Ar-**H**), 7.16 (t, J = 7.8 Hz, 1H, Ar-**H**), 7.08 (t, J = 7.4 Hz, 2H, Ar-**H**), 6.69 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.42 (d, J = 7.9 Hz, 2H, Ar-**H**), 4.45 (s, 1H, N-**H**), 4.38 (dd, J = 8.8, 4.2 Hz, 1H, C-**H** adjacent to N atom), 3.32 (dd, J = 12.7, 4.1 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.15 (dd, J = 12.5, 9.0 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 146.77, 145.31, 133.77, 130.72, 130.44, 129.40, 129.36, 129.16, 128.87, 127.77, 125.03, 122.99, 118.13, 113.74 (14 **C**$_{Ar}$s), 57.53 (**C**H adjacent to N atom), 36.34 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3399, 3052, 2924, 1602, 1504, 1433, 1316, 1257, 1067, 739, 691.

GC-MS (EI): 431.1, 260.0, 156.9, 118.2, 104.0, 91.0, 77.1.

HRMS (ESI) calcd for $C_{20}H_{19}BrNSe^+$ m/z $[M+H]^+$: 431.9861; found: 431.9859.



N-(1-(2-chlorophenyl)-2-(phenylselanyl)ethyl)aniline (4m)

Colorless oil, 19.4 mg, 50% yield.

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.53 (dd, J = 7.7, 1.8 Hz, 2H, Ar-**H**), 7.49 – 7.45 (m, 1H, Ar-**H**), 7.35 – 7.31 (m, 1H, Ar-**H**), 7.27 – 7.23 (m, 3H, Ar-**H**), 7.18 – 7.14 (m, 2H, Ar-**H**), 7.07 (dd, J = 8.6, 7.3 Hz, 2H, Ar-**H**), 6.66 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.40 – 6.36 (m, 2H, Ar-**H**), 4.87 (dd, J = 9.1, 3.8 Hz, 1H, C-**H** adjacent to N atom), 4.53 (s, 1H, N-**H**), 3.47 (dd, J = 12.7, 3.8 Hz, 1H, one

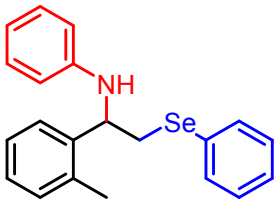
C-**H** of the -CH_2- adjacent to Se atom), 3.10 (dd, J = 12.7, 9.1 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (101 MHz, $CDCl_3$) δ 146.43, 139.19, 133.60, 132.40, 129.61, 128.97, 128.89, 128.65, 128.42, 127.44, 127.40, 127.14, 117.78, 113.38 (14 **C**$_{Ar}$s), 54.16 (**C**H adjacent to N atom), 33.79 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3399, 3054, 2925, 1602, 1503, 1438, 1316, 1260, 1033, 751, 691.

GC-MS (EI): 387.1, 215.7, 194.1, 180.1, 157.0, 138.0, 118.1.

HRMS (ESI) calcd for $C_{20}H_{19}ClNSe^+$ m/z $[M+H]^+$: 388.0366; found: 388.0359.



N-(2-(phenylselanyl)-1-(o-tolyl)ethyl)aniline (4n)

Colorless oil, 31.6 mg, 86% yield.

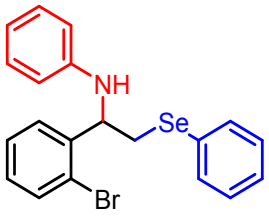
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.53 (d, J = 5.6 Hz, 2H, Ar-**H**), 7.42 (s, 1H, Ar-**H**), 7.30 – 7.22 (m, 3H, Ar-**H**), 7.13 (s, 3H, Ar-**H**), 7.05 (t, J = 5.7 Hz, 2H, Ar-**H**), 6.65 (t, J = 5.8 Hz, 1H, Ar-**H**), 6.36 (d, J = 7.2 Hz, 2H, Ar-**H**), 4.61 – 4.51 (m, 1H, C-**H** adjacent to N atom), 4.43 (s, 1H, N-**H**), 3.27 (d, J = 12.7 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.06 (t, J = 10.4 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.24 (s, 3H, -C**H**$_3$).

^{13}C NMR (151 MHz, $CDCl_3$) δ 147.24, 140.30, 134.78, 134.18, 130.86, 129.28, 129.15, 129.06, 127.78, 127.32, 126.77, 125.38, 117.77, 113.49 (14 **C**$_{Ar}$s), 54.06 (**C**H adjacent to N atom), 34.75 (**C**H_2 adjacent to Se atom), 18.91 (-**C**H_3).

IR (neat, cm^{-1}): 3399, 3053, 2965, 2834, 1601, 1504, 1316, 1247, 1034, 741, 693.

GC-MS (EI): 367.1, 188.4, 156.9, 130.5, 114.3, 95.6, 82.0.

HRMS (ESI) calcd for $C_{21}H_{22}NSe^+$ m/z $[M+H]^+$: 368.0912; found: 368.0909.



N-(1-(2-bromophenyl)-2-(phenylselanyl)ethyl)aniline (4o)

Colorless oil, 21.1 mg, 49% yield.

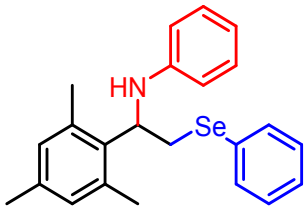
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.47 (d, J = 7.7 Hz, 2H, Ar-**H**), 7.45 (d, J = 8.0 Hz, 1H, Ar-**H**), 7.39 (d, J = 7.8 Hz, 1H, Ar-**H**), 7.20 – 7.15 (m, 3H, Ar-**H**), 7.13 (t, J = 7.5 Hz, 1H, Ar-**H**), 7.00 (q, J = 7.6 Hz, 3H, Ar-**H**), 6.59 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.30 (d, J = 7.8 Hz, 2H, Ar-**H**), 4.74 – 4.70 (m, 1H, C-**H** adjacent to N atom), 4.52 (s, 1H, N-**H**), 3.42 – 3.36 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.01 – 2.94 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 145.59, 139.82, 133.01, 132.08, 128.15, 128.07, 127.97, 127.62, 126.97, 126.81, 126.66, 121.76, 116.93, 112.57 (14 **C**$_{Ar}$s), 55.59 (**C**H adjacent to N atom), 33.13 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3403, 3053, 2923, 1602, 1503, 1437, 1316, 1260, 1022, 738, 691.

GC-MS (EI): 431.1, 260.0, 194.1, 180.1, 156.9, 104.1, 91.1.

HRMS (ESI) calcd for $C_{20}H_{19}BrNSe^+$ m/z $[M+H]^+$: 431.9861; found: 431.9855.



N-(1-mesityl-2-(phenylselanyl)ethyl)aniline (4p)

Colorless oil, 25.3 mg, 64% yield.

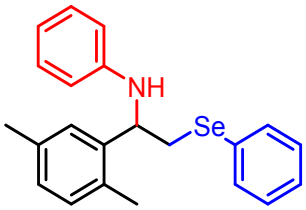
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.53 (d, J = 7.9 Hz, 2H, Ar-**H**), 7.26 (dd, J = 16.1, 6.5 Hz, 3H, Ar-**H**), 7.07 – 7.02 (m, 2H, Ar-**H**), 6.75 (s, 2H, Ar-**H**), 6.63 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.35 (d, J = 7.9 Hz, 2H, Ar-**H**), 4.69 (dd, J = 10.8, 4.4 Hz, 1H, C-**H** adjacent to N atom), 4.27 (s, 1H, N-**H**), 3.35 – 3.29 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.23 (dd, J = 12.8, 4.3 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.21 (s, 9H, 3 -C**H**$_3$s).

^{13}C NMR (151 MHz, $CDCl_3$) δ 147.59, 136.55, 135.82, 134.53, 134.36, 129.22, 129.15, 128.81, 127.77, 117.34, 112.80 (12 **C**$_{Ar}$s, one of which overlaps with another), 54.31 (**C**H adjacent to N atom), 32.71 (**C**H_2 adjacent to Se atom), 20.76 (3 -**C**H_3s).

IR (neat, cm^{-1}): 3414, 3052, 2918, 2853, 1602, 1503, 1319, 1263, 1022, 852, 739, 691.

GC-MS (EI): 393.3, 224.1, 169.1, 146.1, 131.1, 115.1, 91.1.

HRMS (ESI) calcd for $C_{23}H_{26}NSe^+$ m/z $[M+H]^+$: 396.1225; found: 396.1223.



N-(1-(2,5-dimethylphenyl)-2-(phenylselanyl)ethyl)aniline (4q)

Colorless oil, 32.8 mg, 86% yield.

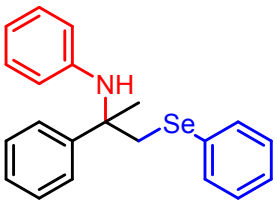
^{1}H NMR (400 MHz, $CDCl_3$) δ 7.52 (dd, J = 7.8, 1.7 Hz, 2H, Ar-**H**), 7.28 – 7.22 (m, 4H, Ar-**H**), 7.08 – 7.00 (m, 3H, Ar-**H**), 6.96 – 6.91 (m, 1H, Ar-**H**), 6.65 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.40 – 6.37 (m, 2H, Ar-**H**), 4.52 (dd, J = 9.3, 4.4 Hz, 1H, C-**H** adjacent to N atom), 4.40 (s, 1H, N-**H**), 3.25 (dd, J = 12.7, 4.4 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.06 (dd, J = 12.7, 9.3 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.22 (s, 3H, *5*-C**H$_3$**), 2.19 (s, 3H, *2*-C**H$_3$**).

^{13}C NMR (101 MHz, $CDCl_3$) δ 147.46, 140.14, 136.12, 134.14, 131.60, 130.74, 129.22, 129.14, 128.06, 127.70, 125.95, 117.72, 113.51(14 **C**$_{Ar}$s, one of which overlaps with another), 54.21 (**C**H adjacent to N atom), 34.84 (**C**H_2 adjacent to Se atom), 21.22 (*5*-**C**H_3), 18.45 (*2*-**C**H_3).

IR (neat, cm^{-1}): 3416, 3051, 2918, 1602, 1503, 1319, 1263, 1022, 852, 739, 691.

GC-MS (EI): 381.2, 289.1, 211.3, 183.0, 157.0, 132.1, 106.1.

HRMS (ESI) calcd for C_{22}H24NSe^+ m/z $[M+H]^+$: 382.1068; found: 382.1070.



N-(2-phenyl-1-(phenylselanyl)propan-2-yl)aniline (4r)

Colorless oil, 18.7 mg, 51% yield.

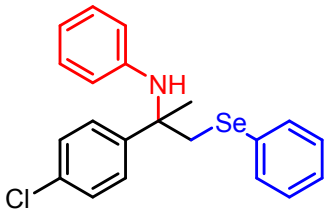
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.51 (d, J = 7.3 Hz, 4H, Ar-**H**), 7.33 (t, J = 7.6 Hz, 2H, Ar-**H**), 7.26 – 7.22 (m, 4H, Ar-**H**), 6.99 (t, J = 7.7 Hz, 2H, Ar-**H**), 6.63 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.29 (d, J = 7.9 Hz, 2H, Ar-**H**), 4.56 (s, 1H, N-**H**), 3.45 (s, 2H, -C**H$_2$**- adjacent to Se atom), 1.74 (s, 3H, -C**H$_3$**).

^{13}C NMR (151 MHz, $CDCl_3$) δ 145.66, 145.64, 133.21, 130.52, 129.30, 128.78, 128.77, 127.33, 127.01, 126.04, 117.71, 115.85 (12 **C**$_{Ar}$s), 58.86 (**C**H adjacent to N atom), 44.96 (**C**H$_2$ adjacent to Se atom), 25.67 (-**C**H$_3$).

IR (neat, cm^{-1}): 3399, 3051, 2924, 2852, 1602, 1503, 1316, 1071, 739, 691.

GC-MS (EI): 367.1, 191.0, 180.0, 156.9, 118.1, 91.1, 77.1.

HRMS (ESI) calcd for $C_{21}H_{22}NSe^+$ m/z $[M+H]^+$: 368.0912; found: 368.0914.



N-(2-(4-chlorophenyl)-1-(phenylselanyl)propan-2-yl)aniline (4s)

Colorless oil, 24.5 mg, 61% yield.

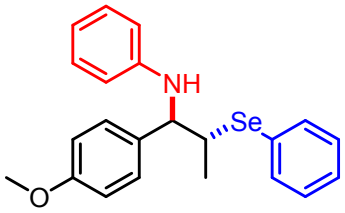
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.49 (d, J = 7.6 Hz, 2H, Ar-**H**), 7.43 (d, J = 6.9 Hz, 2H, Ar-**H**), 7.28 (d, J = 8.6 Hz, 2H, Ar-**H**), 7.25 (d, J = 5.9 Hz, 3H, Ar-**H**), 7.02 – 6.98 (m, 2H, Ar-**H**), 6.65 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.27 (d, J = 8.0 Hz, 2H, Ar-**H**), 4.51 (s, 1H, N-**H**), 3.40 (s, 2H, -C**H$_2$**- adjacent to Se atom), 1.72 (s, 3H, -C**H$_3$**).

^{13}C NMR (151 MHz, $CDCl_3$) δ 145.34, 144.18, 133.30, 132.84, 130.25, 129.33, 128.86, 128.83, 127.63, 127.45, 117.97, 115.84 (12 **C**$_{Ar}$s), 58.64 (**C**H adjacent to N atom), 44.82 (**C**H$_2$ adjacent to Se atom), 25.58 (-**C**H$_3$).

IR (neat, cm^{-1}): 3399, 3053, 2980, 1601, 1497, 1316, 1258, 1094, 1012, 831, 739, 692.

GC-MS (EI): 401.2, 230.1, 195.0, 171.0, 152.0, 115.0, 91.0.

HRMS (ESI) calcd for $C_{21}H_{21}ClNSe^+$ m/z $[M+H]^+$: 402.0522; found: 402.0530.



N-(1-(4-methoxyphenyl)-2-(phenylselanyl)propyl)aniline (4t)

Colorless oil, 34.5 mg, 87% yield (major diastereomer, dr > 20:1).

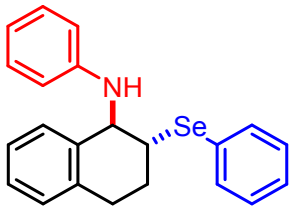
^{1}H NMR (400 MHz, $CDCl_3$) δ 7.60 – 7.52 (m, 2H, Ar-**H**), 7.29 – 7.19 (m, 5H, Ar-**H**), 7.06 (t, J = 7.9 Hz, 2H, Ar-**H**), 6.83 (d, J = 8.7 Hz, 2H, Ar-**H**), 6.64 (t, J = 7.5 Hz, 1H, Ar-**H**), 6.45 (d, J = 8.5 Hz, 2H, Ar-**H**), 4.56 (s, 1H, N-**H**), 4.40 (s, 1H, C-**H** adjacent to N atom), 3.76 (s, 3H, -OC**H$_3$**), 3.72 (dd, J = 7.2, 3.6 Hz, 1H, C-**H** adjacent to Se atom), 1.33 (d, J = 7.2 Hz, 3H, -C**H$_3$**).

^{13}C NMR (101 MHz, $CDCl_3$) δ 158.92, 147.30, 135.21, 132.44, 129.23, 129.06, 128.99, 128.24, 127.96, 117.66, 113.90 (12 **C**$_{Ar}$S, one of which overlaps with another), 60.52 (**C**H adjacent to N atom), 55.27 (-O**C**H$_3$), 46.86 (**C**H adjacent to Se atom), 16.86 (-**C**H$_3$).

IR (neat, cm^{-1}): 3420, 3052, 2924, 2852, 1602, 1507, 1247, 1174, 1035, 745, 692.

GC-MS (EI): 396.1, 210.2, 157.0, 131.1, 106.1, 91.1, 77.1.

HRMS (ESI) calcd for $C_{22}H_{24}NOSe^+$ m/z $[M+H]^+$: 398.1018; found: 398.1009.



N-phenyl-2-(phenylselanyl)-1,2,3,4-tetrahydronaphthalen-1-amine (4u)

Colorless oil, 20.1 mg, 53% yield (major diastereomer, dr > 20:1).

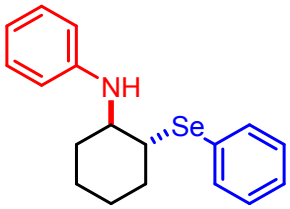
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.63 (d, J = 7.5 Hz, 2H, Ar-**H**), 7.33 (dt, J = 29.2, 7.7 Hz, 4H, Ar-**H**), 7.23 – 7.13 (m, 3H, Ar-**H**), 7.10 – 7.03 (m, 2H, Ar-**H**), 6.66 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.31 (d, J = 6.0 Hz, 2H, Ar-**H**), 4.63 (s, 1H, C-**H** adjacent to N atom), 4.04 (s, 1H, N-**H**), 3.89 (s, 1H, C-**H** adjacent to Se atom), 3.09 – 2.98 (m, 1H, aliphatic C-**H** of the -$(CH_2)_2$-), 2.79 (d, J = 17.5 Hz, 1H, aliphatic C-**H** of the -$(CH_2)_2$-), 2.37 – 2.27 (m, 1H, aliphatic C-**H** of the -$(CH_2)_2$-), 2.05 (d, J = 14.2 Hz, 1H, aliphatic C-**H** of the -$(CH_2)_2$-).

^{13}C NMR (151 MHz, $CDCl_3$) δ 146.46, 136.28, 135.87, 135.29, 130.95, 129.46, 129.22, 129.08, 128.44, 128.09, 127.77, 126.57, 117.48, 112.57 (14 **C**$_{Ar}$s), 55.43 (**C**H adjacent to N atom), 43.85 (**C**H adjacent to Se atom), 26.19 (-**C**H_2-), 23.82 (-**C**H_2-).

IR (neat, cm^{-1}): 3405, 3051, 2922, 1600, 1502, 1434, 1309, 1251, 747, 692.

GC-MS (EI): 379.1, 287.0, 249.0, 222.1, 194.1, 178.0, 129.1.

HRMS (ESI) calcd for $C_{22}H_{22}NSe^+$ m/z $[M+H]^+$: 380.0912; found: 380.0920.



N-(2-(phenylselanyl)cyclohexyl)aniline (4v)

Colorless oil, 16.6 mg, 50% yield (major diastereomer, dr > 20:1).

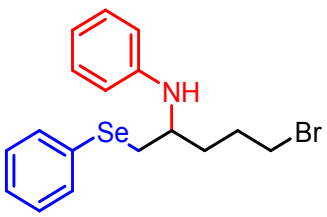
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.54 (d, J = 7.5 Hz, 2H, Ar-**H**), 7.30 (t, J = 7.3 Hz, 1H, Ar-**H**), 7.27 – 7.23 (m, 2H, Ar-**H**), 7.14 (t, J = 7.8 Hz, 2H, Ar-**H**), 6.68 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.51 (d, J = 7.9 Hz, 2H, Ar-**H**), 3.93 (s, 1H, N-**H**), 3.29 – 3.20 (m, 2H, C-**H** adjacent to N atom and C-**H** adjacent to Se atom), 2.33 (d, J = 13.3 Hz, 1H, aliphatic C-**H** of the -$(CH_2)_4$-), 2.12 (d, J = 12.5 Hz, 1H, aliphatic C-**H** of the -$(CH_2)_4$-), 1.69 (d, J = 11.8 Hz, 2H, aliphatic C-**H**s of the -$(CH_2)_4$-), 1.43 – 1.17 (m, 4H, aliphatic C-**H**s of the -$(CH_2)_4$-).

^{13}C NMR (151 MHz, $CDCl_3$) δ 147.07, 136.08, 136.05, 129.27, 128.94, 127.86, 117.31, 113.26 (8 **C**$_{Ar}$s), 56.13 (**C**H adjacent to N atom), 53.15 (**C**H_2 β to N atom), 48.43 (**C**H adjacent to Se atom), 33.25 (**C**H_2 β to Se atom), 26.28, 24.09 (2 -**C**H_2-s).

IR (neat, cm^{-1}): 3422, 3058, 2930, 2851, 1591, 1502, 1316, 1183, 1021, 818, 734, 691.

GC-MS (EI): 331.0, 239.0, 174.2, 157.1, 132.1, 106.1, 77.1.

HRMS (ESI) calcd for $C_{18}H_{22}NSe^+$ m/z $[M+H]^+$: 332.0912; found: 332.0913.



N-(6-bromo-1-(phenylselanyl)hexan-2-yl)aniline (4w)

Colorless oil, 11.9 mg, 30% yield.

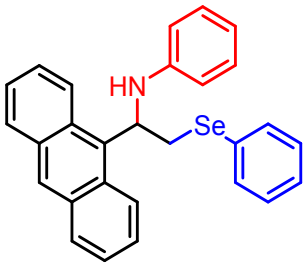
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.65 – 7.59 (m, 2H, Ar-**H**), 7.30 (d, J = 5.3 Hz, 3H, Ar-**H**), 7.12 (t, J = 7.9 Hz, 2H, Ar-**H**), 6.63 (t, J = 7.2 Hz, 1H, Ar-**H**), 6.34 (d, J = 8.0 Hz, 2H, Ar-**H**), 3.92 – 3.86 (m, 1H, C-**H** adjacent to N atom), 3.44 (t, J = 6.2 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.21 – 3.12 (m, 2H, -C**H$_2$**- adjacent to Br atom), 2.74 – 2.68 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.07 – 1.97 (m, 4H, 2 -C**H$_2$**-s).

^{13}C NMR (151 MHz, $CDCl_3$) δ 146.53, 134.04, 129.39, 129.25, 129.12, 127.46, 115.81, 111.68 (8 **C**$_{Ar}$s), 58.71 (**C**H adjacent to N atom), 48.36 (**C**H_2 adjacent to Se atom), 31.06 (**C**H_2 γ to Br atom), 30.40 (**C**H_2 adjacent to Br atom), 23.14 (**C**H_2 β to Br atom).

IR (neat, cm^{-1}): 3447, 3055, 2966, 2848, 1590, 1497, 1366, 1191, 1022, 809, 735, 690.

GC-MS (EI): 317.0, 160.0, 146.3, 130.1, 104.1, 91.1, 77.1.

HRMS (ESI) calcd for $C_{17}H_{21}BrNSe^+$ m/z $[M+H]^+$: 398.0017; found: 398.0012.



N-(1-(anthracen-9-yl)-2-(phenylselanyl)ethyl)aniline (4x)

White solid, 19.9 mg, 44% yield.

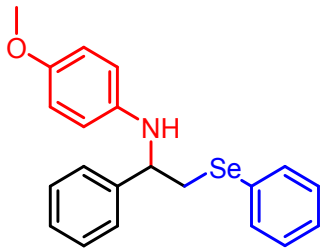
^{1}H NMR (600 MHz, $CDCl_3$) δ 9.05 (br, 1H, N-**H**), 8.38 (s, 1H, Ar-**H**), 7.98 (d, J = 7.3 Hz, 2H, Ar-**H**), 7.50 (d, J = 7.5 Hz, 2H, Ar-**H**), 7.42 (d, J = 6.7 Hz, 4H, Ar-**H**), 7.33 – 7.22 (m, 4H, Ar-**H**), 6.97 (t, J = 7.4 Hz, 2H, Ar-**H**), 6.60 (t, J = 7.2 Hz, 1H, Ar-**H**), 6.43 (d, J = 7.8 Hz, 2H, Ar-**H**), 5.84 – 5.78 (m, 1H, Ar-**H**), 4.85 (s, 1H, C-**H** adjacent to N atom), 3.82 – 3.76 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.70 (dd, J = 13.1, 5.2 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 147.95, 134.44, 132.55, 129.67, 129.49, 129.24, 129.13, 128.53, 128.32, 127.86, 124.81, 117.84, 113.52 (16 **C**$_{Ar}$s, three of which overlap with others), 54.41 (**C**H adjacent to N atom), 34.37 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3402, 3049, 2926, 1600, 1502, 1435, 1310, 1064, 748, 692.

GC-MS (EI): 458.4, 249.1, 169.1, 141.1, 115.1, 91.1, 77.0.

HRMS (ESI) calcd for $C_{28}H_{24}NSe^+$ m/z $[M+H]^+$: 454.1068; found: 454.1074.



4-methoxy-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5b)

Colorless oil, 8.8 mg, 23% yield.

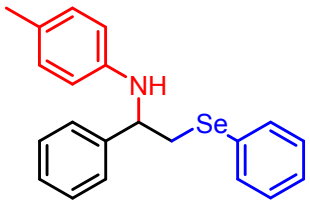
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.50 (d, J = 7.7 Hz, 2H, Ar-**H**), 7.34 (d, J = 8.0 Hz, 2H, Ar-**H**), 7.30 (t, J = 6.8 Hz, 2H, Ar-**H**), 7.27 – 7.22 (m, 4H, Ar-**H**), 6.66 (d, J = 7.2 Hz, 2H, Ar-**H**), 6.41 (d, J = 7.2 Hz, 2H, Ar-**H**), 4.36 (dd, J = 9.2, 4.5 Hz, 1H, C-**H** adjacent to N atom), 4.27 (br, 1H, N-**H**), 3.68 (s, 3H, -OC**H$_3$**), 3.36 – 3.32 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.20 – 3.15 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 152.32, 142.92, 141.28, 133.51, 129.37, 129.28, 128.83, 127.54, 127.50, 126.41, 115.11, 114.68 (12 **C**$_{Ar}$s), 58.62 (**C**H adjacent to N atom), 55.71 (-O**C**H_3), 36.66 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3398, 3058, 2930, 2831, 1619, 1510, 1236, 1179, 1036, 818, 737, 701.

GC-MS (EI): 383.0, 211.7, 197.1, 182.9, 122.0, 104.0, 91.1.

HRMS (ESI) calcd for $C_{21}H_{21}NaNOSe^+$ m/z $[M+Na]^+$: 406.0674; found: 406.0674.



4-methyl-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5c)

Colorless oil, 23.9 mg, 65% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.51 (d, J = 7.4 Hz, 2H, Ar-**H**), 7.36 – 7.28 (m, 5H, Ar-**H**), 7.27 – 7.23 (m, 3H, Ar-**H**), 6.87 (d, J = 7.9 Hz, 2H, Ar-**H**), 6.36 (d, J = 8.2 Hz, 2H, Ar-**H**), 4.42 (dd, J =

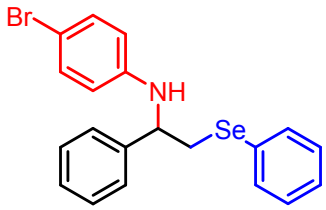
8.6, 4.3 Hz, 1H, C-**H** adjacent to N atom), 4.35 (s, 1H, N-**H**), 3.34 (dd, *J* = 12.6, 4.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.19 (dd, *J* = 12.5, 9.0 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.18 (s, 3H, -C**H$_3$**).

^{13}C NMR (151 MHz, $CDCl_3$) δ 144.79, 142.86, 133.51, 129.58, 129.40, 129.27, 128.82, 127.50, 127.48, 126.99, 126.35, 113.87 (12 **C**$_{Ar}$s), 58.04 (**C**H adjacent to N atom), 36.57 (**C**H_2 adjacent to Se atom), 20.39 (-**C**H_3).

IR (neat, cm^{-1}): 3386, 3029, 2918, 2854, 1617, 1519, 1320, 1123, 809, 738, 698.

GC-MS (EI): 367.0, 195.9, 180.1, 156.9, 118.1, 104.0, 91.1.

HRMS (ESI) calcd for $C_{21}H_{22}NSe^+$ m/z $[M+H]^+$: 368.0912; found: 368.0921.



4-bromo-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5d)

Colorless oil, 41.4 mg, 96% yield.

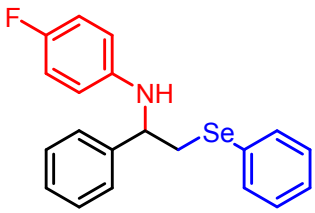
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.50 (d, *J* = 6.7 Hz, 2H, Ar-**H**), 7.31 – 7.27 (m, 4H, Ar-**H**), 7.25 (dd, *J* = 14.4, 8.3 Hz, 4H, Ar-**H**), 7.12 (d, *J* = 8.7 Hz, 2H, Ar-**H**), 6.29 (d, *J* = 8.6 Hz, 2H, Ar-**H**), 4.49 (s, 1H, N-**H**), 4.35 (dd, *J* = 8.7, 4.0 Hz, 1H, C-**H** adjacent to N atom), 3.34 (dd, *J* = 12.7, 4.1 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.14 (dd, *J* = 12.5, 9.3 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 146.05, 142.13, 133.74, 131.81, 129.38, 129.01, 128.96, 127.76, 127.74, 126.26, 115.35, 109.59 (12 **C**$_{Ar}$s), 57.84 (**C**H adjacent to N atom), 36.37 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3380, 3061, 2853, 1592, 1494, 1323, 1260, 1070, 834, 733, 699.

GC-MS (EI): 431.0, 260.0, 195.1, 182.0, 156.9, 104.0, 91.0.

HRMS (ESI) calcd for $C_{20}H_{19}BrNSe^+$ m/z $[M+H]^+$: 431.9861; found: 431.9870.



4-fluoro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5e)

Colorless oil, 33.4 mg, 90% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.43 (d, J = 6.9 Hz, 2H, Ar-**H**), 7.28 – 7.20 (m, 4H, Ar-**H**), 7.17 (d, J = 5.7 Hz, 4H, Ar-**H**), 6.68 (t, J = 7.7 Hz, 2H, Ar-**H**), 6.30 – 6.26 (m, 2H, Ar-**H**), 4.36 – 4.24 (m, 2H, N-**H** and the C-**H** adjacent to N atom), 3.29 – 3.25 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.10 – 3.06 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

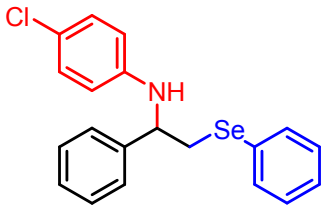
^{13}C NMR (151 MHz, $CDCl_3$) δ 156.02 (d, J = 235.5 Hz, **C**$_{Ar}$ adjacent to F atom), 143.46 (d, J = 2.5 Hz, **C**$_{Ar}$ *para*- to F atom), 142.53, 133.64, 129.34, 129.13, 128.91, 127.66 (d, J = 4.6 Hz, **C**$_{Ar}$s *meta*- to F atom), 126.32, 115.60, 115.45, 114.62 (d, J = 7.9 Hz, **C**$_{Ar}$s *ortho*- to F atom) (12 **C**$_{Ar}$s), 58.40 (**C**H adjacent to N atom), 36.57 (**C**H_2 adjacent to Se atom).

^{19}F NMR (376 MHz, $CDCl_3$) δ -127.44.

IR (neat, cm^{-1}): 3407, 3059, 2926, 1614, 1509, 1313, 1221, 820, 737, 701.

GC-MS (EI): 371.0, 200.2, 183.0, 156.9, 122.1, 104.1, 91.1.

HRMS (ESI) calcd for $C_{20}H_{19}FNSe^+$ m/z $[M+H]^+$: 372.0661; found: 372.0667.



4-chloro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5f)

Colorless oil, 38.3 mg, 99% yield.

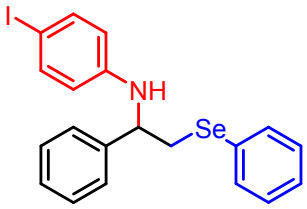
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.50 (d, J = 7.4 Hz, 2H, Ar-**H**), 7.30 (d, J = 3.7 Hz, 4H, Ar-**H**), 7.27 – 7.22 (m, 4H, Ar-**H**), 6.99 (d, J = 7.8 Hz, 2H, Ar-**H**), 6.33 (d, J = 7.9 Hz, 2H, Ar-**H**), 4.48 (s, 1H, N-**H**), 4.36 (dd, J = 8.8, 4.0 Hz, 1H, C-**H** adjacent to N atom), 3.34 (dd, J = 12.7, 4.0 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.15 (dd, J = 12.2, 9.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 145.64, 142.21, 133.73, 129.37, 129.02, 128.95, 128.93, 127.74, 127.72, 126.27, 122.47, 114.84 (12 **C**$_{Ar}$s), 57.93 (**C**H adjacent to N atom), 36.41 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3403, 3057, 2925, 2853, 1599, 1497, 1314, 1255, 1091, 815, 738, 702.

GC-MS (EI): 387.1, 216.1, 180.1, 157.0, 138.0, 104.1, 91.1.

HRMS (ESI) calcd for $C_{20}H_{19}ClNSe^+$ m/z $[M+H]^+$: 388.0366; found: 388.0375.



4-iodo-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5g)

Colorless oil, 41.1 mg, 86% yield.

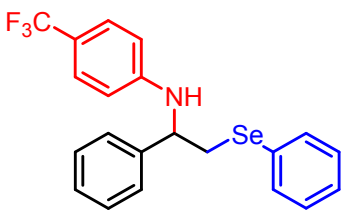
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.50 (d, J = 7.3 Hz, 2H, Ar-**H**), 7.32 – 7.23 (m, 10H, Ar-**H**), 6.19 (d, J = 7.7 Hz, 2H, Ar-**H**), 4.49 (s, 1H, N-**H**), 4.36 (dd, J = 8.5, 3.8 Hz, 1H, C-**H** adjacent to N atom), 3.34 (dd, J = 12.7, 4.0 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.14 (dd, J = 12.2, 9.4 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 146.62, 142.07, 137.66, 133.73, 129.38, 128.99, 128.96, 127.76, 127.75, 126.24, 115.96, 78.76 (**C**$_{Ar}$ adjacent to I atom) (12 **C**$_{Ar}$s), 57.68 (**C**H adjacent to N atom), 36.36 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3406, 3058, 2923, 1589, 1492, 1316, 1182, 810, 735, 700.

GC-MS (EI): 479.1, 308.1, 230.0, 181.1, 157.0, 104.1, 91.1.

HRMS (ESI) calcd for $C_{20}H_{19}INSe^+$ m/z $[M+H]^+$: 479.9714; found: 479.9714.



N-(1-phenyl-2-(phenylselanyl)ethyl)-4-(trifluoromethyl)aniline (5h)

Colorless oil, 40.8 mg, 97% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.51 (d, J = 7.6 Hz, 2H, Ar-**H**), 7.31 (d, J = 14.8 Hz, 4H, Ar-**H**), 7.29 – 7.24 (m, 6H, Ar-**H**), 6.41 (d, J = 8.2 Hz, 2H, Ar-**H**), 4.74 (s, 1H, N-**H**), 4.48 – 4.40 (m, 1H, C-**H** adjacent to N atom), 3.36 (dd, J = 12.8, 3.7 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.17 (dd, J = 12.1, 9.2 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

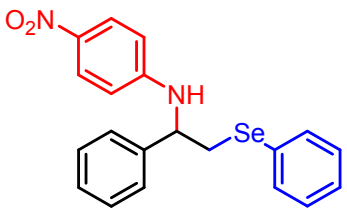
^{13}C NMR (151 MHz, $CDCl_3$) δ 149.52, 141.80, 133.81, 129.43, 129.03, 128.89, 127.87 (d, J = 6.8 Hz, **C**$_{Ar}$ adjacent to -CF_3), 126.47 (q, J = 4.1 Hz, -**C**F_3), 126.20, 112.88 (12 **C**$_{Ar}$s, three of which overlap with others), 57.60 (**C**H adjacent to N atom), 36.19 (**C**H_2 adjacent to Se atom).

^{19}F NMR (376 MHz, $CDCl_3$) δ -61.12.

IR (neat, cm^{-1}): 3407, 3061, 2928, 1890, 1617, 1530, 1478, 1323, 1111, 1065, 825, 738, 701.

GC-MS (EI): 421.1, 249.8, 172.0, 145.0, 104.1, 91.1, 77.1.

HRMS (ESI) calcd for $C_{20}H_{19}F3NSe^+$ m/z $[M+H]^+$: 422.0629; found: 422.0631.



4-nitro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5i)

Colorless oil, 39.4 mg, 99% yield.

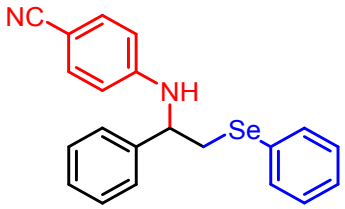
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.95 (d, J = 6.4 Hz, 2H, Ar-**H**), 7.51 (d, J = 6.4 Hz, 2H, Ar-**H**), 7.34 – 7.25 (m, 8H, Ar-**H**), 6.34 (d, J = 6.5 Hz, 2H, Ar-**H**), 5.23 (s, 1H, N-**H**), 4.51 (d, J = 4.6 Hz, 1H, C-**H** adjacent to N atom), 3.38 (d, J = 13.0 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.21 (d, J = 12.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 152.19, 140.88, 138.49, 133.90, 129.51, 129.15, 128.57, 128.15, 128.02, 126.16, 126.11, 112.19 (12 **C**$_{Ar}$s), 57.57 (**C**H adjacent to N atom), 35.73 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3366, 3060, 2924, 1600, 1503, 1475, 1316, 1279, 1111, 833, 752, 701, 667.

GC-MS (EI): 398.1, 227.1, 181.1, 157.0, 117.1, 104.1, 91.1.

HRMS (ESI) calcd for $C_{20}H_{19}N_2O_2Se^+$ m/z $[M+H]^+$: 399.0606; found: 399.0613.



4-((1-phenyl-2-(phenylselanyl)ethyl)amino)benzonitrile (5j)

Colorless oil, 37.4 mg, 99% yield.

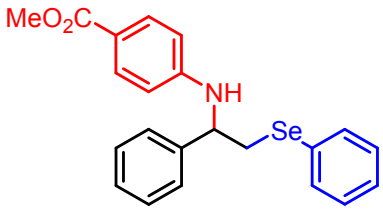
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.50 (d, J = 6.9 Hz, 2H, Ar-**H**), 7.36 – 7.24 (m, 10H, Ar-**H**), 6.36 (d, J = 7.4 Hz, 2H, Ar-**H**), 4.96 (s, 1H, N-**H**), 4.48 – 4.42 (m, 1H, C-**H** adjacent to N atom), 3.38 – 3.33 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.20 – 3.14 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 150.22, 141.24, 133.84, 133.56, 129.48, 129.10, 128.72, 128.04, 127.94, 126.13, 120.36, 113.27, 99.44 (**C**$_{Ar}$ adjacent to -CN) (12 **C**$_{Ar}$s and -**C**N), 57.44 (**C**H adjacent to N atom), 35.93 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3357, 3058, 2928, 2213, 1607, 1520, 1337, 1174, 824, 738, 702, 545.

GC-MS (EI): 378.2, 207.1, 172.0, 157.0, 129.1, 102.1, 77.1.

HRMS (ESI) calcd for $C_{21}H_{19}N_2Se^+$ m/z $[M+H]^+$: 379.0708; found: 379.0703.



Methyl-4-((1-phenyl-2-(phenylselanyl)ethyl)amino)benzoate (5k)

White solid, 37.4 mg, 91% yield.

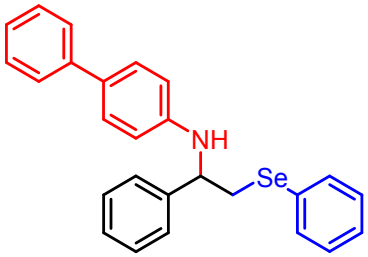
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.75 (d, J = 8.0 Hz, 2H, Ar-**H**), 7.49 (d, J = 7.7 Hz, 2H, Ar-**H**), 7.30 – 7.21 (m, 8H, Ar-**H**), 6.37 (d, J = 8.1 Hz, 2H, Ar-**H**), 4.90 (s, 1H, N-**H**), 4.49 (dt, J = 8.9, 4.6 Hz, 1H, C-**H** adjacent to N atom), 3.79 (s, 3H, -COOC**H**$_3$), 3.33 (dd, J = 12.8, 4.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.18 (dd, J = 12.6, 8.8 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 167.29 (**C**=O), 150.84, 141.74, 133.80, 131.40, 129.43, 129.00, 127.87, 127.82, 126.27, 118.93, 112.57 (12 $\mathbf{C}_{Ar}$s, one of which overlaps with another), 57.42 (**C**H adjacent to N atom), 51.62 (-O**C**H_3), 36.03 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3338, 3070, 2948, 1682, 1600, 1521, 1432, 1293, 1178, 1113, 777, 739, 701, 608.

GC-MS (EI): 411.2, 240.2, 181.1, 162.1, 135.1, 104.1, 91.1, 77.1.

HRMS (ESI) calcd for $C_{22}H_{22}NO_2Se^+$ m/z $[M+H]^+$: 412.0810; found: 412.0806.



N-(1-phenyl-2-(phenylselanyl)ethyl)-[1,1'-biphenyl]-4-amine (5l)

Colorless oil, 15.0 mg, 35% yield.

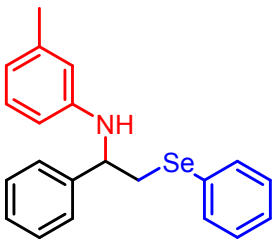
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.55 – 7.50 (m, 2H, Ar-**H**), 7.47 (dd, J = 8.3, 1.2 Hz, 2H, Ar-**H**), 7.37 – 7.30 (m, 8H, Ar-**H**), 7.28 – 7.20 (m, 5H, Ar-**H**), 6.52 – 6.48 (m, 2H, Ar-**H**), 4.56 (br, 1H, N-**H**), 4.49 (dd, J = 9.0, 4.5 Hz, 1H, C-**H** adjacent to N atom), 3.37 (dd, J = 12.7, 4.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.21 (dd, J = 12.7, 8.9 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 146.50, 142.59, 141.18, 133.62, 130.74, 129.36, 129.29, 128.93, 128.66, 127.81, 127.67, 127.62, 126.36, 126.33, 126.13, 114.02 (16 $\mathbf{C}_{Ar}$s), 57.94 (**C**H adjacent to N atom), 36.47 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3422, 3026, 2920, 1611, 1523, 1489, 1249, 1070, 826, 762, 738, 701, 606.

GC-MS (EI): 429.2, 258.1, 183.1, 168.1, 152.1, 91.1, 77.1.

HRMS (ESI) calcd for $C_{26}H_{24}NSe^+$ m/z $[M+H]^+$: 430.1068; found: 430.1062.



3-methyl-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5m)

Colorless oil, 11.0 mg, 30% yield.

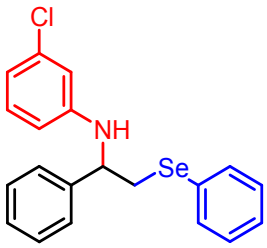
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.51 (d, J = 7.5 Hz, 2H, Ar-**H**), 7.37 – 7.28 (m, 5H, Ar-**H**), 7.28 – 7.22 (m, 3H, Ar-**H**), 6.94 (t, J = 7.8 Hz, 1H, Ar-**H**), 6.49 (d, J = 7.5 Hz, 1H, Ar-**H**), 6.30 (s, 1H, Ar-**H**), 6.22 (d, J = 8.1 Hz, 1H, Ar-**H**), 4.50 – 4.44 (m, 1H, C-**H** adjacent to N atom), 4.39 (s, 1H, N-**H**), 3.34 (dd, J = 12.6, 4.8 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.21 (dd, J = 12.7, 8.7 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.19 (s, 3H, -**C**H_3).

^{13}C NMR (151 MHz, $CDCl_3$) δ 147.06, 142.75, 138.84, 133.50, 129.43, 129.27, 128.98, 128.82, 127.53, 127.48, 126.35, 118.78, 114.59, 110.71 (14 **C**$_{Ar}$s), 57.80 (**C**H adjacent to N atom), 36.43 (**C**H_2 adjacent to Se atom), 21.61 (-**C**H_3).

IR (neat, cm^{-1}): 3396, 3018, 2920, 2872, 1600, 1512, 1479, 1303, 1270, 1070, 778, 734, 702.

GC-MS (EI): 375.1, 196.0, 156.9, 118.1, 104.0, 91.0, 77.1.

HRMS (ESI) calcd for $C_{21}H_{22}NSe^+$ m/z $[M+H]^+$: 368.0912; found: 368.0907.



3-chloro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5n)

Colorless oil, 38.3 mg, 99% yield.

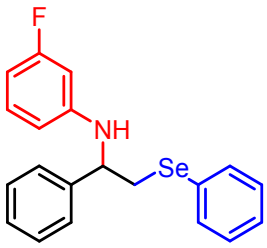
^{1}H NMR (600 MHz, $CDCl_3$) 7.50 (d, J = 6.3 Hz, 2H, Ar-**H**), 7.34 – 7.22 (m, 8H, Ar-**H**), 6.94 (t, J = 8.0 Hz, 1H, Ar-**H**), 6.61 (d, J = 7.8 Hz, 1H, Ar-**H**), 6.41 (s, 1H, Ar-**H**), 6.27 (d, J = 8.2 Hz, 1H, Ar-**H**), 4.51 (s, 1H, N-**H**), 4.40 (dd, J = 8.5, 4.2 Hz, 1H, C-**H** adjacent to N atom), 3.33 (dd, J = 12.7, 4.4 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.16 (dd, J = 12.6, 9.0 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 148.22, 142.05, 134.77, 133.70, 130.09, 129.40, 129.03, 128.97, 127.79, 127.74, 126.25, 117.76, 113.53, 111.86 (14 **C**$_{Ar}$s), 57.72 (**C**H adjacent to N atom), 36.30 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3405, 3059, 2926, 1597, 1499, 1323, 1074, 989, 841, 764, 738, 701.

GC-MS (EI): 386.9, 216.2, 171.9, 156.9, 138.0, 104.0, 91.0.

HRMS (ESI) calcd for $C_{20}H_{19}ClNSe^+$ m/z $[M+H]^+$: 388.0366; found: 388.0365.



3-fluoro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5o)

Colorless oil, 30.8 mg, 83% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.51 (d, J = 7.2 Hz, 2H, Ar-**H**), 7.34 – 7.23 (m, 8H, Ar-**H**), 6.98 (q, J = 7.4 Hz, 1H, Ar-**H**), 6.33 (t, J = 8.4 Hz, 1H, Ar-**H**), 6.21 (d, J = 8.2 Hz, 1H, Ar-**H**), 6.08 (d, J = 11.6 Hz, 1H, Ar-**H**), 4.56 (s, 1H, N-**H**), 4.39 (dd, J = 8.6, 4.1 Hz, 1H, C-**H** adjacent to N atom), 3.34 (dd, J = 12.7, 4.0 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.16 (dd, J = 12.2, 9.4 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

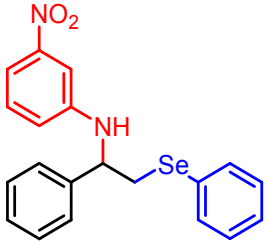
^{13}C NMR (151 MHz, $CDCl_3$) δ 163.84 (d, J = 242.7 Hz, **C**$_{Ar}$ adjacent to F atom), 148.87 (d, J = 10.6 Hz), 142.14, 133.72, 130.12 (d, J = 10.1 Hz), 129.38, 129.02, 128.95 127.76, 127.73, 126.25, 109.57 (d, J = 2.4 Hz) 104.30 (d, J = 21.5 Hz), 100.50 (d, J = 25.4 Hz) (14 **C**$_{Ar}$s), 57.86 (**C**H adjacent to N atom), 36.31 (**C**H_2 adjacent to Se atom).

^{19}F NMR (376 MHz, $CDCl_3$) δ -112.82.

IR (neat, cm^{-1}): 3407, 3060, 2925, 1621, 1590, 1334, 1493, 1148, 1073, 830, 737, 701.

GC-MS (EI): 371.1, 200.2, 172.0, 157.0, 122.1, 95.1, 77.1.

HRMS (ESI) calcd for $C_{20}H_{19}FNSe^+$ m/z $[M+H]^+$: 372.0661; found: 372.0663.



3-nitro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5p)

Colorless oil, 39.4 mg, 99% yield.

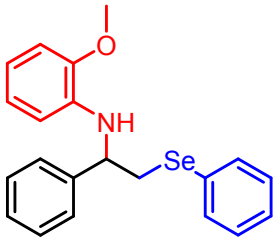
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.75 – 7.12 (m, 13H, Ar-**H**), 6.66 (d, J = 9.0 Hz, 1H, Ar-**H**), 4.80 (s, 1H), 4.47 (s, 1H) (N-**H** and the C-**H** adjacent to N atom), 3.61 – 3.10 (m, 2H, -C**H$_2$**- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 149.06, 147.70, 141.30, 133.65, 129.58, 129.38, 129.01, 128.65, 127.93, 127.80, 126.08, 119.19, 112.36, 107.69 (14 **C**$_{Ar}$s), 57.75 (**C**H adjacent to N atom), 36.00 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3394, 3103, 2861, 1620, 1578, 1530, 1477, 1339, 1270, 850, 736, 703.

GC-MS (EI): 398.1, 240.1, 211.1, 197.1, 181.1, 157.0, 104.1.

HRMS (ESI) calcd for $C_{20}H_{19}N_2O_2Se^+$ m/z $[M+H]^+$: 399.0606; found: 399.0613.



2-methoxy-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5q)

Colorless oil, 27.2 mg, 71% yield.

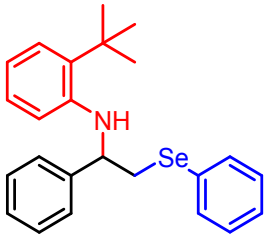
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.52 – 7.48 (m, 2H, Ar-**H**), 7.34 (s, 2H, Ar-**H**), 7.29 (s, 2H, Ar-**H**), 7.24 (s, 4H, Ar-**H**), 6.75 (d, J = 6.9 Hz, 1H, Ar-**H**), 6.63 (t, J = 8.6 Hz, 2H, Ar-**H**), 6.23 (d, J = 7.0 Hz, 1H, Ar-**H**), 5.06 (s, 1H, N-**H**), 4.50 – 4.46 (m, 1H, C-**H** adjacent to N atom), 3.85 (s, 3H, -O**CH$_3$**), 3.36 (d, J = 12.4 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.28 (t, J = 9.8 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 147.06, 142.78, 136.90, 133.37, 129.77, 129.19, 128.80, 127.53, 127.32, 126.43, 121.07, 116.95, 111.32, 109.44 (14 **C**$_{Ar}$s), 57.77 (**C**H adjacent to N atom), 55.57 (-O**C**H_3), 36.43 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3413, 3059, 2935, 2832, 1602, 1513, 1454, 1349, 1226, 1117, 1028, 736, 702.

GC-MS (EI): 383.0, 211.6, 196.0, 182.9, 156.9, 120.1, 104.0.

HRMS (ESI) calcd for $C_{21}H_{22}NOSe^+$ m/z $[M+H]^+$: 384.0861; found: 384.0859.



2-(tert-butyl)-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5r)

Colorless oil, 16.8 mg, 41% yield.

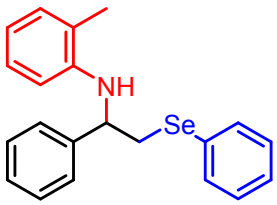
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.48 – 7.46 (m, 2H, Ar-**H**), 7.33 (d, J = 8.0 Hz, 2H, Ar-**H**), 7.29 (t, J = 7.3 Hz, 2H, Ar-**H**), 7.26 – 7.22 (m, 5H, Ar-**H**), 6.88 (t, J = 7.7 Hz, 1H, Ar-**H**), 6.64 (t, J = 7.5 Hz, 1H, Ar-**H**), 6.26 (d, J = 8.1 Hz, 1H, Ar-**H**), 4.87 (s, 1H, N-**H**), 4.56 (dd, J = 8.6, 4.2 Hz, 1H, C-**H** adjacent to N atom), 3.45 (dd, J = 12.4, 4.2 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.32 – 3.28 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 1.54 (s, 9H, -C(C**H$_3$**)$_3$).

^{13}C NMR (151 MHz, $CDCl_3$) δ 144.53, 142.73, 133.76, 133.18, 129.28, 129.26, 128.89, 127.48, 127.40, 126.86, 126.30, 126.22, 117.29, 113.09 (14 **C**$_{Ar}$s), 56.97 (**C**H adjacent to N atom), 37.00 (**C**H_2 adjacent to Se atom), 34.41 (-**C**$(CH_3)_3$), 30.16 (-C(**C**H_3)$_3$).

IR (neat, cm^{-1}): 3458, 3059, 2963, 2870, 1578, 1505, 1448, 1307, 1261, 1057, 740, 702.

GC-MS (EI): 409.2, 260.0, 194.1, 180.1, 157.0, 104.1, 91.1.

HRMS (ESI) calcd for $C_{24}H_{28}NSe^+$ m/z $[M+H]^+$: 410.1381; found: 410.1379.



2-methyl-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5s)

Colorless oil, 27.2 mg, 74% yield.

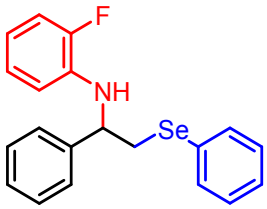
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.50 (d, J = 5.8 Hz, 2H, Ar-**H**), 7.34 (d, J = 7.5 Hz, 2H, Ar-**H**), 7.30 (t, J = 7.3 Hz, 2H, Ar-**H**), 7.24 (d, J = 5.3 Hz, 4H, Ar-**H**), 7.03 (d, J = 7.2 Hz, 1H, Ar-**H**), 6.88 (t, J = 7.7 Hz, 1H, Ar-**H**), 6.60 (t, J = 7.2 Hz, 1H, Ar-**H**), 6.21 (d, J = 8.0 Hz, 1H, Ar-**H**), 4.49 (dd, J = 8.2, 3.4 Hz, 1H, C-**H** adjacent to N atom), 4.41 (s, 1H, N-**H**), 3.42 (dd, J = 12.6, 3.9 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.29 – 3.23 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.17 (s, 3H, -C**H$_3$**).

^{13}C NMR (151 MHz, $CDCl_3$) δ 145.01, 142.79, 133.20, 129.99, 129.41, 129.34, 128.88, 127.55, 127.46, 126.89, 126.30, 122.61, 117.41, 111.41 (14 $\mathbf{C}_{Ar}$s), 57.57 (**C**H adjacent to N atom), 36.78 (**C**H_2 adjacent to Se atom), 17.60 (-**C**H_3).

IR (neat, cm^{-1}): 3416, 3058, 2925, 2853, 1605, 1506, 1451, 1316, 1262, 1023, 739, 701.

GC-MS (EI): 367.1, 195.7, 183.0, 156.9, 138.0, 104.1.

HRMS (ESI) calcd for $C_{21}H_{22}NSe^+$ m/z $[M+H]^+$: 368.0912; found: 368.0915.



2-fluoro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5t)

Colorless oil, 36.7 mg, 99% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.51 (d, J = 7.2 Hz, 2H, Ar-**H**), 7.32 (q, J = 7.7 Hz, 4H, Ar-**H**), 7.24 (dd, J = 10.5, 5.0 Hz, 4H, Ar-**H**), 6.95 (dd, J = 11.7, 8.1 Hz, 1H, Ar-**H**), 6.76 (t, J = 7.7 Hz, 1H, Ar-**H**), 6.57 (q, J = 7.5 Hz, 1H, Ar-**H**), 6.29 (t, J = 8.4 Hz, 1H, Ar-**H**), 4.75 (s, 1H, N-**H**), 4.46 – 4.42 (m, 1H, C-**H** adjacent to N atom), 3.37 (dd, J = 12.6, 4.2 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.22 (dd, J = 12.1, 9.0 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

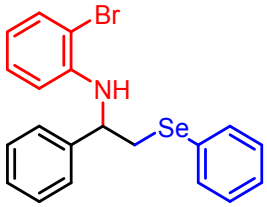
^{13}C NMR (151 MHz, $CDCl_3$) δ 151.75 (d, J = 238.8 Hz, $\mathbf{C}_{Ar}$ adjacent to F atom), 142.27, 135.55 (d, J = 11.2 Hz), 133.64, 129.31, 129.23, 128.93, 127.74, 127.59, 126.30, 124.38 (d, J = 3.6 Hz), 117.18 (d, J = 7.0 Hz), 114.38 (d, J = 18.6 Hz), 113.46 (d, J = 3.1 Hz) (14 $\mathbf{C}_{Ar}$s), 57.57 (**C**H adjacent to N atom), 36.40 (**C**H_2 adjacent to Se atom).

^{19}F NMR (376 MHz, $CDCl_3$) δ -135.67.

IR (neat, cm^{-1}): 3415, 3061, 2927, 1620, 1511, 1451, 1334, 1258, 1195, 1102, 737, 701.

GC-MS (EI): 370.1, 196.1, 182.2, 156.0, 125.0, 104.1, 91.1.

HRMS (ESI) calcd for $C_{20}H_{19}FNSe^+$ m/z $[M+H]^+$: 372.0661; found: 372.0667.



2-bromo-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5u)

Colorless oil, 40.5 mg, 94%yield.

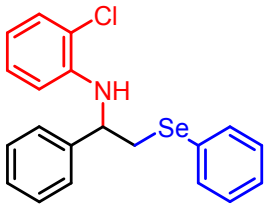
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.52 (d, J = 6.1 Hz, 2H, Ar-**H**), 7.40 (d, J = 7.8 Hz, 1H, Ar-**H**), 7.34 – 7.28 (m, 4H, Ar-**H**), 7.26 – 7.21 (m, 4H, Ar-**H**), 6.92 (t, J = 7.6 Hz, 1H, Ar-**H**), 6.51 (t, J = 7.4 Hz, 1H, Ar-**H**), 6.24 (d, J = 8.1 Hz, 1H, Ar-**H**), 5.21 (s, 1H, N-**H**), 4.50 – 4.44 (m, 1H, C-**H** adjacent to N atom), 3.42 – 3.37 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.30 – 3.24 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 143.84, 141.98, 133.58, 132.36, 129.30, 129.23, 128.94, 128.25, 127.74, 127.54, 126.28, 118.28, 112.86, 110.26 (14 **C**$_{Ar}$s), 57.58 (**C**H adjacent to N atom), 36.48 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3392, 3060, 2926, 2851, 1595, 1504, 1428, 1319, 1070, 1020, 738, 701.

GC-MS (EI): 431.1, 260.0, 194.1, 180.1, 157.0, 104.1, 91.1.

HRMS (ESI) calcd for $C_{20}H_{19}BrNSe^+$ m/z $[M+H]^+$: 431.9861; found: 431.9860.



2-chloro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5v)

Colorless oil, 38.3 mg, 99% yield.

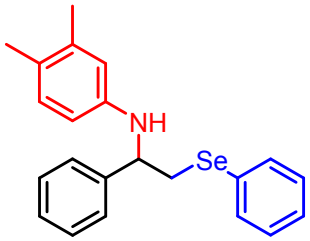
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.51 (d, J = 2.9 Hz, 2H, Ar-**H**), 7.31 (d, J = 3.0 Hz, 4H, Ar-**H**), 7.26 – 7.20 (m, 5H, Ar-**H**), 6.89 (t, J = 6.9 Hz, 1H, Ar-**H**), 6.57 (d, J = 3.2 Hz, 1H, Ar-**H**), 6.26 (dd, J = 8.6, 3.1 Hz, 1H, Ar-**H**), 5.18 (d, J = 4.3 Hz, 1H, N-**H**), 4.47 (d, J = 4.5 Hz, 1H, C-**H** adjacent to N atom), 3.39 (d, J = 12.9 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.26 (t, J = 9.4 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 142.89, 142.05, 133.60, 129.30, 129.21, 129.07, 128.93, 127.74, 127.57, 127.56, 126.27, 119.68, 117.74, 112.74 (14 $\mathbf{C}_{Ar}$s), 57.50 (**C**H adjacent to N atom), 36.46 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3402, 3060, 2924, 1597, 1504, 1434, 1322, 1034, 739, 702.

GC-MS (EI): 387.0, 216.1, 194.1, 180.1, 156.9, 138.0, 104.1.

HRMS (ESI) calcd for $C_{20}H_{19}ClNSe^+$ m/z $[M+H]^+$: 388.0366; found: 388.0369.



3,4-dimethyl-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5w)

Colorless oil, 15.6 mg, 41% yield.

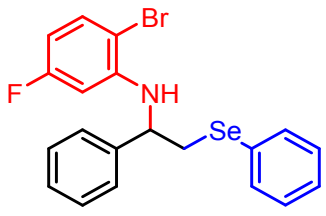
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.51 (d, J = 5.6 Hz, 2H, Ar-**H**), 7.38 – 7.19 (m, 8H, Ar-**H**), 6.81 (d, J = 8.0 Hz, 1H, Ar-**H**), 6.32 (s, 1H, Ar-**H**), 6.17 (d, J = 8.1 Hz, 1H, Ar-**H**), 4.44 (s, 1H, C-**H** adjacent to N atom), 4.29 (s, 1H, N-**H**), 3.33 (dd, J = 12.7, 4.6 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.20 (dd, J = 12.7, 8.7 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.10 (s, 3H, -C**H$_3$**), 2.09 (s, 3H, -C**H$_3$**).

^{13}C NMR (151 MHz, $CDCl_3$) δ 145.17, 142.94, 137.16, 133.44, 130.12, 129.52, 129.26, 128.81, 127.47, 127.42, 126.36, 125.83, 115.65, 111.00 (14 $\mathbf{C}_{Ar}$s), 58.00 (**C**H adjacent to N atom), 36.51 (**C**H_2 adjacent to Se atom), 20.04 (-**C**H_3), 18.70 (-**C**H_3).

IR (neat, cm^{-1}): 3399, 2923, 2854, 1617, 1509, 1318, 1260, 1022, 803, 737, 701.

GC-MS (EI): 381.2, 210.3, 194.1, 181.0, 157.0, 120.1, 105.1.

HRMS (ESI) calcd for $C_{22}H_{23}NaNSe^+$ m/z $[M+Na]^+$: 404.0888; found: 404.0882.



2-bromo-5-fluoro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5x)

Colorless oil, 38.2 mg, 85% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.52 (dd, J = 7.6, 1.7 Hz, 2H, Ar-**H**), 7.34 – 7.28 (m, 5H, Ar-**H**), 7.27 – 7.23 (m, 4H, Ar-**H**), 6.24 (td, J = 8.4, 2.8 Hz, 1H, Ar-**H**), 5.95 (dd, J = 11.3, 2.8 Hz, 1H, Ar-**H**), 5.31 (d, J = 3.9 Hz, 1H, N-**H**), 4.38 (dt, J = 9.1, 4.8 Hz, 1H, C-**H** adjacent to N atom), 3.39 (dd, J = 12.8, 4.6 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.24 (dd, J = 12.8, 8.8 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

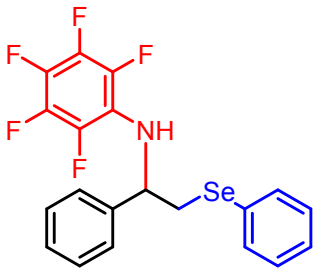
^{13}C NMR (151 MHz, $CDCl_3$) δ 162.94 (d, J = 243.3 Hz, , **C**$_{Ar}$ adjacent to F atom), 145.19 (d, J = 11.3 Hz), 141.28, 133.69, 132.80 (d, J = 10.0 Hz), 129.37, 129.07, 128.89, 127.97, 127.72, 126.20, 104.87 (d, J = 23.1 Hz), 104.23 (d, J = 2.8 Hz), 100.25 (d, J = 28.0 Hz) (14 **C**$_{Ar}$s), 57.56 (**C**H adjacent to N atom), 36.25 (**C**H_2 adjacent to Se atom).

^{19}F NMR (376 MHz, $CDCl_3$) δ -112.96.

IR (neat, cm^{-1}): 3394, 3061, 2926, 2852, 1611, 1508, 1437, 1303, 1177, 1024, 828, 737, 701.

GC-MS (EI): 449.0, 280.0, 198.1, 172.0, 104.0, 91.1, 77.1.

HRMS (ESI) calcd for $C_{20}H_{18}BrFNSe^+$ m/z $[M+H]^+$: 449.9766; found: 449.9766.



2,3,4,5,6-pentafluoro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5y)

White solid, 39.0 mg, 88% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.48 (d, J = 4.9 Hz, 2H, Ar-**H**), 7.29 (t, J = 7.3 Hz, 2H, Ar-**H**), 7.26 – 7.19 (m, 6H, Ar-**H**), 4.90 (d, J = 6.9 Hz, 1H, N-**H**), 4.29 (d, J = 8.2 Hz, 1H, C-**H** adjacent to N atom), 3.37 – 3.29 (m, 2H, -C**H$_2$**- adjacent to Se atom).

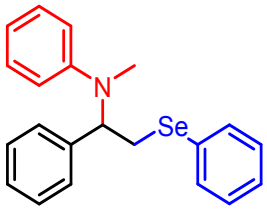
^{13}C NMR (151 MHz, $CDCl_3$) δ 141.46, 139.40 – 138.47 (m), 137.66 – 136.90 (m), 137.10, 134.91, 133.25, 135.10 – 134.67 (m), 128.86, 128.06, 127.53, 126.04, 122.61 – 122.23 (m) (12 **C**$_{Ar}$s), 59.18 (t, J = 4.1 Hz, **C**H adjacent to N atom), 36.34 (**C**H_2 adjacent to Se atom).

^{19}F NMR (376 MHz, $CDCl_3$) δ -157.26 – -157.45 (m), -163.86 – -164.11 (m), -169.91 (tt, J = 21.9, 5.3 Hz).

IR (neat, cm^{-1}): 3330, 3032, 2917, 1522, 1477, 1400, 1221, 1086, 1010, 959, 742, 701, 597.

GC-MS (EI): 443.2, 272.1, 208.0, 194.0, 172.0, 157.0, 104.1.

HRMS (ESI) calcd for $C_{20}H_{15}F_5NSe^+$ m/z $[M+H]^+$: 444.0284; found: 444.0293.



N-methyl-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (5z)

Colorless oil, 25.7 mg, 70% yield.

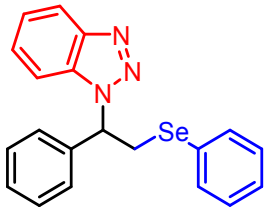
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.51 – 7.44 (m, 2H, Ar-**H**), 7.34 – 7.17 (m, 10H, Ar-**H**), 6.75 (t, J = 8.4 Hz, 3H, Ar-**H**), 5.24 – 5.17 (m, 1H, C-**H** adjacent to N atom), 3.56 (dd, J = 12.1, 6.9 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.51 (dd, J = 12.2, 8.6 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.67 (s, 3H, -C**H$_3$**).

^{13}C NMR (151 MHz, $CDCl_3$) δ 150.12, 139.79, 133.36, 130.15, 129.18, 129.14, 128.52, 127.47, 127.39, 127.20, 117.42, 113.70 (12 **C**$_{Ar}$S), 61.93 (**C**H adjacent to N atom), 31.85, 30.24 (**C**H_2 adjacent to Se atom and -**C**H_3).

IR (neat, cm^{-1}): 3445, 3045, 2917, 1603, 1501, 1428, 1315, 1270, 1192, 743, 707, 693.

GC-MS (EI): 366.1, 276.0, 157.0, 117.0, 105.0, 91.1, 77.1.

HRMS (ESI) calcd for $C_{21}H_{22}NSe^+$ m/z $[M+H]^+$: 368.0912; found: 368.0909.



1-(1-phenyl-2-(phenylselanyl)ethyl)-1H-benzo[d][1,2,3]triazole (5aa)

Colorless oil, 22.7 mg, 60% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 8.04 (d, J = 8.2 Hz, 1H, Ar-**H**), 7.43 (d, J = 7.3 Hz, 2H, Ar-**H**), 7.38 – 7.29 (m, 6H, Ar-**H**), 7.28 (d, J = 8.2 Hz, 2H, Ar-**H**), 7.24 (d, J = 7.5 Hz, 3H, Ar-**H**), 5.88 –

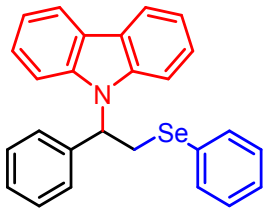
5.82 (m, 1H, C-**H** adjacent to N atom), 4.29 – 4.23 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.82 (dd, J = 13.0, 5.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 146.11, 138.40, 133.71, 133.08, 129.30, 129.02, 128.93, 128.76, 127.75, 127.30, 126.90, 124.00, 120.09, 109.56 (14 **C**$_{Ar}$s), 63.60 (**C**H adjacent to N atom), 32.55 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3445, 3061, 2924, 2852, 1733, 1453, 1375, 1243, 1071, 739, 694.

GC-MS (EI): 379.1, 260.0, 208.1, 180.1, 152.1, 104.0, 91.0.

HRMS (ESI) calcd for $C_{20}H_{17}KN_3Se^+$ m/z $[M+K]^+$: 418.0219; found: 418.0211.



9-(1-phenyl-2-(phenylselanyl)ethyl)-9H-carbazole (5ab)

Colorless oil, 15.4 mg, 36% yield.

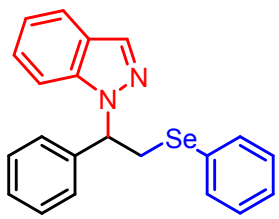
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.99 (d, J = 7.5 Hz, 2H, Ar-**H**), 7.23 (s, 8H, Ar-**H**), 7.18 (s, 1H, Ar-**H**), 7.13 (t, J = 6.9 Hz, 3H, Ar-**H**), 7.09 – 6.98 (m, 4H, Ar-**H**), 6.02 – 5.97 (m, 1H, C-**H** adjacent to N atom), 3.98 (dd, J = 12.7, 4.8 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.92 (t, J = 10.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 139.96, 138.97, 133.32, 129.07, 128.96, 128.77, 127.77, 127.36, 126.86, 125.47, 123.45, 120.30, 119.17, 110.21 (14 **C**$_{Ar}$s), 57.47 (**C**H adjacent to N atom), 29.81 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3440, 3045, 2917, 2852, 1605, 1504, 1435, 1314, 1250, 1156, 740, 701.

GC-MS (EI): 427.3, 323.2, 256.1, 183.1, 166.2, 140.1, 77.1.

HRMS (ESI) calcd for $C_{26}H_{21}NaNSe^+$ m/z $[M+Na]^+$: 450.0731; found: 450.0730.



1-(1-phenyl-2-(phenylselanyl)ethyl)-1H-indazole (5ac)

White solid, 26.1 mg, 69% yield.

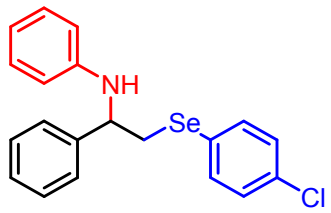
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.81 (s, 1H, Ar-**H**), 7.64 (d, J = 8.6 Hz, 1H, Ar-**H**), 7.51 (d, J = 8.4 Hz, 1H, Ar-**H**), 7.38 (d, J = 7.4 Hz, 2H, Ar-**H**), 7.26 – 7.16 (m, 6H, Ar-**H**), 7.14 (s, 3H, Ar-**H**), 6.97 (t, J = 7.3 Hz, 1H, Ar-**H**), 5.62 – 5.57 (m, 1H, C-**H** adjacent to N atom), 4.05 (dd, J = 12.6, 9.2 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.61 (dd, J = 12.6, 5.6 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 148.79, 139.21, 133.47, 129.35, 129.22, 128.88, 128.61, 127.55, 127.06, 125.99, 122.86, 121.82, 121.60, 120.29, 117.85 (15 **C**$_{Ar}$s), 67.77 (**C**H adjacent to N atom), 32.78 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3423, 3065, 2923, 2854, 1673, 1488, 1368, 1245, 1101, 1025, 731, 690.

GC-MS (EI): 378.1, 260.0, 207.1, 180.1, 156.1, 105.0, 77.1.

HRMS (ESI) calcd for $C_{21}H_{18}NaN_2Se^+$ m/z [M+Na]$^+$: 401.0527; found: 401.0530.



N-(2-((4-chlorophenyl)selanyl)-1-phenylethyl)aniline (6b)

Colorless oil, 22.4 mg, 58% yield.

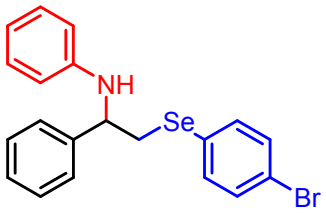
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.40 (d, J = 6.9 Hz, 2H, Ar-**H**), 7.31 (q, J = 7.7, 7.1 Hz, 4H, Ar-**H**), 7.25 (s, 1H, Ar-**H**), 7.21 (d, J = 6.9 Hz, 2H, Ar-**H**), 7.08 (t, J = 7.1 Hz, 2H, Ar-**H**), 6.67 (t, J = 7.3 Hz, 1H, Ar-**H**), 6.46 (d, J = 7.6 Hz, 2H, Ar-**H**), 4.48 – 4.37 (m, 2H, N-**H** and the C-**H** adjacent to N atom), 3.33 (dd, J = 12.3, 3.4 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.21 – 3.16 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 146.91, 142.37, 134.94, 133.82, 129.40, 129.15, 128.89, 127.66, 127.39, 126.33, 117.97, 113.73 (12 **C**$_{Ar}$s), 57.61 (**C**H adjacent to N atom), 36.75 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3445, 3058, 2913, 2863, 1602, 1500, 1313, 1087, 1009, 813, 751, 708.

GC-MS (EI): 387.1, 182.2, 155.9, 125.0, 104.1, 91.1, 77.1.

HRMS (ESI) calcd for $C_{20}H_{19}ClNSe^+$ m/z $[M+H]^+$: 388.0366; found: 388.0370.



N-(2-((4-bromophenyl)selanyl)-1-phenylethyl)aniline (6c)

Colorless oil, 19.8 mg, 45% yield.

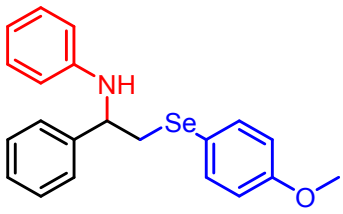
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.51 – 7.25 (m, 9H, Ar-**H**), 7.08 (t, J = 7.4 Hz, 2H, Ar-**H**), 6.67 (t, J = 7.1 Hz, 1H, Ar-**H**), 6.46 (d, J = 7.7 Hz, 2H, Ar-**H**), 4.51 – 4.36 (m, 2H, N-**H** and the C-**H** adjacent to N atom), 3.34 (dd, J = 12.5, 4.2 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.23 – 3.17 (m, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 146.89, 142.34, 135.11, 132.32, 129.15, 128.89, 128.15, 127.67, 126.33, 121.85, 117.98, 113.74 (12 **C**$_{Ar}$s), 57.59 (**C**H adjacent to N atom), 36.64 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3444, 3059, 2910, 1602, 1499, 1314, 1071, 1007, 807, 751, 708.

GC-MS (EI): 431.1, 260.1, 182.0, 156.0, 118.1, 104.1, 77.1.

HRMS (ESI) calcd for C20H19BrNSe$^+$ m/z $[M+H]^+$: 431.9861; found: 431.9867.



N-(2-((4-methoxyphenyl)selanyl)-1-phenylethyl)aniline (6d)

Colorless oil, 17.2 mg, 45% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.46 (d, J = 6.8 Hz, 2H, Ar-**H**), 7.30 (d, J = 9.8 Hz, 4H, Ar-**H**), 7.23 (d, J = 6.2 Hz, 1H, Ar-**H**), 7.06 (t, J = 6.9 Hz, 2H, Ar-**H**), 6.79 (d, J = 6.8 Hz, 2H, Ar-**H**), 6.65 (t, J = 7.1 Hz, 1H, Ar-**H**), 6.43 (d, J = 7.5 Hz, 2H, Ar-**H**), 4.49 (s, 1H, N-**H**), 4.35 (d, J = 7.9 Hz, 1H, C-**H** adjacent to N atom), 3.82 – 3.76 (m, 3H, -OC**H$_3$**), 3.26 (d, J = 12.6 Hz, 1H, one C-**H**

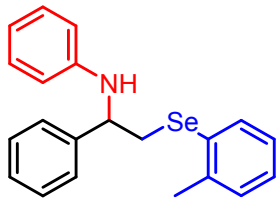
of the -CH_2- adjacent to Se atom), 3.07 (t, J = 10.6 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom).

^{13}C NMR (151 MHz, $CDCl_3$) δ 159.69, 147.21, 142.83, 136.40, 129.07, 128.81, 127.47, 126.34, 118.89, 117.73, 114.98, 113.72 (12 **C**$_{Ar}$s), 57.79 (**C**H adjacent to N atom), 55.34 (-O**C**H_3), 37.40 (**C**H_2 adjacent to Se atom).

IR (neat, cm^{-1}): 3398, 3053, 3022, 2927, 2837, 1601, 1490, 1246, 1175, 1028, 825, 751, 701, 518.

GC-MS (EI): 387.1, 181.9, 156.0, 118.1, 104.1, 91.1, 77.1.

HRMS (ESI) calcd for $C_{21}H_{22}NOSe^+$ m/z $[M+H]^+$: 384.0861; found: 384.0860.



N-(1-phenyl-2-(o-tolylselanyl)ethyl)aniline (6e)

Colorless oil, 15.8 mg, 43% yield.

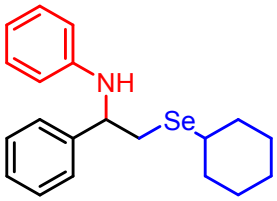
^{1}H NMR (600 MHz, $CDCl_3$) δ 7.47 (d, J = 7.5 Hz, 1H, Ar-**H**), 7.35 (d, J = 6.7 Hz, 2H, Ar-**H**), 7.31 (t, J = 6.7 Hz, 2H, Ar-**H**), 7.26 – 7.23 (m, 1H, Ar-**H**), 7.18 (d, J = 9.2 Hz, 2H, Ar-**H**), 7.07 (dt, J = 15.1, 7.1 Hz, 3H, Ar-**H**), 6.65 (t, J = 6.8 Hz, 1H, Ar-**H**), 6.43 (d, J = 7.1 Hz, 2H, Ar-**H**), 4.45 (d, J = 8.5 Hz, 2H, N-**H** and the C-**H** adjacent to N atom), 3.31 (d, J = 12.4 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 3.16 (t, J = 10.1 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.40 (s, 3H, -C**H$_3$**).

^{13}C NMR (151 MHz, $CDCl_3$) δ 147.09, 142.81, 140.14, 132.98, 130.45, 130.22, 129.09, 128.87, 127.58, 127.53, 126.71, 126.30, 117.80, 113.70 (14 **C**$_{Ar}$s), 57.90 (**C**H adjacent to N atom), 35.51 (**C**H_2 adjacent to Se atom), 22.63 (-**C**H_3).

IR (neat, cm^{-1}): 3399, 3055, 2924, 2851, 1602, 1503, 1316, 1259, 1181, 1053, 747, 701.

GC-MS (EI): 367.2, 182.2, 167.1, 118.1, 104.1, 91.1, 77.1.

HRMS (ESI) calcd for $C_{21}H_{22}NSe^+$ m/z $[M+H]^+$: 368.0912; found: 368.0917.



N-(2-(cyclohexylselanyl)-1-phenylethyl)aniline (6f)

Colorless oil, 10.1 mg, 28% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.38 (d, J = 7.5 Hz, 2H, Ar-**H**), 7.32 (t, J = 6.8 Hz, 2H, Ar-**H**), 7.24 (d, J = 7.7 Hz, 1H, Ar-**H**), 7.09 (t, J = 7.0 Hz, 2H, Ar-**H**), 6.66 (t, J = 6.9 Hz, 1H, Ar-**H**), 6.53 (d, J = 7.5 Hz, 2H, Ar-**H**), 4.63 (br, 1H, N-**H**), 4.50 – 4.44 (m, 1H, C-**H** adjacent to N atom), 3.08 (d, J = 12.6 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.91 (t, J = 10.5 Hz, 1H, one C-**H** of the -CH_2- adjacent to Se atom), 2.76 (t, J = 11.1 Hz, 1H, C**H** of -Cy adjacent to Se atom), 1.96 (dd, J = 28.1, 13.0 Hz, 2H, -C**H$_2$**- on -Cy), 1.75 – 1.67 (m, 2H, -C**H$_2$**- on -Cy), 1.49 – 1.40 (m, 2H, -C**H$_2$**- on -Cy), 1.30 – 1.19 (m, 4H, 2 -C**H$_2$**-s on -Cy).

^{13}C NMR (151 MHz, $CDCl_3$) δ 147.27, 143.12, 129.10, 128.76, 127.42, 126.30, 117.71, 113.85 (8 **C**$_{Ar}$s), 57.44 (**C**H adjacent to N atom), 39.22 (**C**H_2 adjacent to Se atom), 34.54, 31.13, 26.79, 25.75 (4 **C**$_{Cy}$s).

IR (neat, cm^{-1}): 3397, 3053, 2926, 2851, 1602, 1503, 1449, 1317, 1257, 1181, 749, 700.

GC-MS (EI): 359.1, 182.1, 170.0, 104.1, 91.1, 77.1, 55.1. HRMS (ESI) calcd for $C_{20}H_{26}NSe^+$ m/z $[M+H]^+$: 360.1225; found: 360.1229.

4. Mechanistic Investigation

4.1 Intermediate Trapping Experiments

A series of radical scavenger addition experiments were first performed. Among the tested reagents, TEMPO appeared to be the most effective one (Fig. S2). These results indicate that a radical process is involved in this reaction, but complete inhibition cannot be achieved.

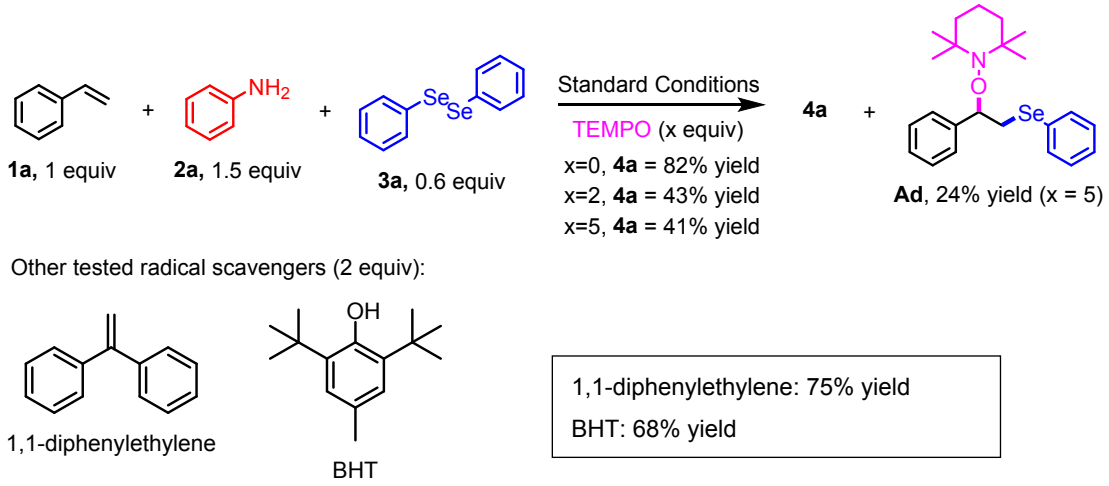
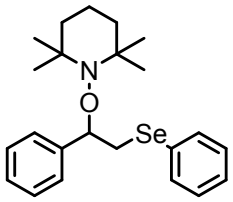


Fig. S2. Radical Scavenger Addition Experiments

Characterization data for the TEMPO adduct (**Ad**) are listed as follow, and the NMR spectra are presented in Fig. S3:



2,2,6,6-tetramethyl-1-(1-phenyl-2-(phenylselanyl)ethoxy)piperidine (Ad)

Colorless oil, 10.0 mg, 24% yield.

^{1}H NMR (600 MHz, $CDCl_3$) δ 7.39 – 7.28 (m, 6H), 7.27 – 7.24 (m, 1H), 7.21 – 7.14 (m, 3H), 4.87 (dd, J = 9.8, 4.0 Hz, 1H), 3.64 (dd, J = 11.6, 4.0 Hz, 1H), 3.39 – 3.20 (m, 1H), 1.61 – 1.29 (m, 6H), 1.25 (s, 3H), 1.15 (s, 3H), 1.00 (s, 3H), 0.64 (s, 3H).

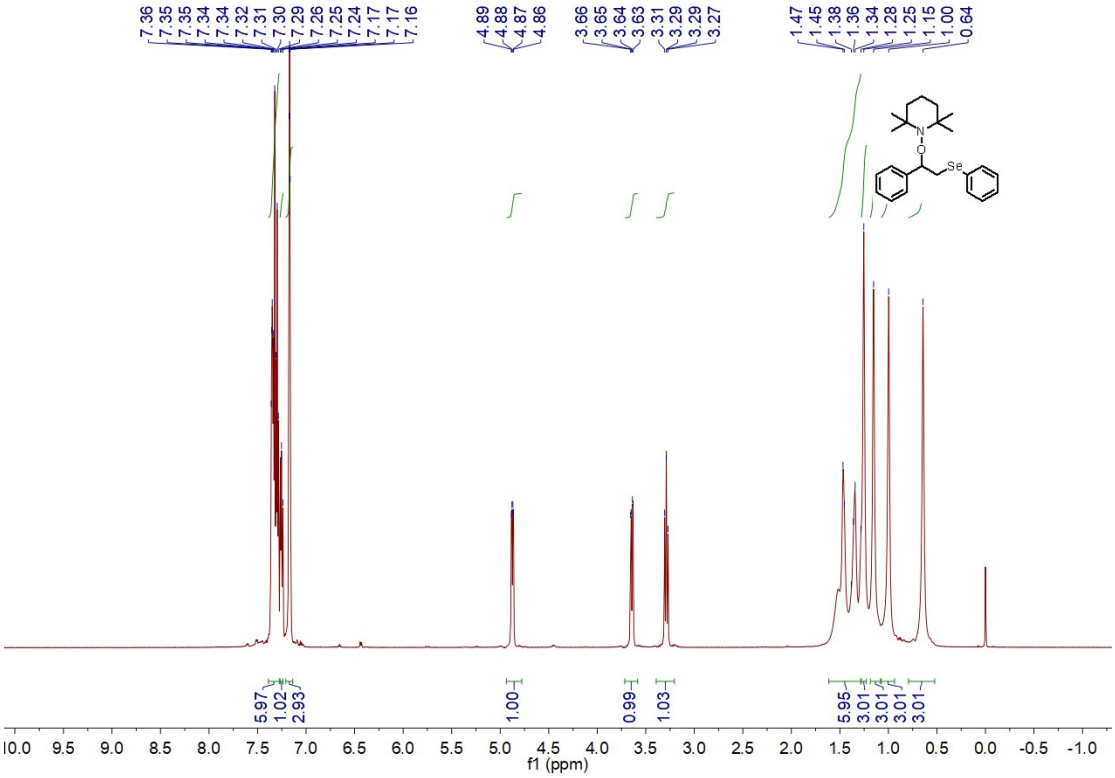
^{13}C NMR (151 MHz, $CDCl_3$) δ 141.92, 132.68, 130.76, 128.87, 127.92, 127.80, 127.64, 126.68, 85.84, 59.95, 40.38, 34.16, 20.35, 17.17.

IR (neat, cm^{-1}): 3050, 2928, 2840, 1603, 1484, 1375, 1361, 1133, 1061, 935, 740, 701.

GC-MS (EI): 313.9, 234.0, 157.0, 116.9, 77.1, 65.1, 51.1.

HRMS (ESI) calcd for $C_{23}H_{32}NOSe^+$ m/z $[M+H]^+$: 418.1644; found: 418.1639.

^{1}H NMR:



^{13}C NMR:

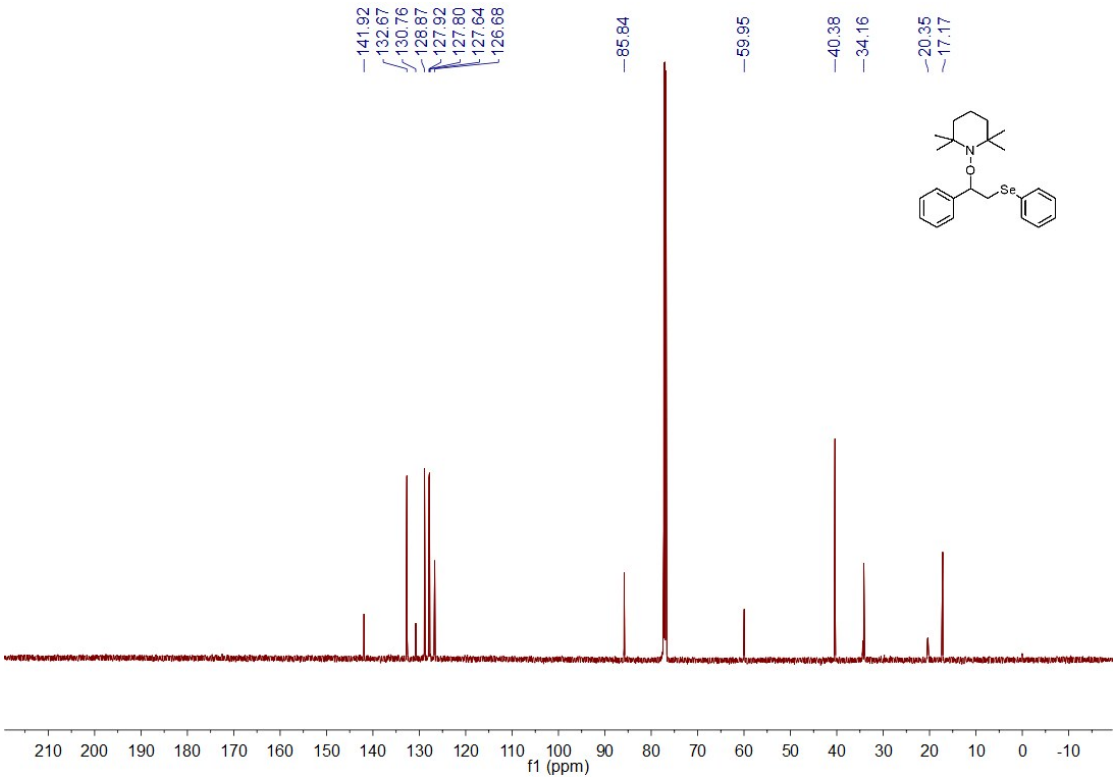


Fig. S3. ^{1}H and ^{13}C NMR of the TEMPO Adduct (**Ad**)

Followed was a water addition experiment to verify the existence of the benzylic cation intermediate (species **E** in Scheme 2). As a result, by-product **Bp** was isolated in 20% yield from the reaction with additional 10 equiv of water (in the typical reaction under standard conditions, **Bp** was also produced, but in an amount which was barely isolatable), which should be a product generated via a nucleophilic attack and further oxidation sequence of the benzylic cation **E**.

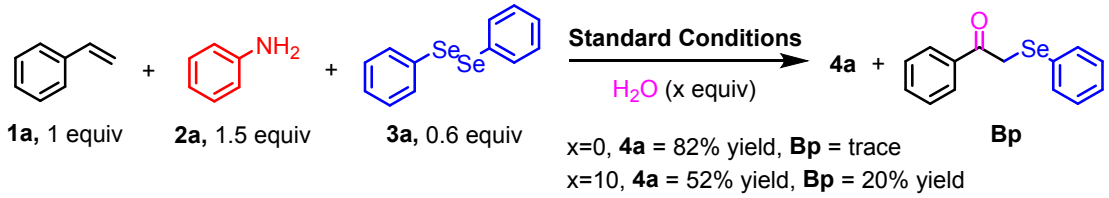
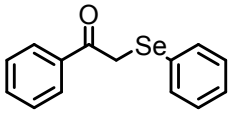


Fig. S4. Water Addition Experiment

Characterization data for the by-product (**Bp**, a reported compound) are listed as follow, and the NMR spectra are presented in Fig. S5:



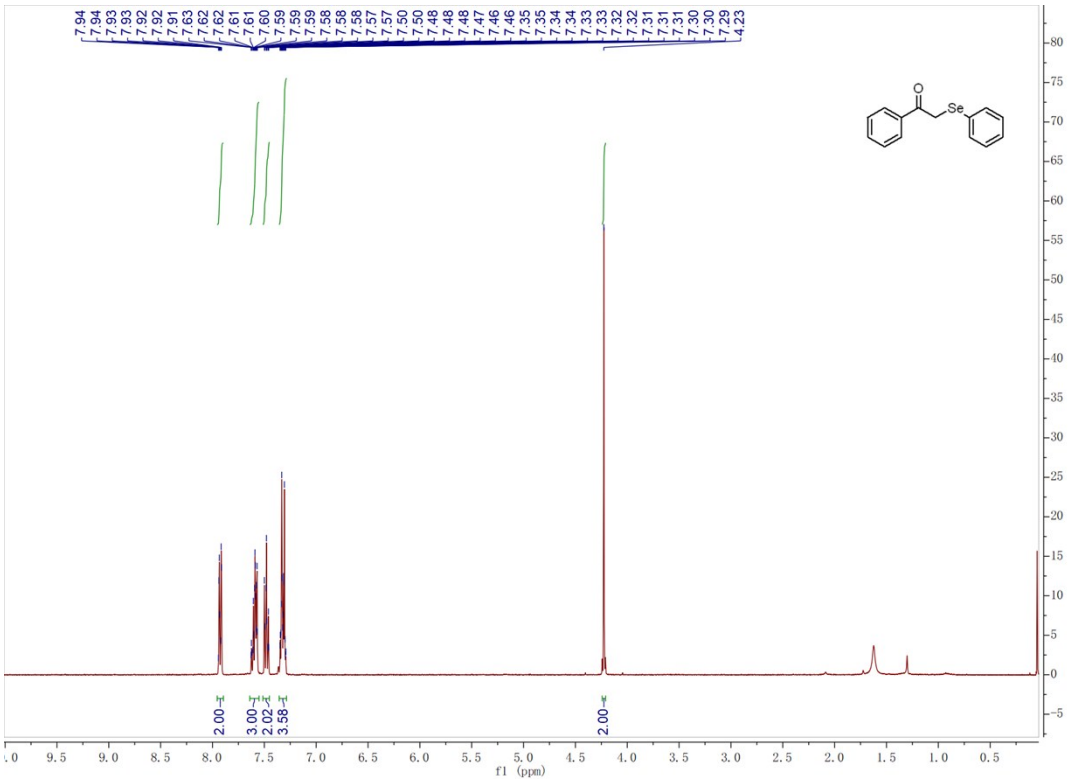
1-phenyl-2-(phenylselanyl)ethan-1-one (Bp)[3]

Colorless oil, 5.5 mg, 20% yield.

^{1}H NMR (400 MHz, $CDCl_3$) δ 7.95 – 7.89 (m, 2H, Ar-**H**), 7.64 – 7.55 (m, 3H, Ar-**H**), 7.51 – 7.45 (m, 2H, Ar-**H**), 7.36 – 7.29 (m, 3H, Ar-**H**), 4.23 (s, 2H, -C**H$_2$**-).

^{13}C NMR (101 MHz, $CDCl_3$) δ 195.02 (**C**=O), 135.44, 134.03, 133.31, 129.28, 129.05, 128.73, 128.64, 128.12 (8 $\mathbf{C}_{Ar}$S), 32.72 (-**C**H_2-).

^{1}H NMR:



^{13}C NMR:

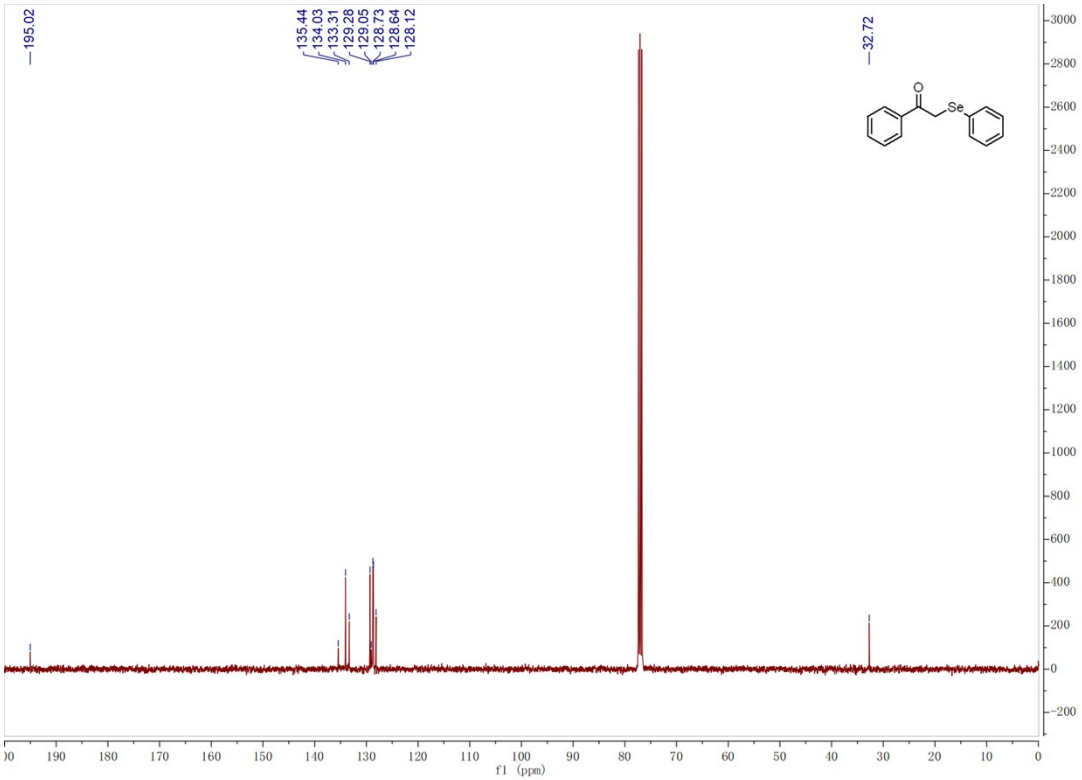


Fig. S5. ^{1}H and ^{13}C NMR of the by-product from water (**Bp**)

4.2 UV-Visible Absorption Experiments

UV-visible absorption spectra were collected on a SPECORD 200 PLUS. Single-component samples were prepared 1.8×10^{-4} mol/L in EtOAc; as for double-component samples, the concentration for each component in EtOAc was 1.8×10^{-4} mol/L. The spectra obtained were listed as follow (Fig. S6-S8), among which an absorption maximum at 469 nm was observed for the 1:1 mixture of $FeBr_3$ and amine **2a**.

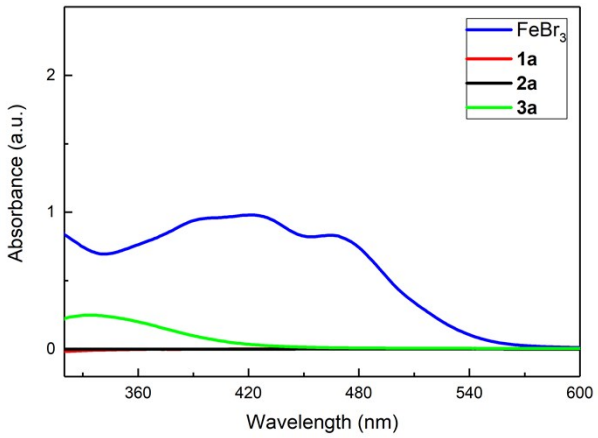


Fig. S6. UV-Visible Absorption Spectra of Single-Component Samples

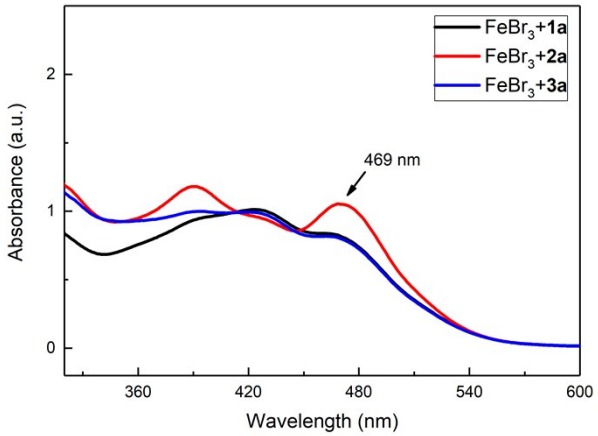


Fig. S7. UV-Visible Absorption Spectra of Double-Component Samples

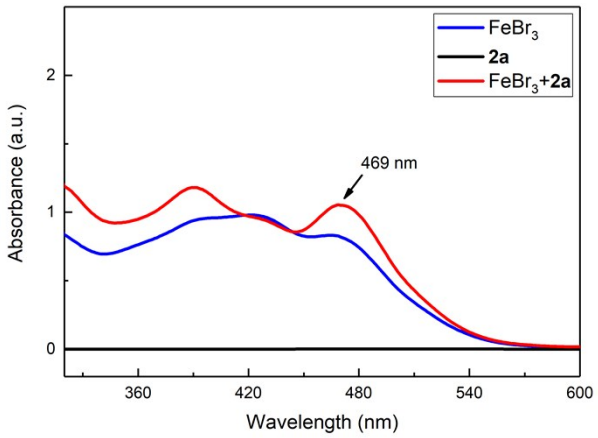


Fig. S8. UV-Visible Absorption Spectra of $FeBr_3$ and/or Amine **2a**

4.3 Fluorescence Quenching Experiments

The fluorescence emission intensities were recorded on a Fluoromax-4spectrofluorimeter with the excitation wavelength fixed at 310 nm.

The fluorescence emission intensities of single- and double-component samples were collected (Fig. S9). The concentration for all single-component samples was 9.0×10^{-5} mol/L; while in 1:1 double-component samples, the concentration for each compound was 9.0×10^{-5} mol/L. No obvious emission peak was observed in the fluorescence spectra of $FeBr_3$, **1a**, **3a** as well as 1:1 mixtures of $FeBr_3$/**1a** and $FeBr_3$/**3a**. An obvious emission peak of **2a** at 328 nm was observed, while 1:1 $FeBr_3$/**2a** mixture exhibits a stronger peak at 332 nm.

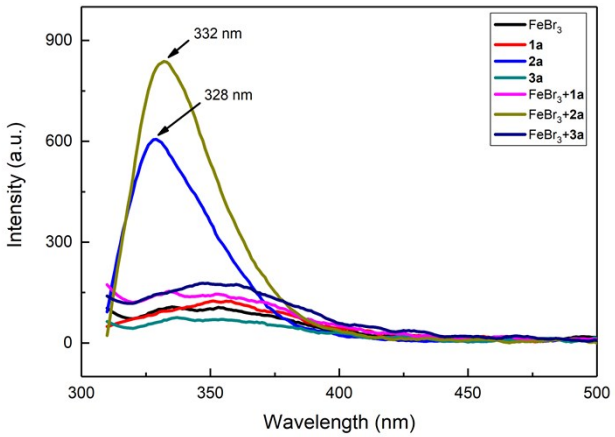


Fig. S9. Fluorescence Intensities of Single- and Double-Component Samples

Fluorescence Quenching studies were then carried out. Several samples of 1:1 $FeBr_3$/**2a** mixture in 0.15 mL EtOAc (both concentrations were 3.0×10^{-3} mol/L) were prepared in light path quartz fluorescence cuvettes, after which EtOAc was added to make the total volume of solution reach 5.0 mL after the subsequent addition of the quenchers. The quencher solution was prepared 6.0×10^{-3} mol/L in 0.15 mL EtOAc for each portion. For each quenching experiment, portions of quencher solution was added to the corresponding diluted $FeBr_3$/**2a** sample, and the emission spectrum was collected immediately.

Table S4. Details of Fluorescence Quenching Experiments

Entry	$FeBr_3$/**2a** (mL)	Additional EtOAc (mL)	Portions of Quencher
1	0.15	4.85	0
2	0.15	4.70	1
3	0.15	4.55	2
4	0.15	4.40	3
5	0.15	4.25	4
6	0.15	4.10	5

We performed fluorescence quenching experiments of $FeBr_3$/**2a** mixture with various concentrated solutions of **1a** and **3a**, and the quenching and Stern-Volmer plots obtained are presented in Fig. S10-S12, which suggest that the $FeBr_3$/**2a** mixture can be effectively quenched by diselenide **3a**, rather than alkene **1a**.

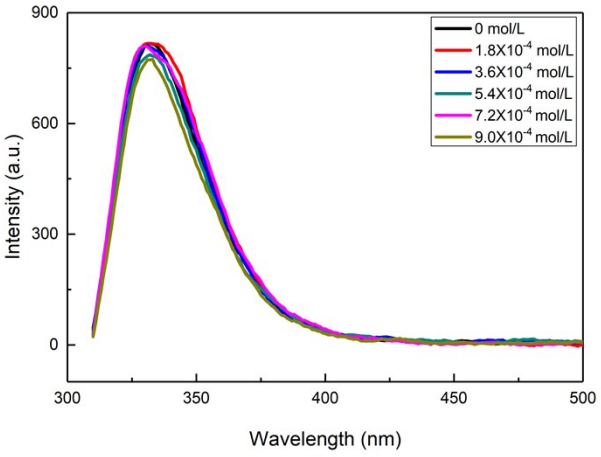


Fig. S10. Fluorescence Quenching of 9.0×10^{-5} mol/L $FeBr_3$/**2a** with **1a** in EtOAc

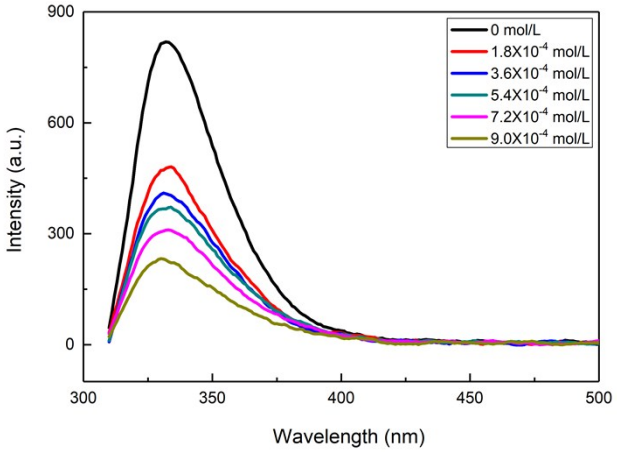


Fig. S11. Fluorescence Quenching of 9.0×10^{-5} mol/L $FeBr_3$/**2a** with **3a** in EtOAc

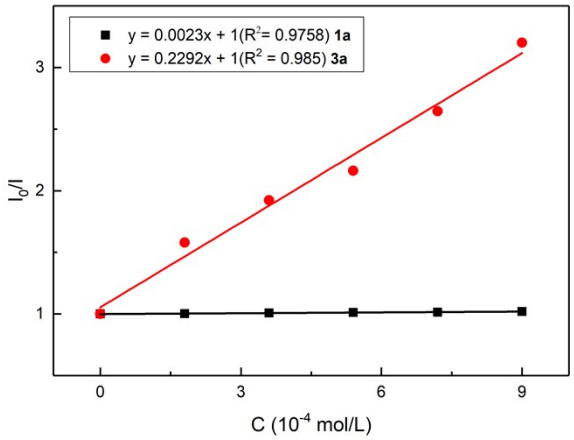


Fig. S12. Stern-Volmer Plots for the Quenching Experiments

4.4 Cyclic voltammetry measurements

Cyclic voltammograms were collected with a CHI 760E Potentiostat. Samples were prepared with 0.1 mmol of substrate, dissolved in 10 mL of 0.1 M Bu_4NBF_4 in methanol (reaction solvent EtOAc is not suitable for electrochemical measurements because electrolytes are barely soluble in it). Measurements employed a glassy carbon working electrode, a platinum plate counter electrode and a SCE reference electrode. The scan rate applied was 0.1 V/s. Maximum current (C_p) of each substrate was obtained using Origin, and the potential ($E_{p/2}$) was determined at half of this value ($C_{p/2}$).

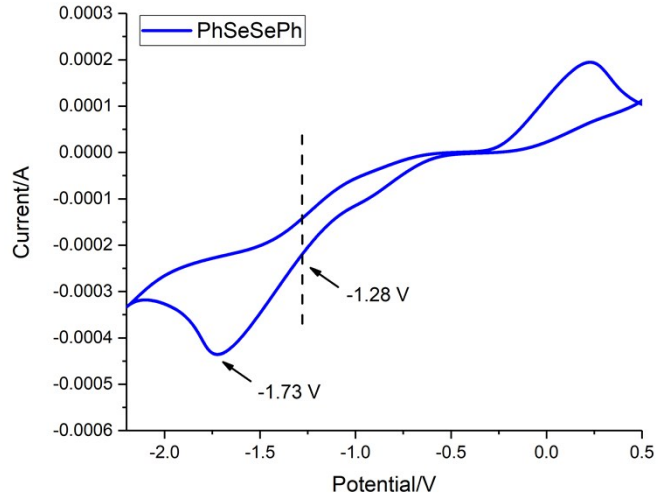


Fig. S13. CV Plot of PhSeSePh in 0.1 M Bu_4NBF_4 MeOH Solution

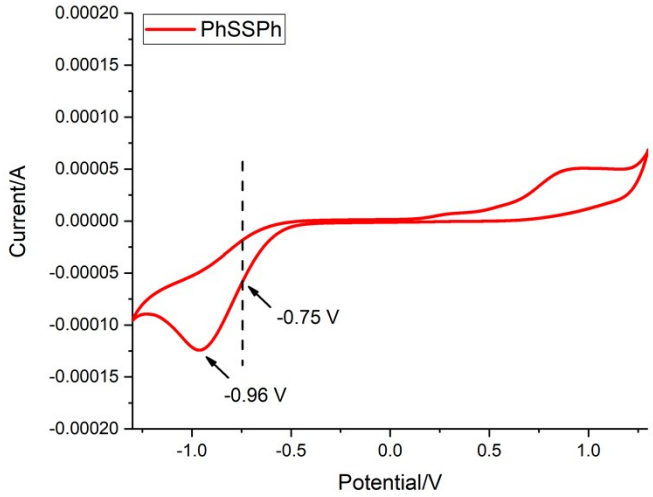


Fig. S14. CV Plot of PhSSPh in 0.1 M Bu_4NBF_4 MeOH Solution

$E_{p/2}$(PhSeSePh) = -1.28 V (vs SCE)

$E_{p/2}$(PhSSPh) = -0.75 V (vs SCE)

5. References

1. Li, Z.; Ke, F.; Deng, H.; Xu, H.; Xiang, H.; Zhou, X. *Org. Biomol. Chem.* **2013**, *11*, 2943.

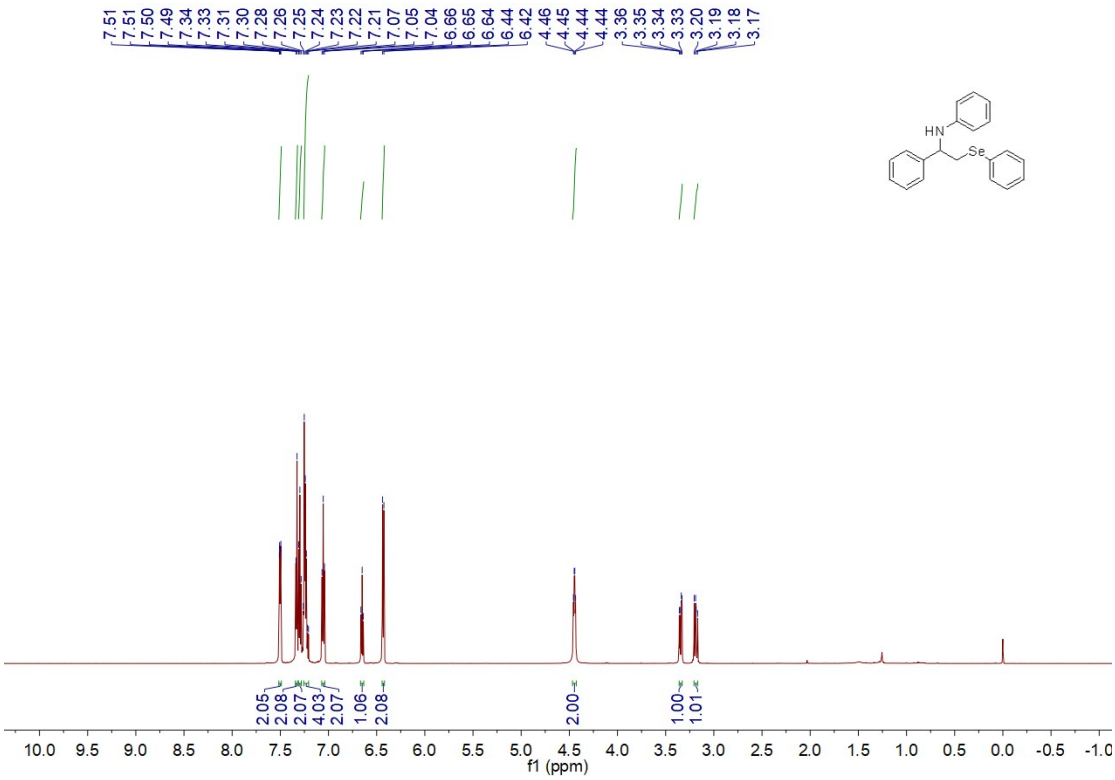
2. Singh, D.; Deobald, A. M.; Camargo, L. R. S.; Tabarelli, G.; Rodrigues, O. E. D.; Braga, A. L. *Org. Lett.* **2010**, *12*, 3288.

3. Senatore, R.; Castoldi, L.; Ielo, L.; Holzer, W.; Pace, V. *Org. Lett.* **2018**, *20*, 2685.

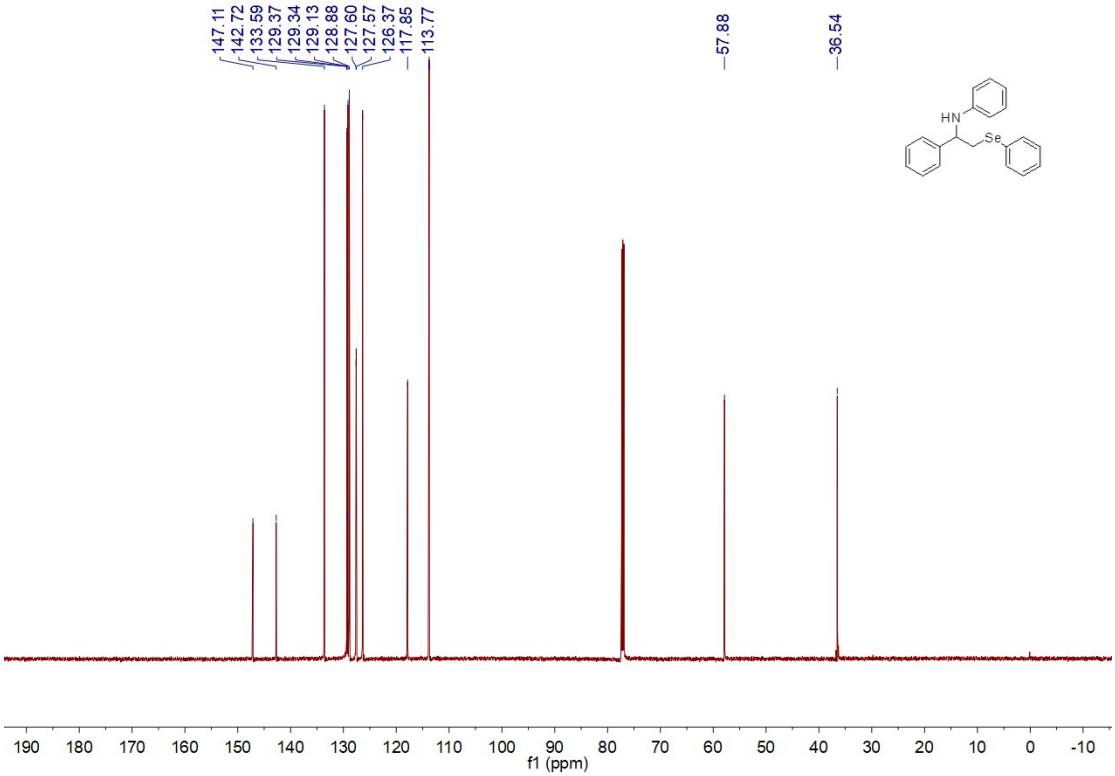
6. NMR Spectra

N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**4a**)

^{1}H NMR

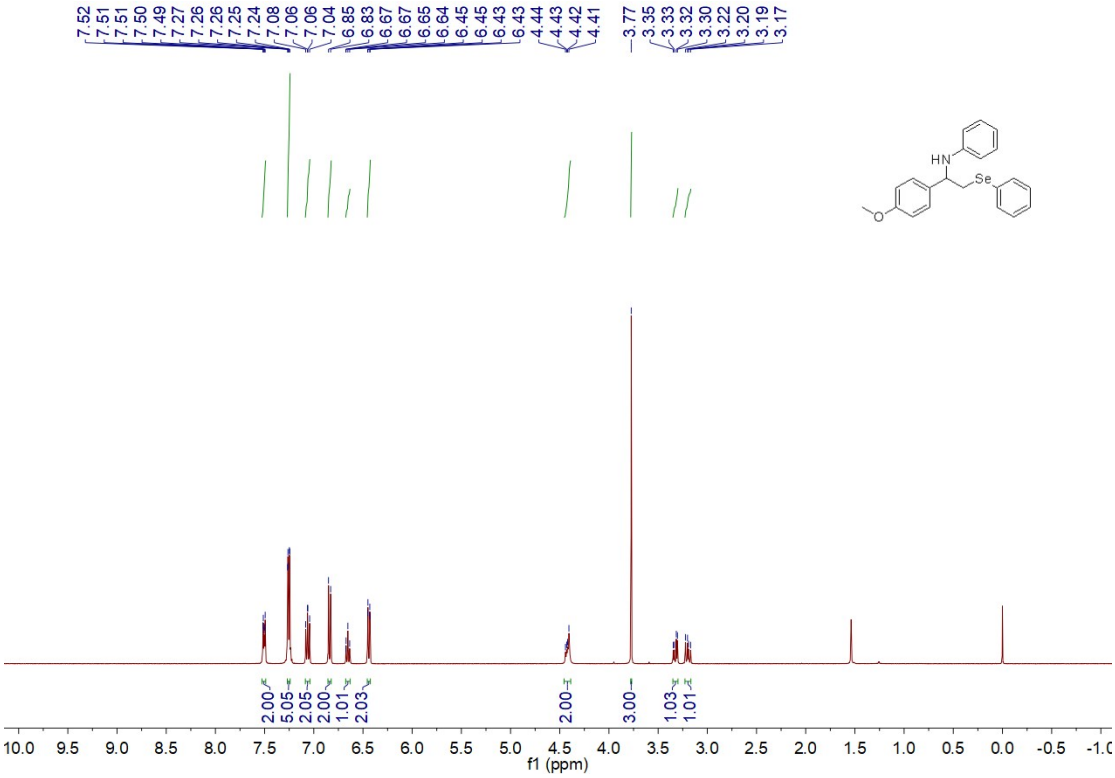


^{13}C NMR

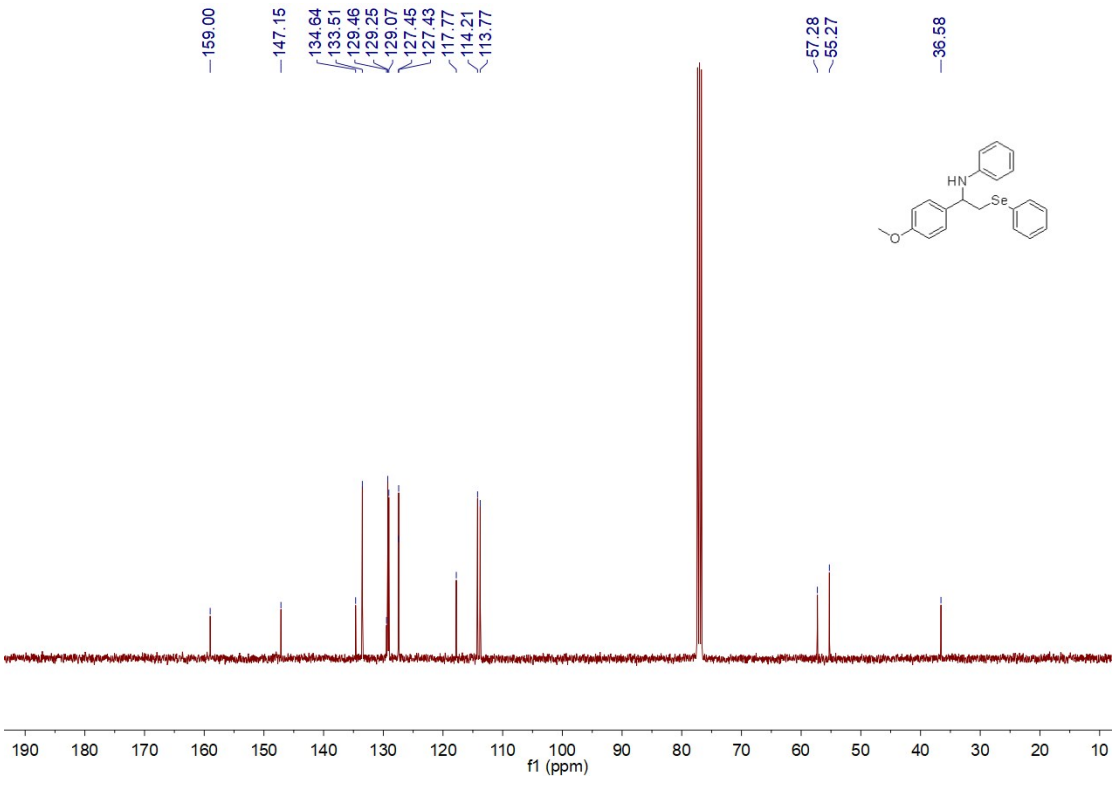


N-(1-(4-methoxyphenyl)-2-(phenylselanyl)ethyl)aniline (**4b**)

^{1}H NMR

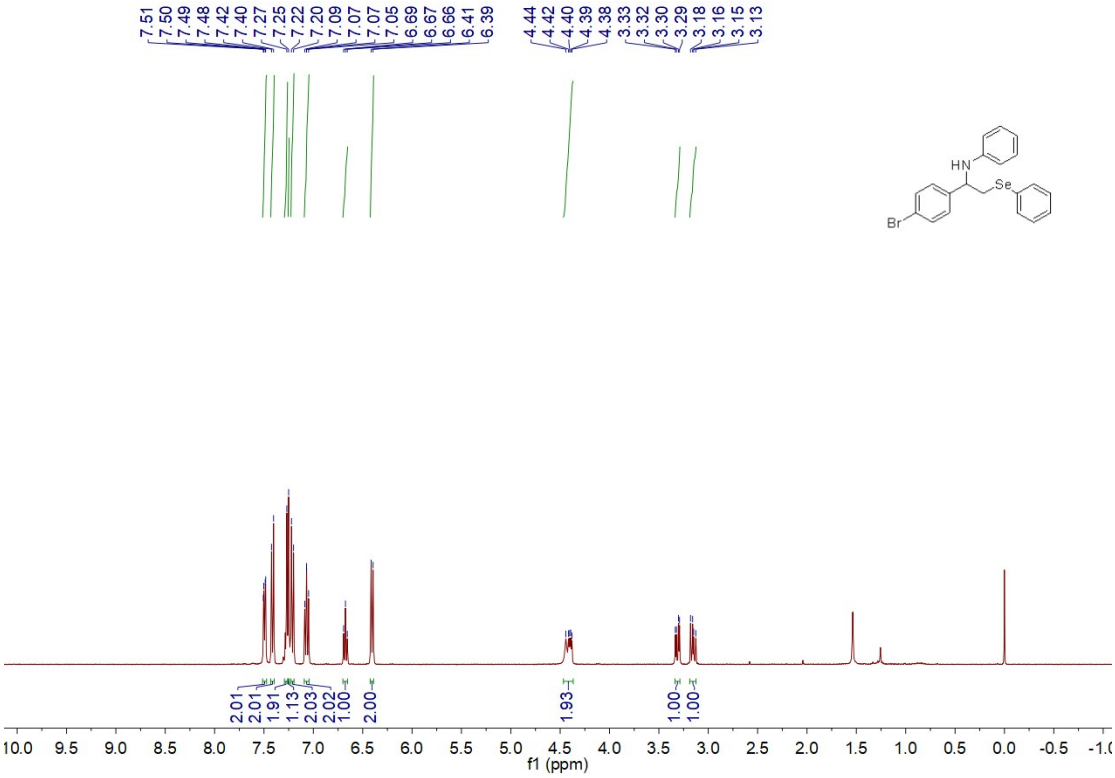


^{13}C NMR

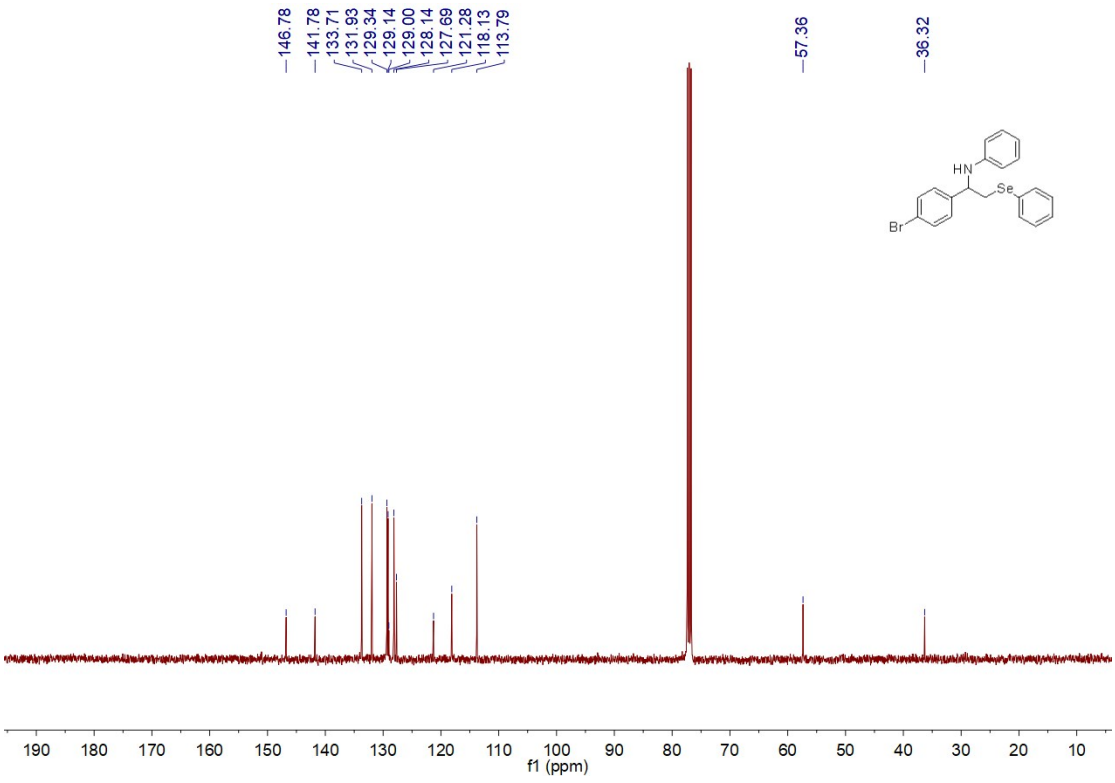


N-(1-(4-bromophenyl)-2-(phenylselanyl)ethyl)aniline (**4c**)

^{1}H NMR

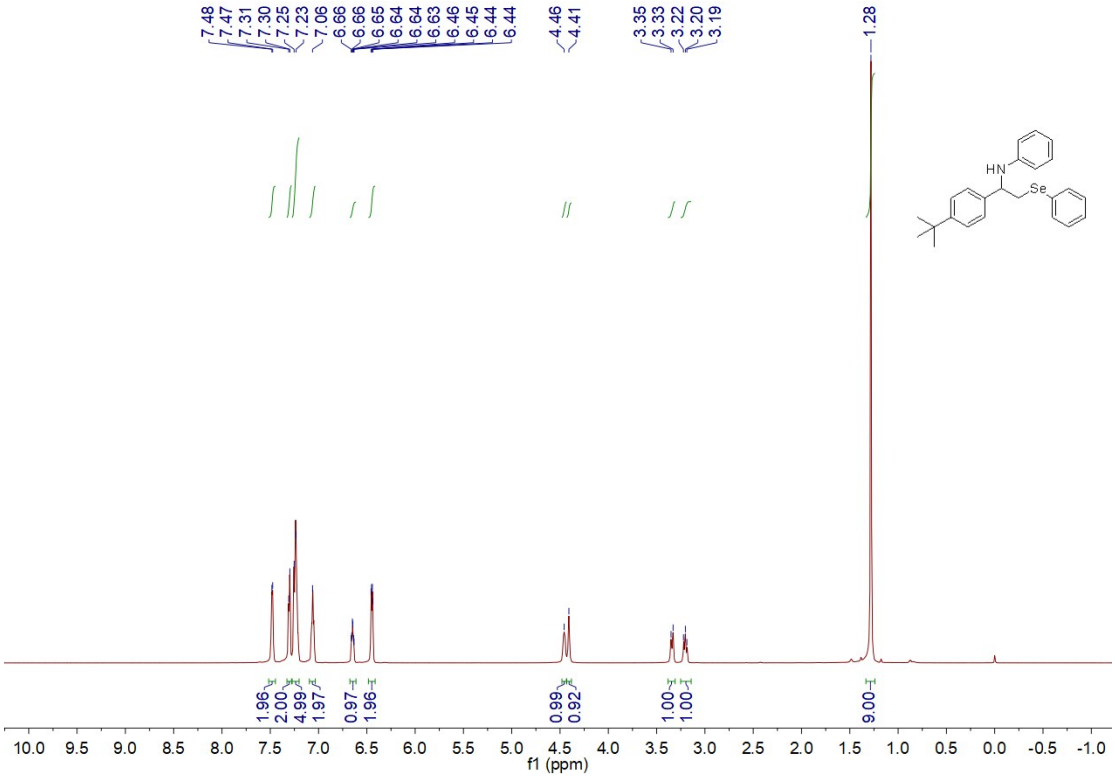


^{13}C NMR

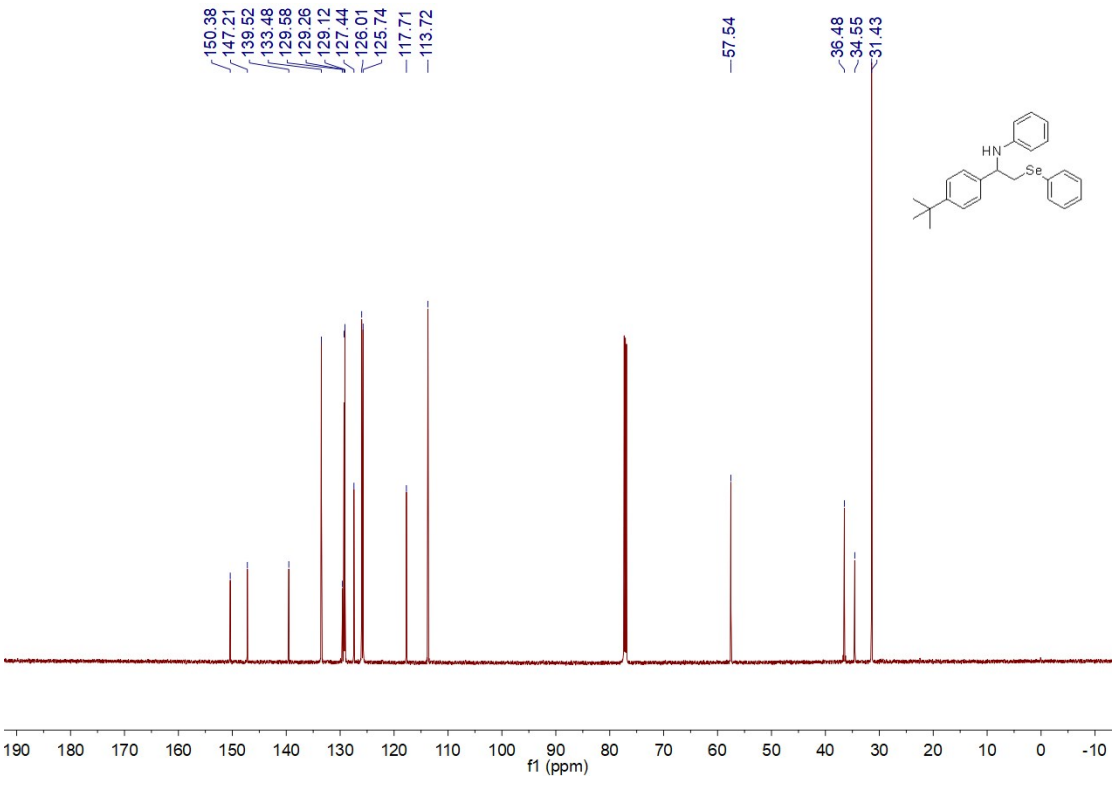


N-(1-(4-(tert-butyl)phenyl)-2-(phenylselanyl)ethyl)aniline (**4d**)

^{1}H NMR

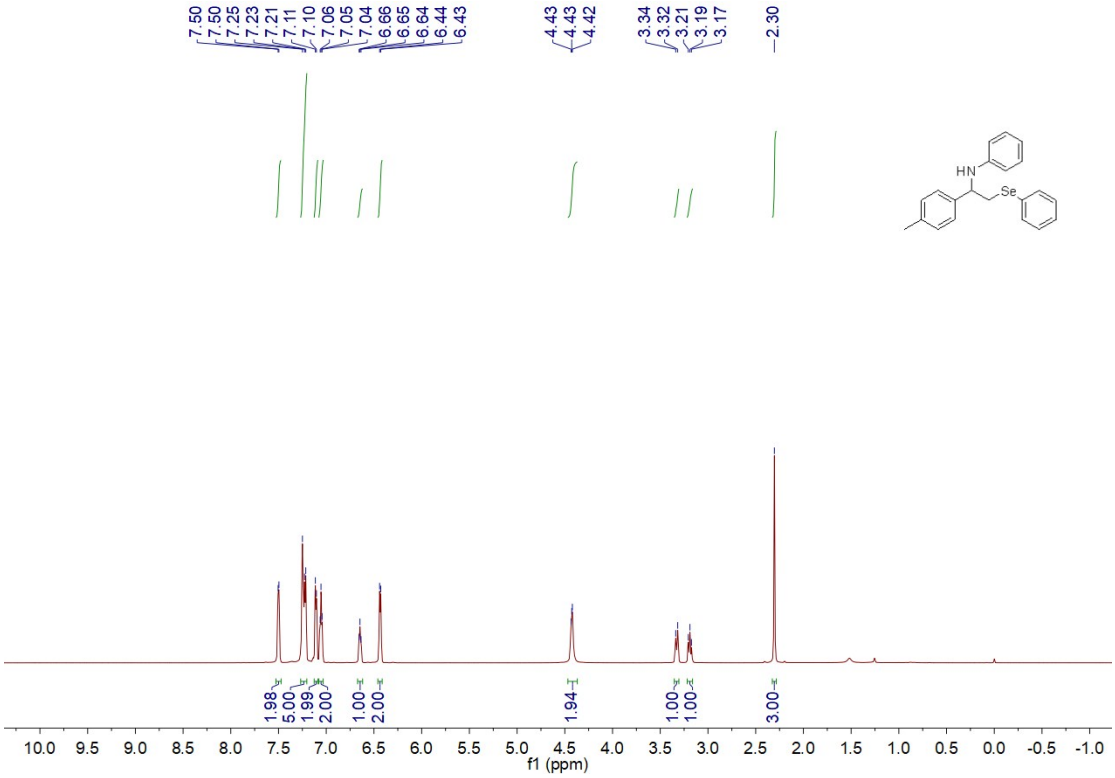


^{13}C NMR

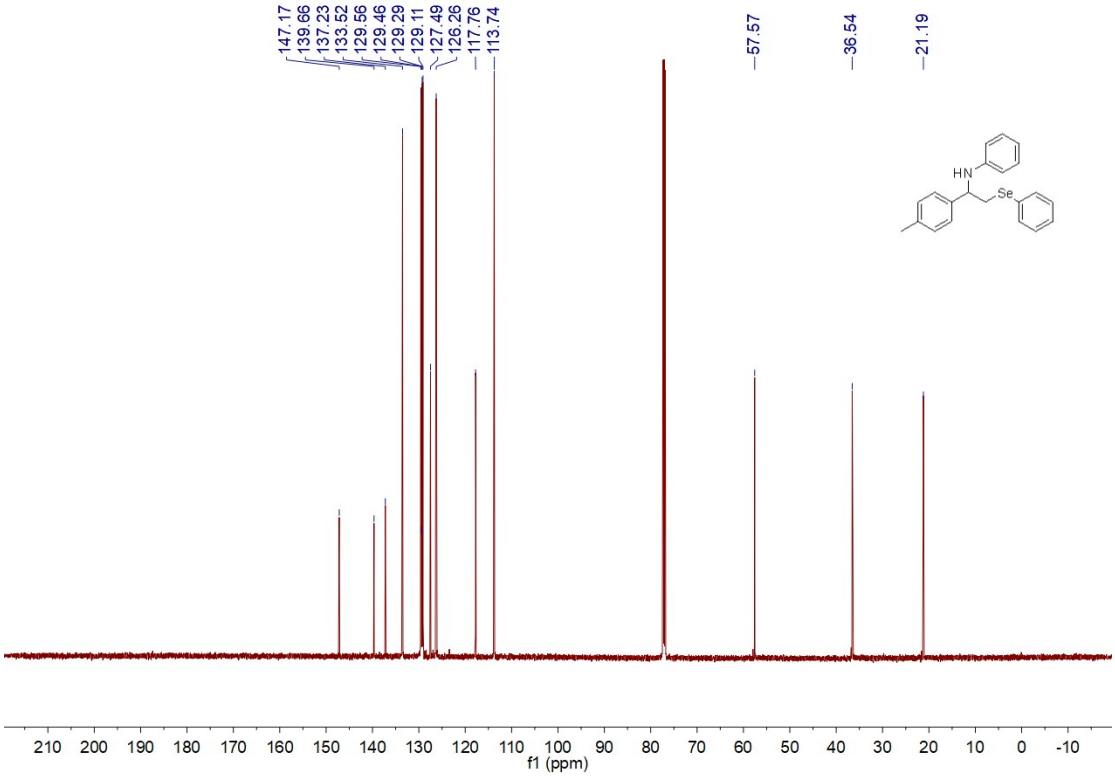


N-(2-(phenylselanyl)-1-(p-tolyl)ethyl)aniline (**4e**)

^{1}H NMR

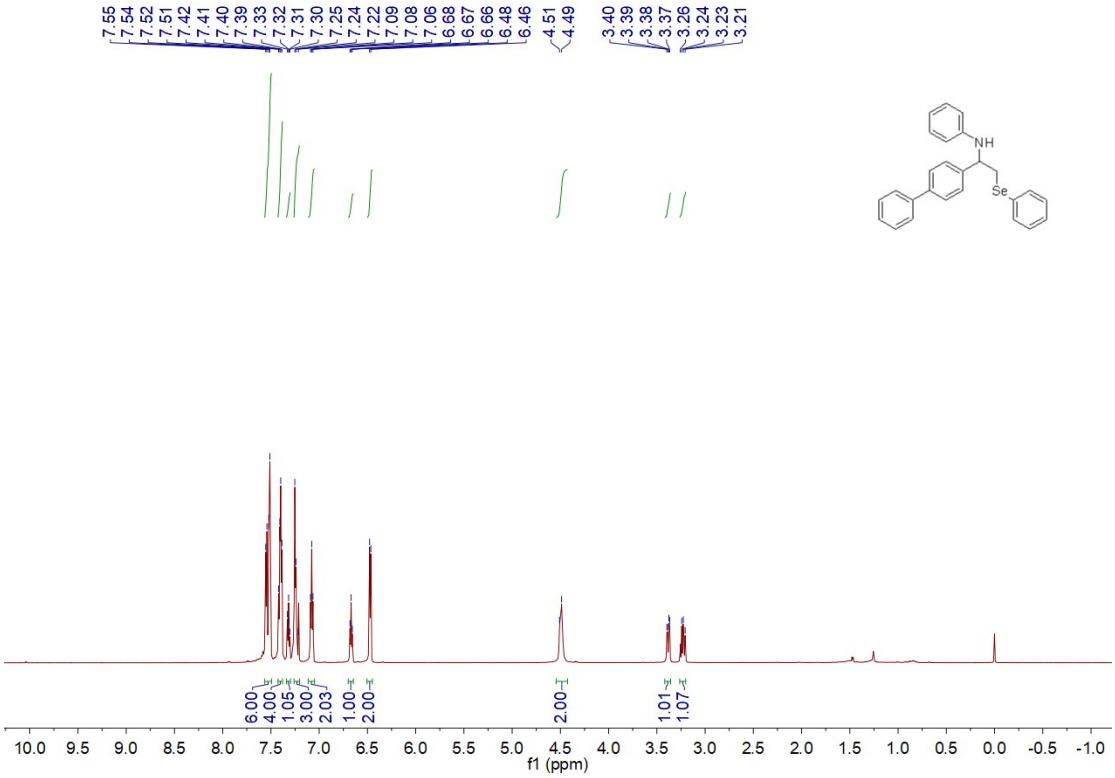


^{13}C NMR

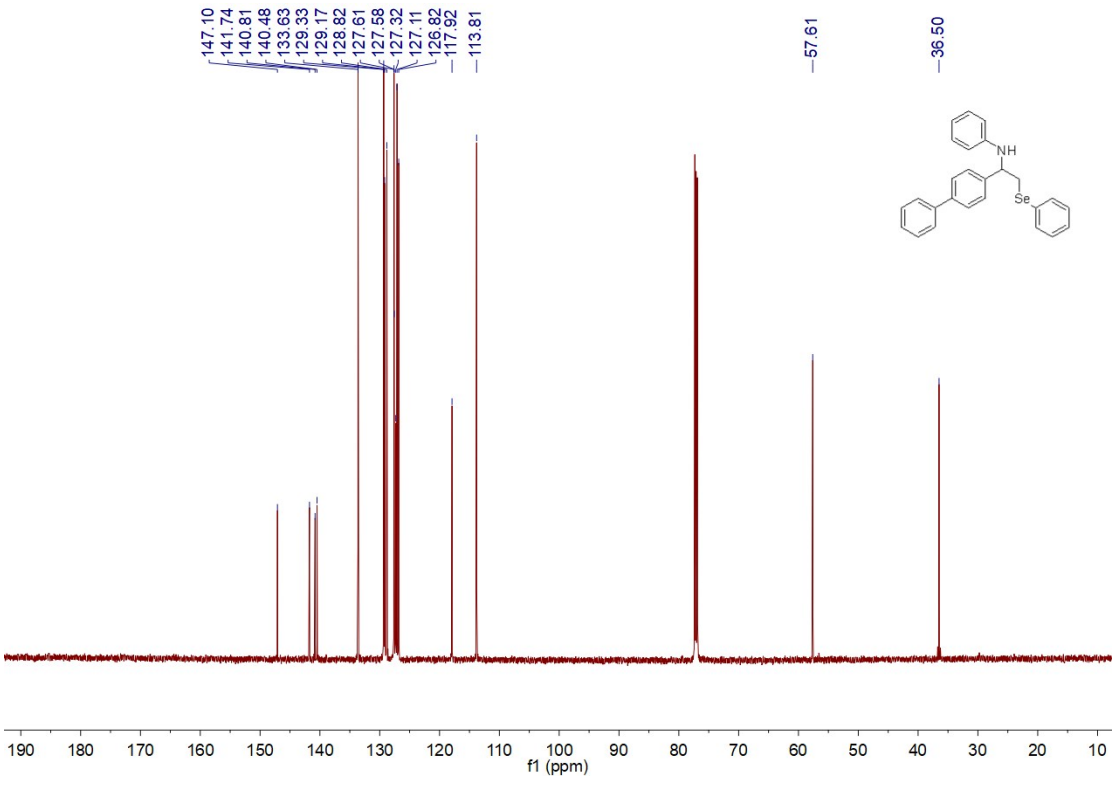


N-(1-([1,1'-biphenyl]-4-yl)-2-(phenylselanyl)ethyl)aniline (**4f**)

^{1}H NMR

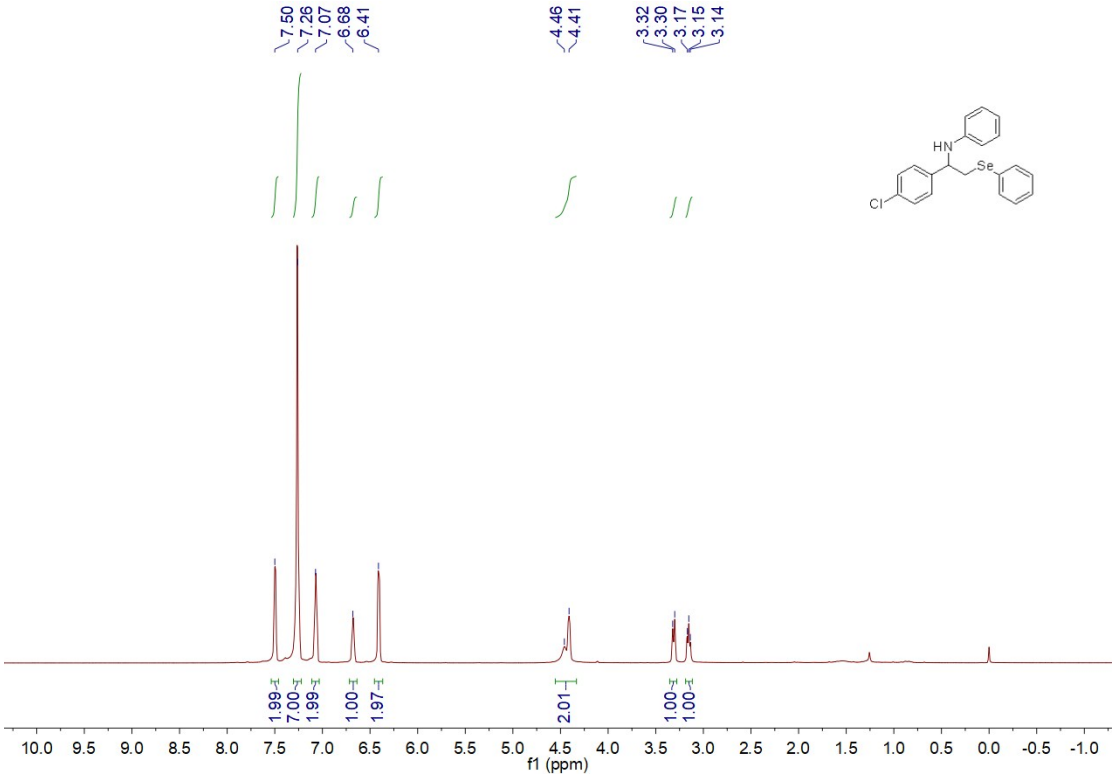


^{13}C NMR

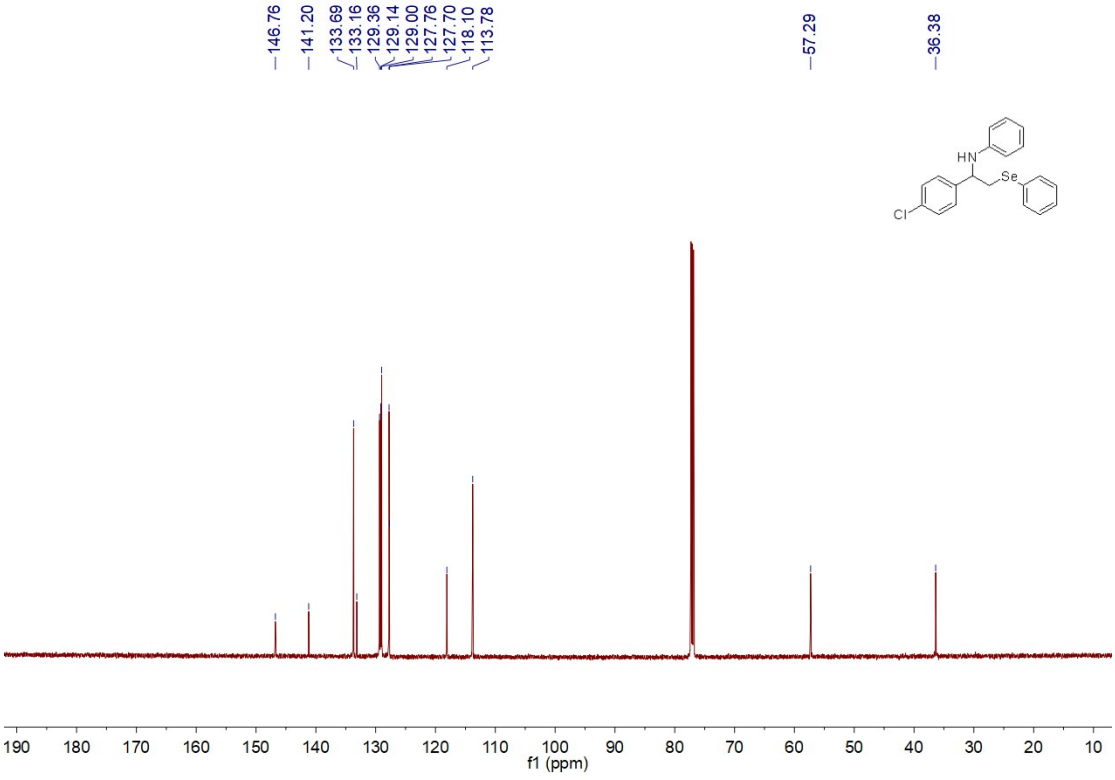


N-(1-(4-chlorophenyl)-2-(phenylselanyl)ethyl)aniline (**4g**)

^{1}H NMR

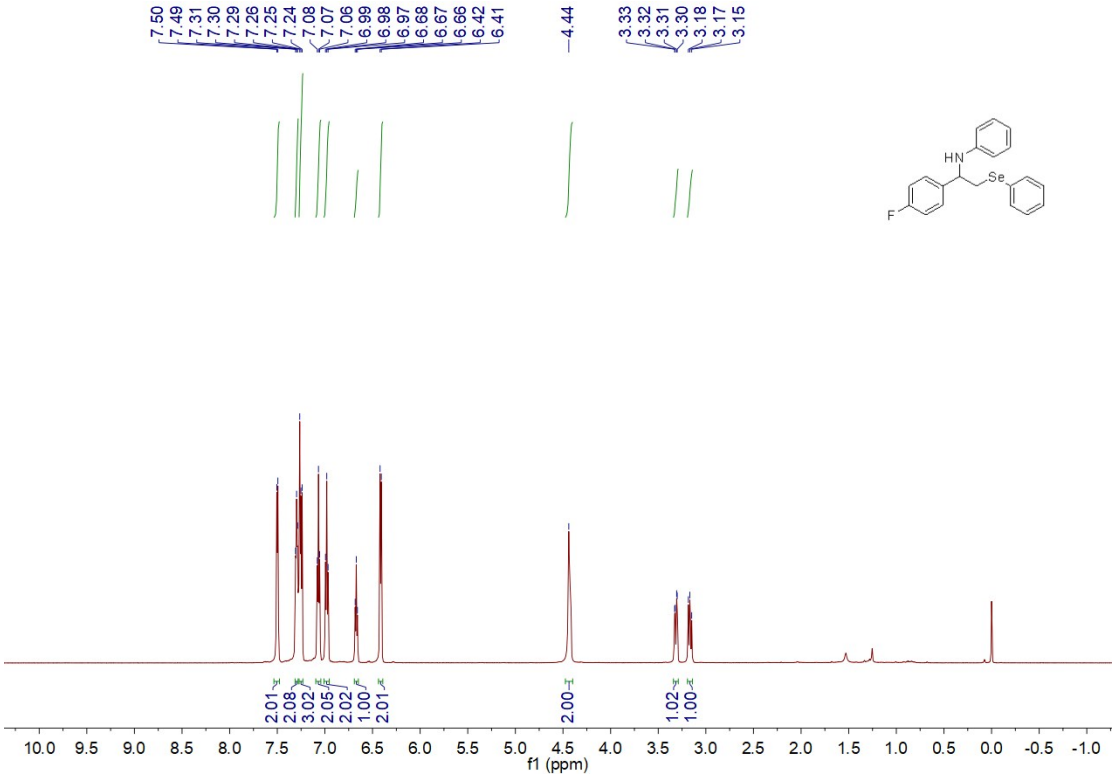


^{13}C NMR

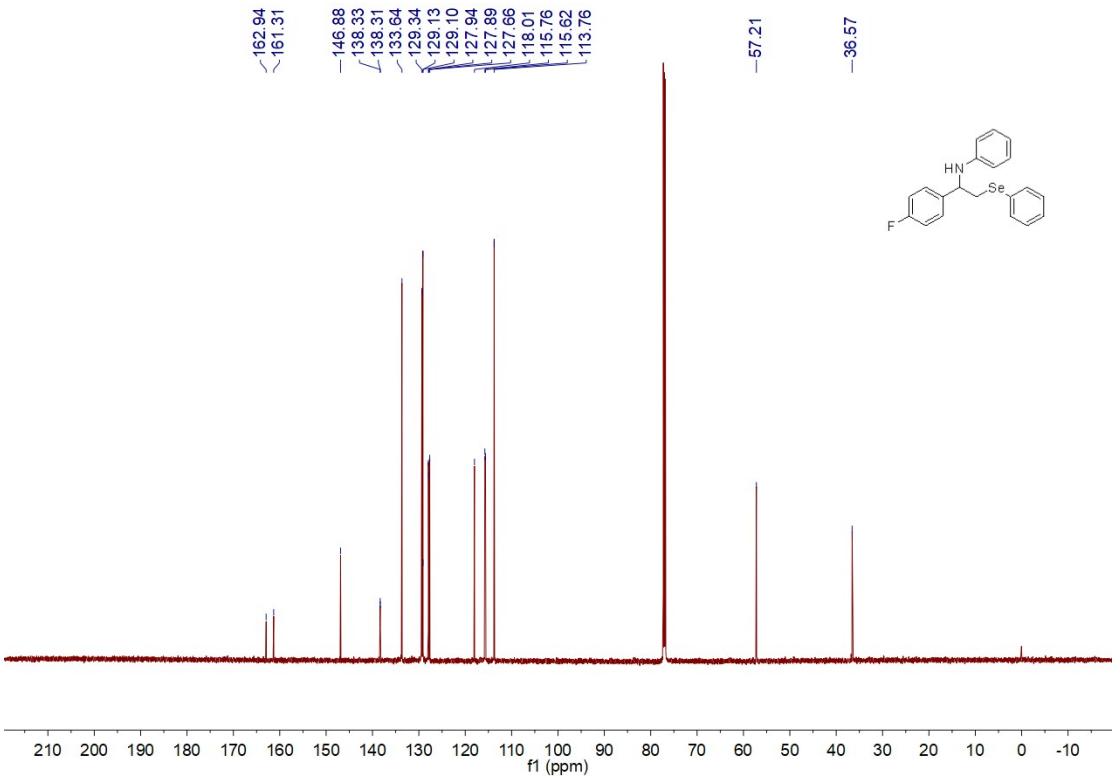


N-(1-(4-fluorophenyl)-2-(phenylselanyl)ethyl)aniline (**4h**)

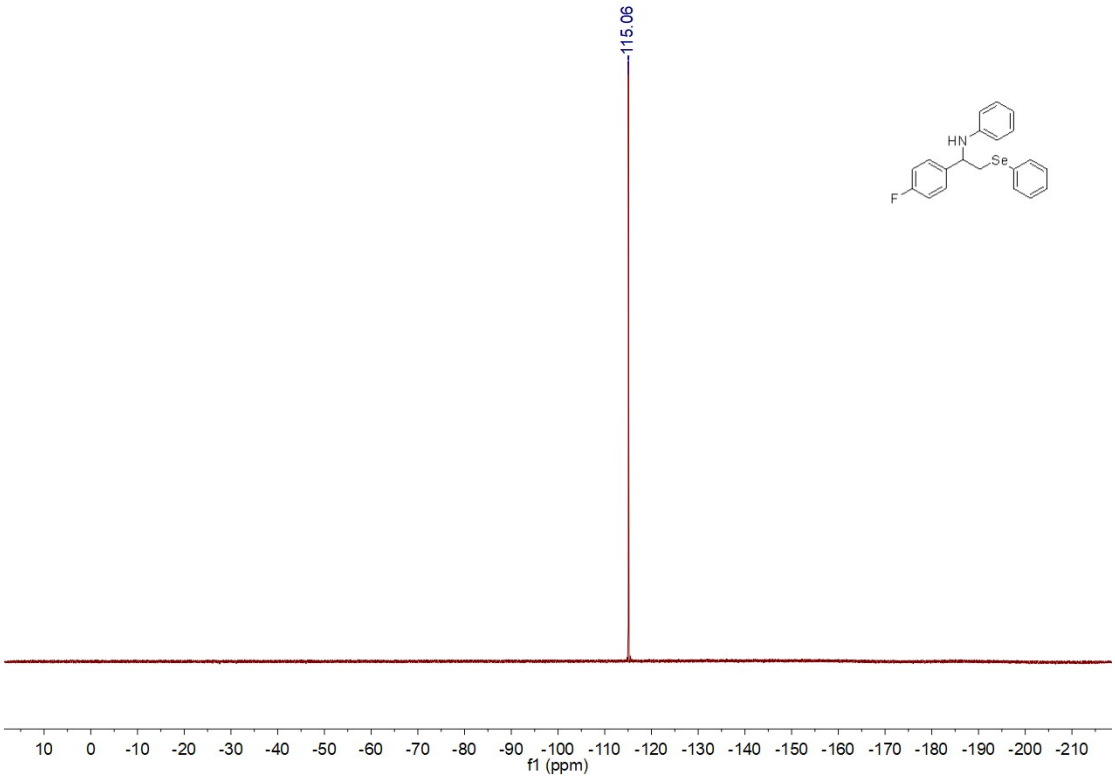
^{1}H NMR



^{13}C NMR

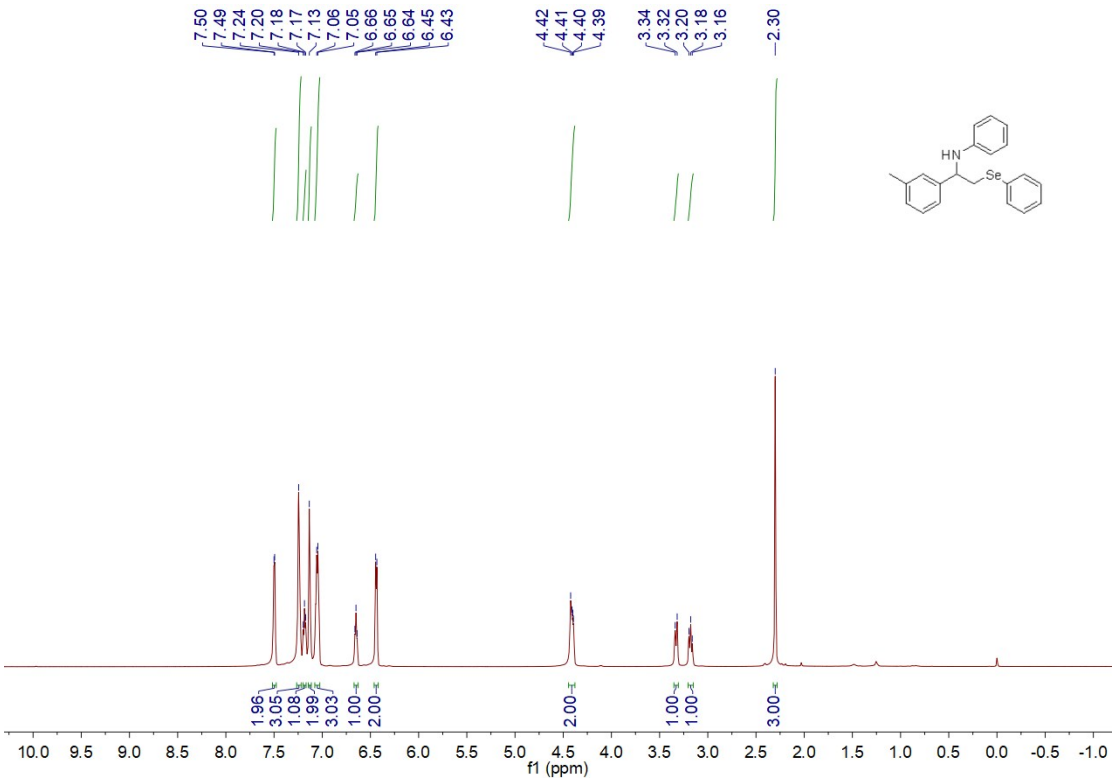


^{19}F NMR

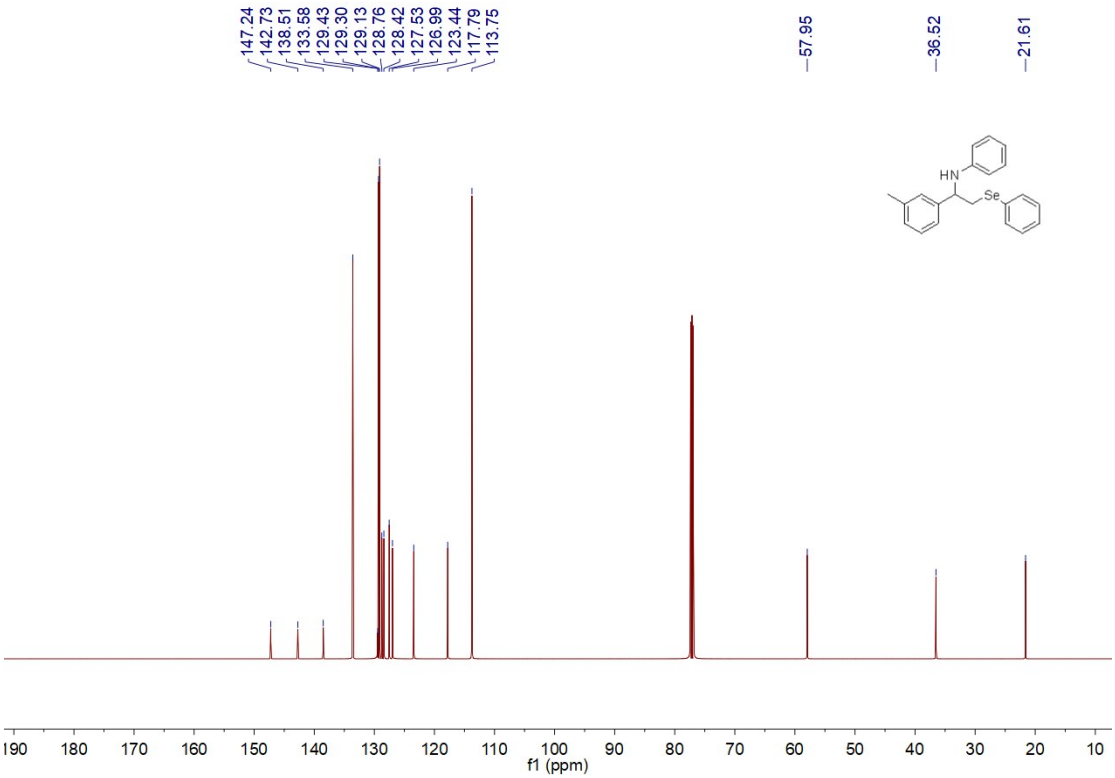


N-(2-(phenylselanyl)-1-(m-tolyl)ethyl)aniline (**4i**)

^{1}H NMR

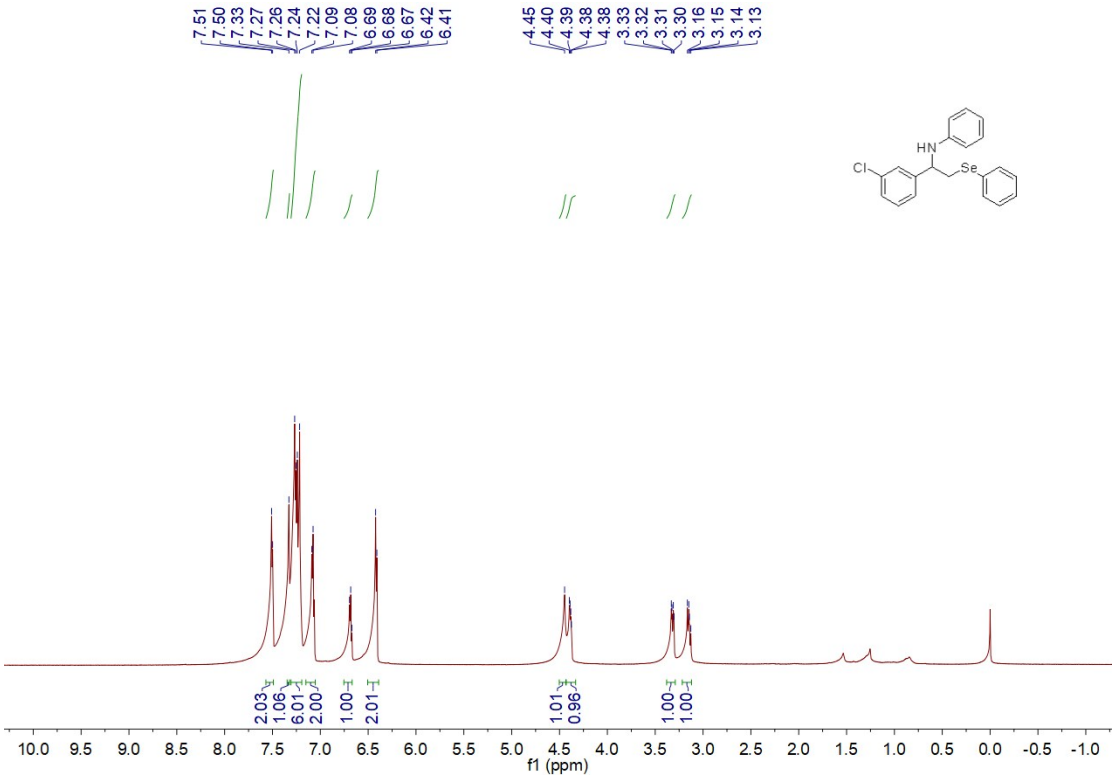


^{13}C NMR

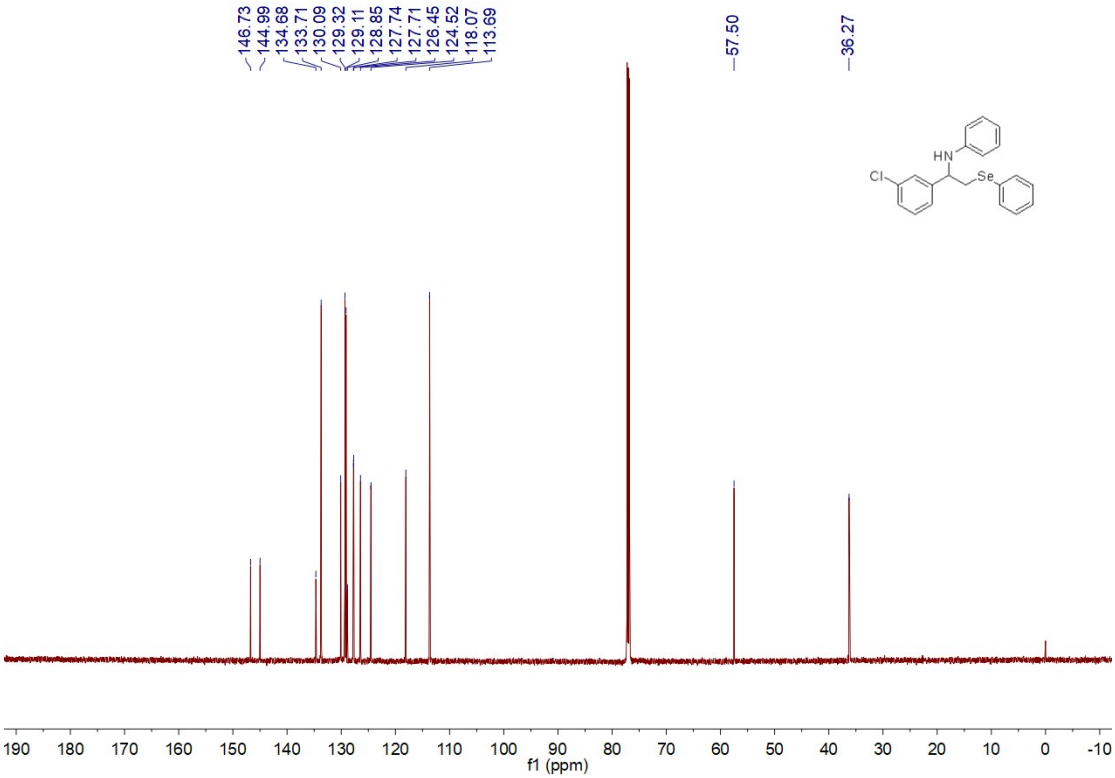


N-(1-(3-chlorophenyl)-2-(phenylselanyl)ethyl)aniline (**4j**)

^{1}H NMR

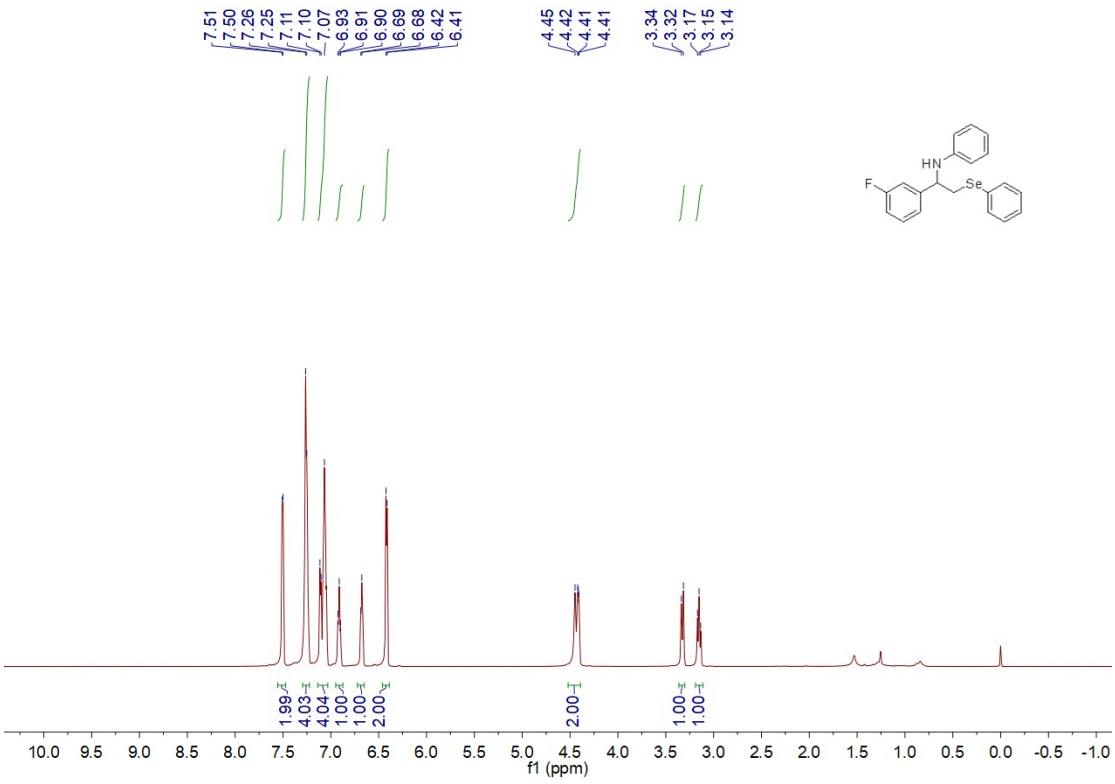


^{13}C NMR

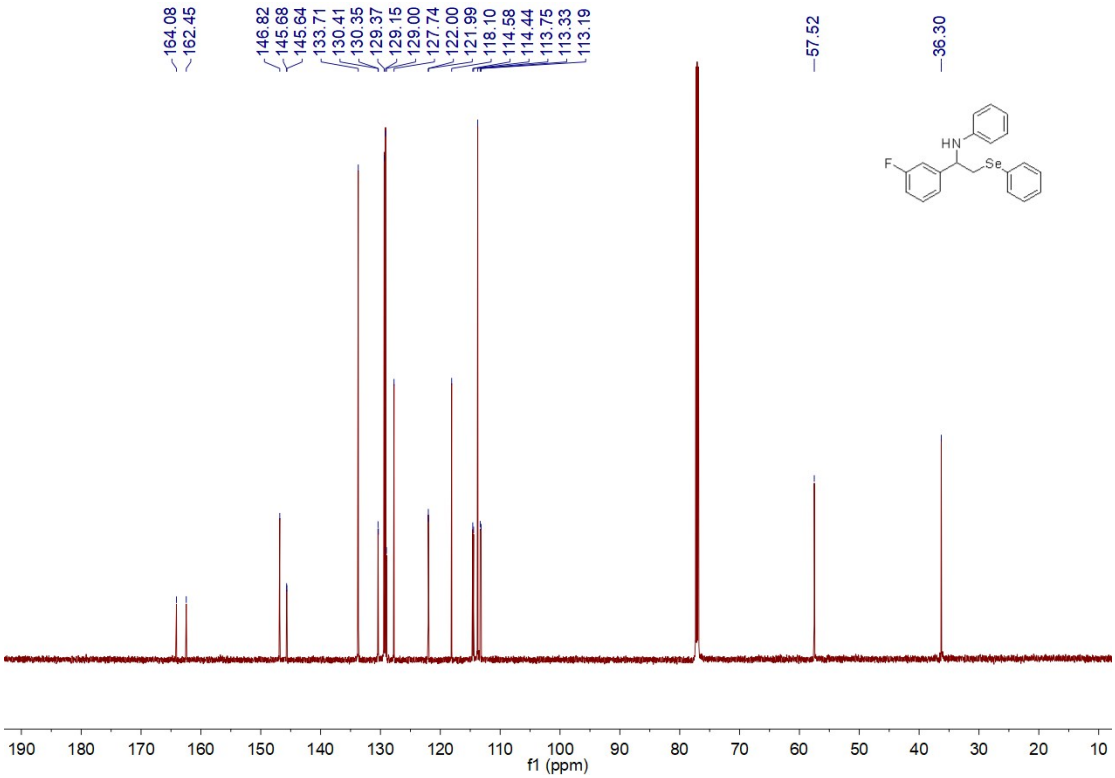


N-(1-(3-fluorophenyl)-2-(phenylselanyl)ethyl)aniline (**4k**)

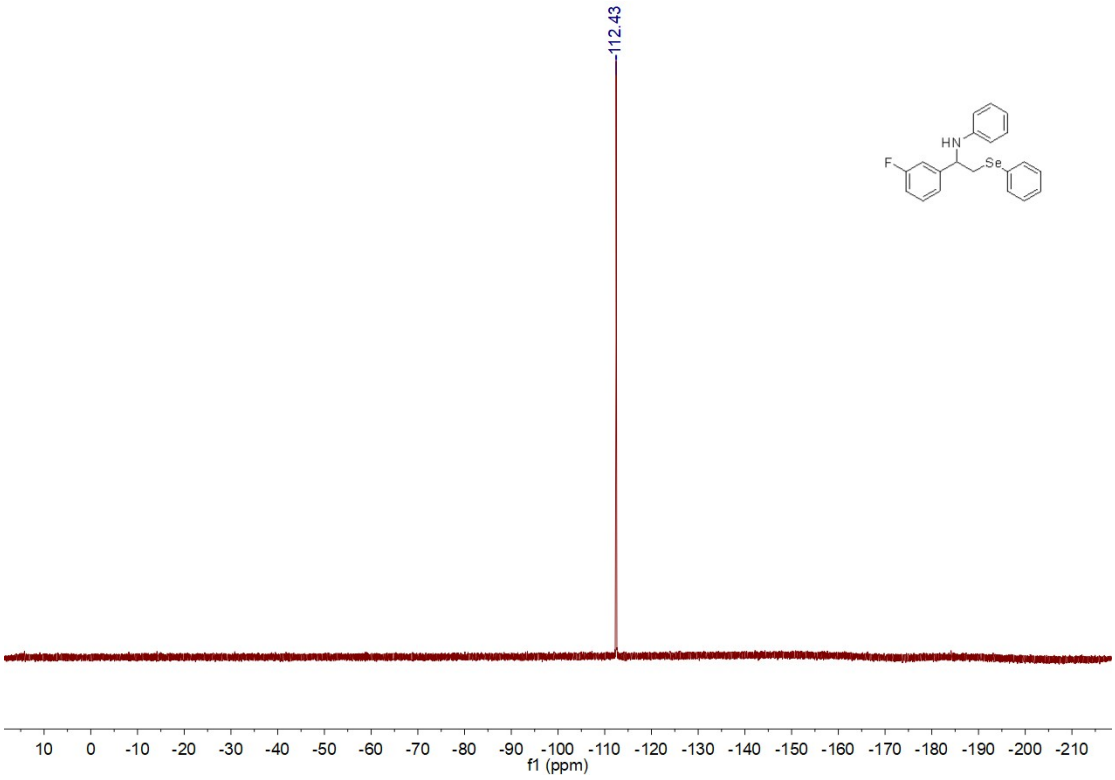
^{1}H NMR



^{13}C NMR

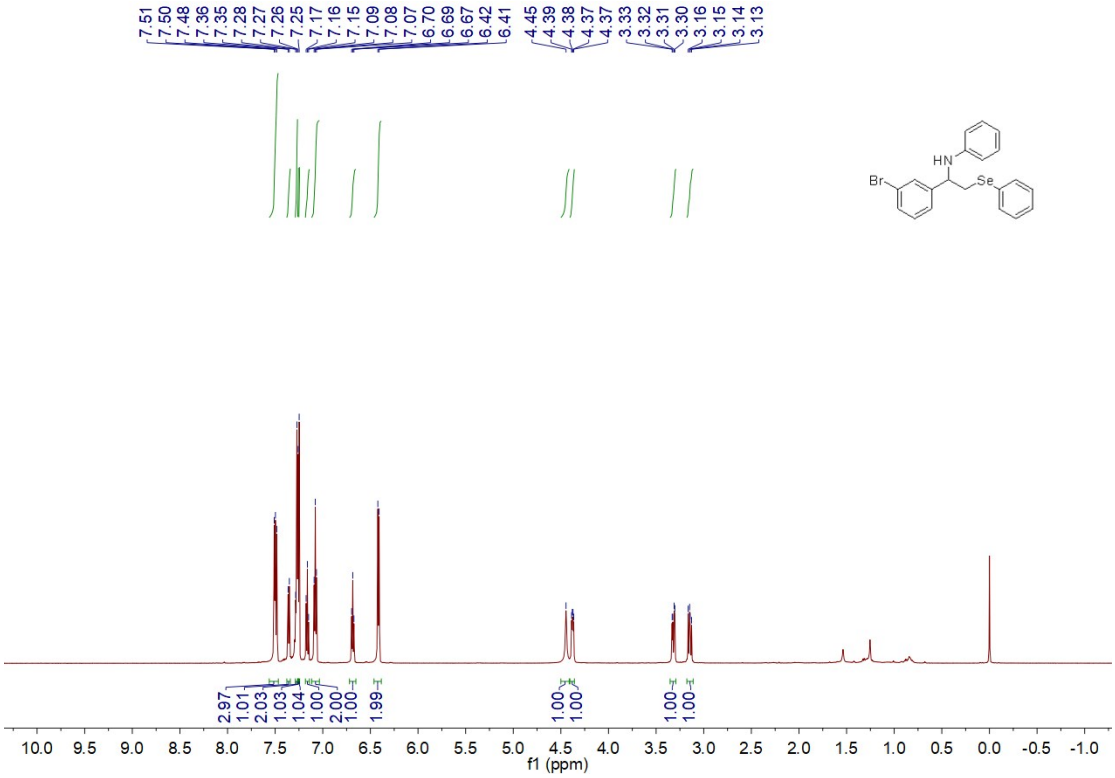


^{19}F NMR

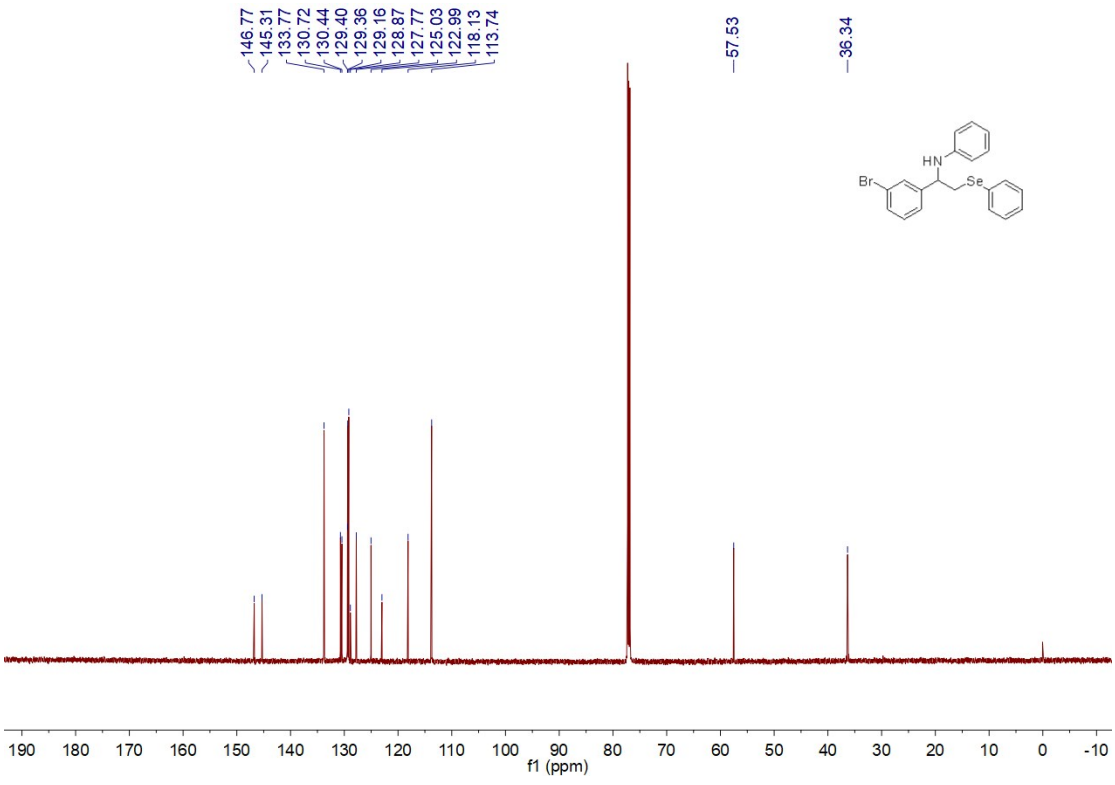


N-(1-(3-bromophenyl)-2-(phenylselanyl)ethyl)aniline (**4l**)

^{1}H NMR

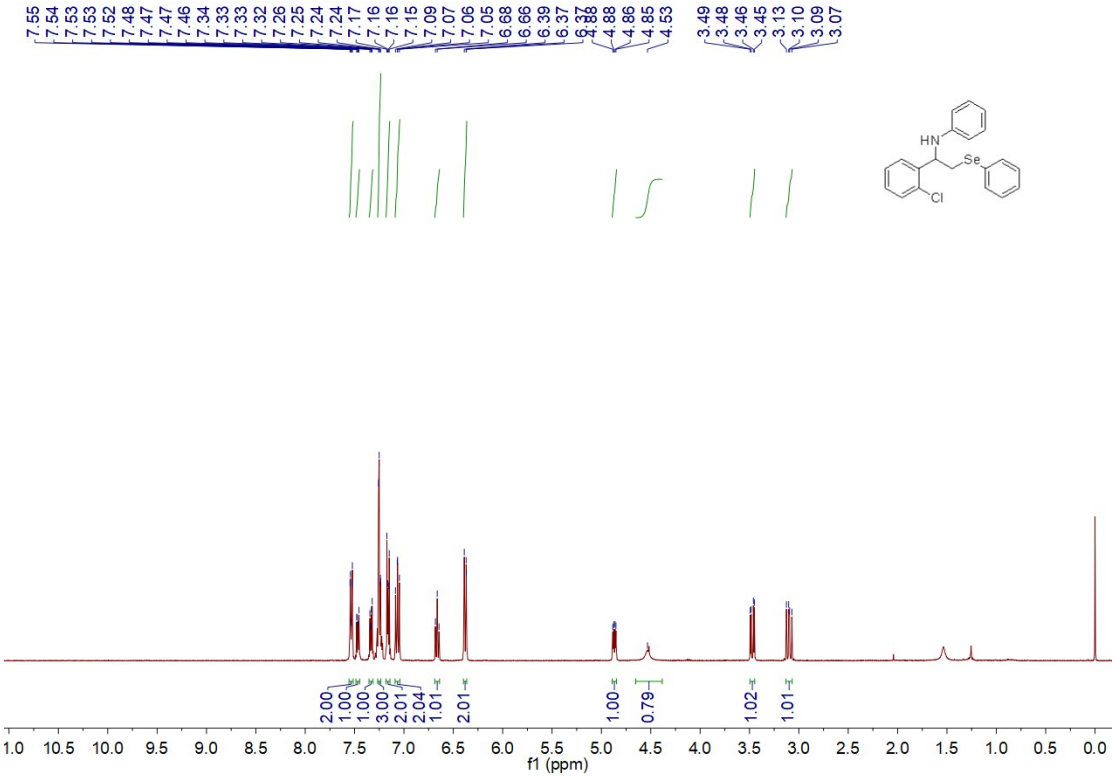


^{13}C NMR

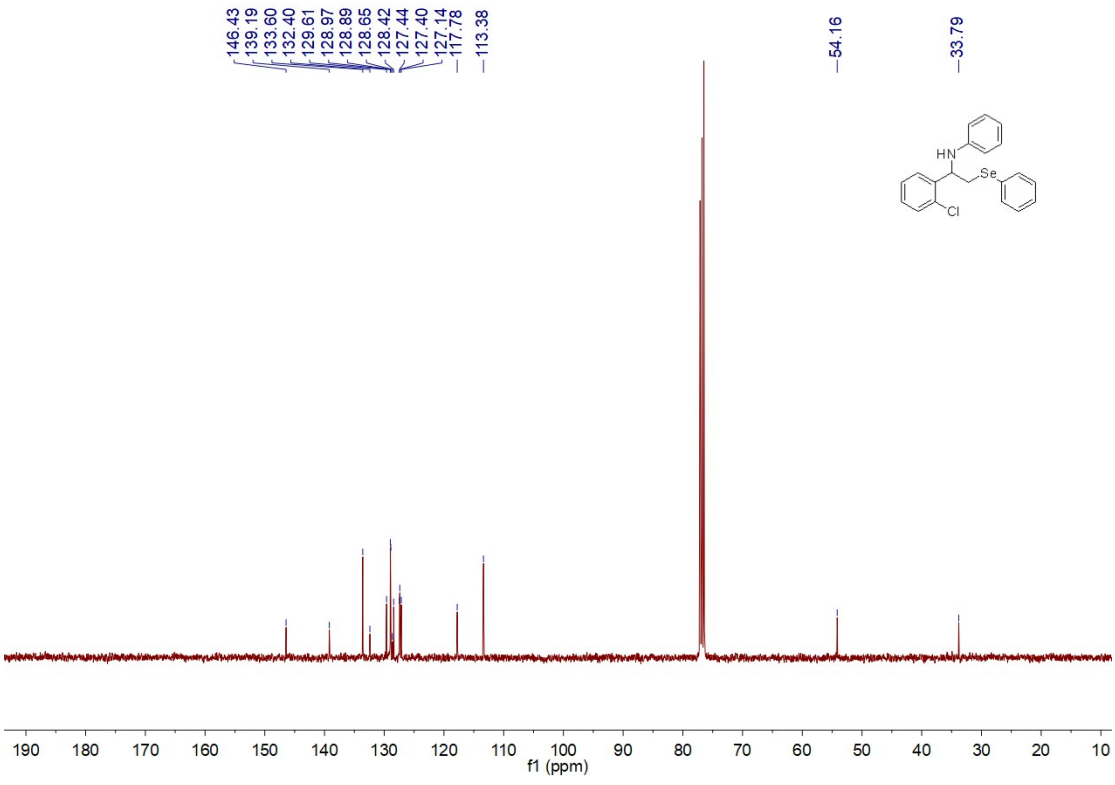


N-(1-(2-chlorophenyl)-2-(phenylselanyl)ethyl)aniline (**4m**)

^{1}H NMR

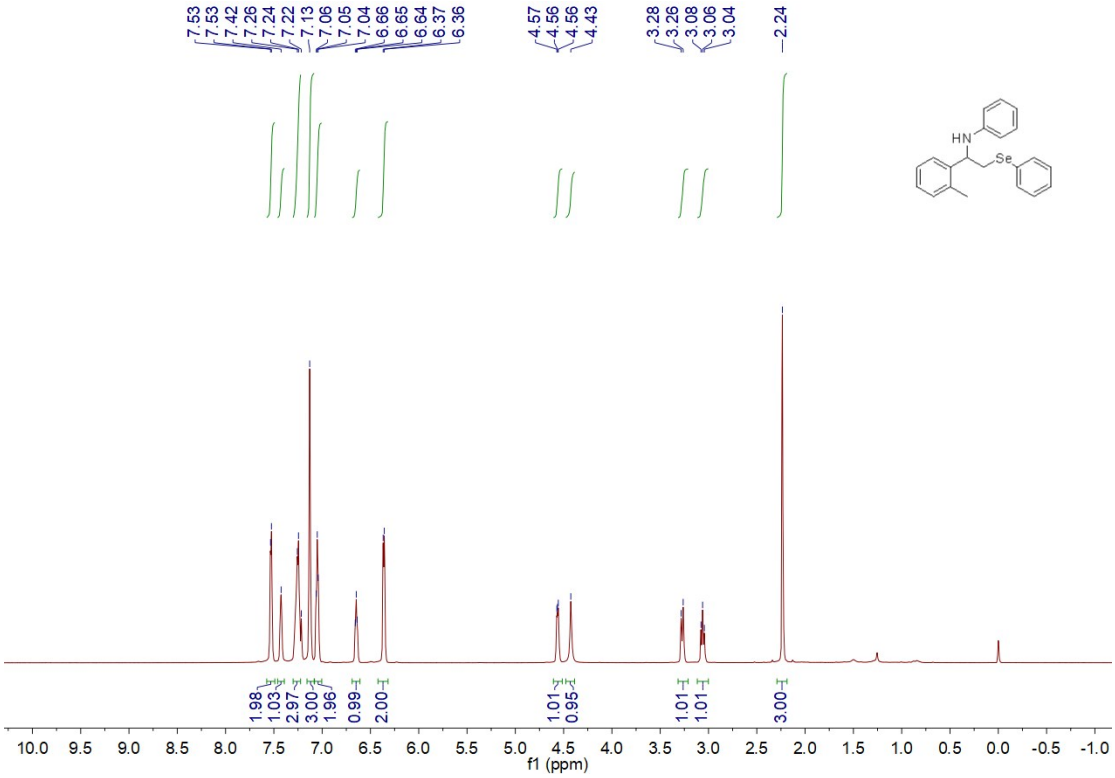


^{13}C NMR

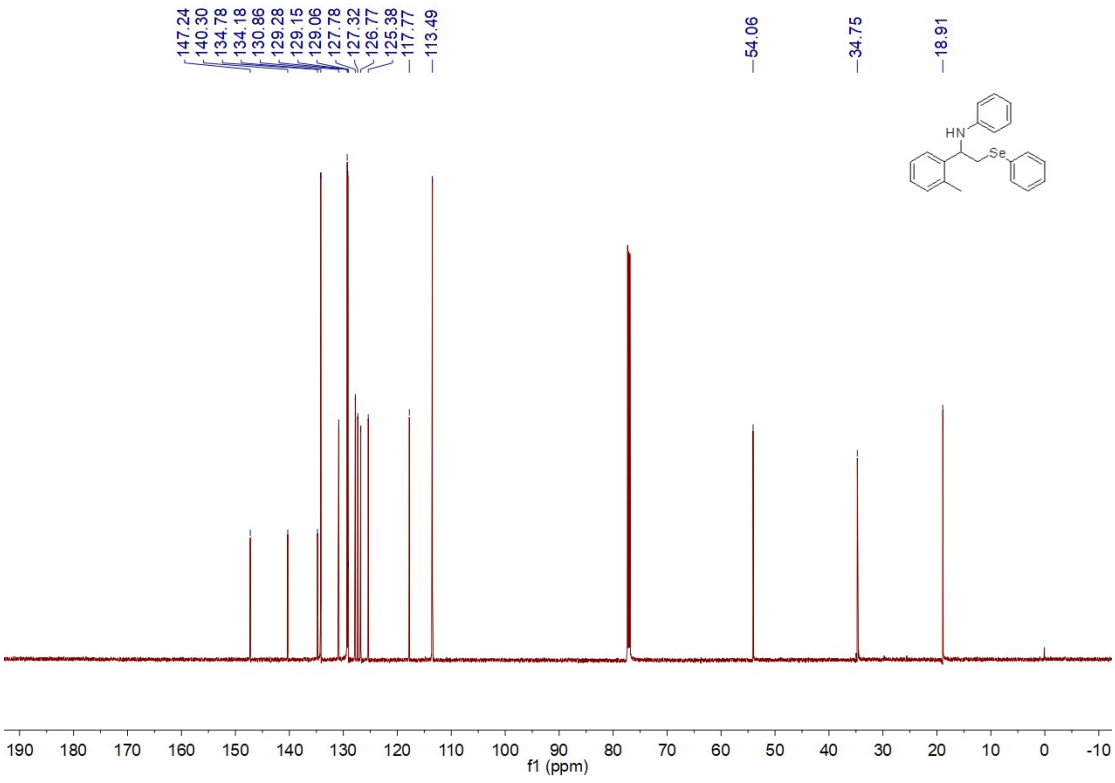


N-(2-(phenylselanyl)-1-(o-tolyl)ethyl)aniline (**4n**)

^{1}H NMR

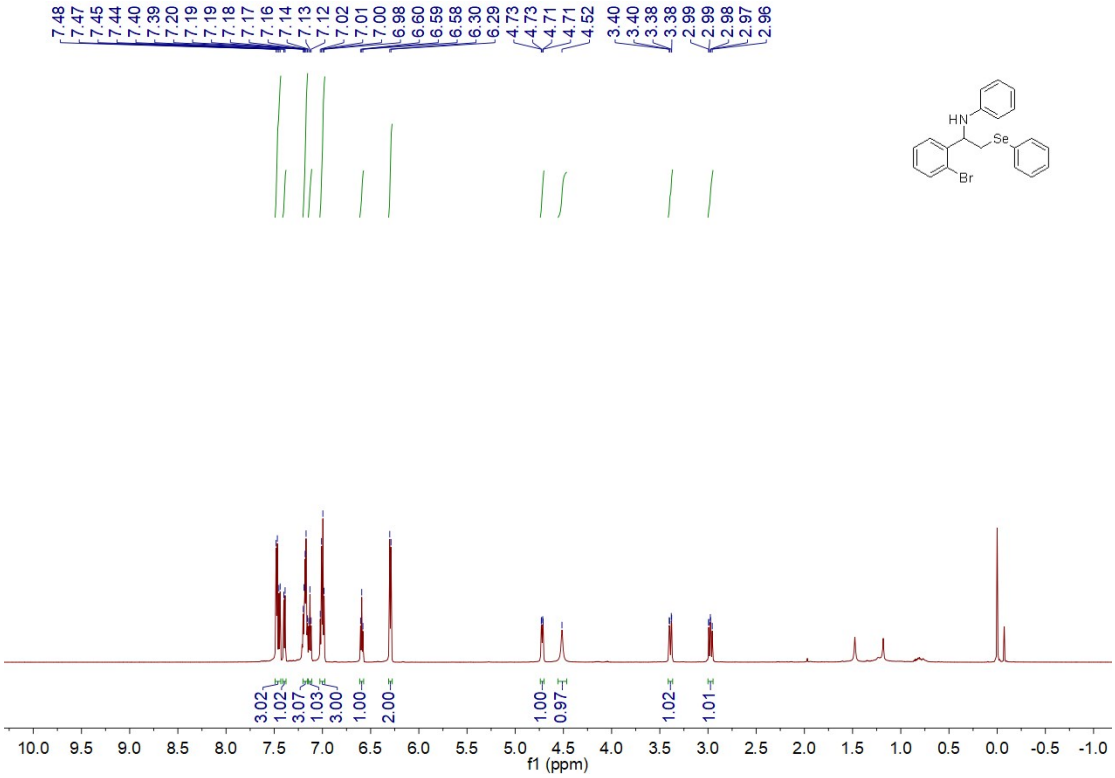


^{13}C NMR

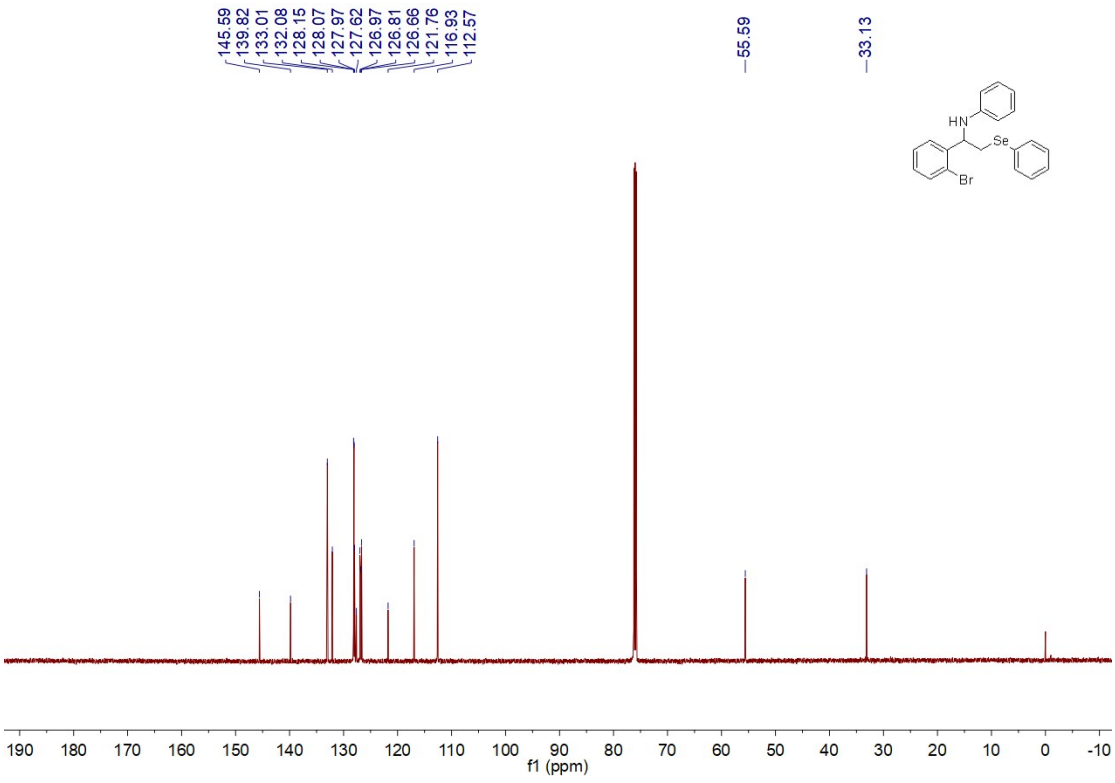


N-(1-(2-bromophenyl)-2-(phenylselanyl)ethyl)aniline (**4o**)

^{1}H NMR

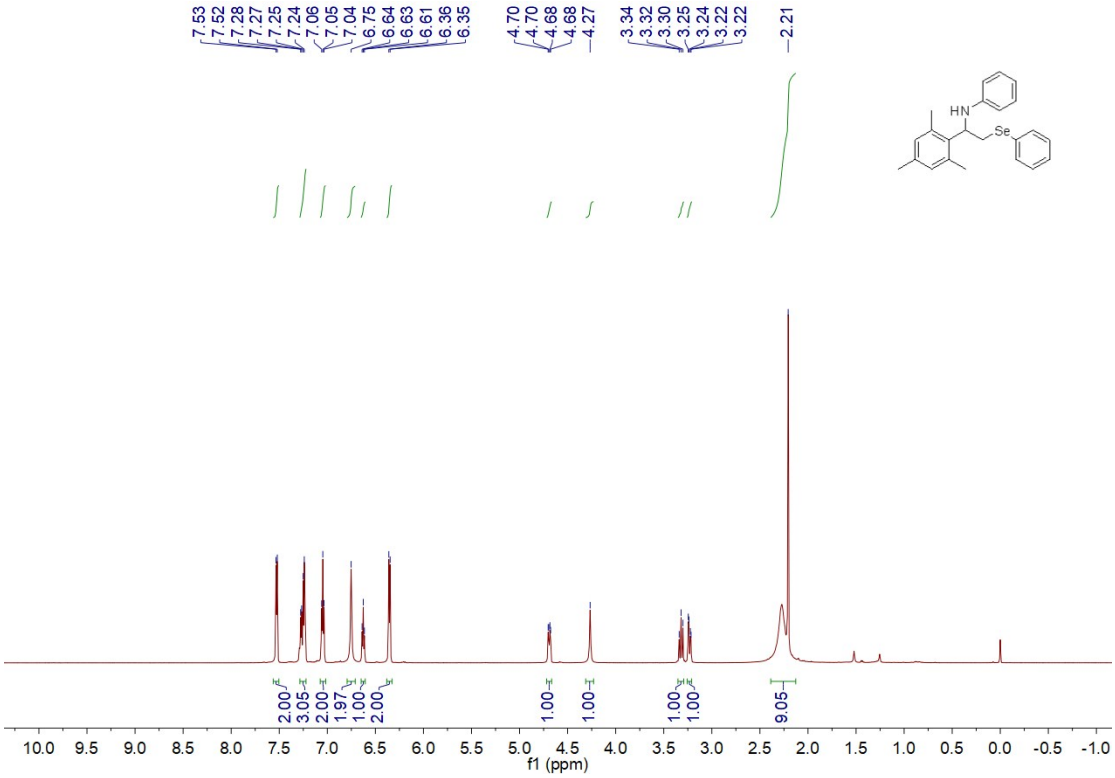


^{13}C NMR

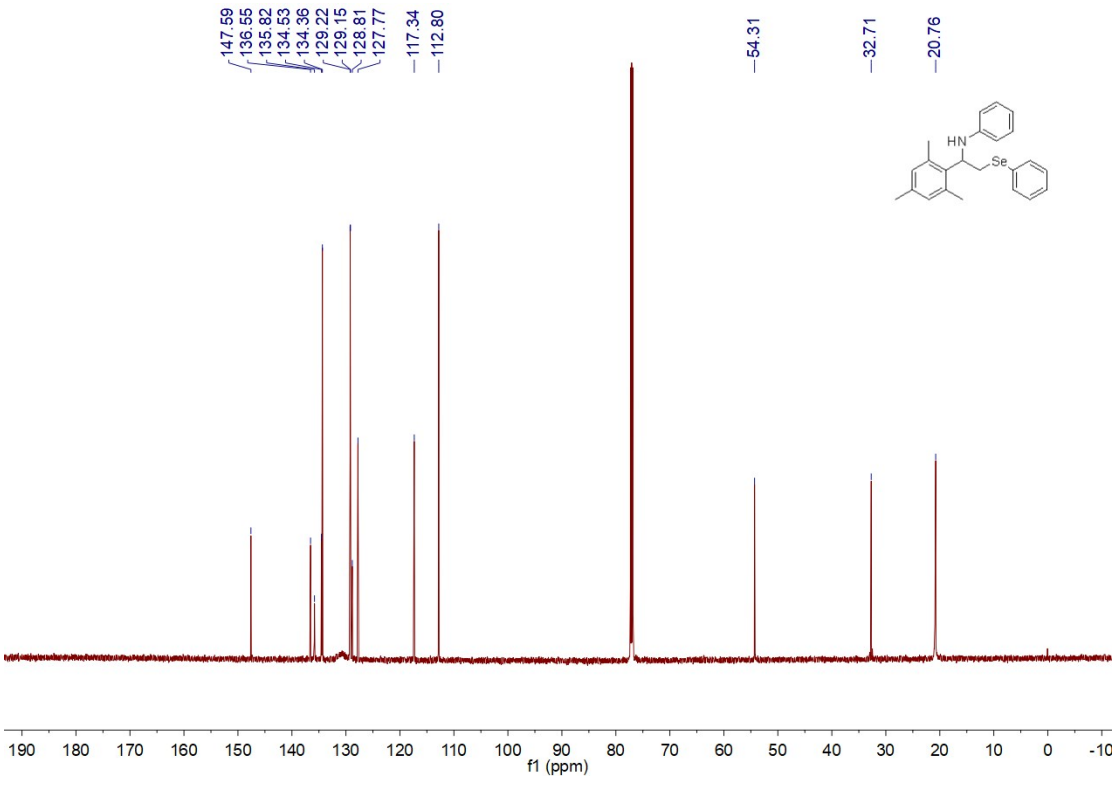


N-(1-mesityl-2-(phenylselanyl)ethyl)aniline (**4p**)

^{1}H NMR

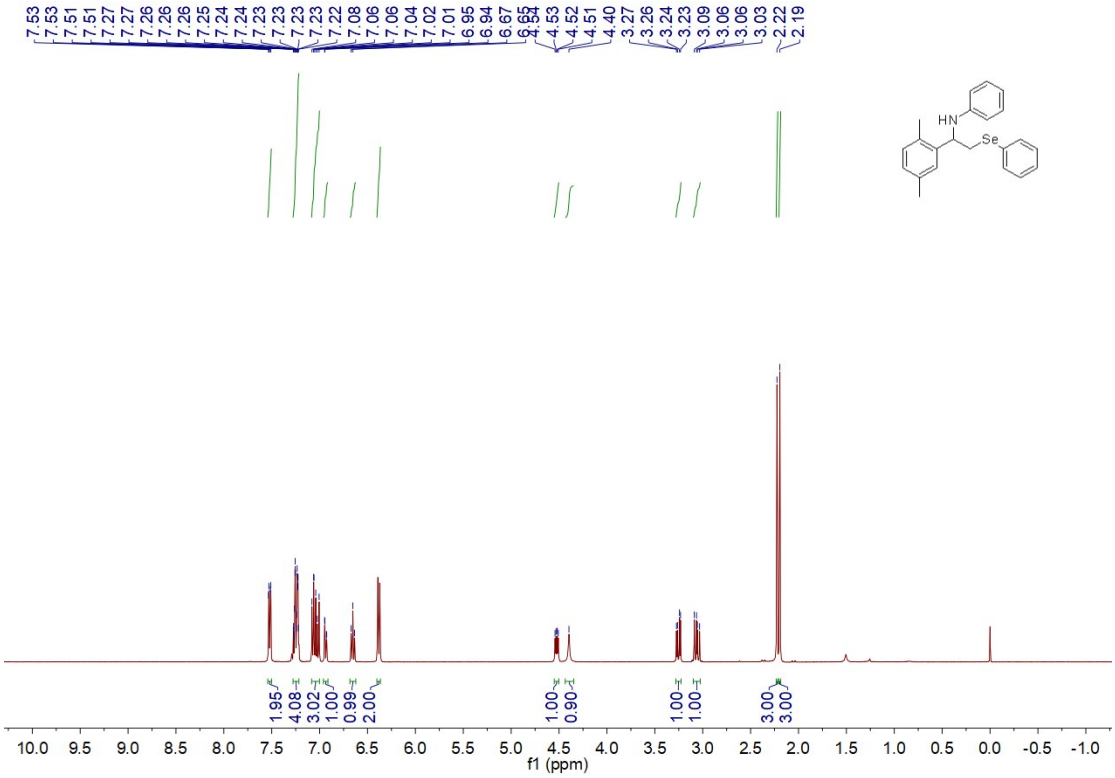


^{13}C NMR

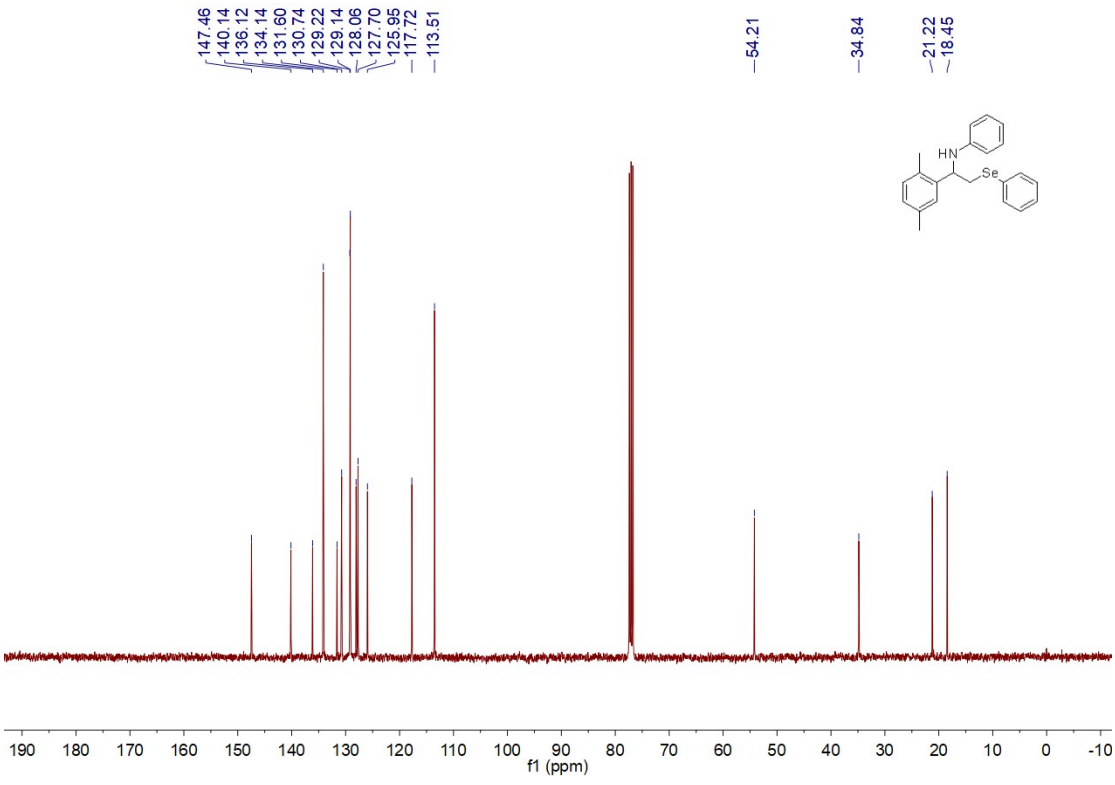


N-(1-(2,5-dimethylphenyl)-2-(phenylselanyl)ethyl)aniline (**4q**)

^{1}H NMR

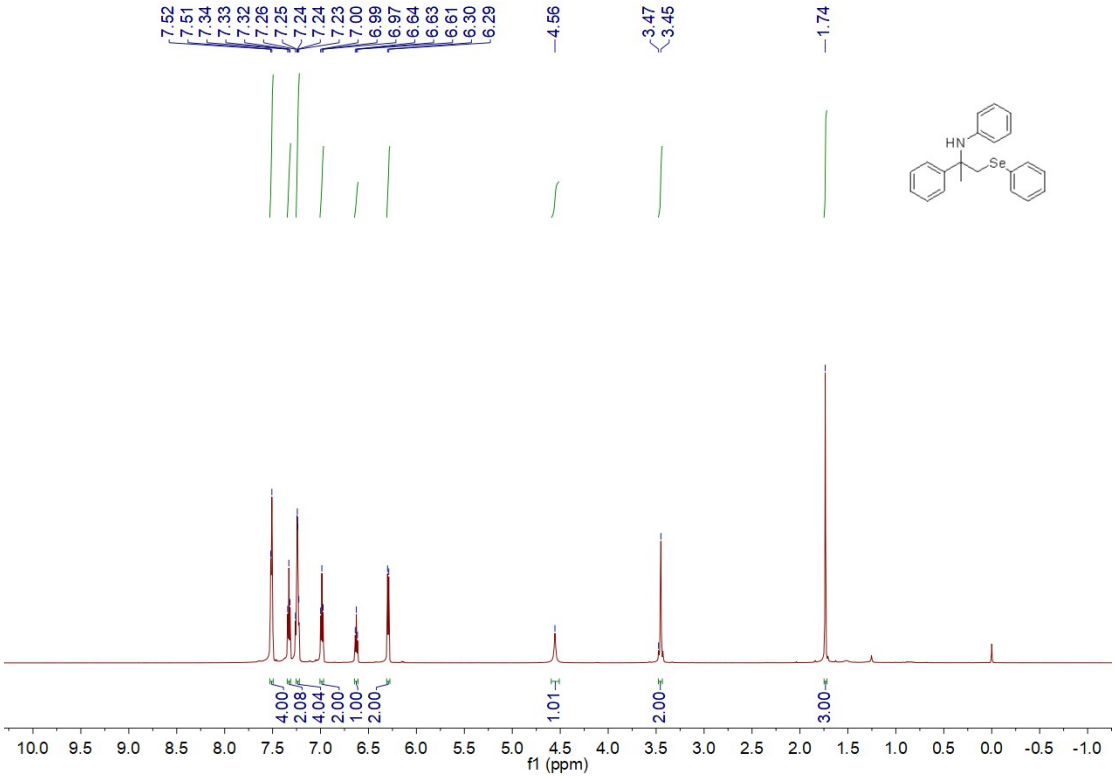


^{13}C NMR

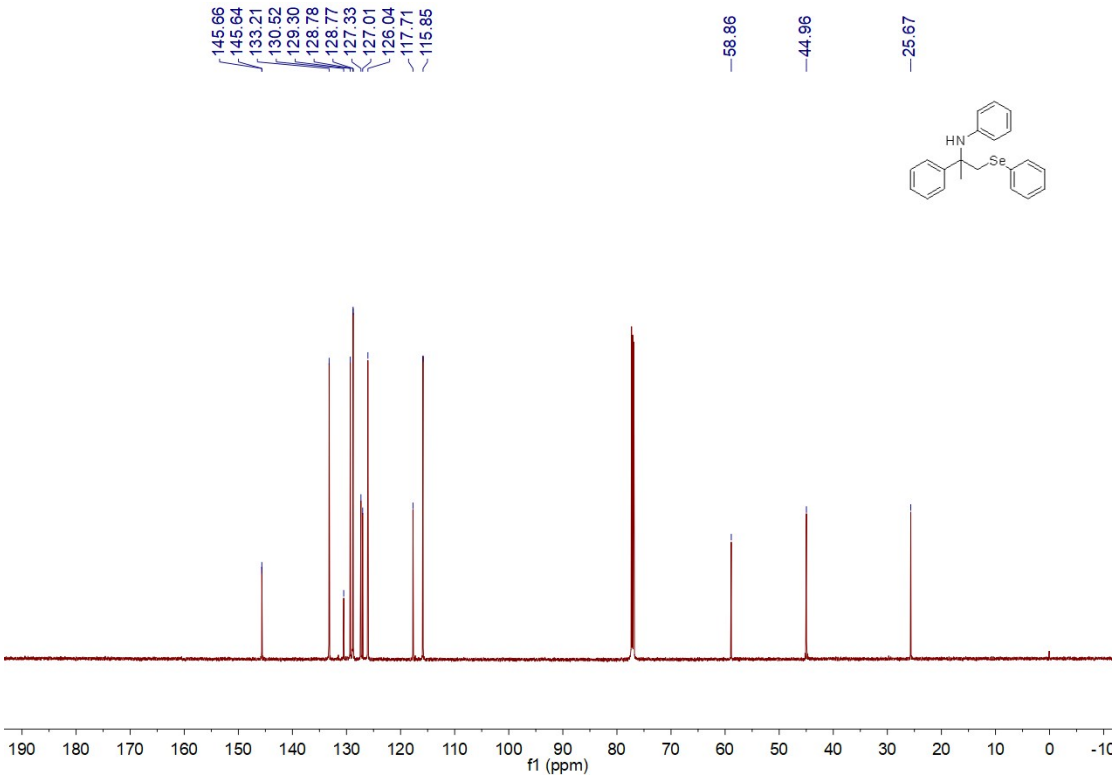


N-(2-phenyl-1-(phenylselanyl)propan-2-yl)aniline (**4r**)

^{1}H NMR

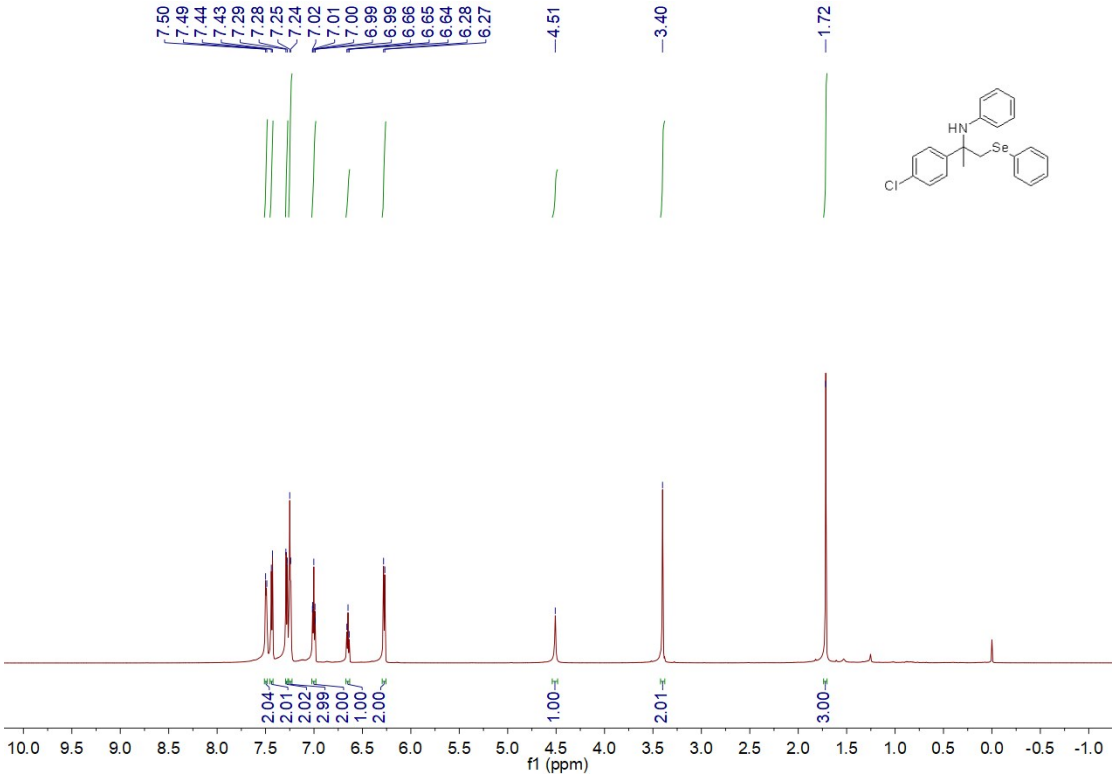


^{13}C NMR

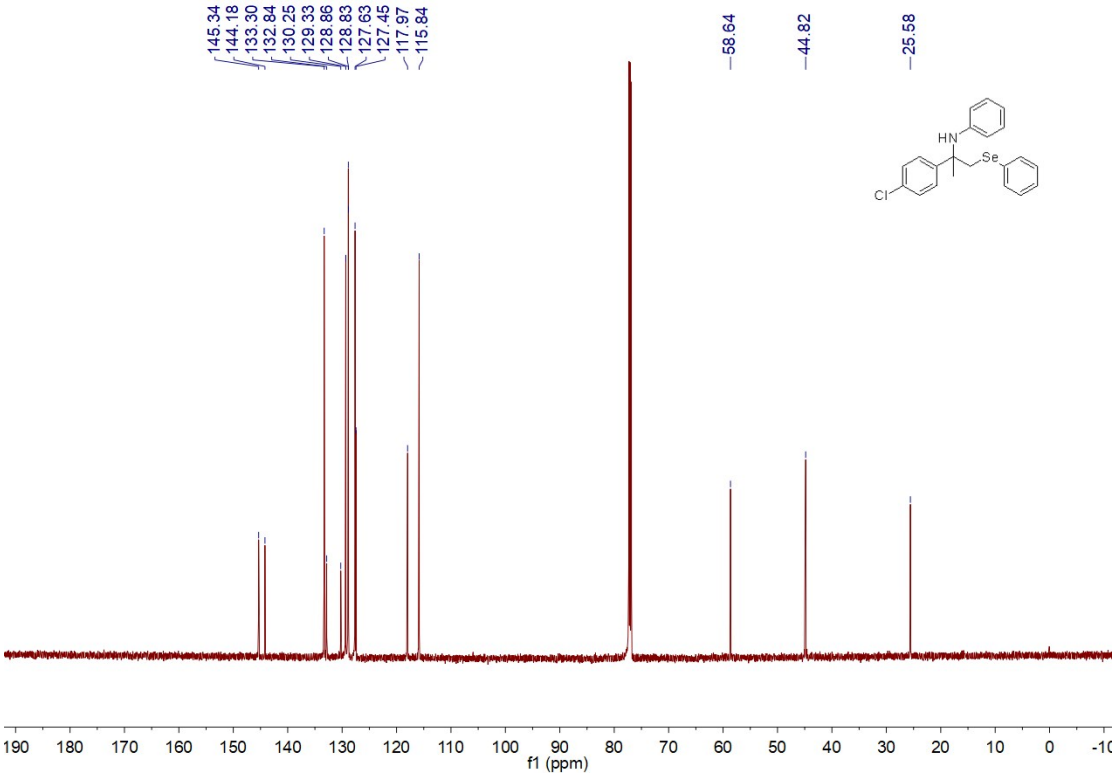


N-(2-(4-chlorophenyl)-1-(phenylselanyl)propan-2-yl)aniline (**4s**)

^{1}H NMR

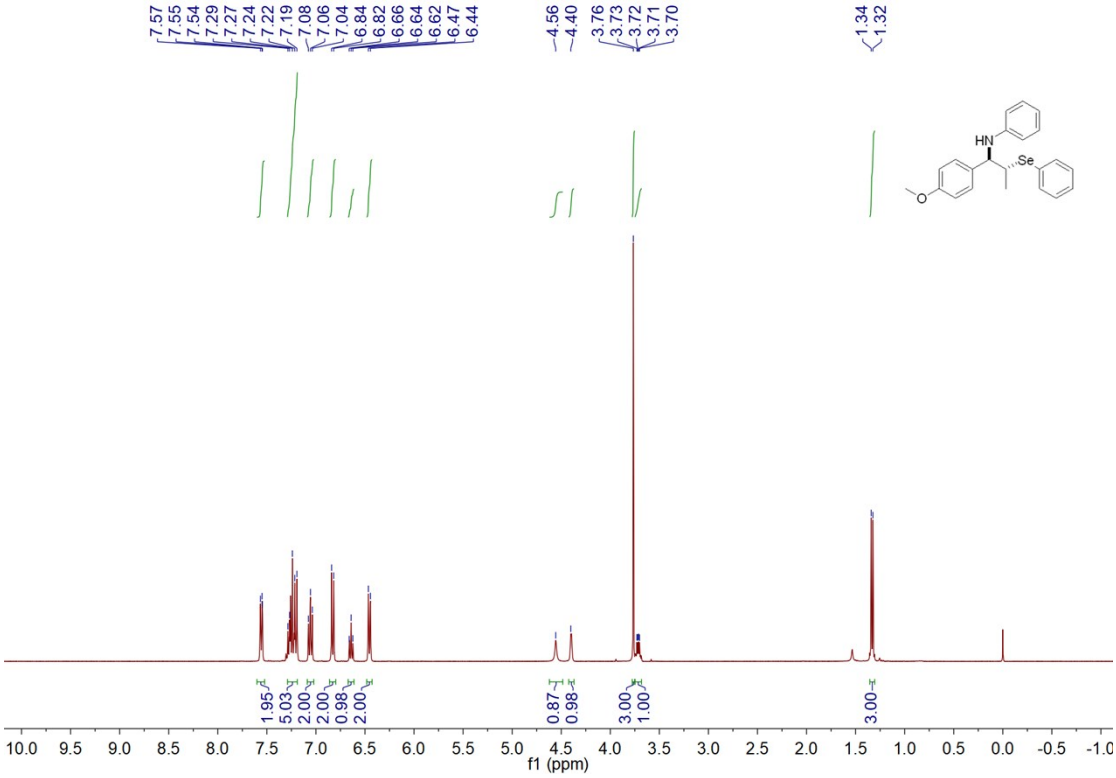


^{13}C NMR

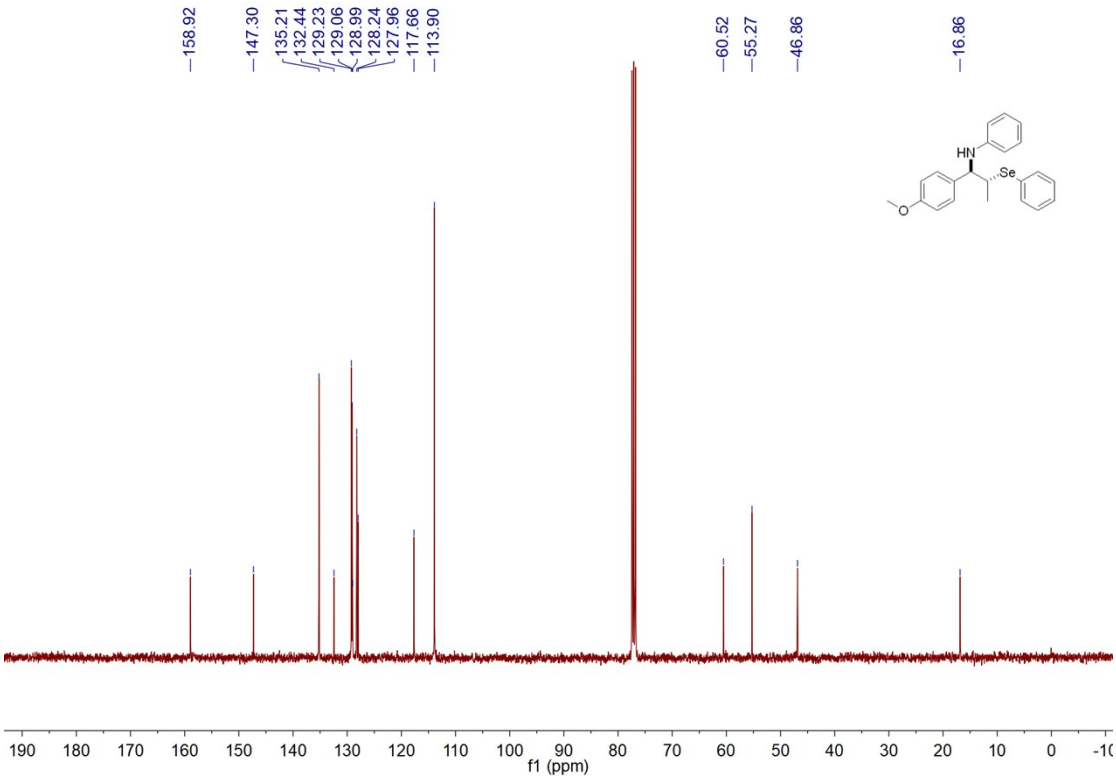


N-(1-(4-methoxyphenyl)-2-(phenylselanyl)propyl)aniline (**4t**)

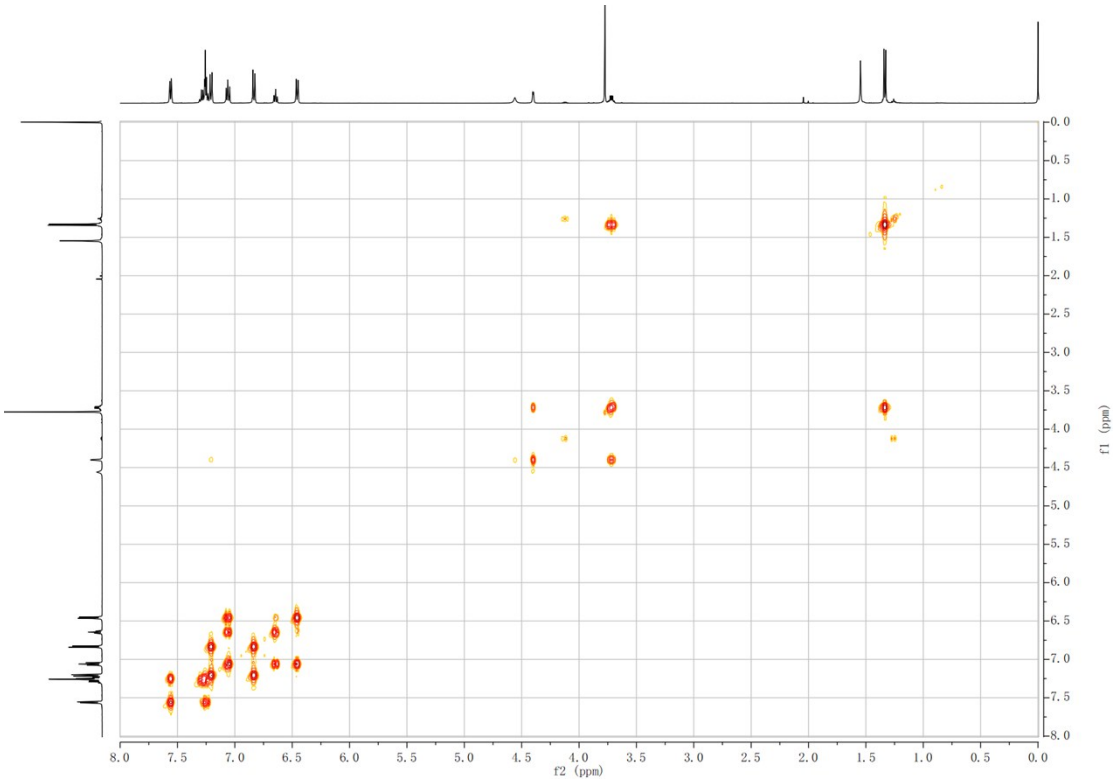
^{1}H NMR



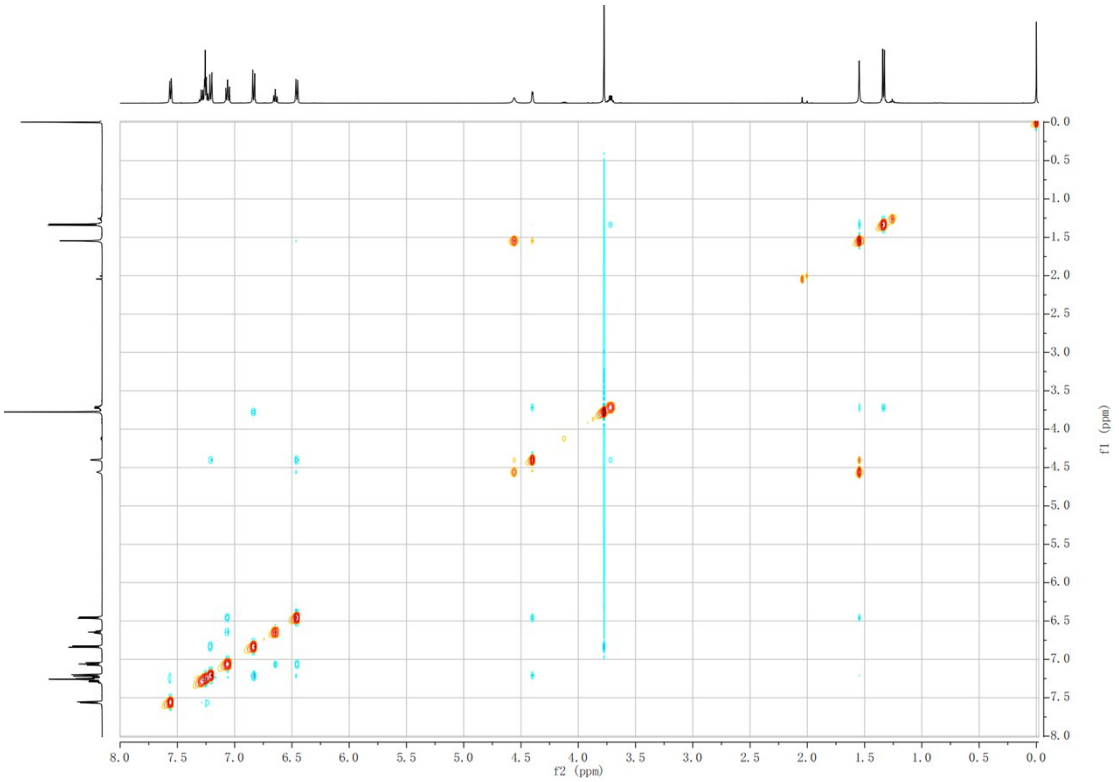
^{13}C NMR



^{1}H-^{1}H COSY

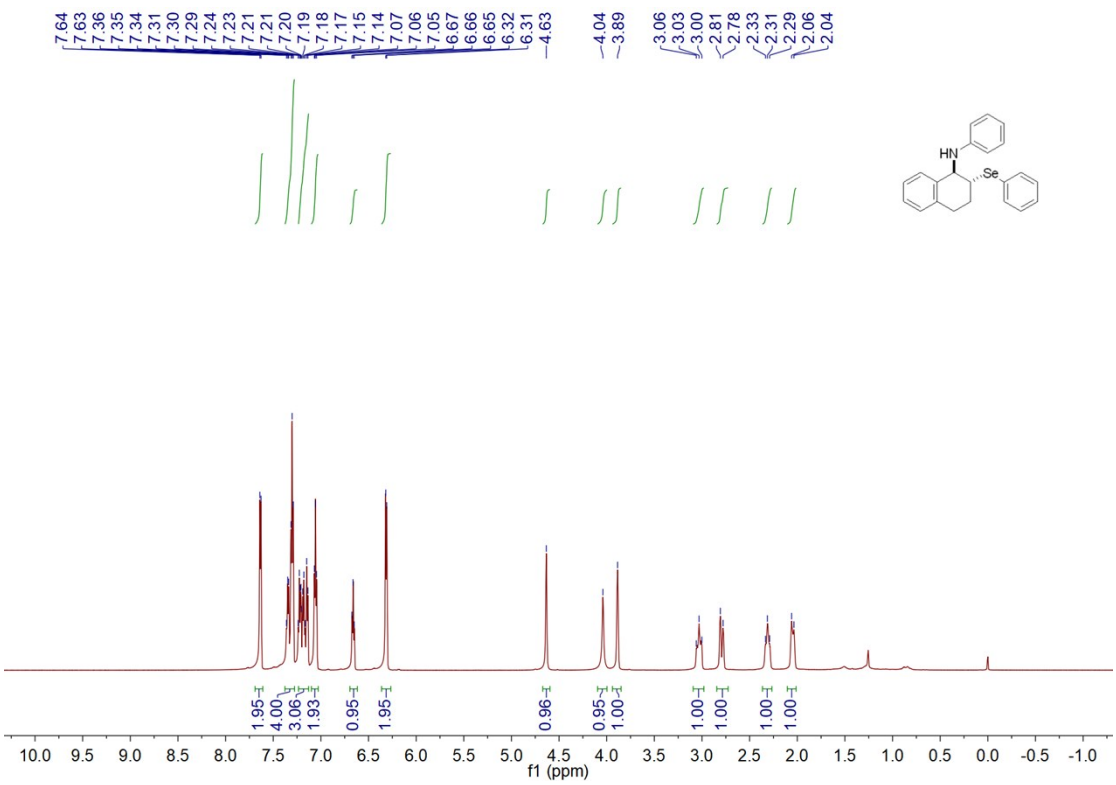


^{1}H-^{1}H NOESY

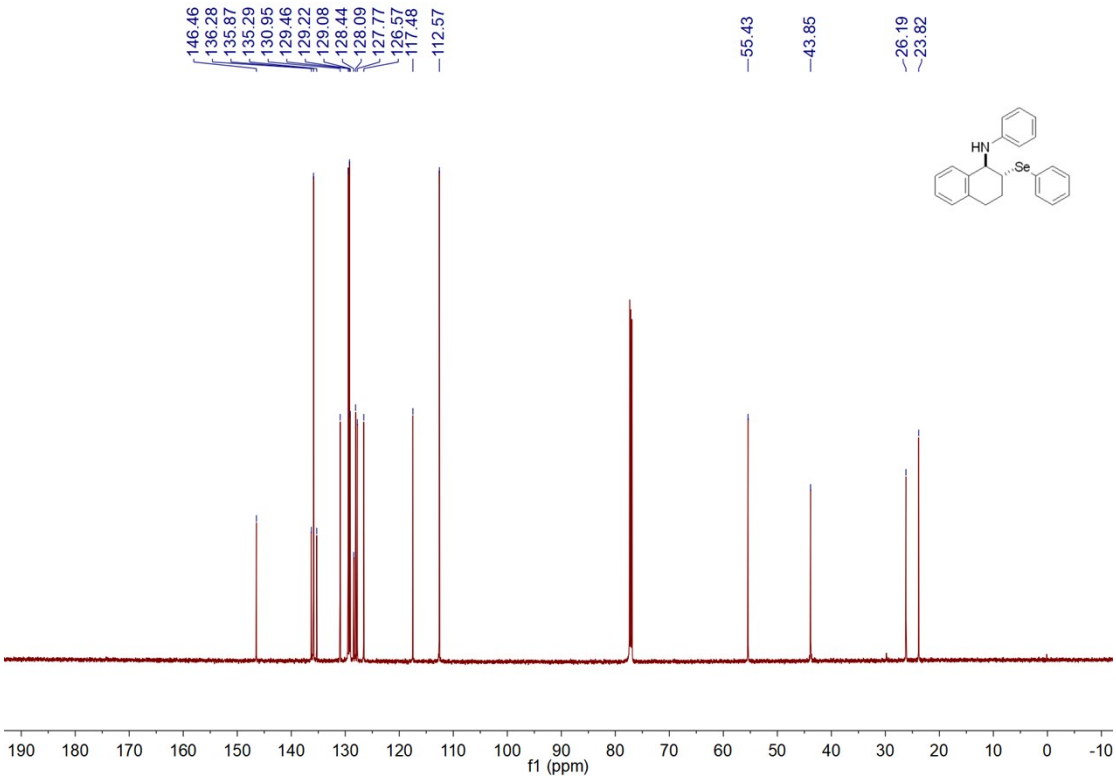


N-phenyl-2-(phenylselanyl)-1,2,3,4-tetrahydronaphthalen-1-amine (**4u**)

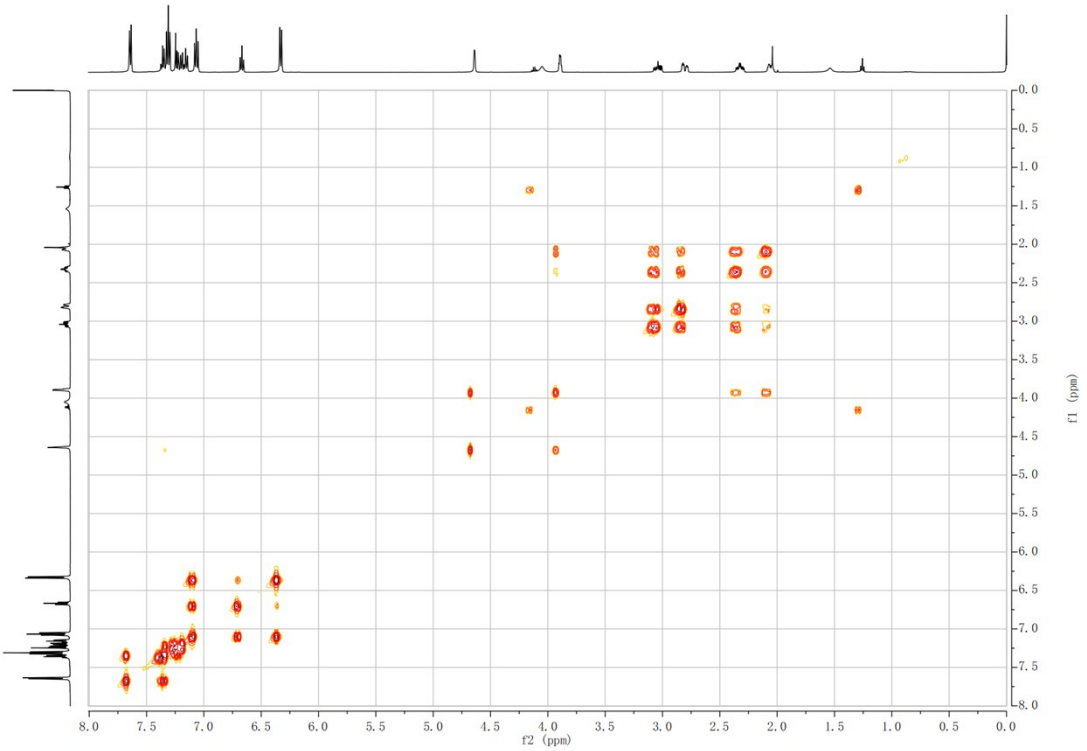
^{1}H NMR



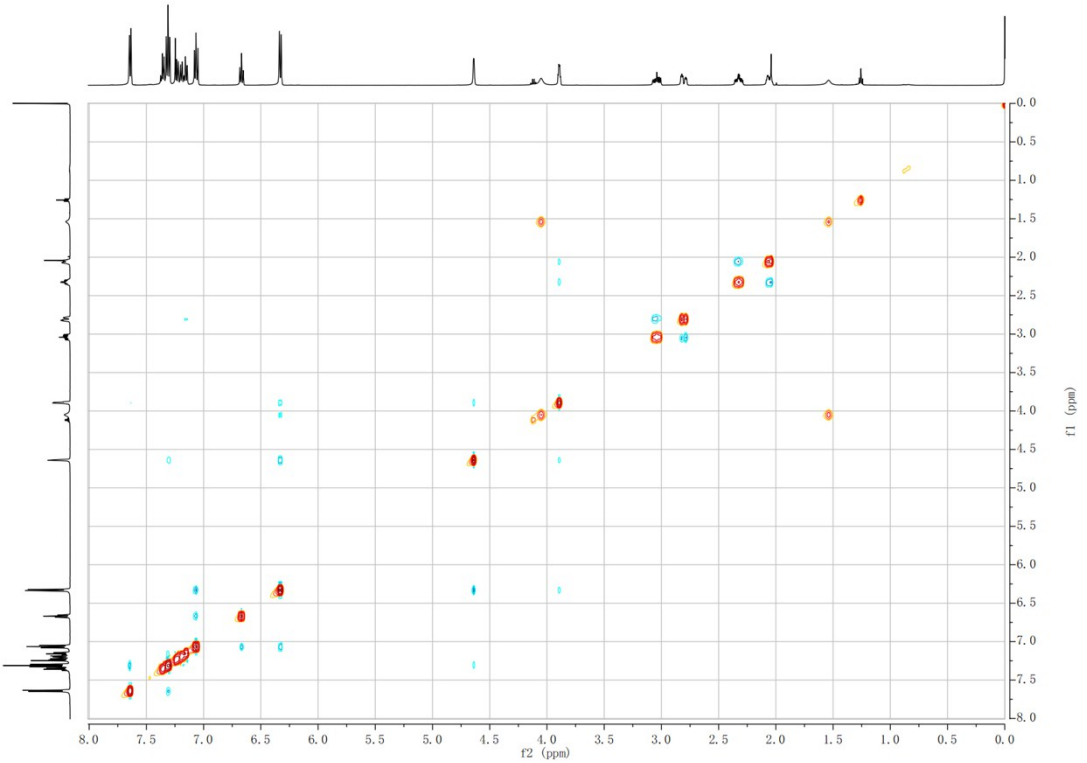
^{13}C NMR



^{1}H-^{1}H COSY

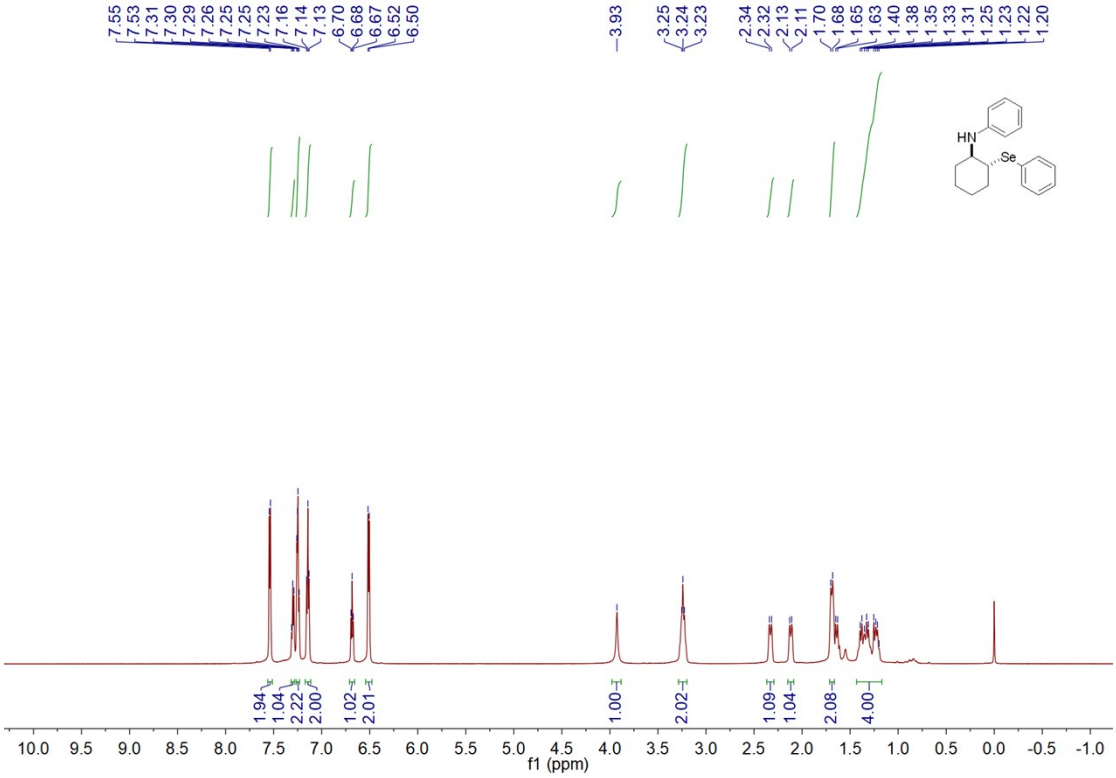


^{1}H-^{1}H NOESY

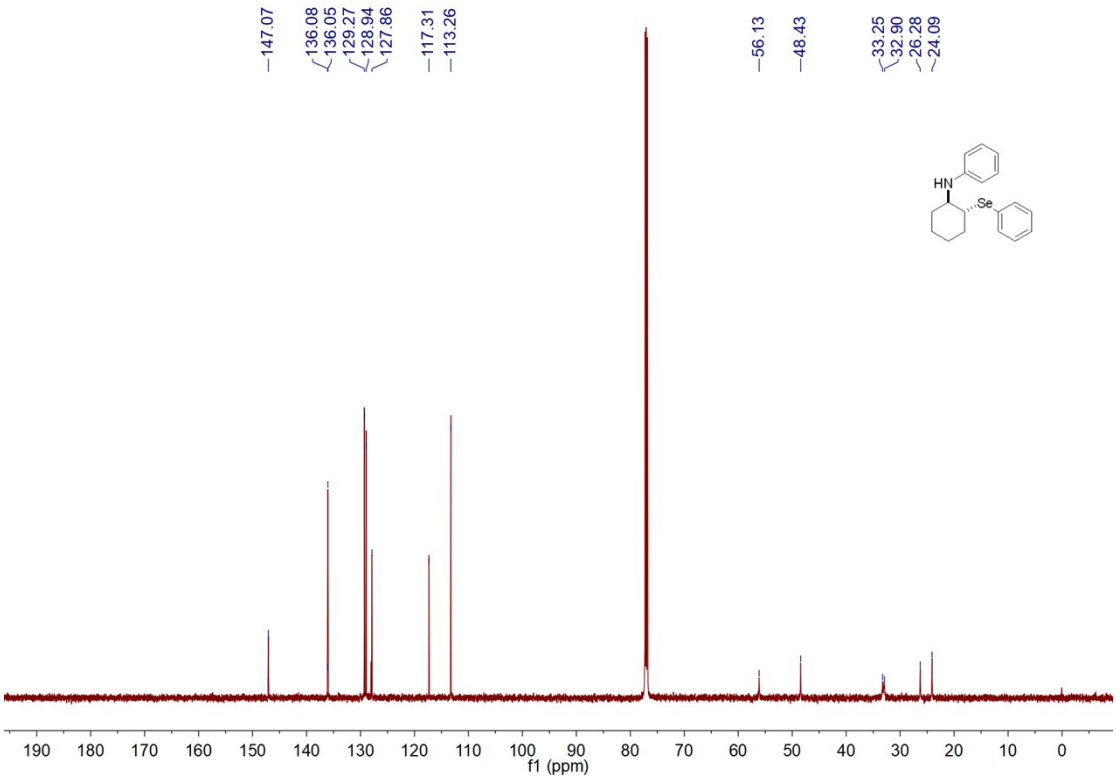


N-(2-(phenylselanyl)cyclohexyl)aniline (**4v**)

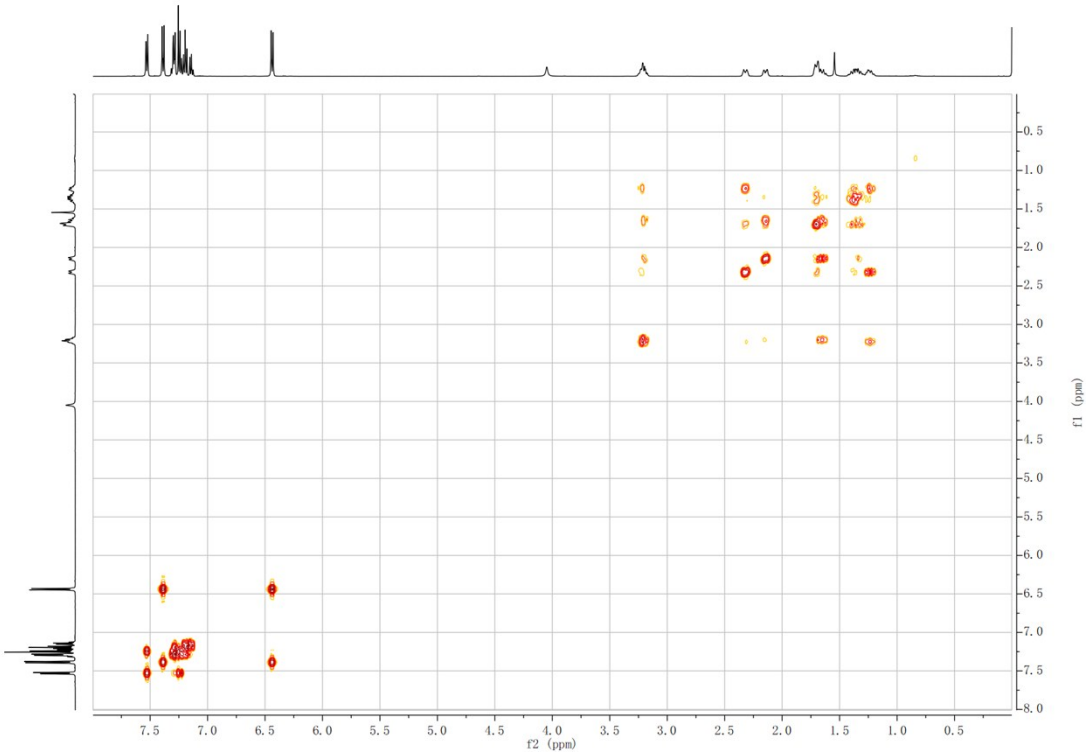
^{1}H NMR



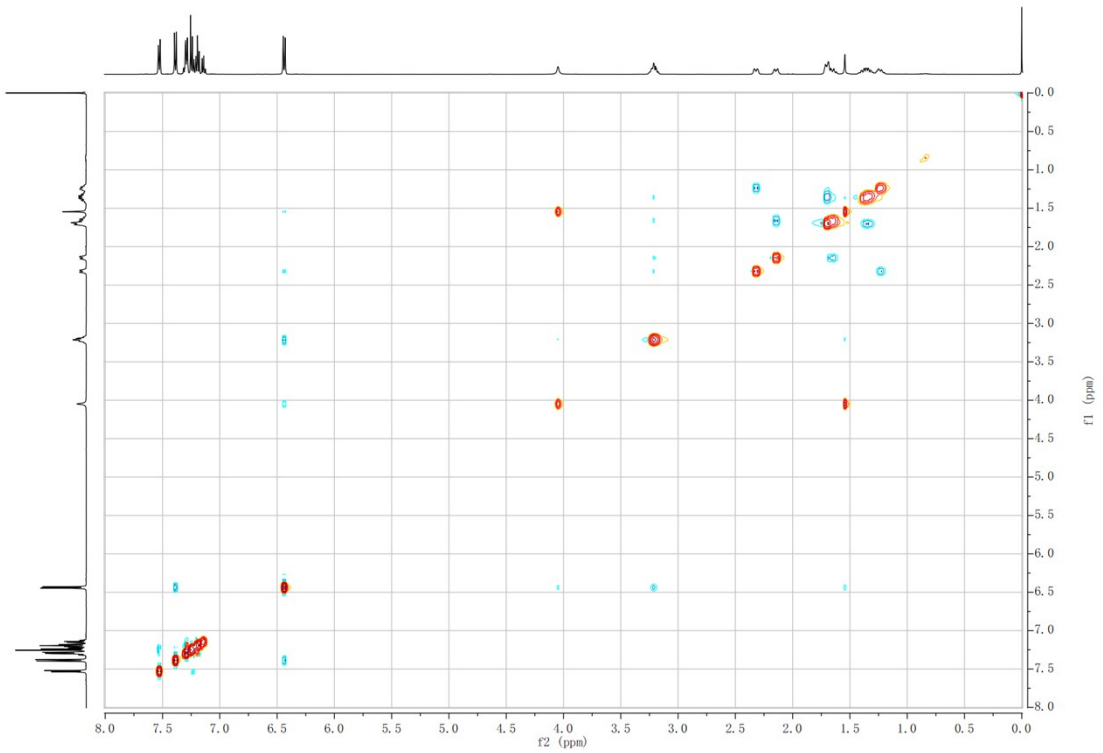
^{13}C NMR



^{1}H-^{1}H COSY

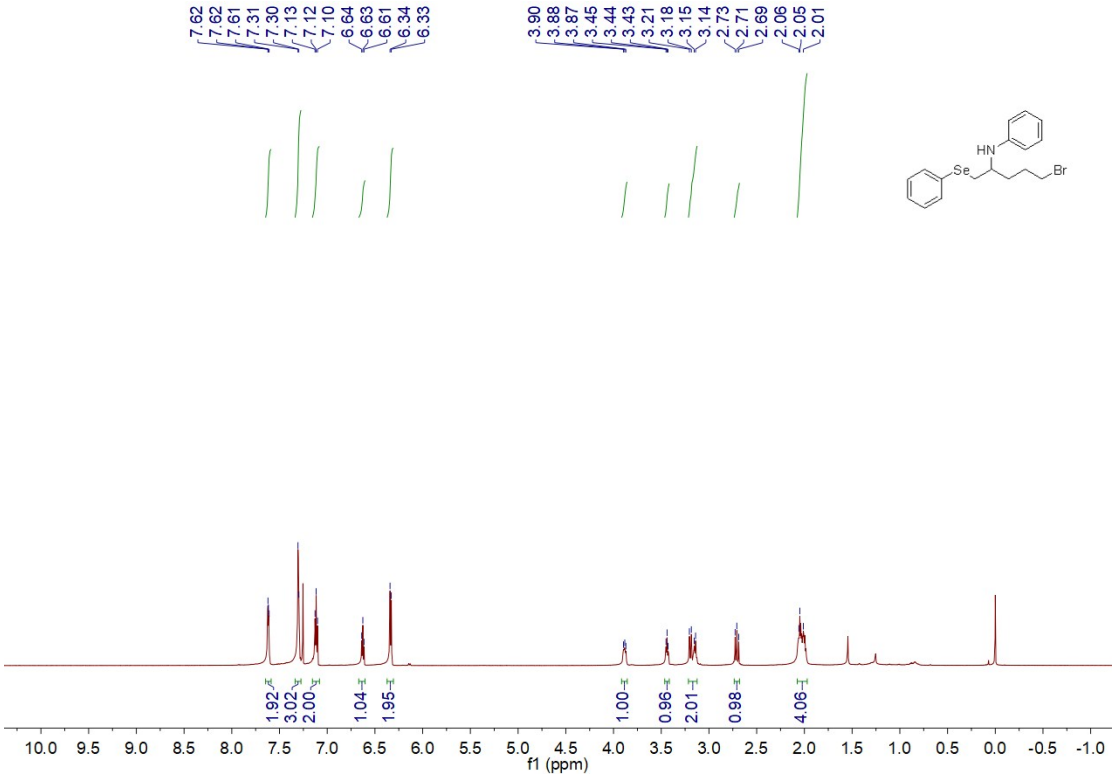


^{1}H-^{1}H NOESY

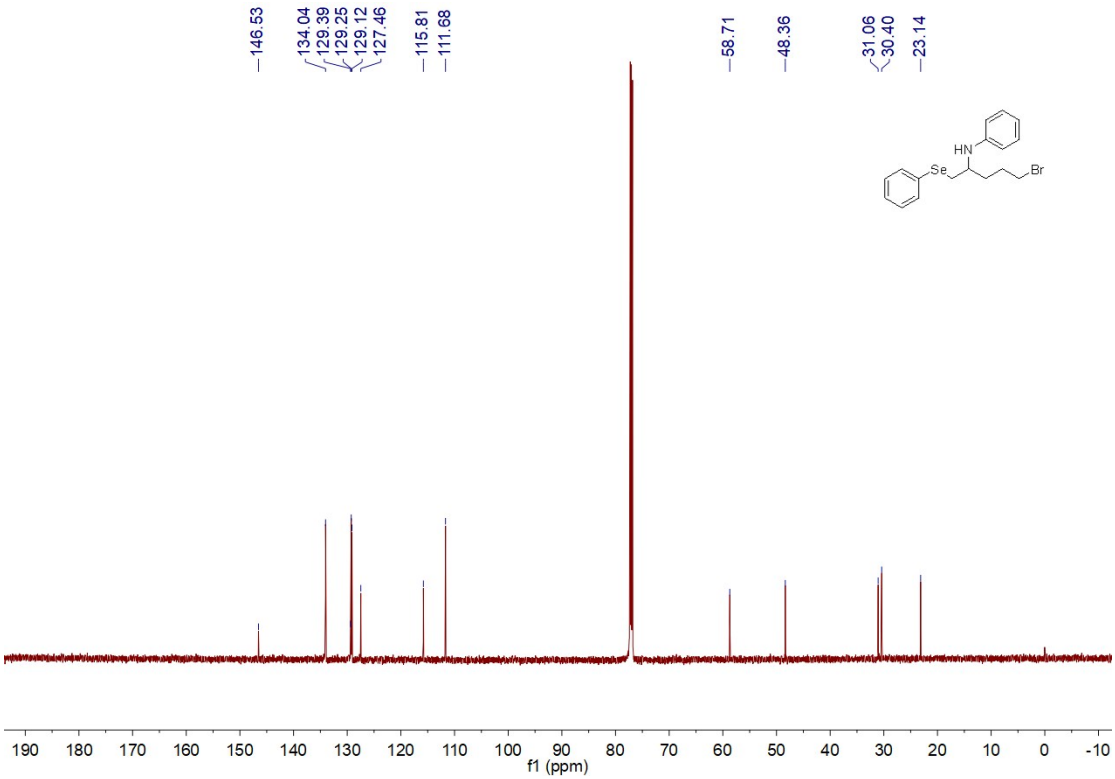


N-(6-bromo-1-(phenylselanyl)hexan-2-yl)aniline (**4w**)

^{1}H NMR

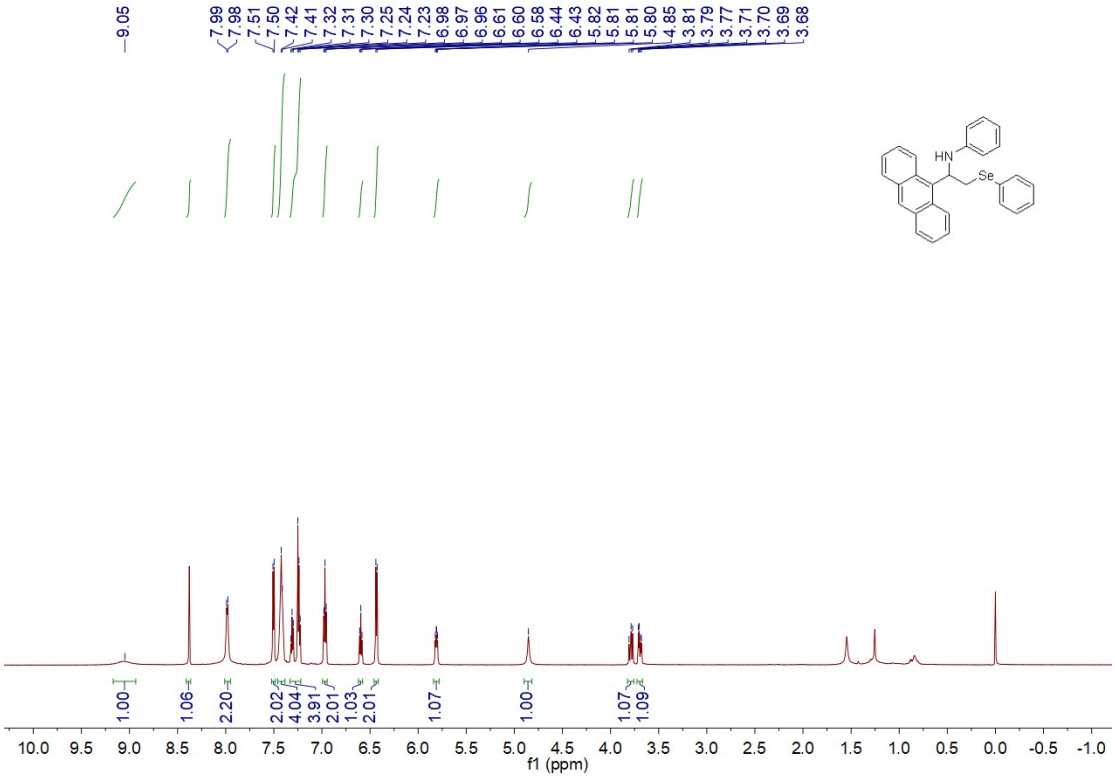


^{13}C NMR

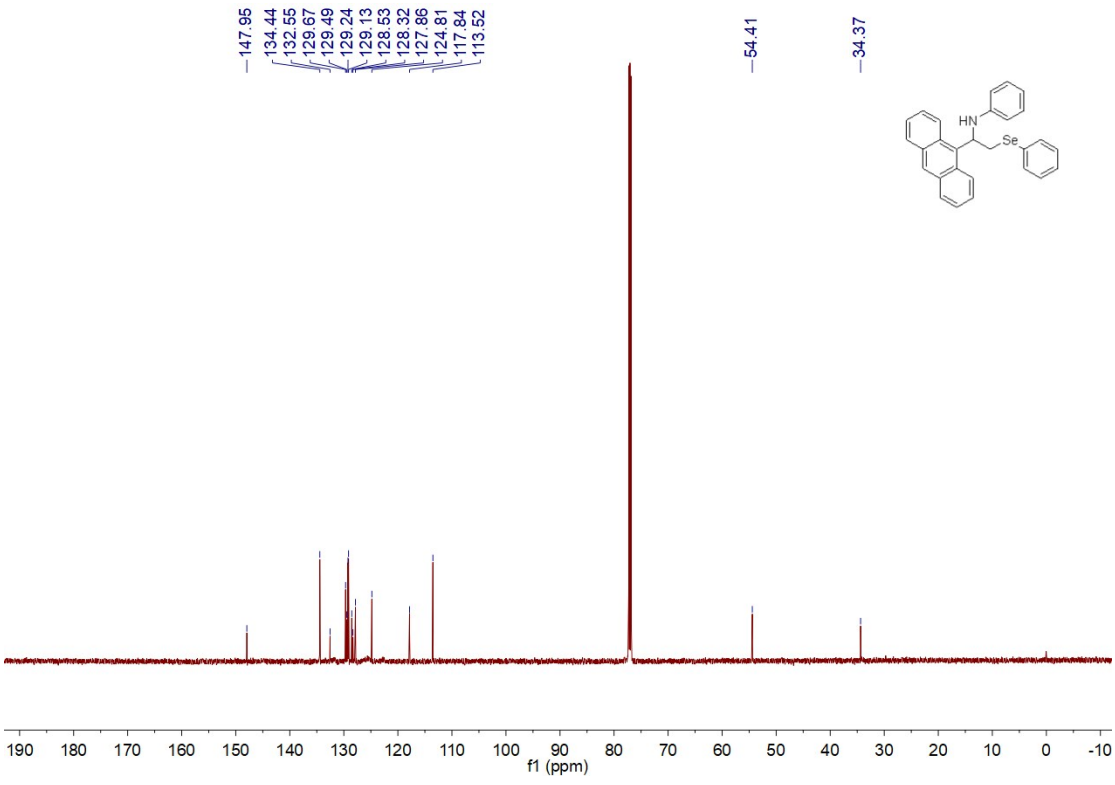


N-(1-(anthracen-9-yl)-2-(phenylselanyl)ethyl)aniline (**4x**)

^{1}H NMR

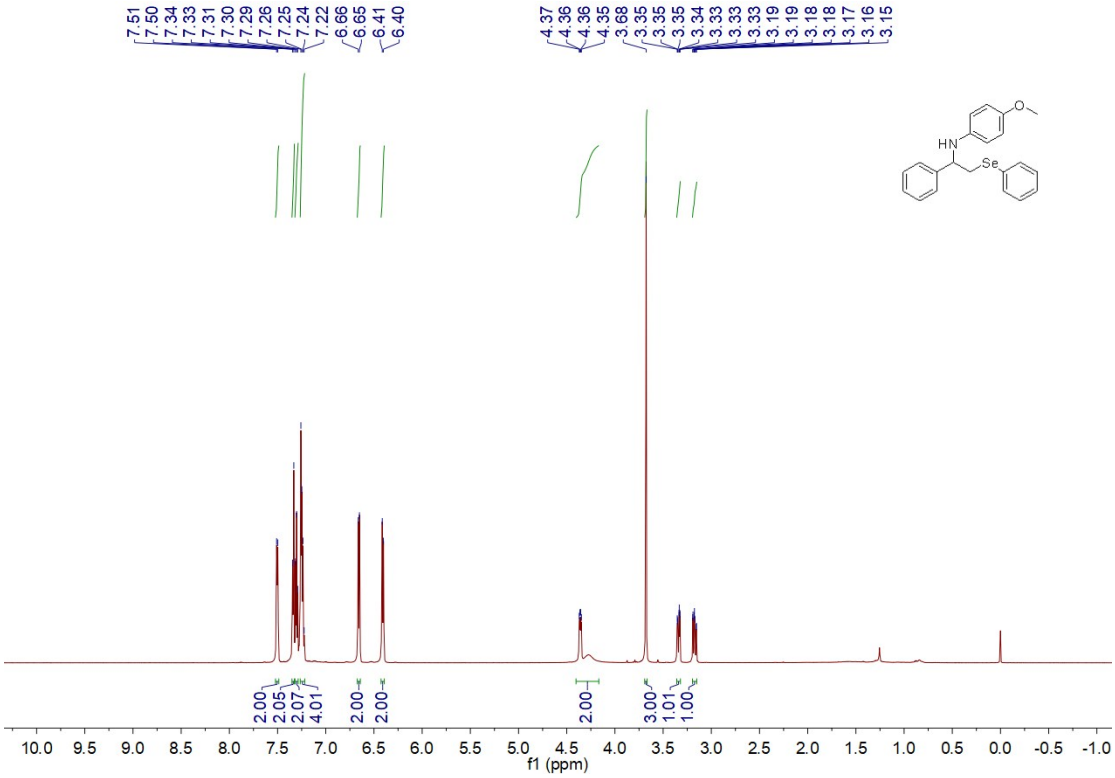


^{13}C NMR

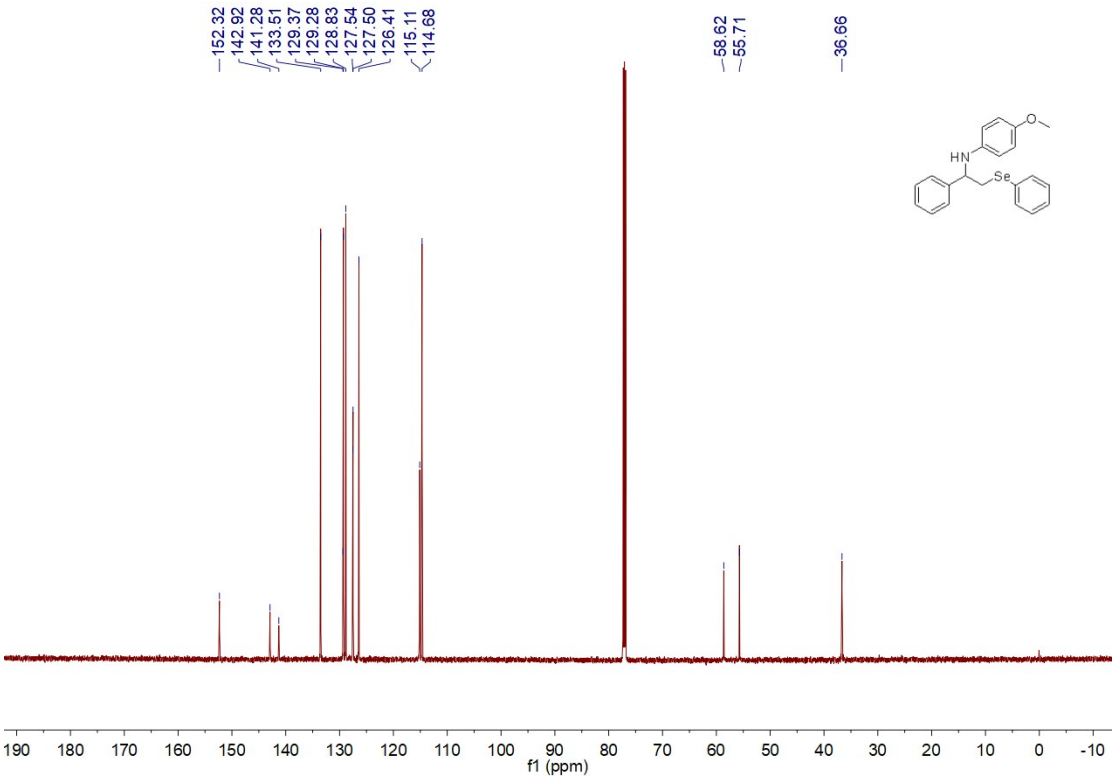


4-methoxy-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5b**)

^{1}H NMR

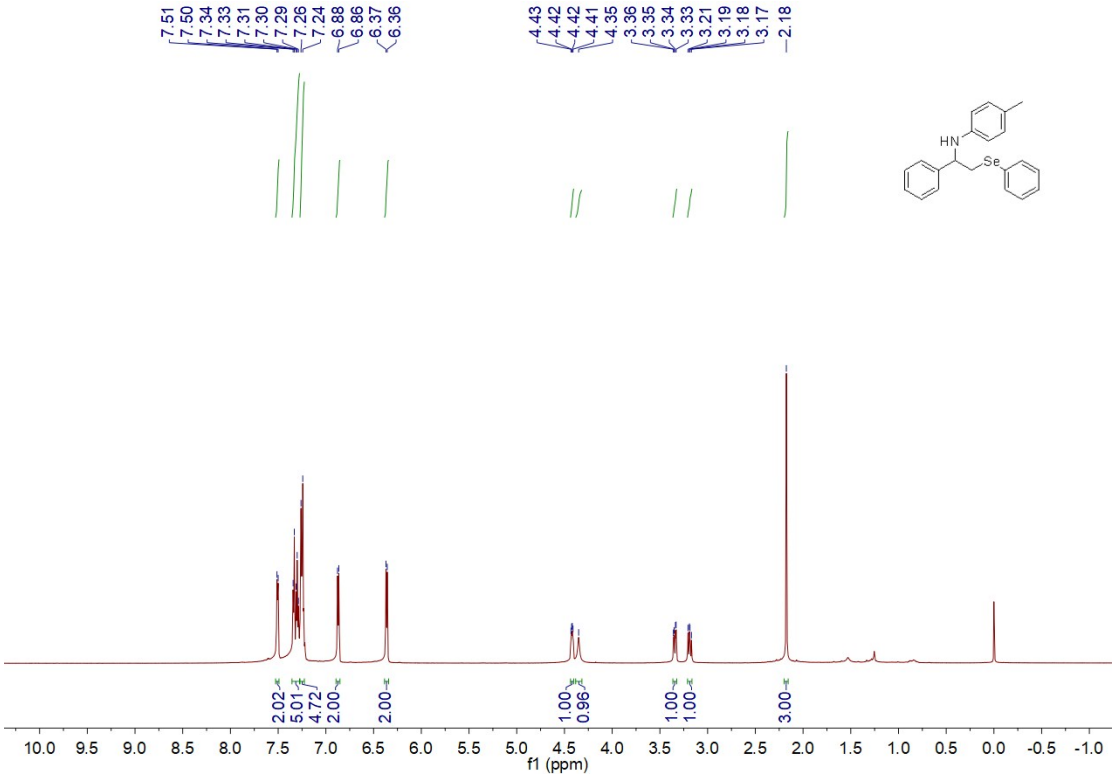


^{13}C NMR

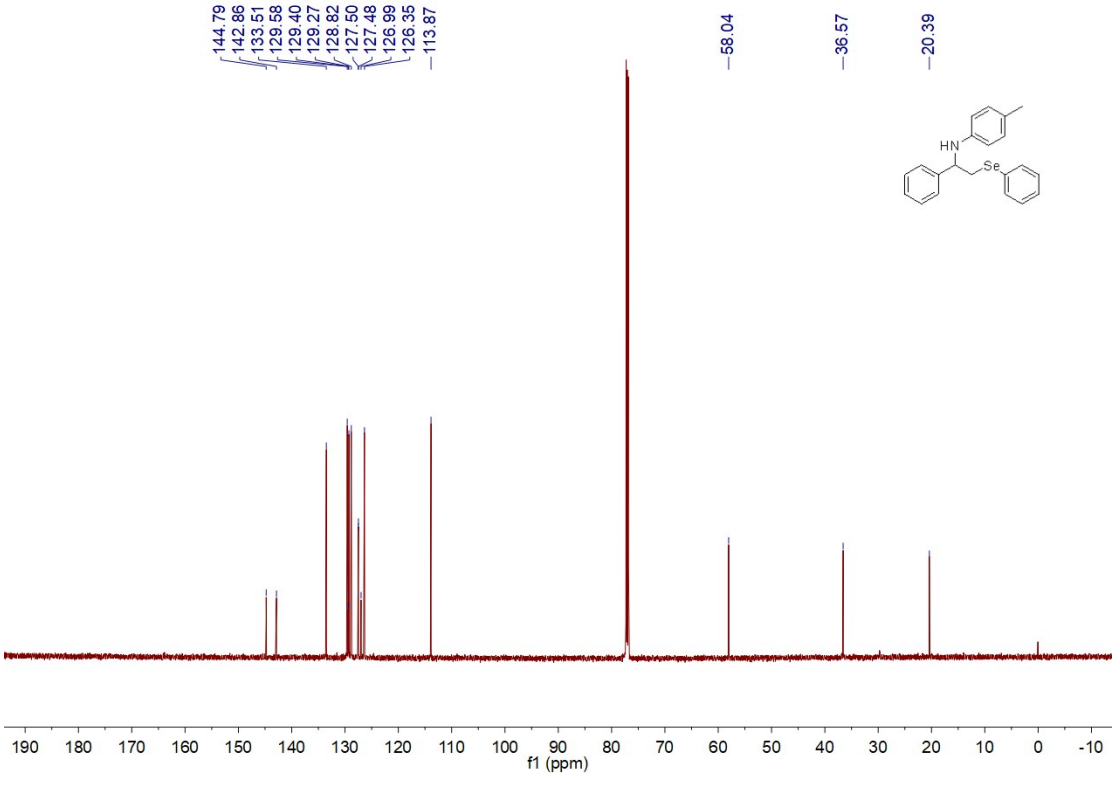


4-methyl-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5c**)

^{1}H NMR

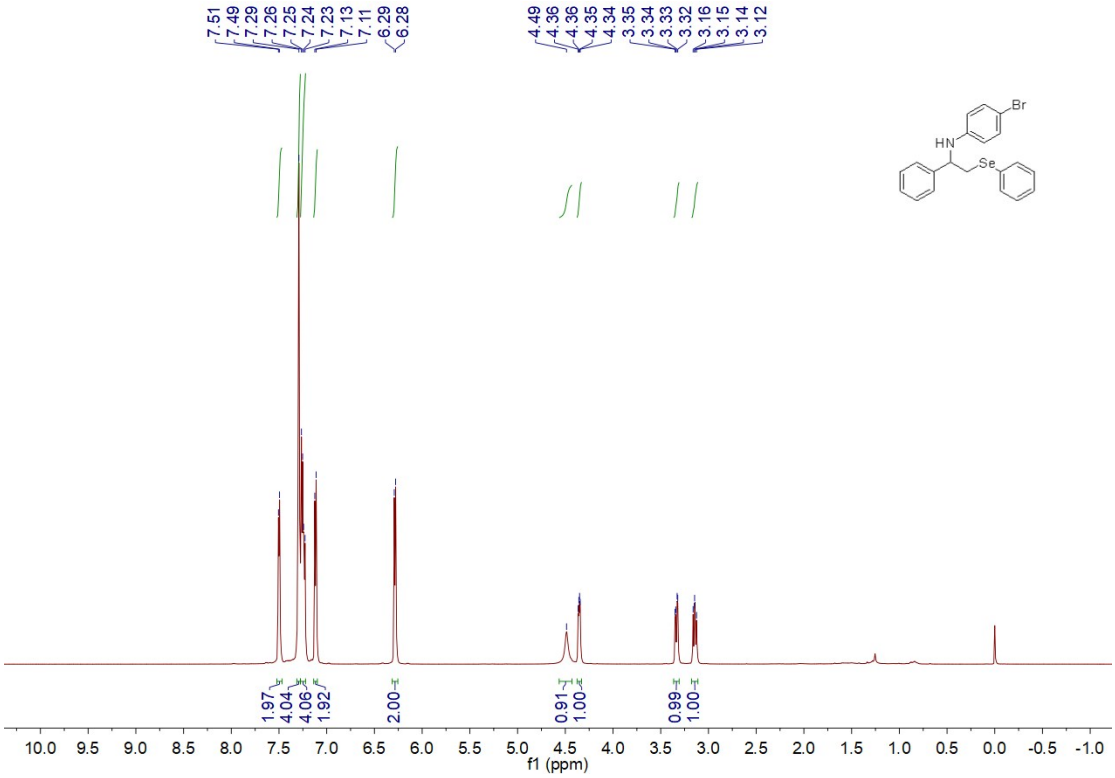


^{13}C NMR

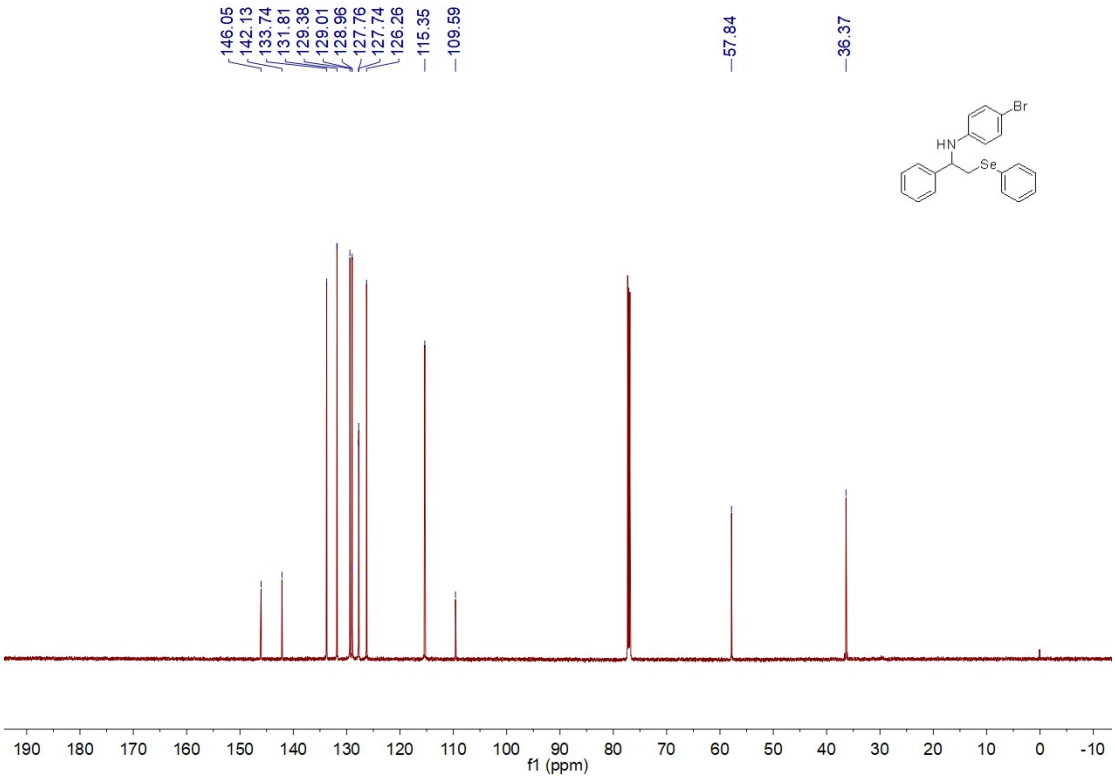


4-bromo-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5d**)

^{1}H NMR

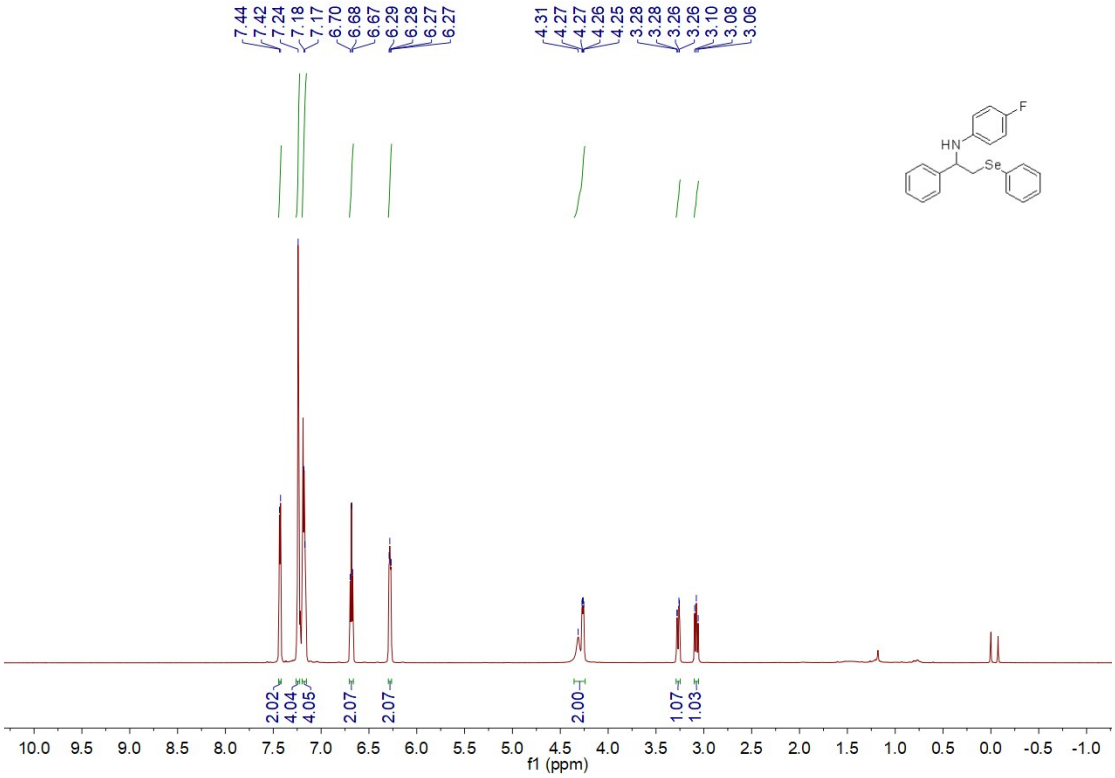


^{13}C NMR

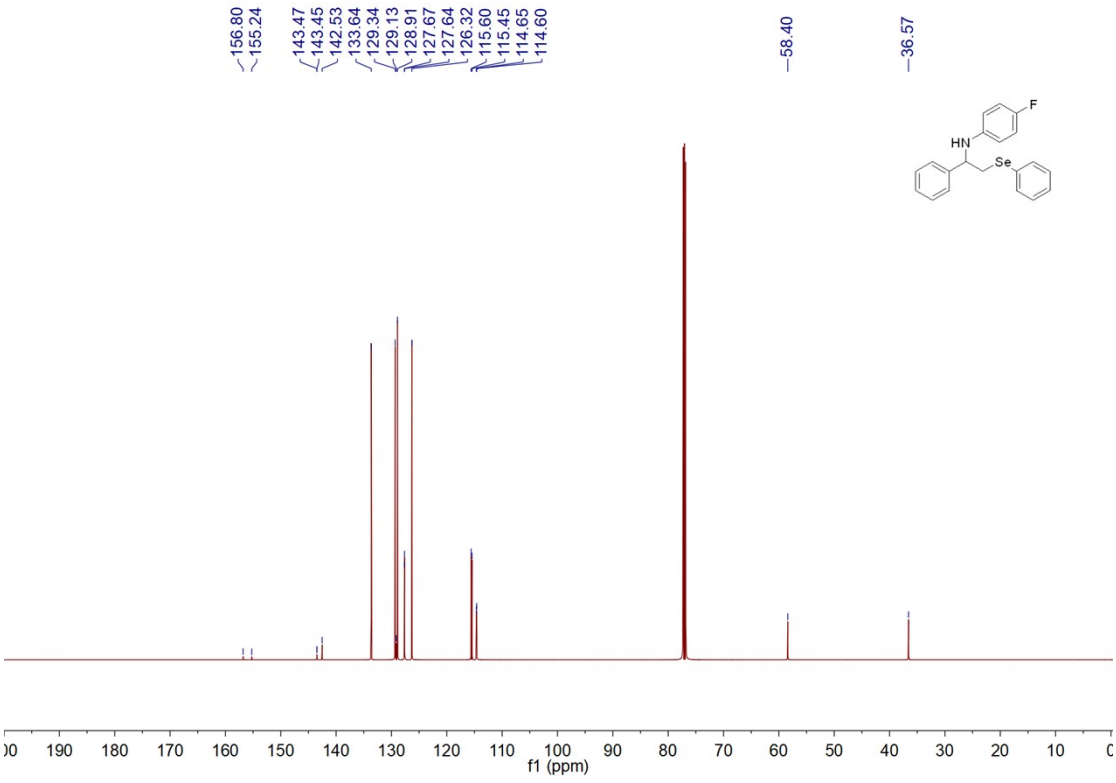


4-fluoro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5e**)

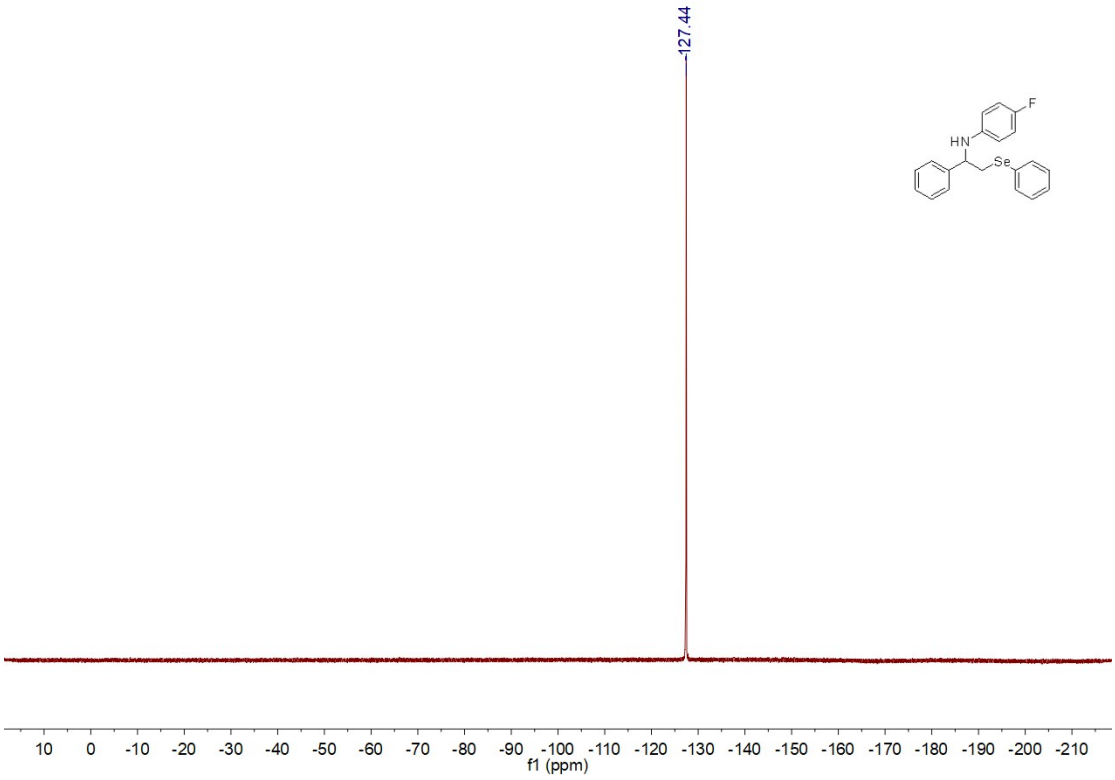
^{1}H NMR



^{13}C NMR

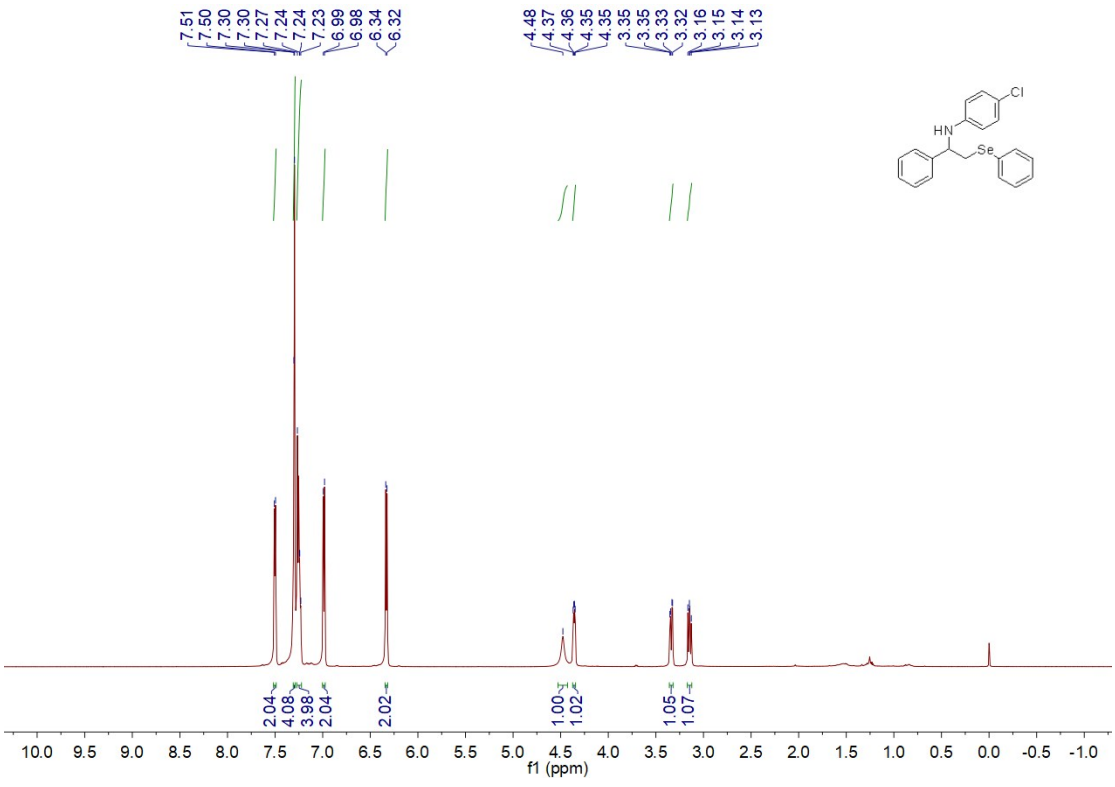


^{19}F NMR

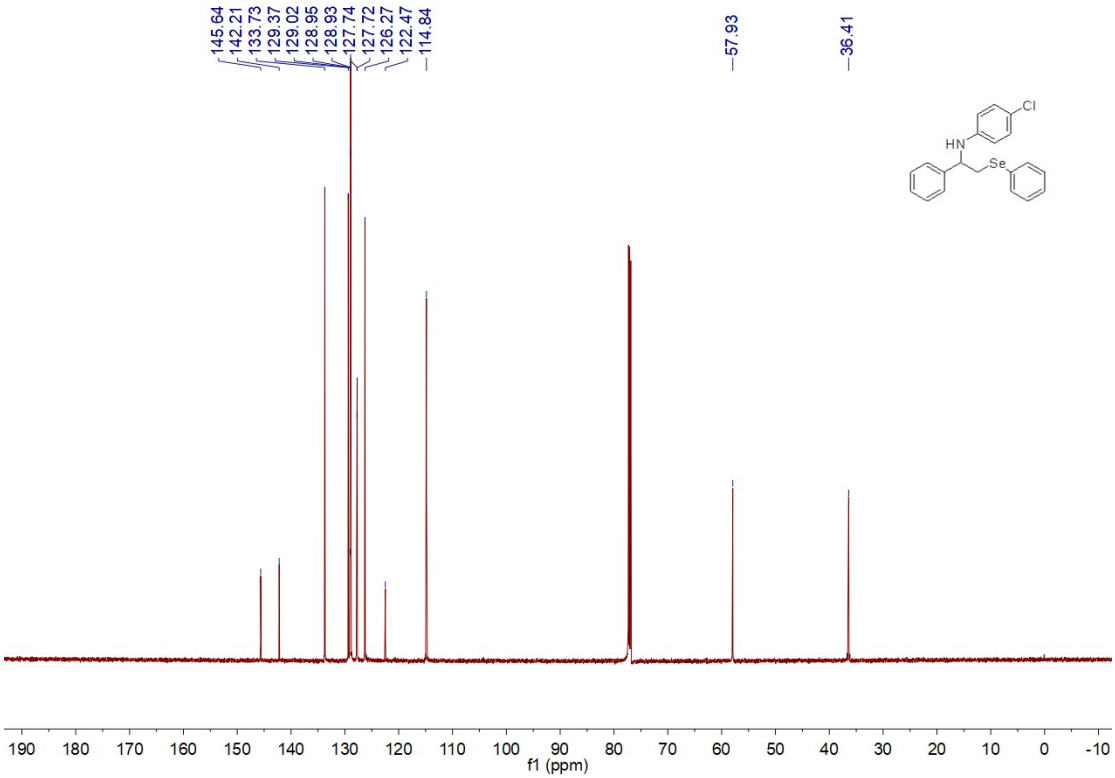


4-chloro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5f**)

^{1}H NMR

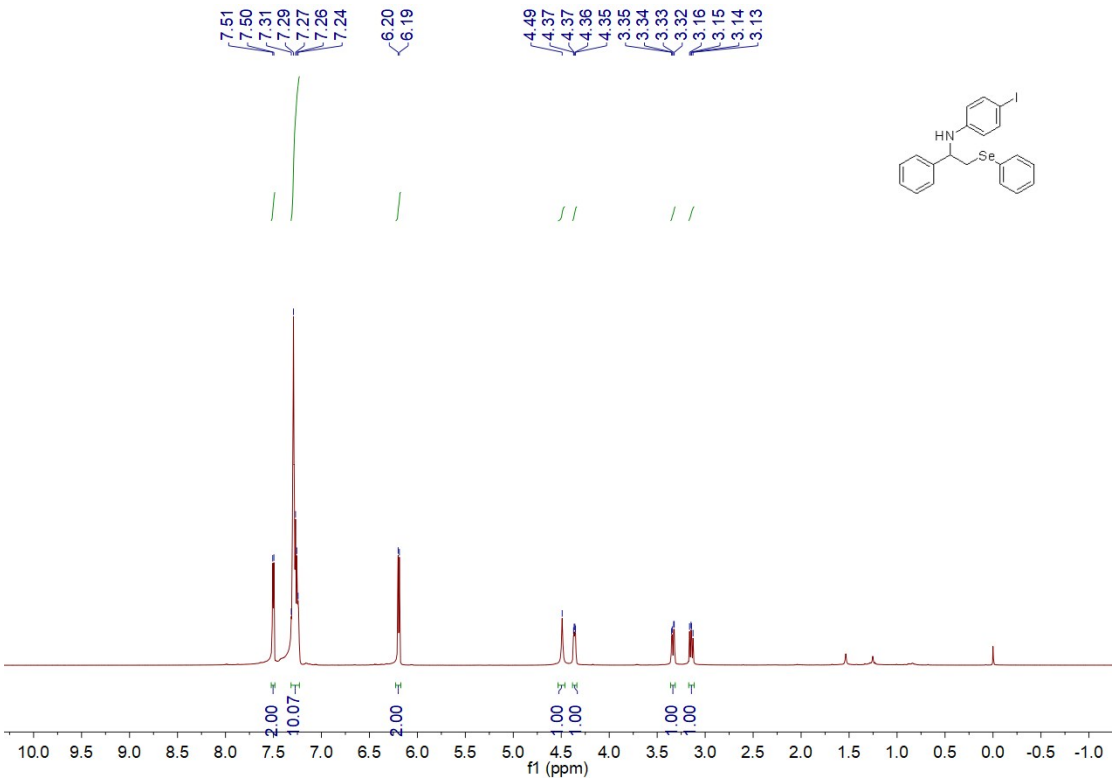


^{13}C NMR

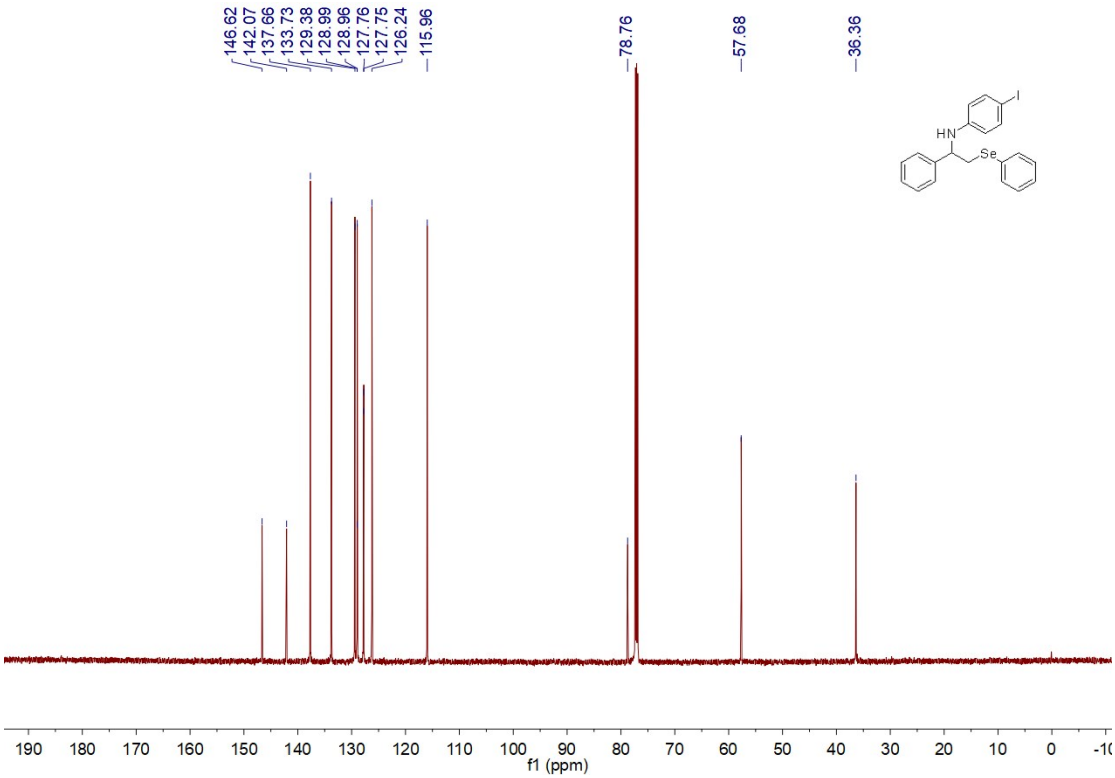


4-iodo-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5g**)

^{1}H NMR

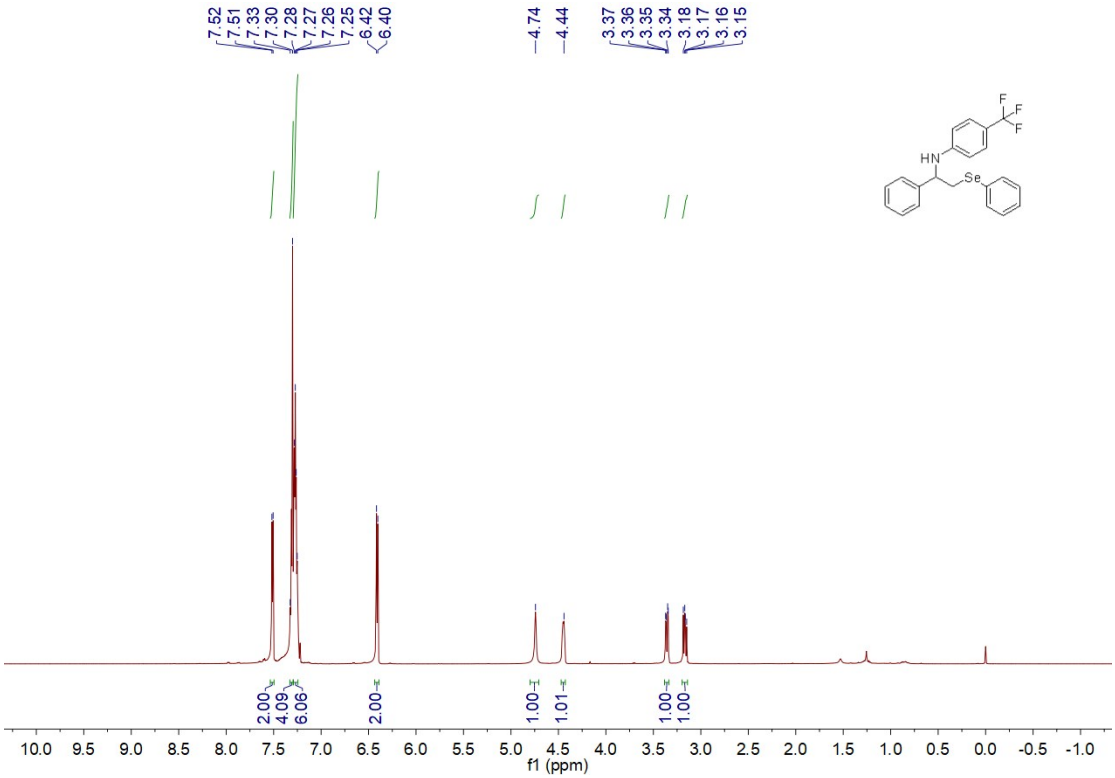


^{13}C NMR

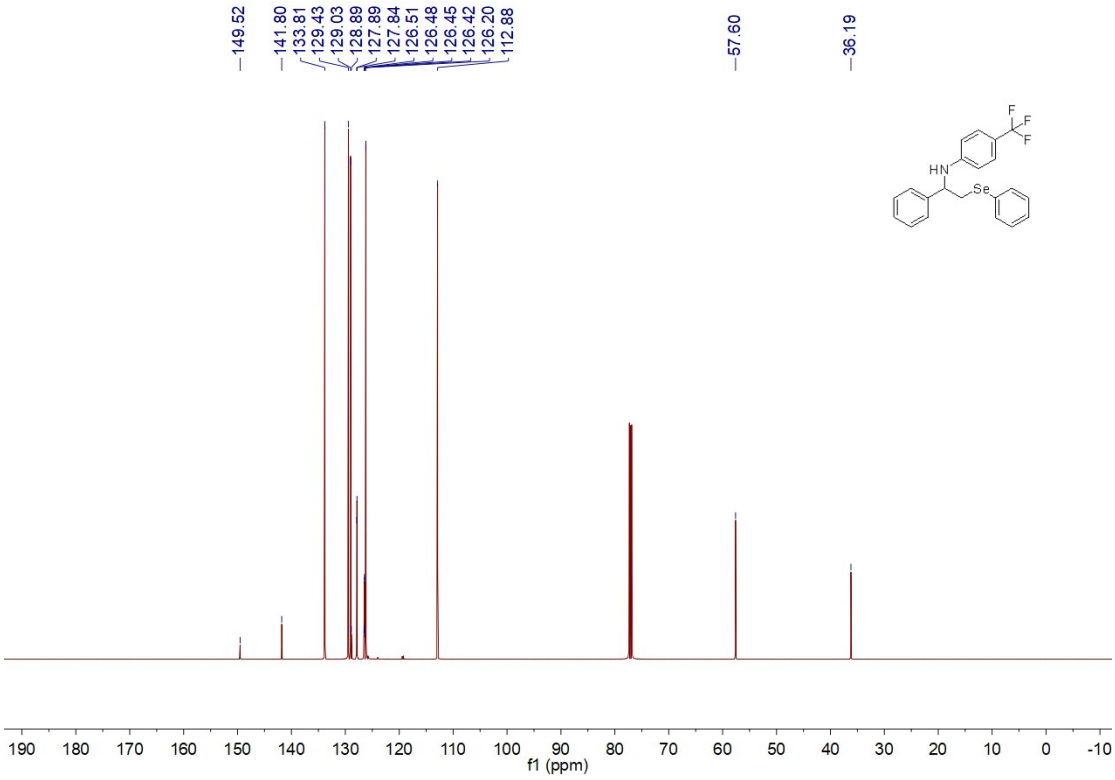


N-(1-phenyl-2-(phenylselanyl)ethyl)-4-(trifluoromethyl)aniline (**5h**)

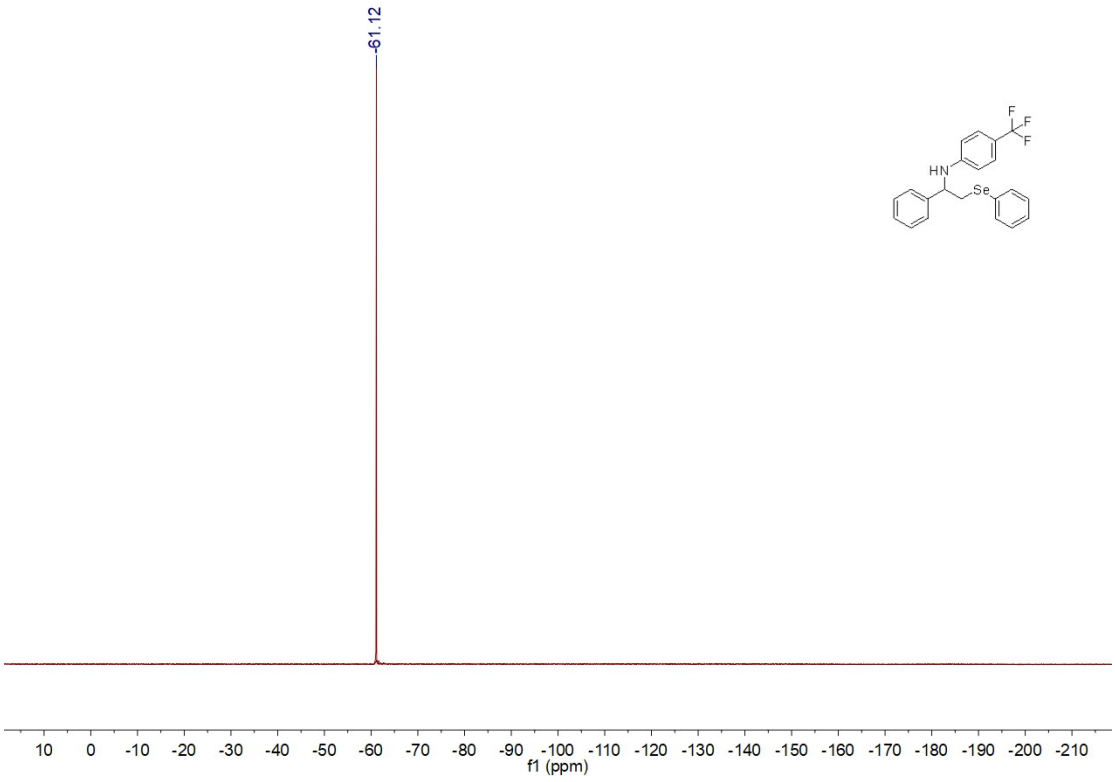
^{1}H NMR



^{13}C NMR

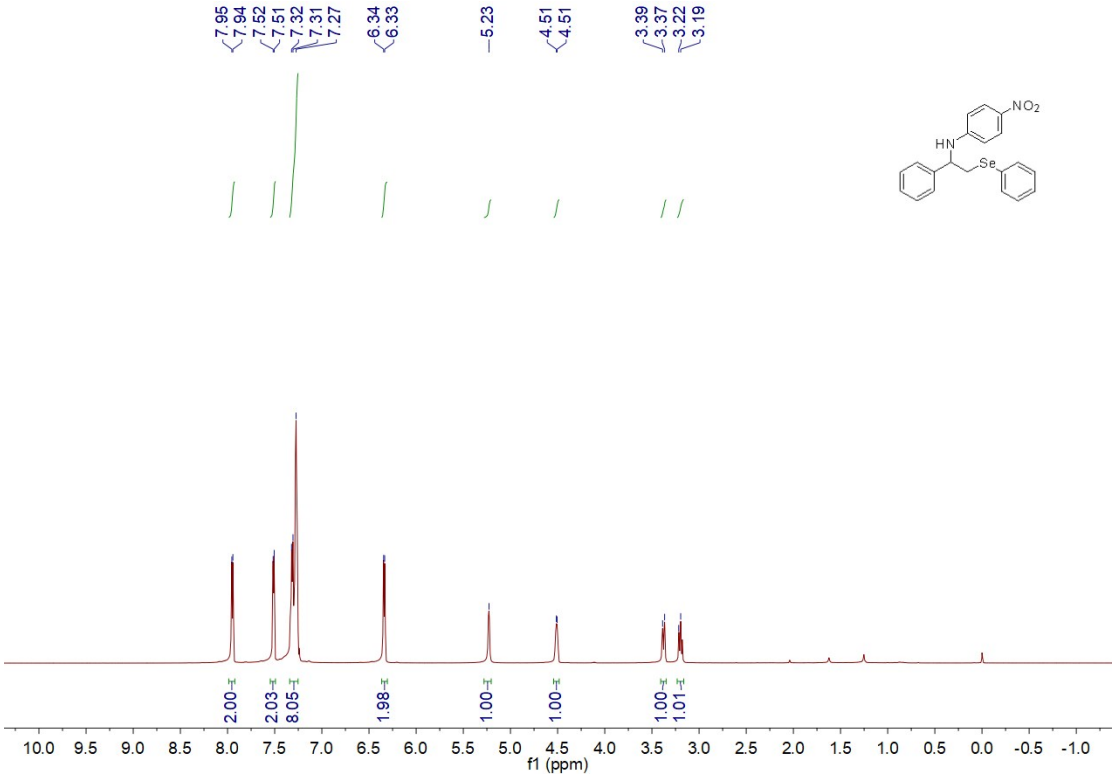


^{19}F NMR

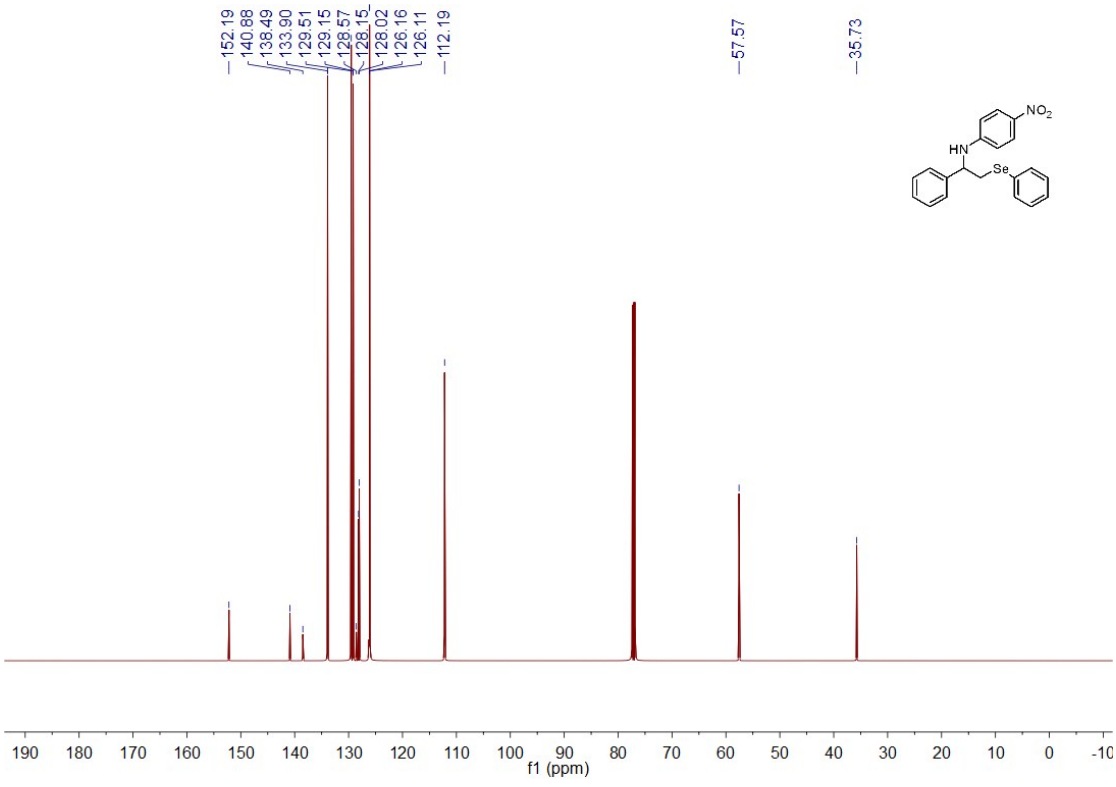


4-nitro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5i**)

^{1}H NMR

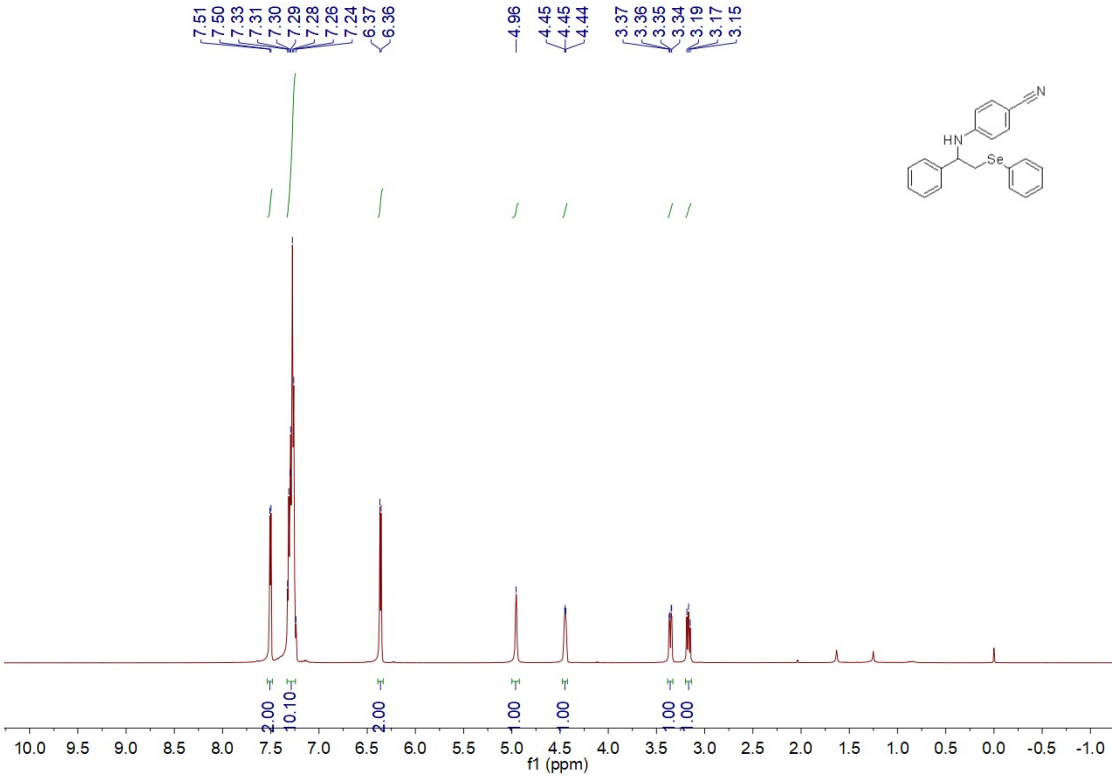


^{13}C NMR

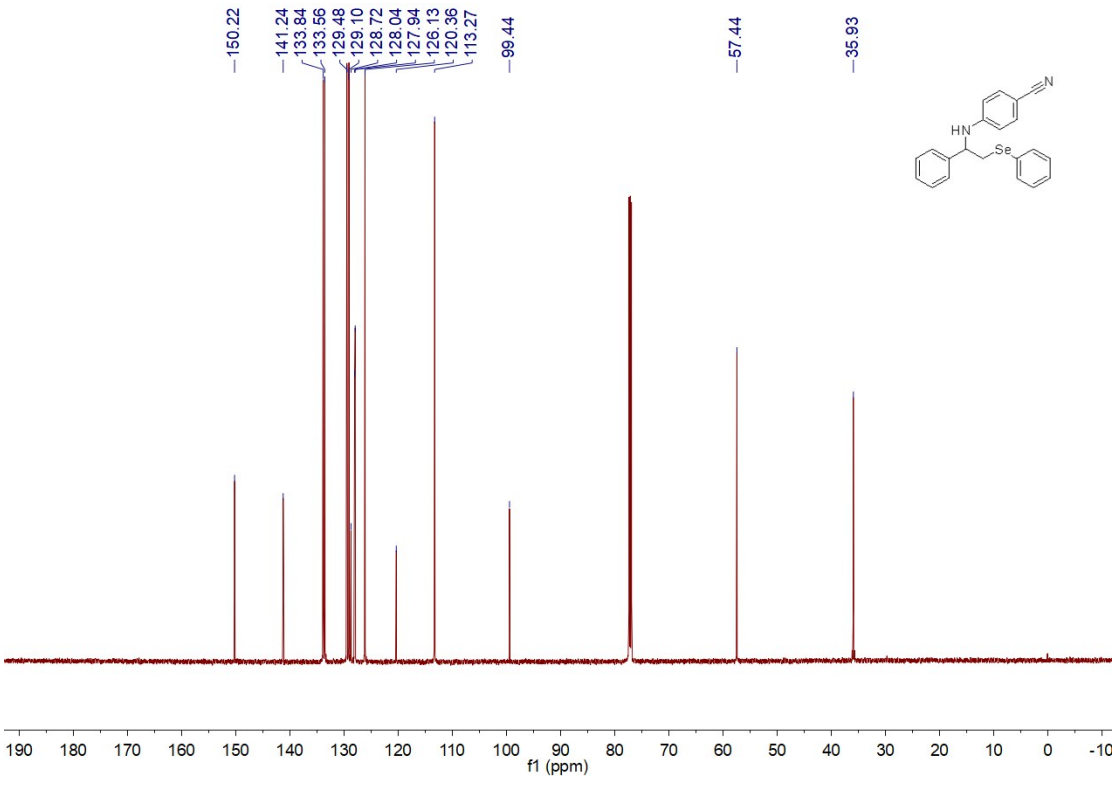


4-((1-phenyl-2-(phenylselanyl)ethyl)amino)benzonitrile (**5j**)

^{1}H NMR

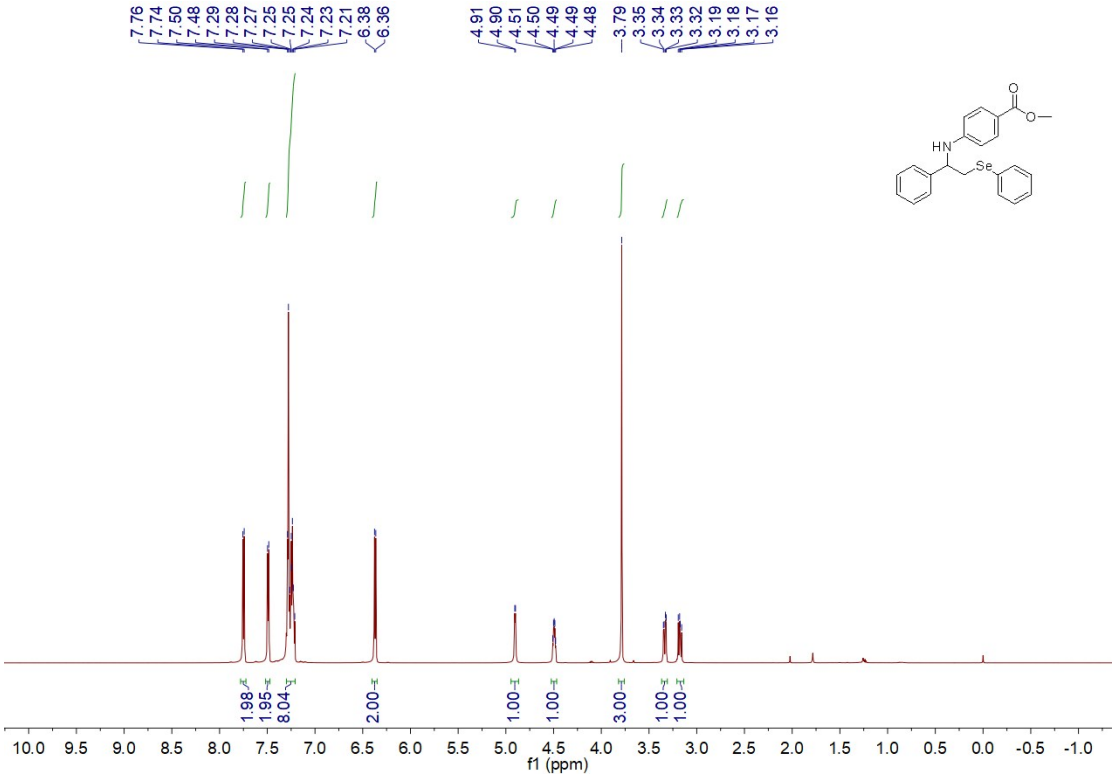


^{13}C NMR

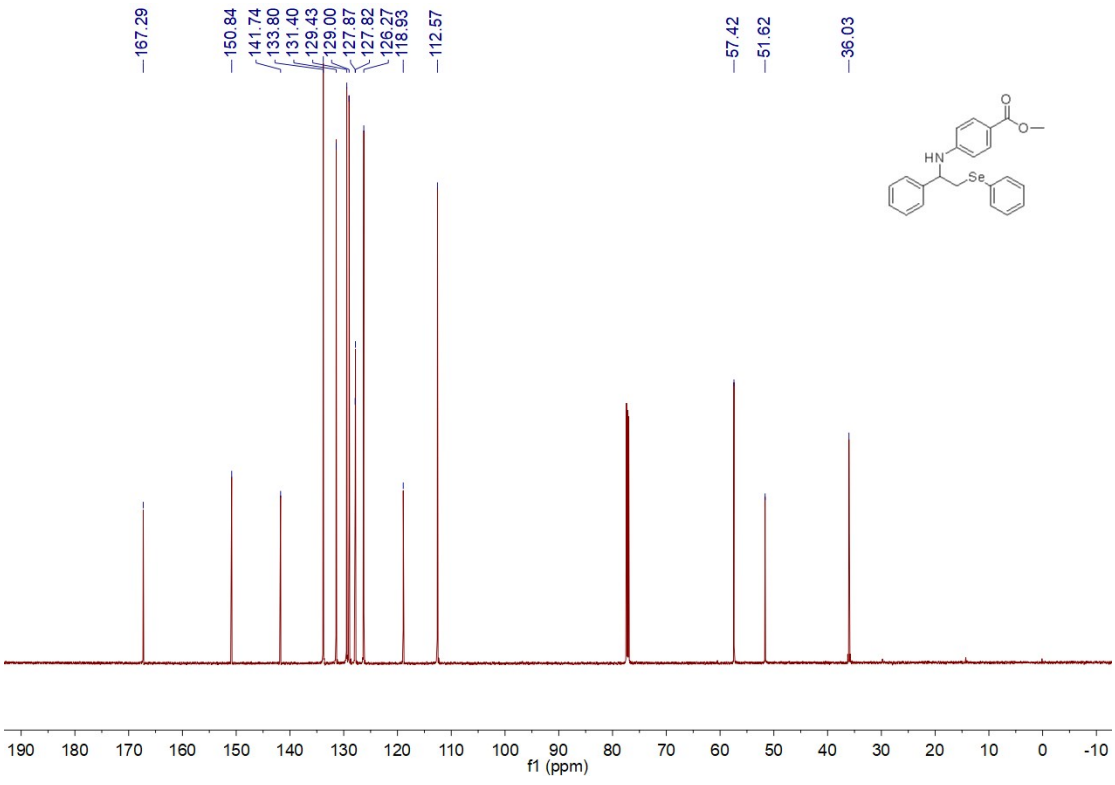


Methyl-4-((1-phenyl-2-(phenylselanyl)ethyl)amino)benzoate (**5k**)

^{1}H NMR

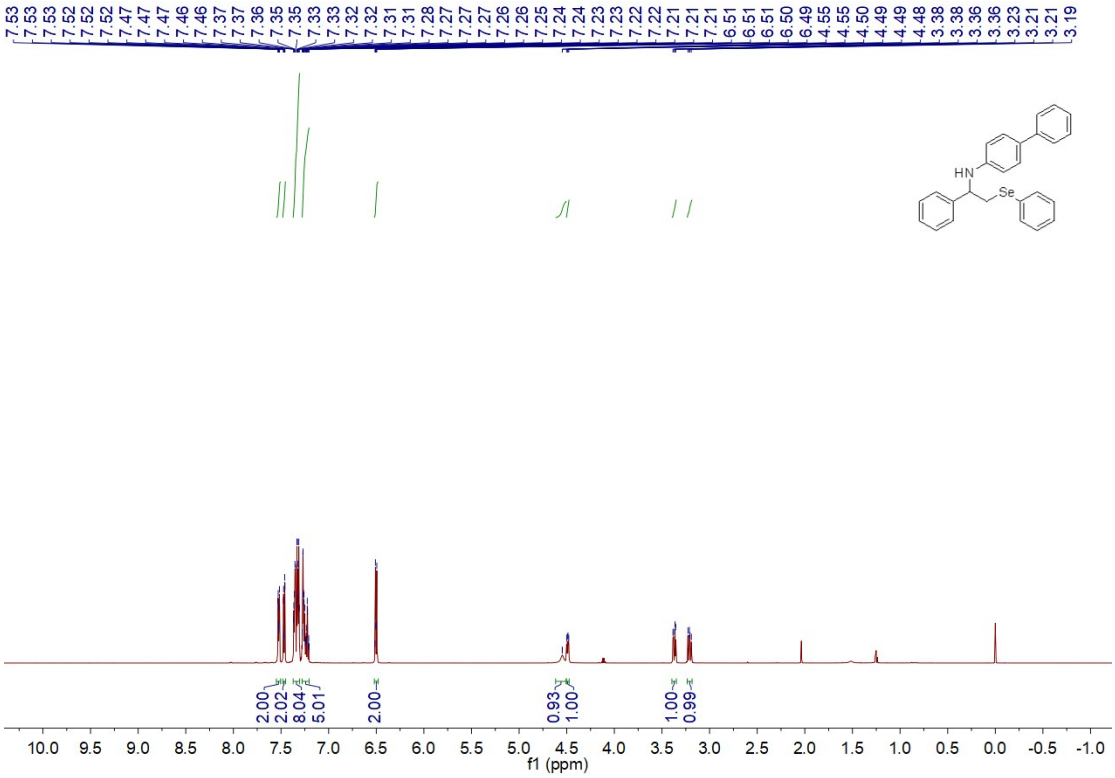


^{13}C NMR

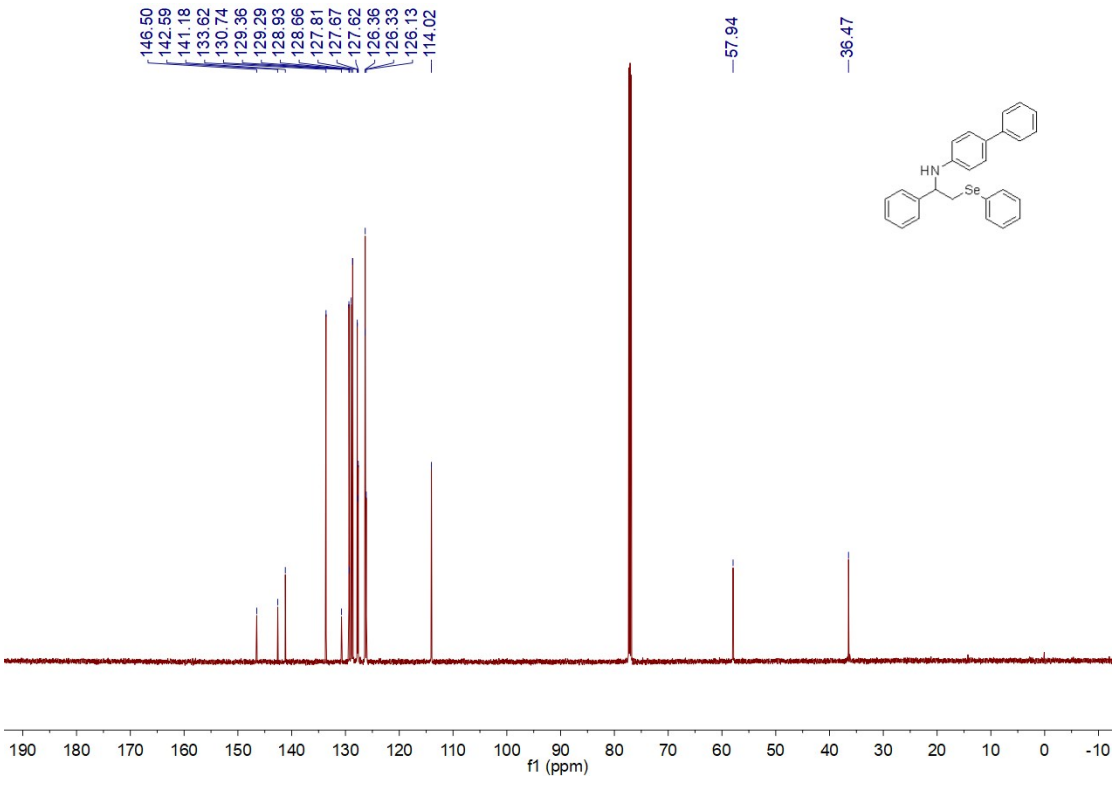


N-(1-phenyl-2-(phenylselanyl)ethyl)-[1,1'-biphenyl]-4-amine (**5l**)

^{1}H NMR

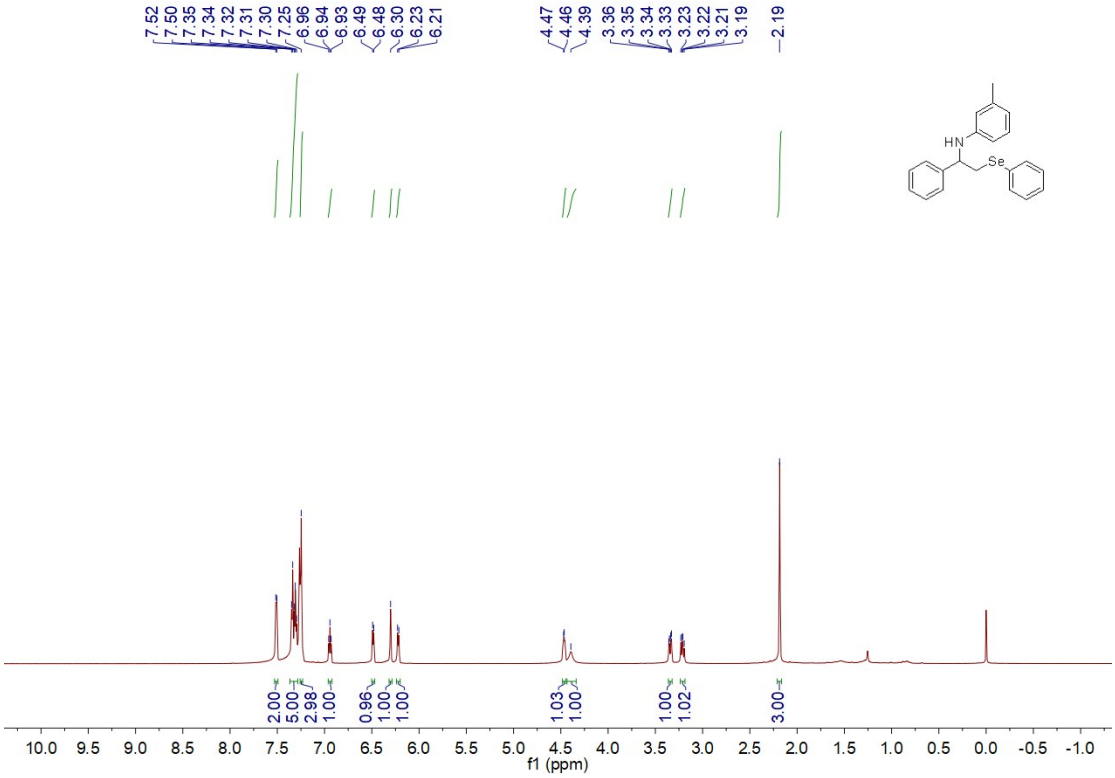


^{13}C NMR

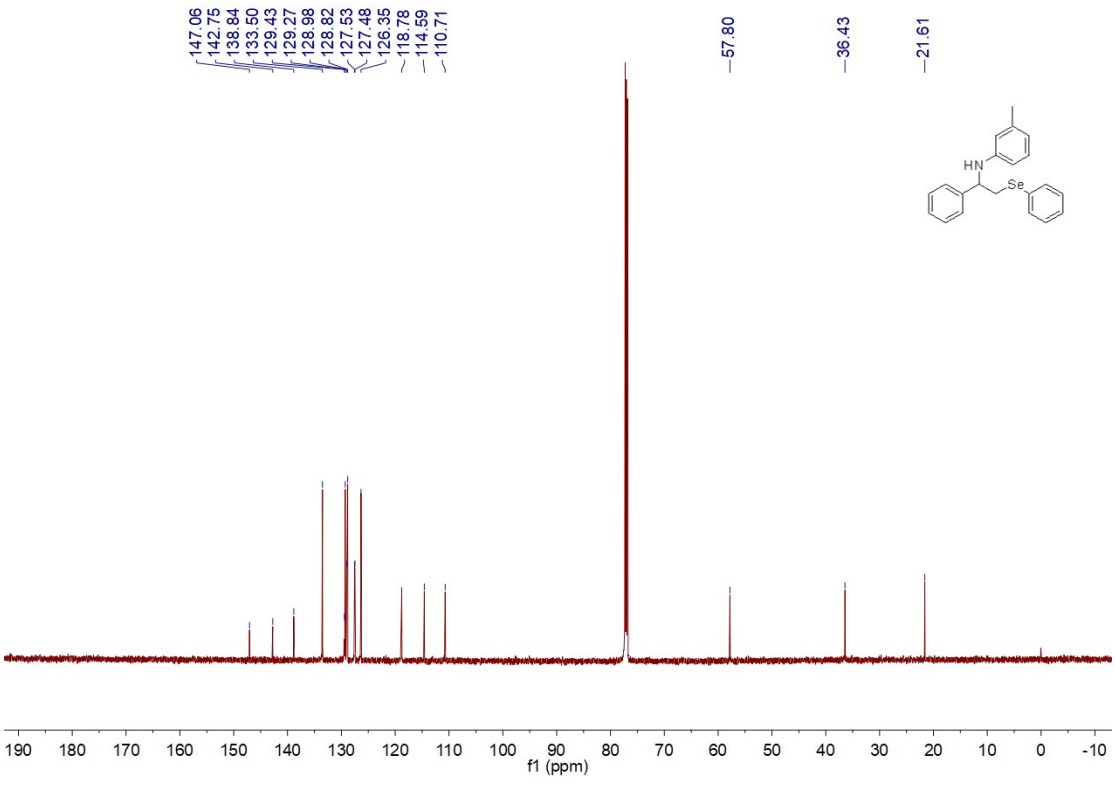


3-methyl-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5m**)

^{1}H NMR

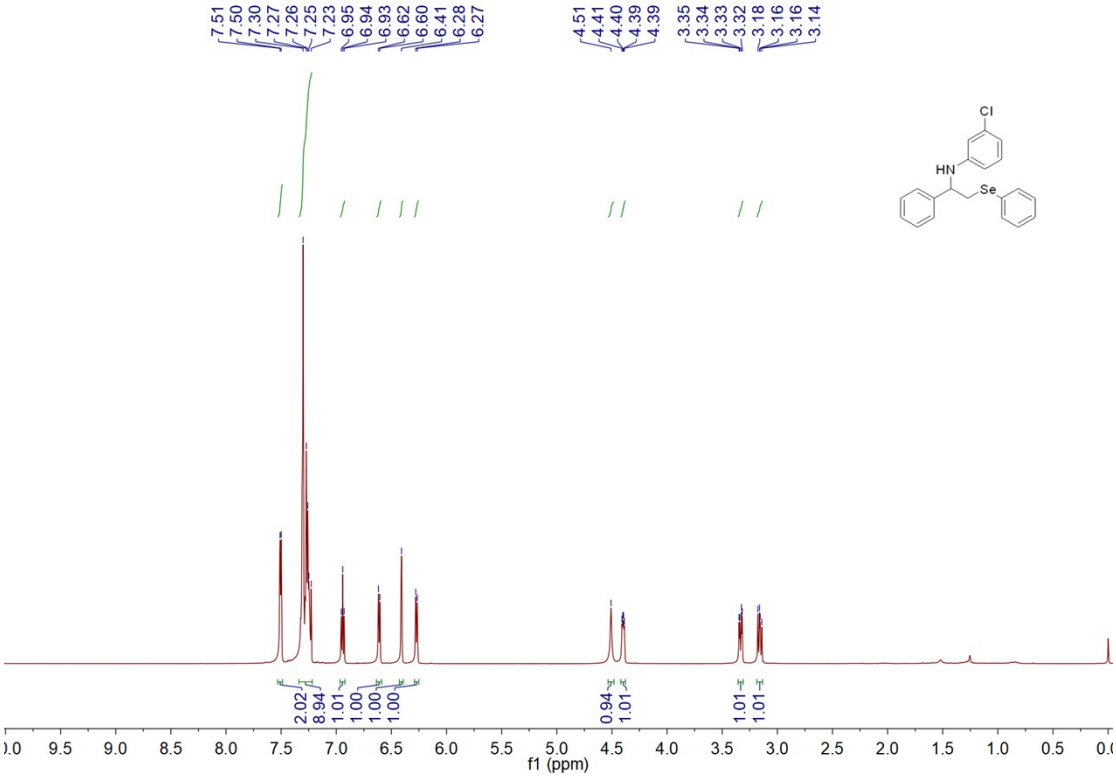


^{13}C NMR

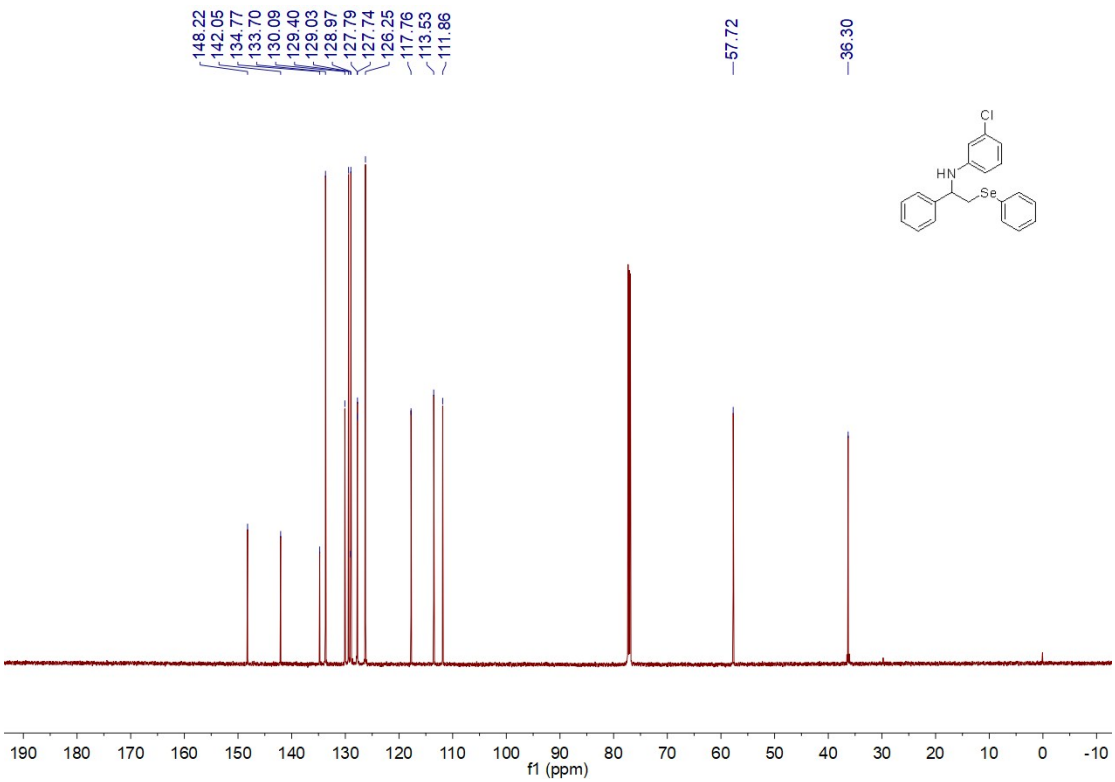


3-chloro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5n**)

^{1}H NMR

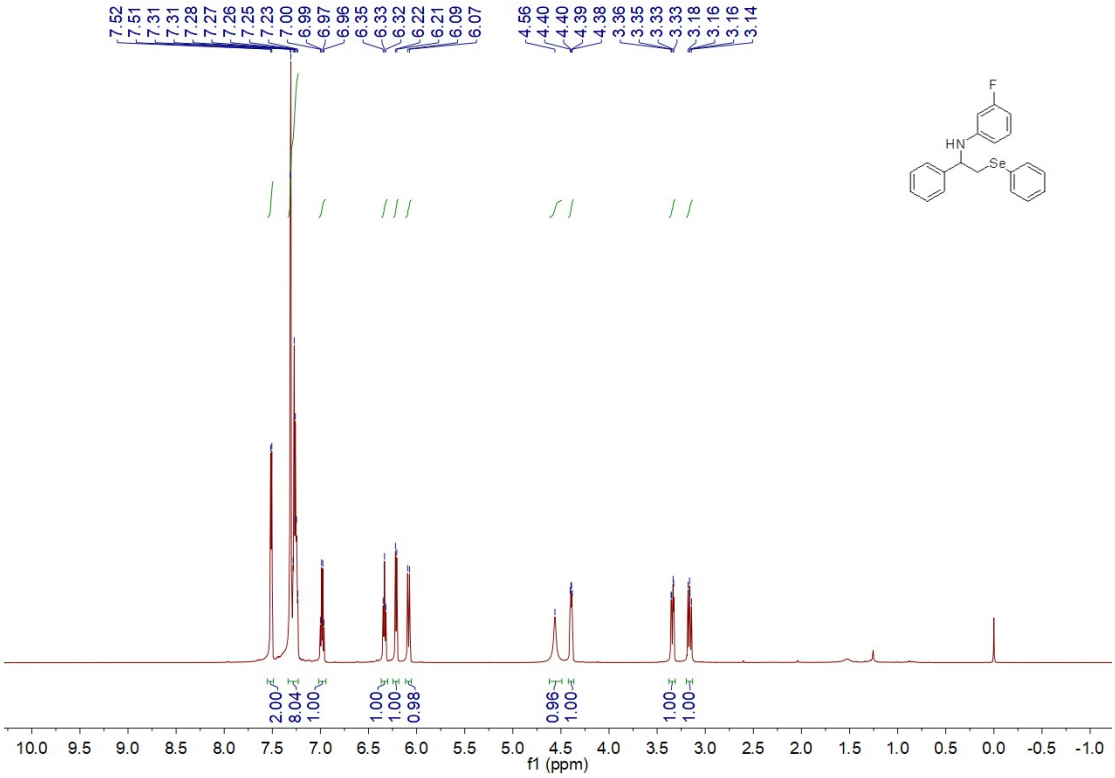


^{13}C NMR

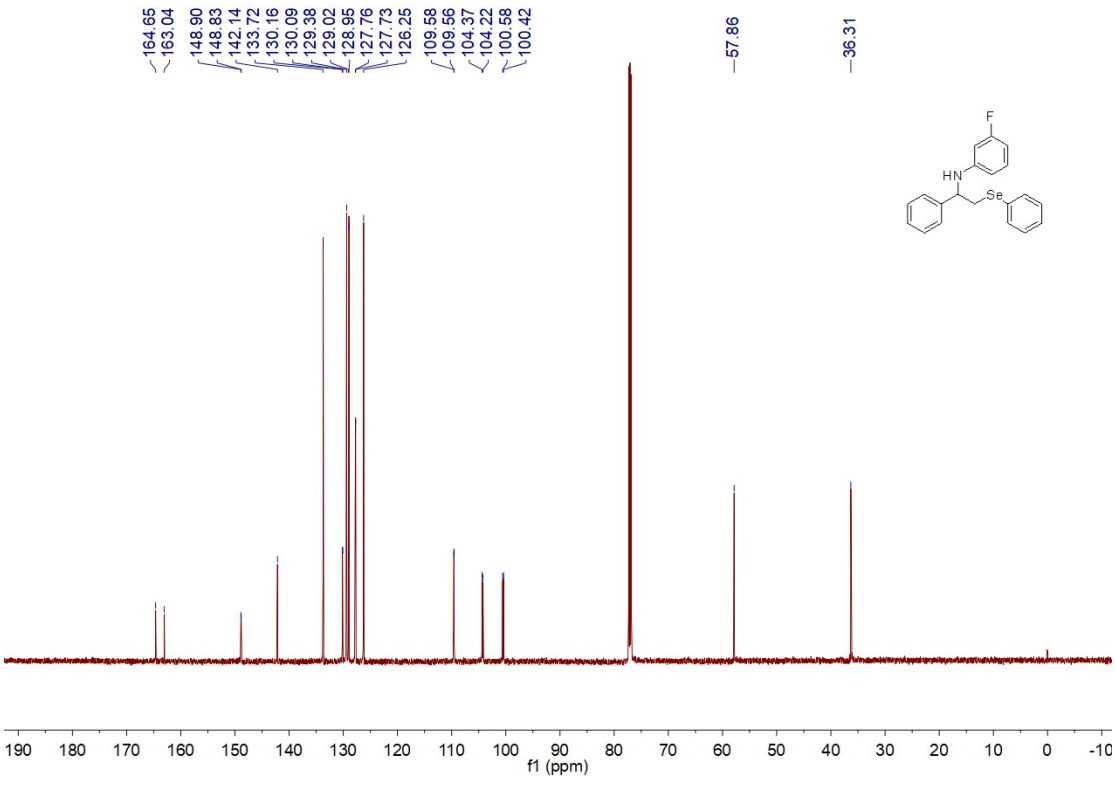


3-fluoro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5o**)

^{1}H NMR

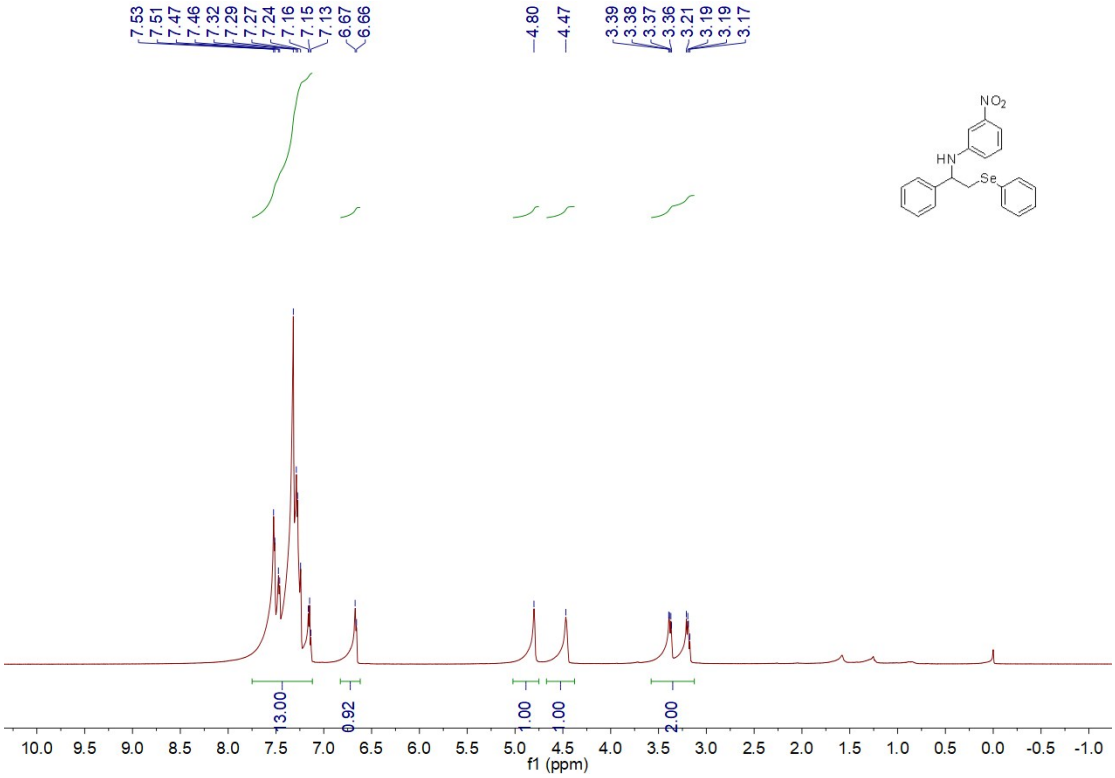


^{13}C NMR

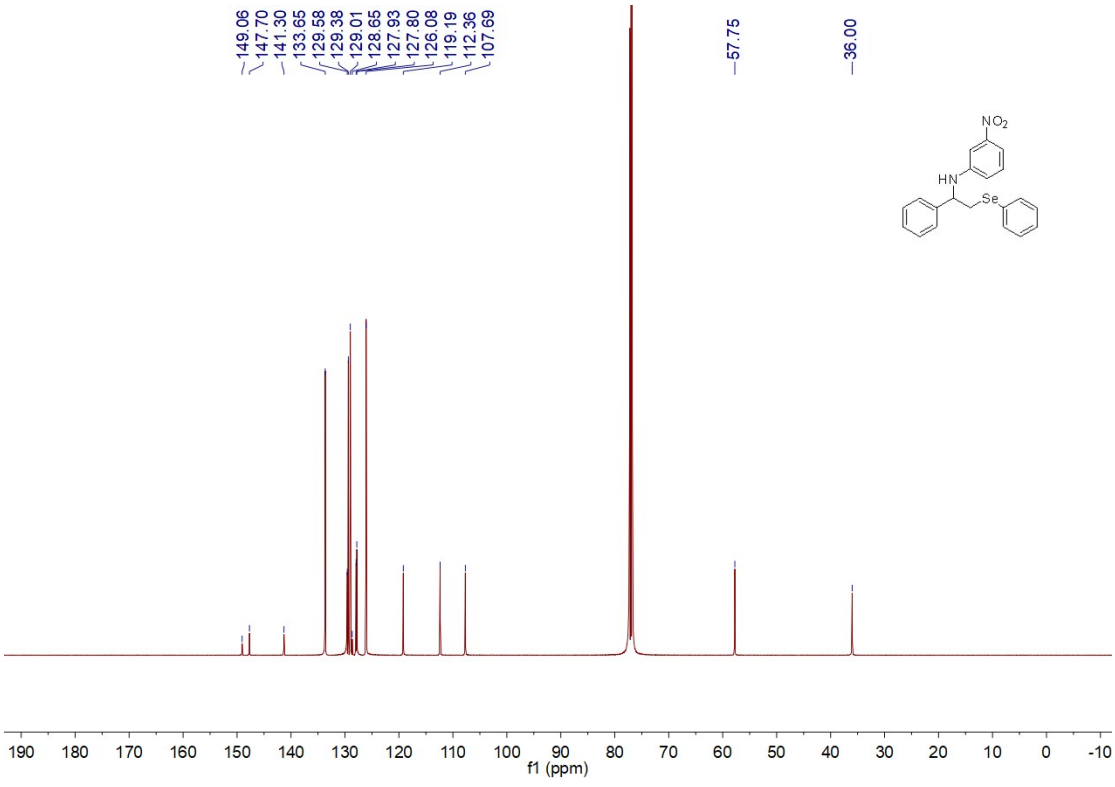


3-nitro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5p**)

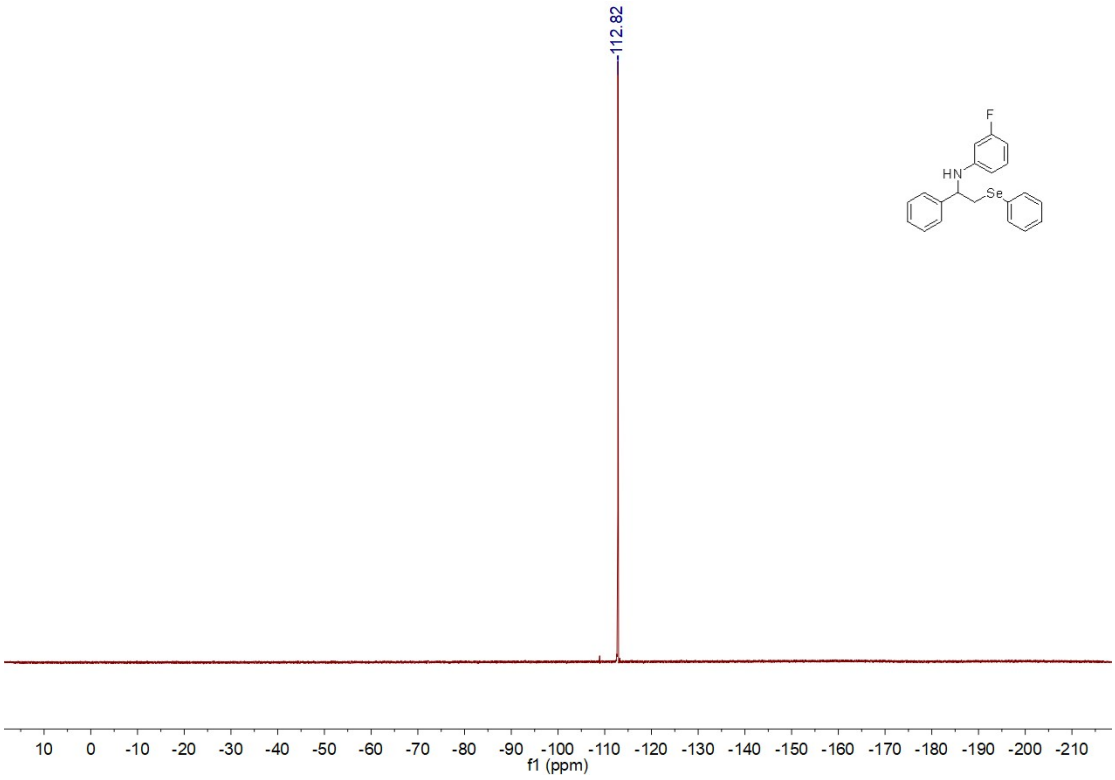
^{1}H NMR



^{13}C NMR

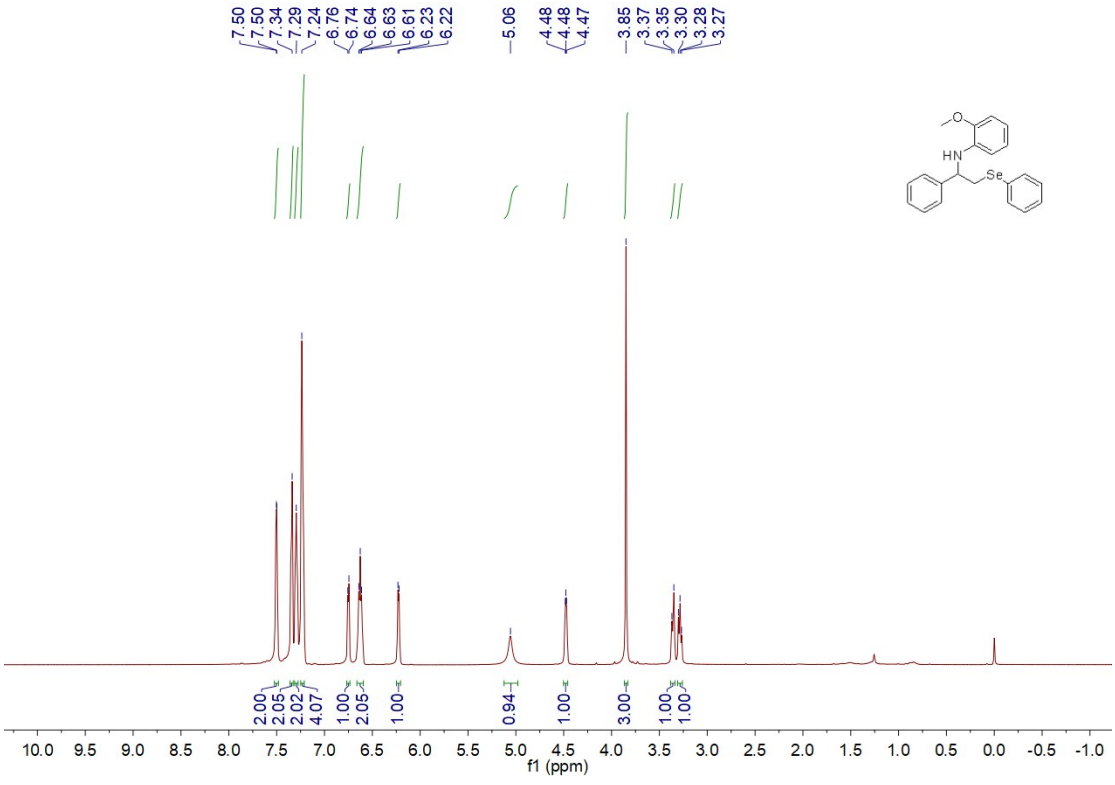


^{19}F NMR

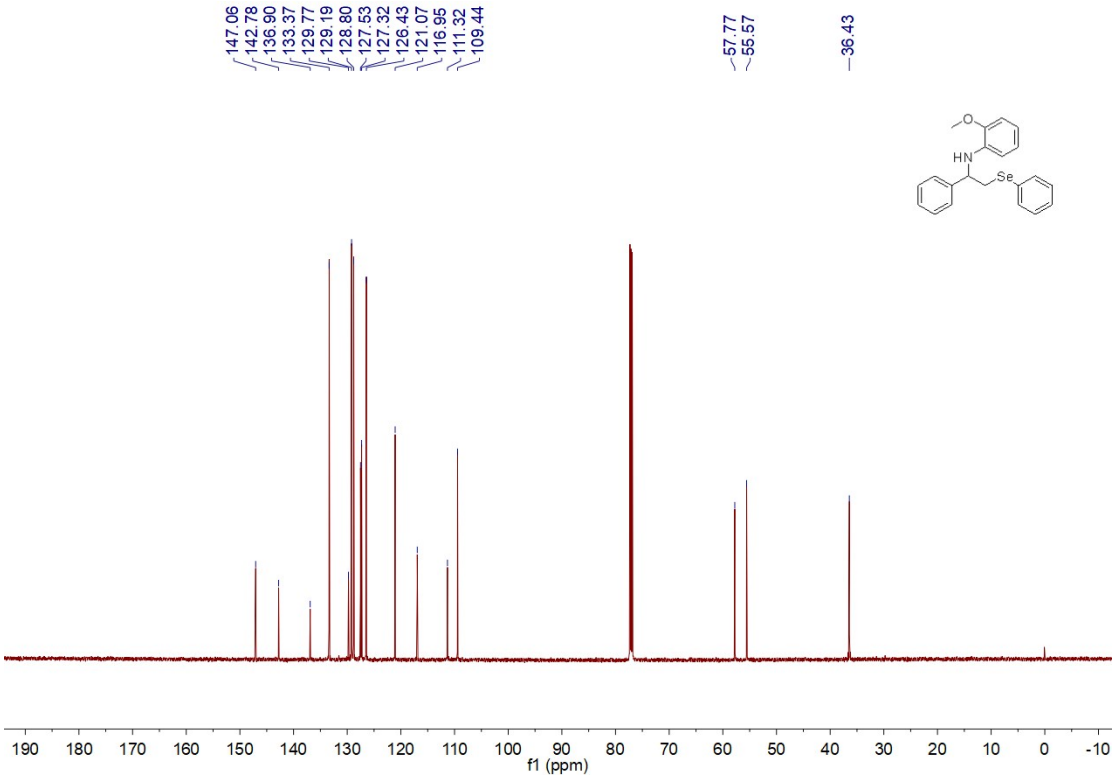


2-methoxy-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5q**)

^{1}H NMR

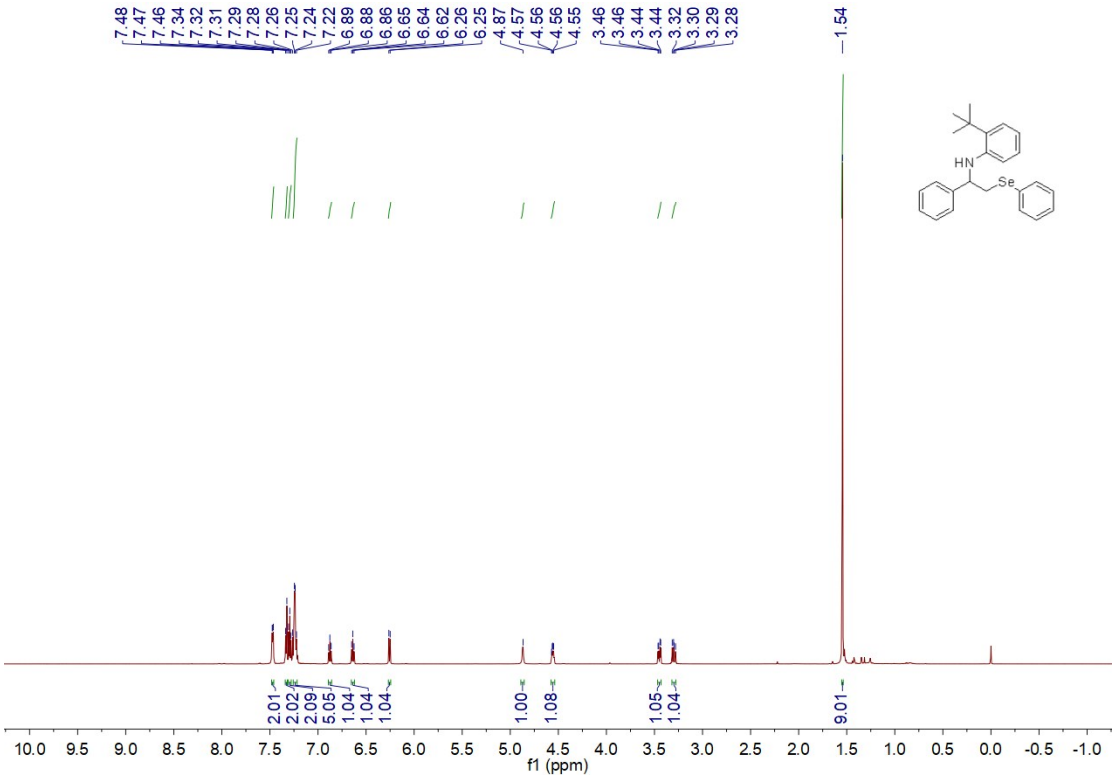


^{13}C NMR

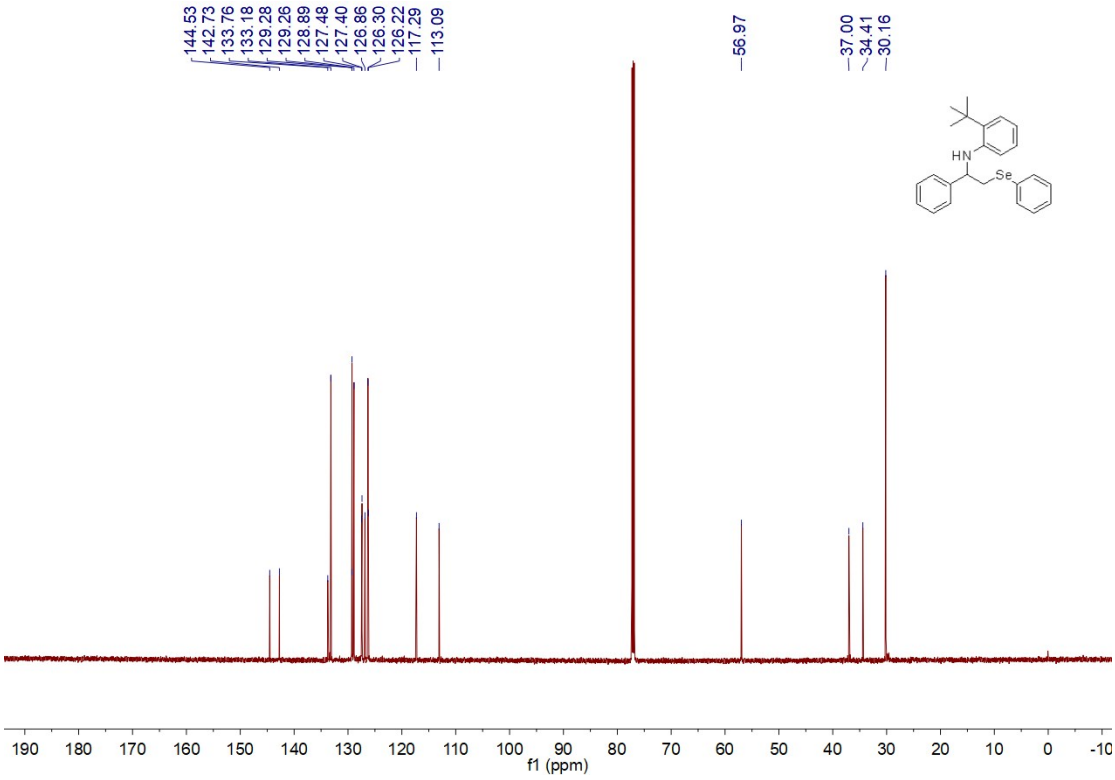


2-(tert-butyl)-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5r**)

^{1}H NMR

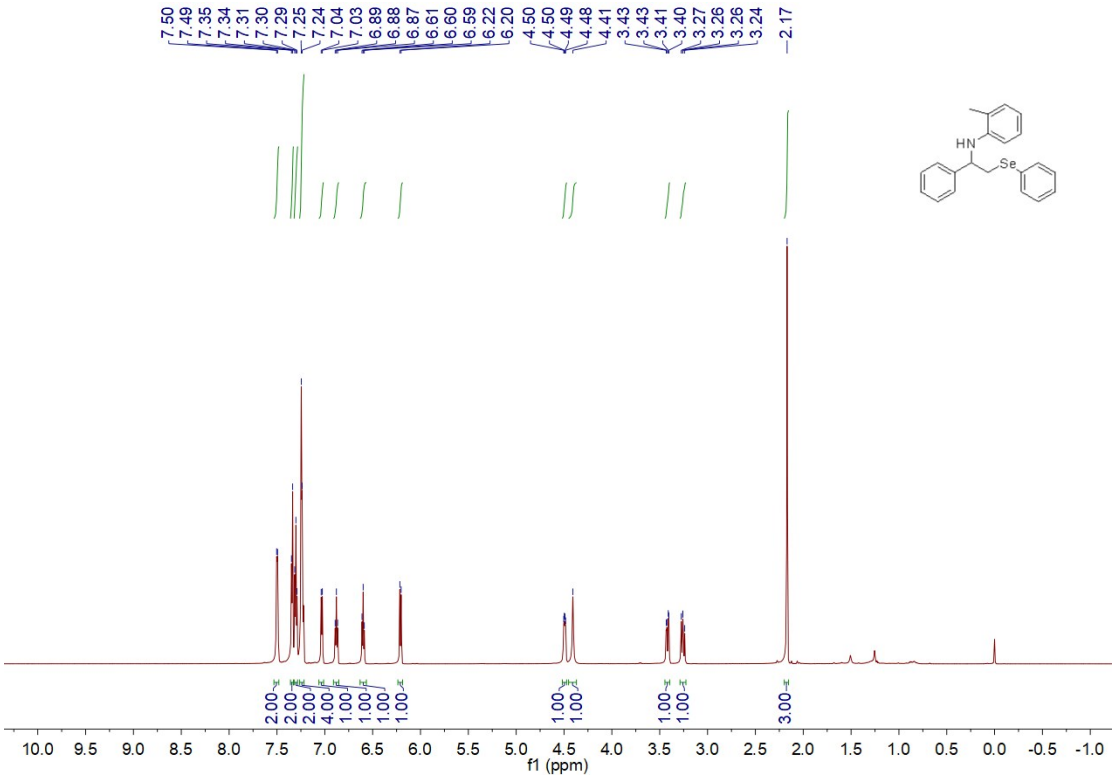


^{13}C NMR

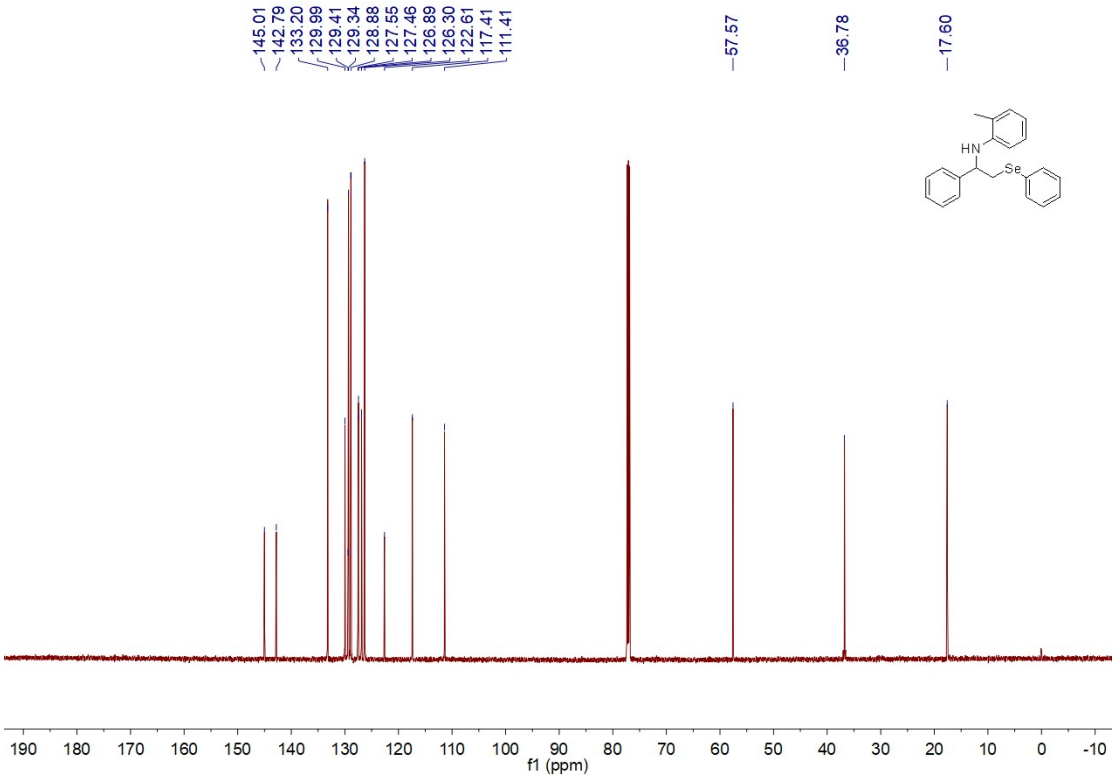


2-methyl-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5s**)

^{1}H NMR

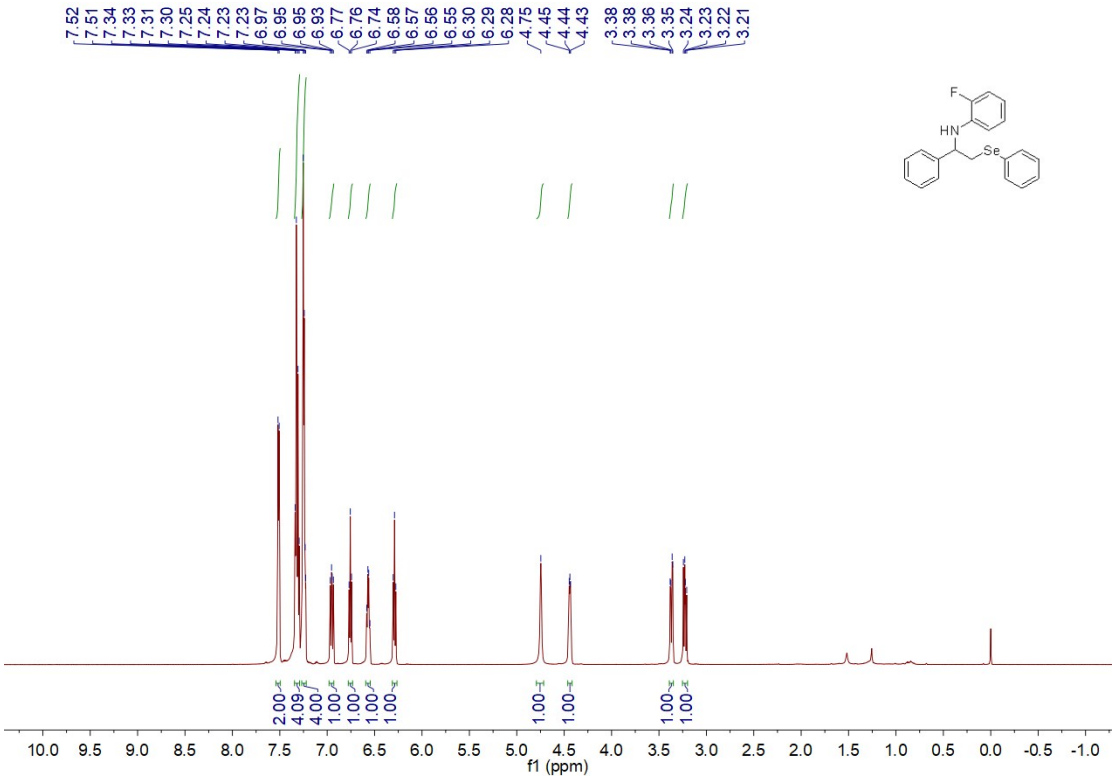


^{13}C NMR

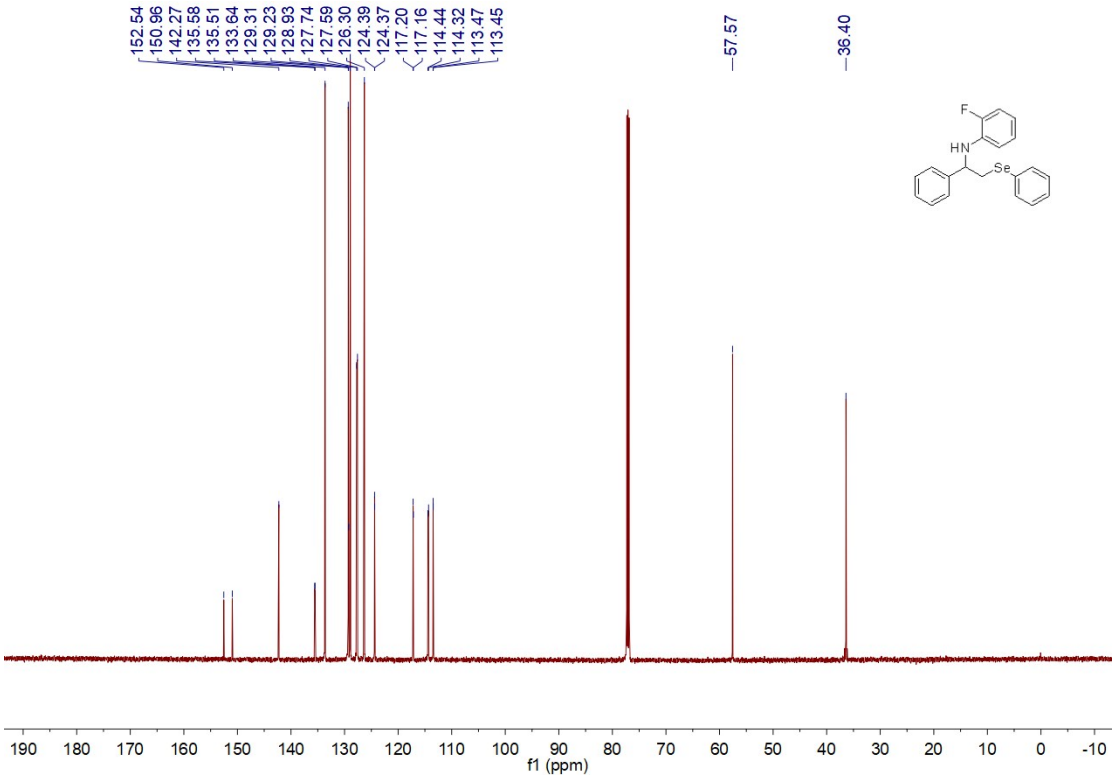


2-fluoro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5t**)

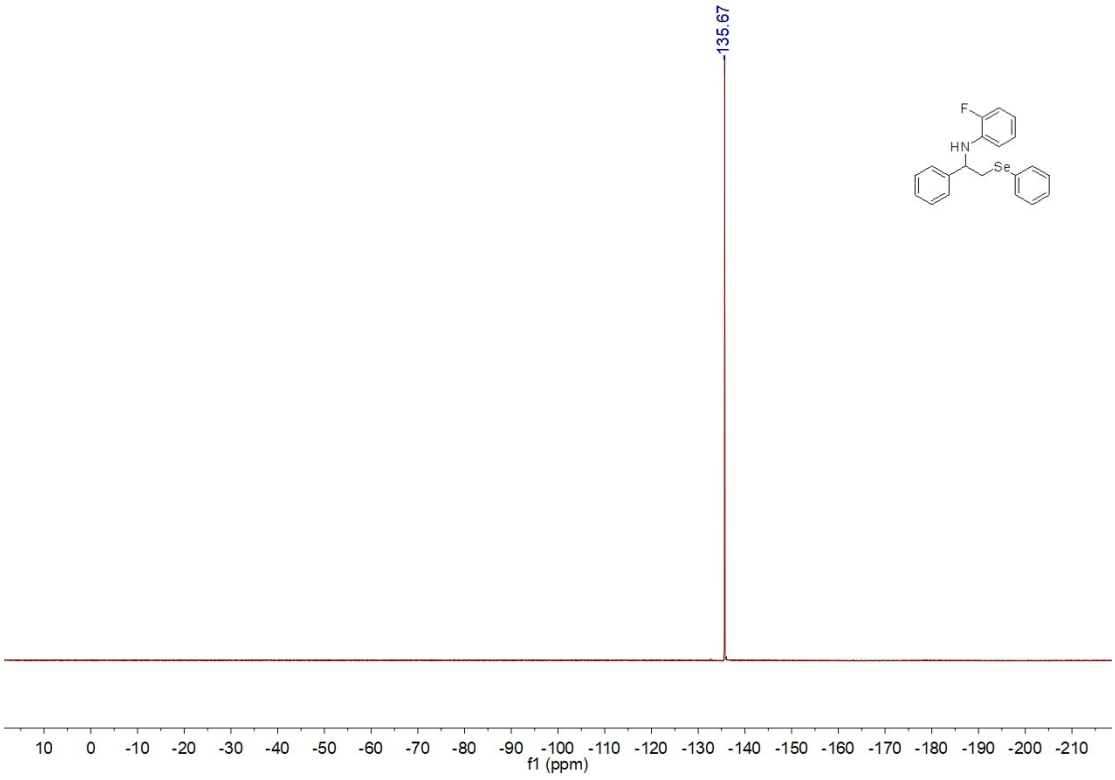
^{1}H NMR



^{13}C NMR

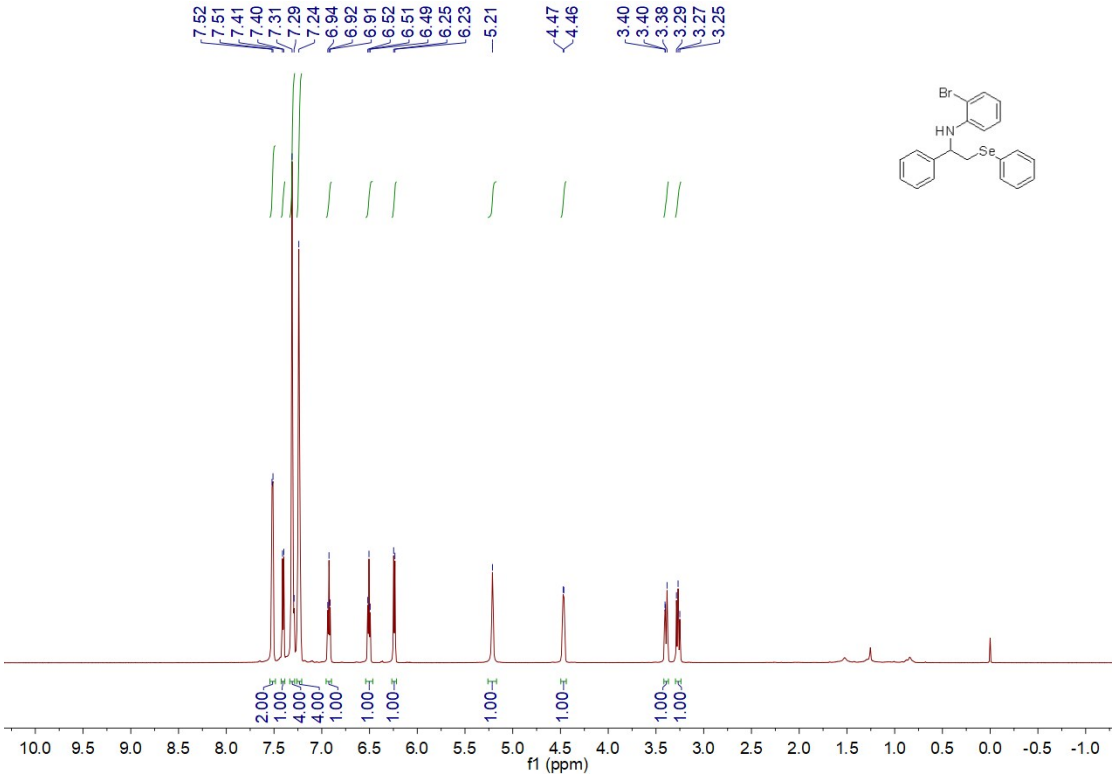


^{19}F NMR

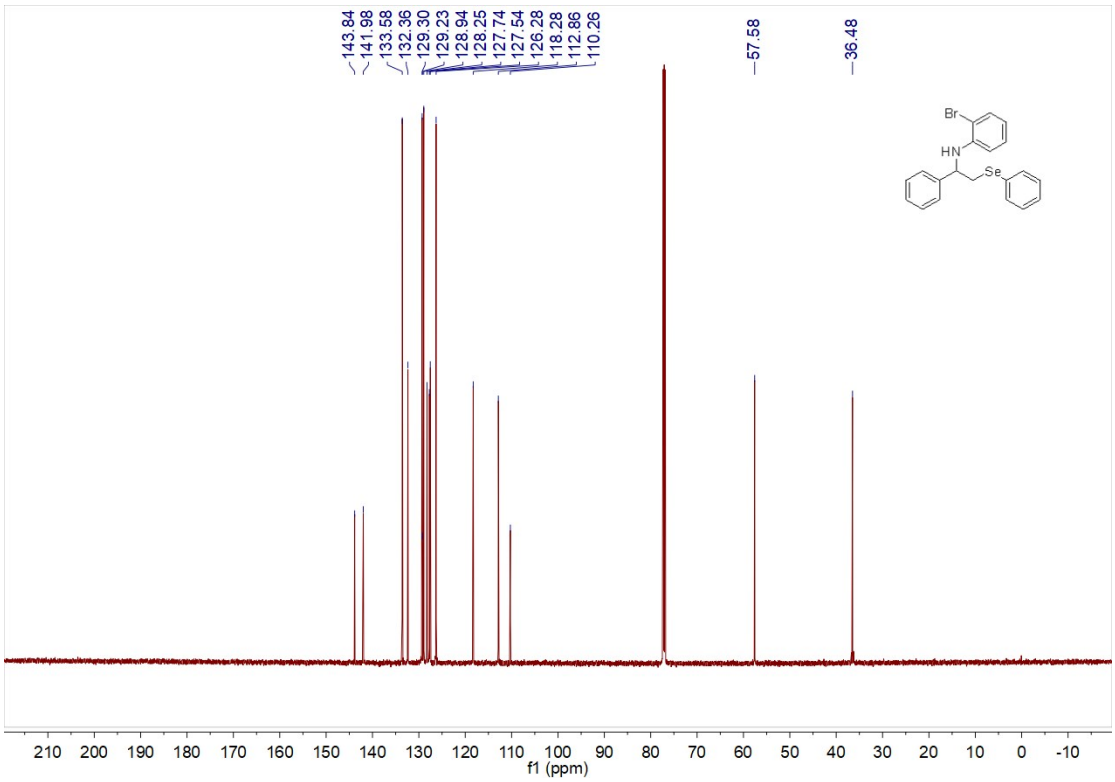


2-bromo-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5u**)

^{1}H NMR

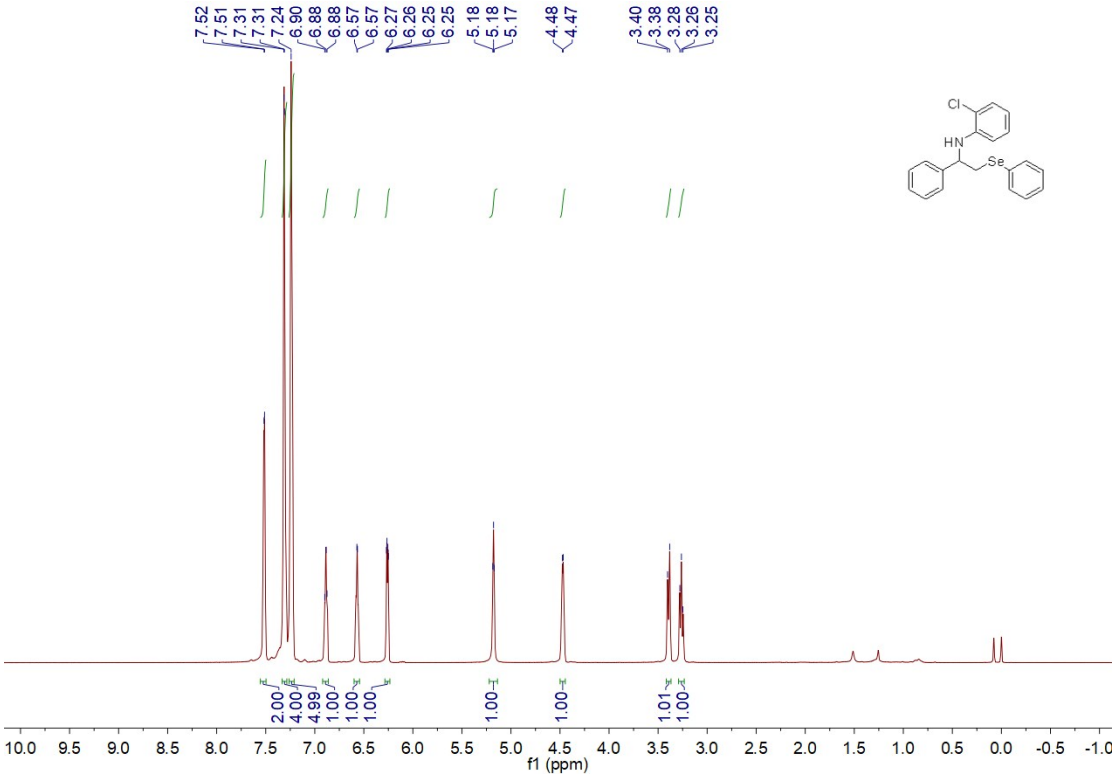


^{13}C NMR

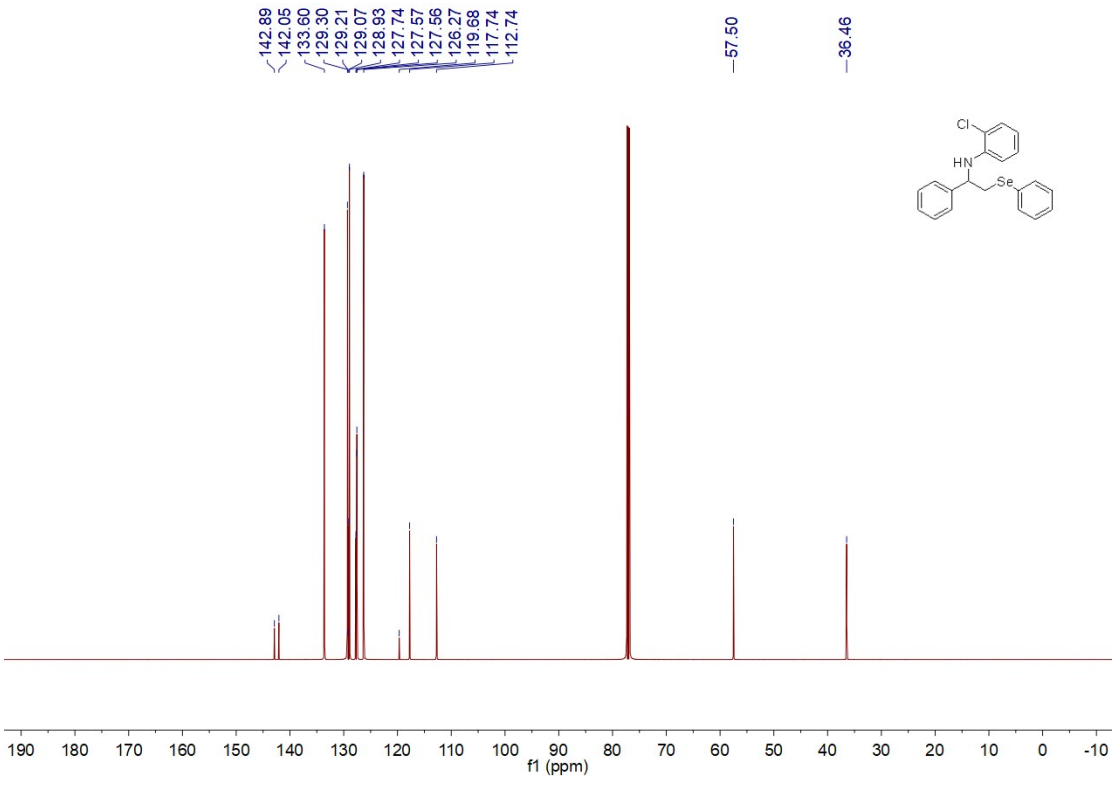


2-chloro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5v**)

^{1}H NMR

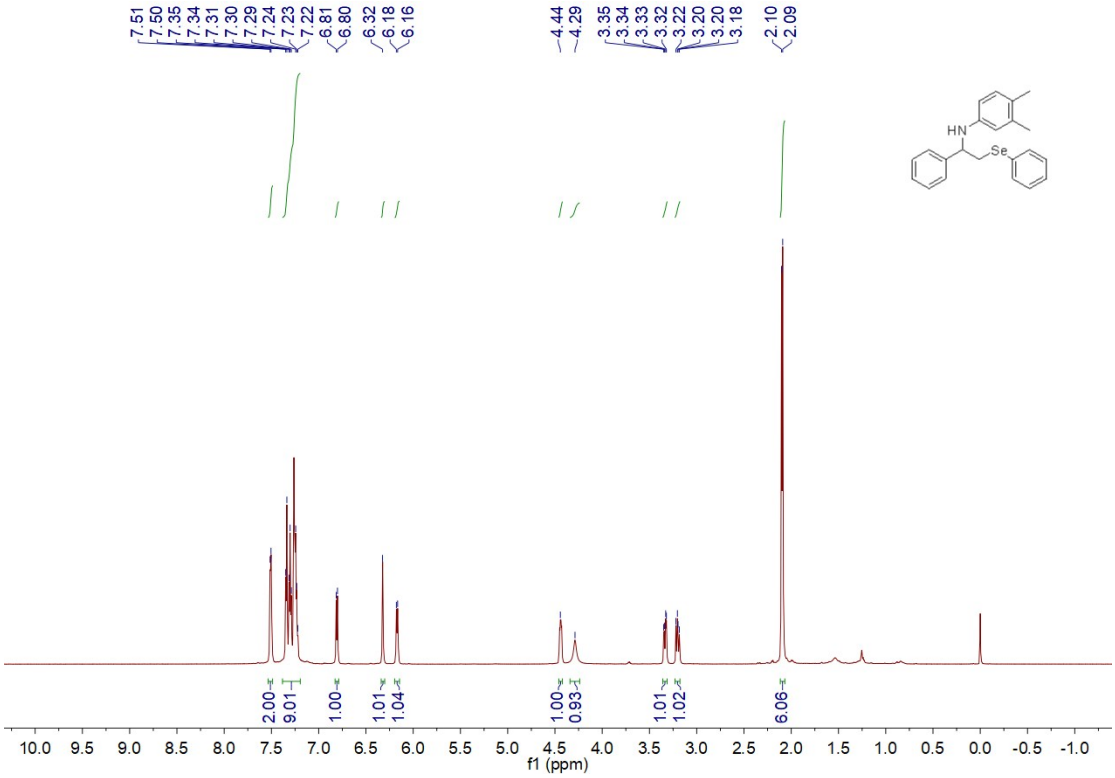


^{13}C NMR

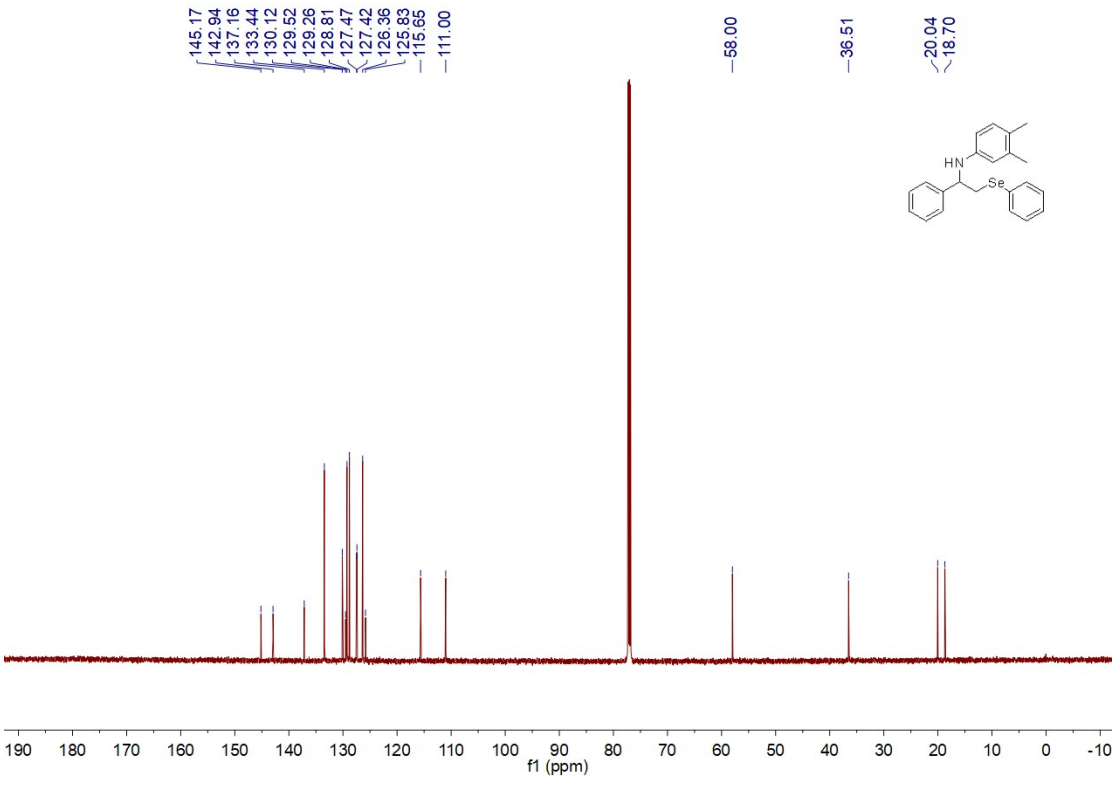


3,4-dimethyl-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5w**)

^{1}H NMR

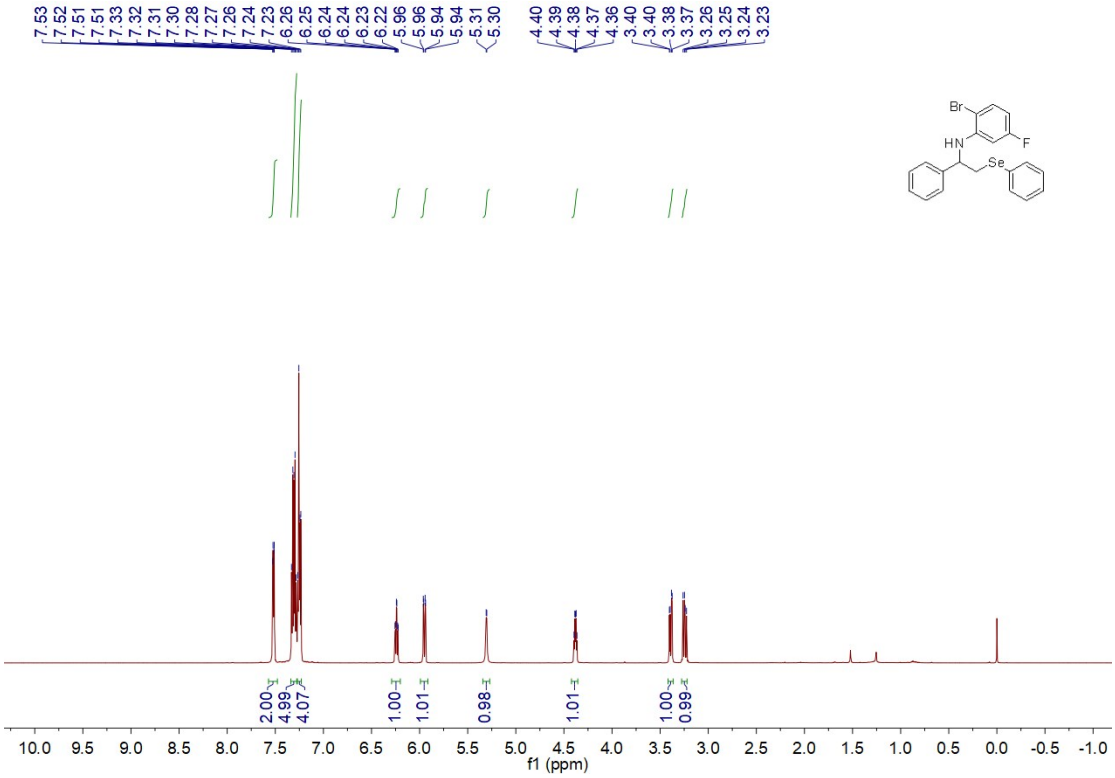


^{13}C NMR

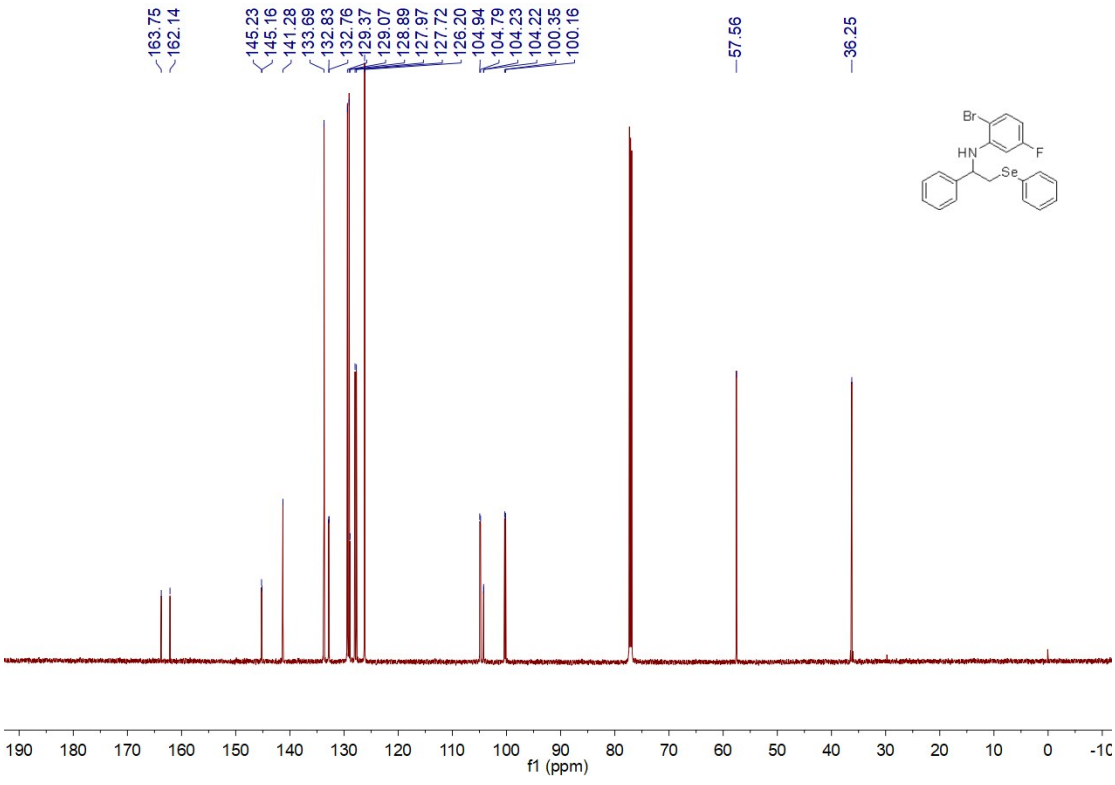


2-bromo-5-fluoro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5x**)

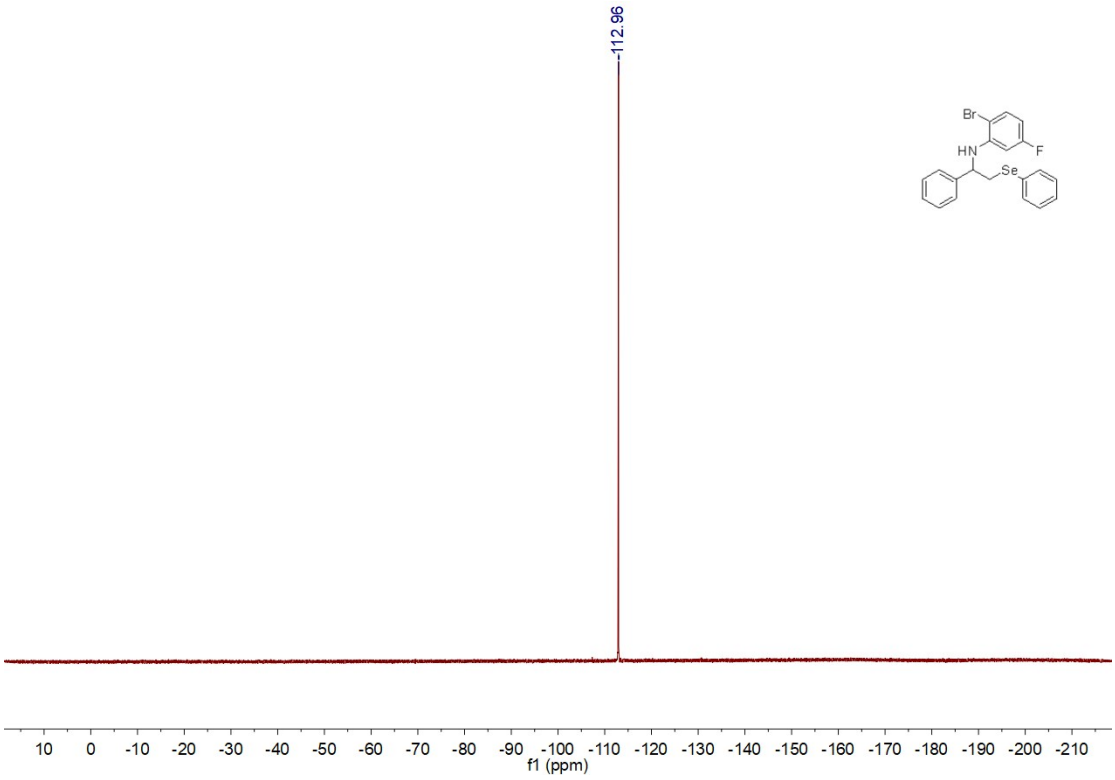
^{1}H NMR



^{13}C NMR

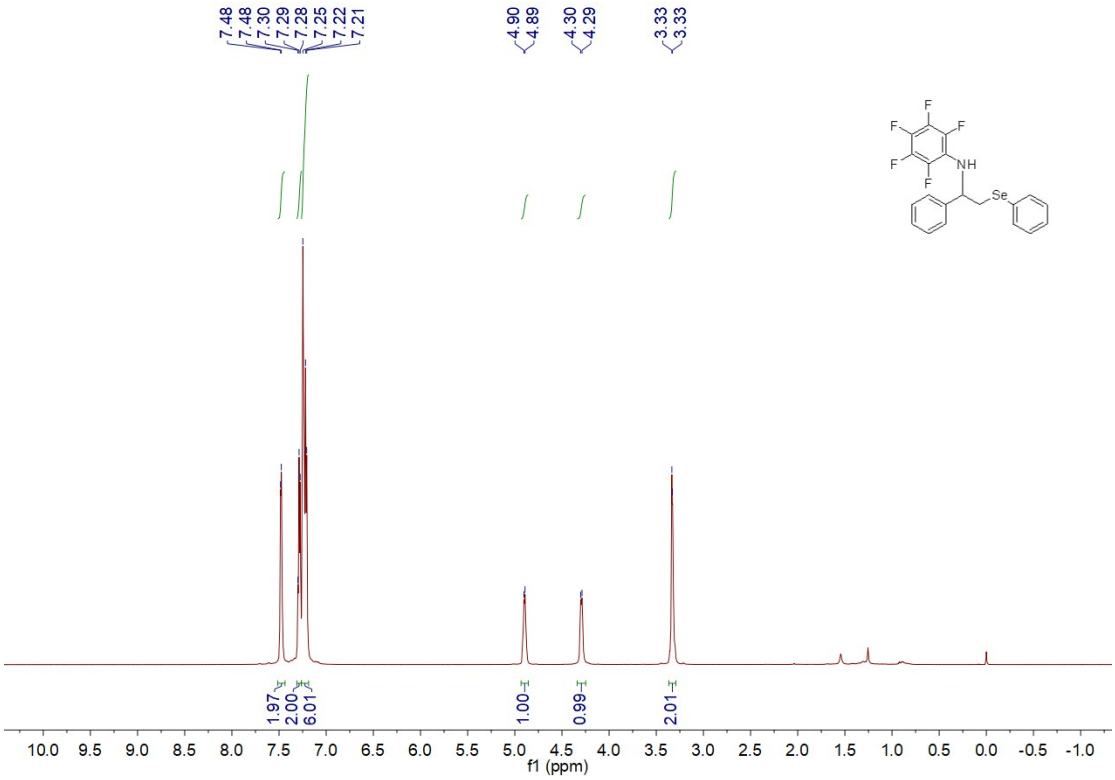


^{19}F NMR

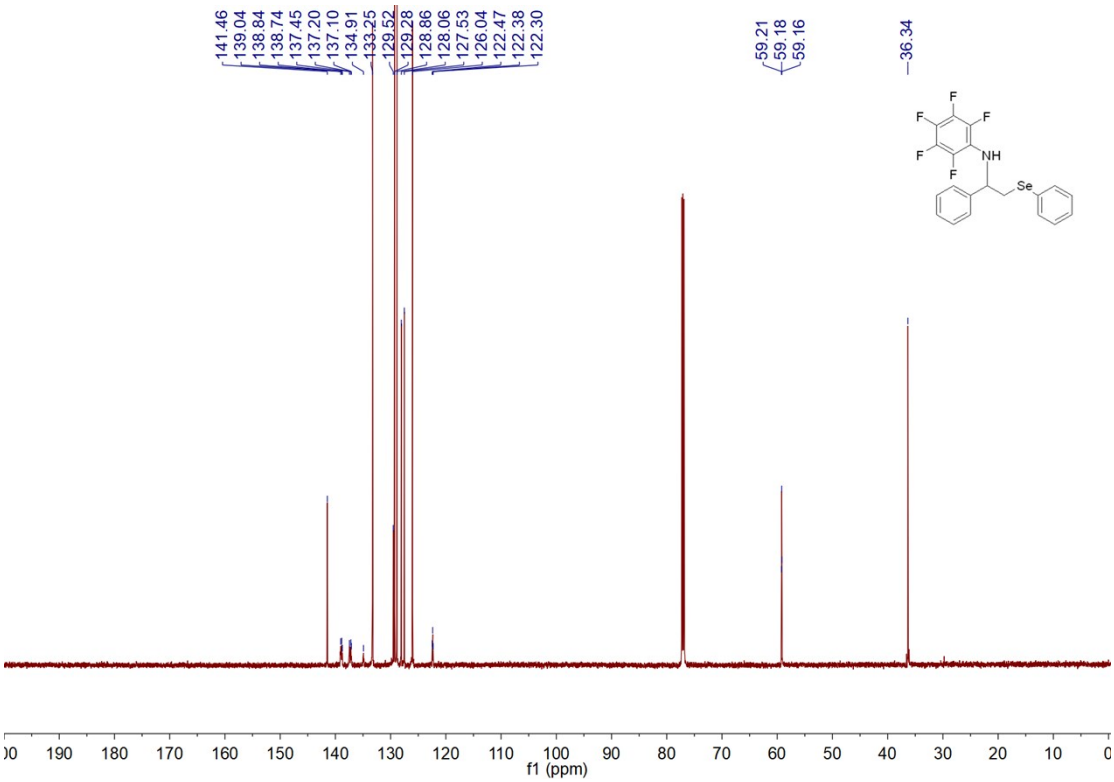


2,3,4,5,6-pentafluoro-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5y**)

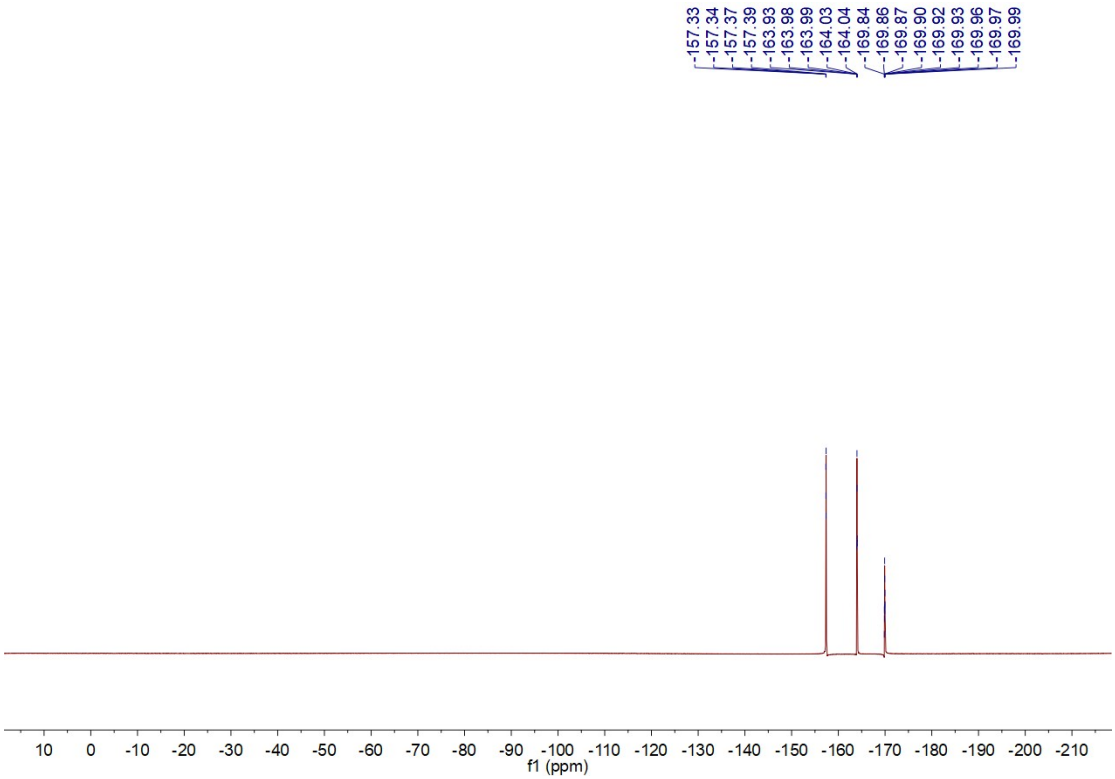
^{1}H NMR



^{13}C NMR

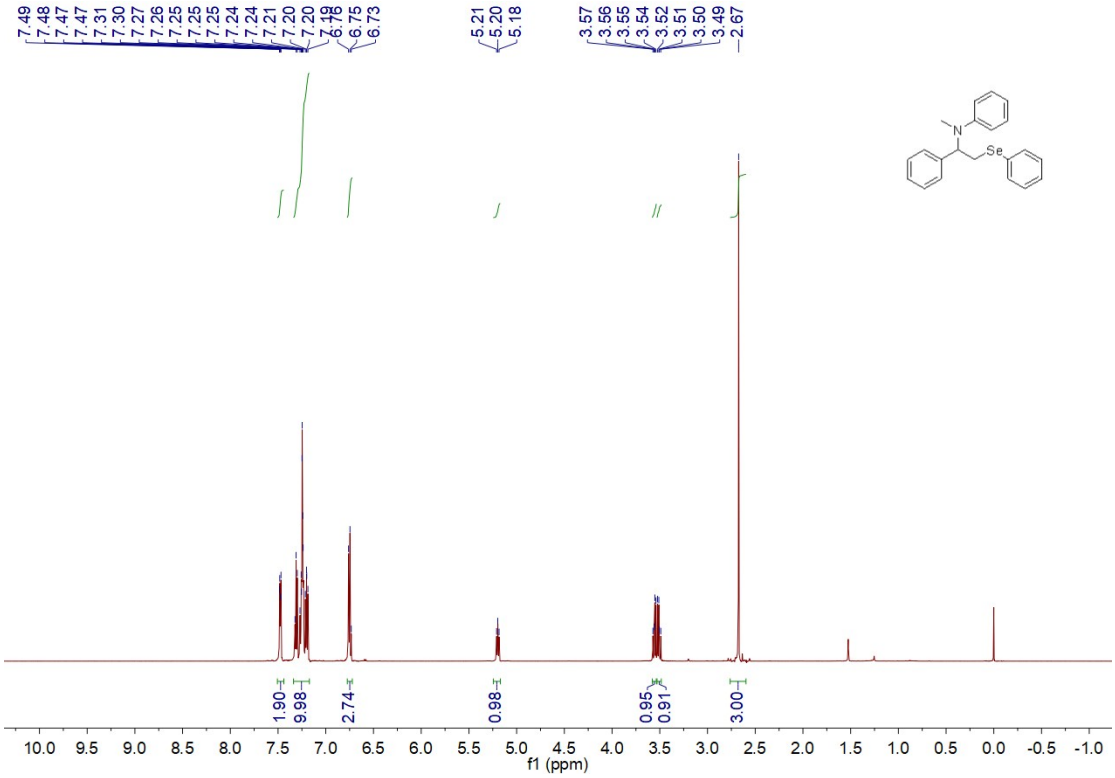


^{19}F NMR

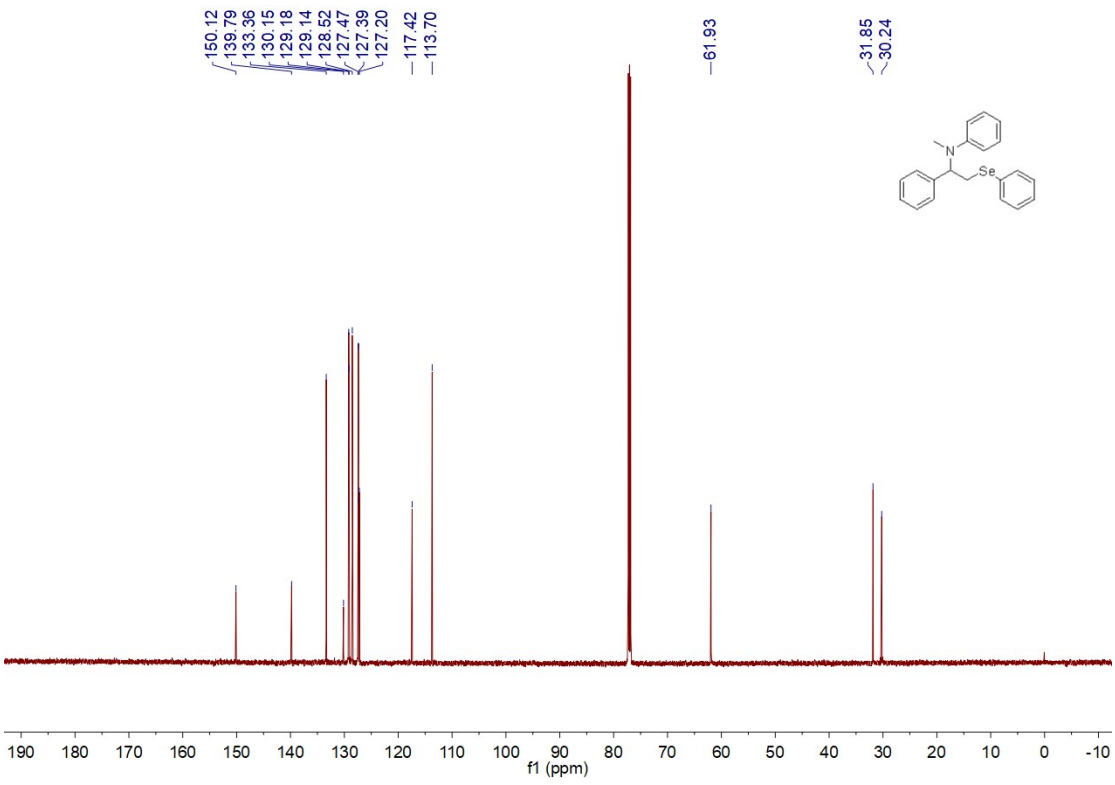


N-methyl-N-(1-phenyl-2-(phenylselanyl)ethyl)aniline (**5z**)

^{1}H NMR

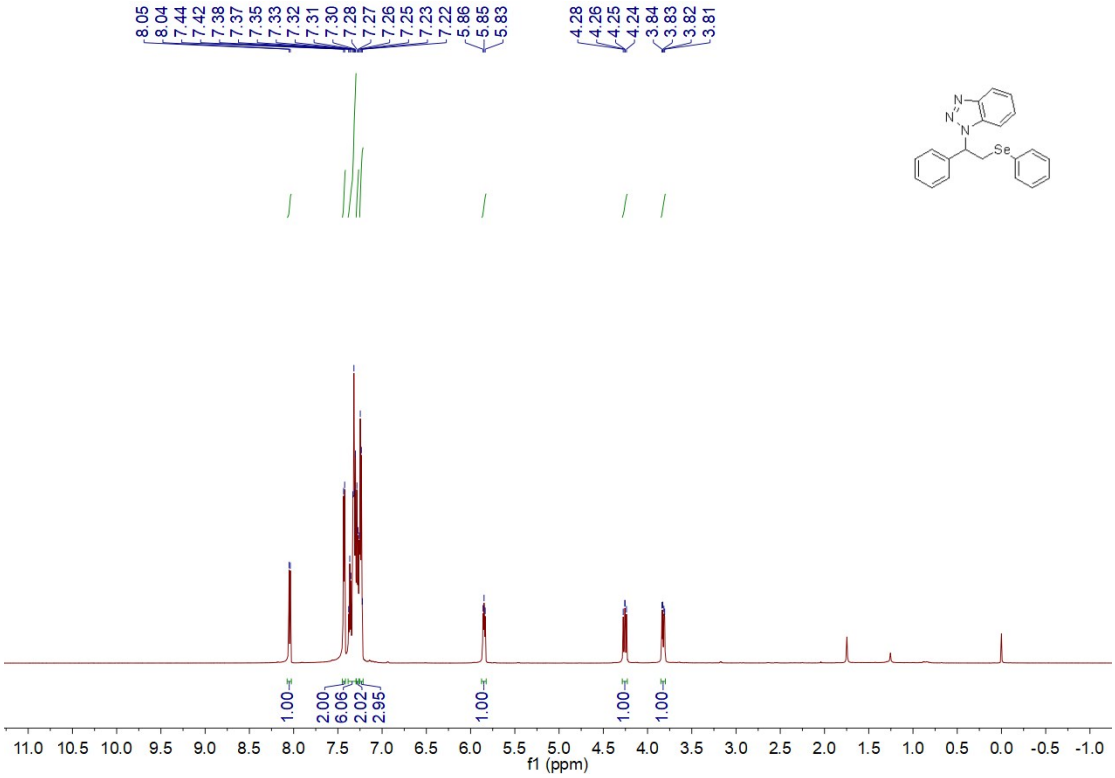


^{13}C NMR

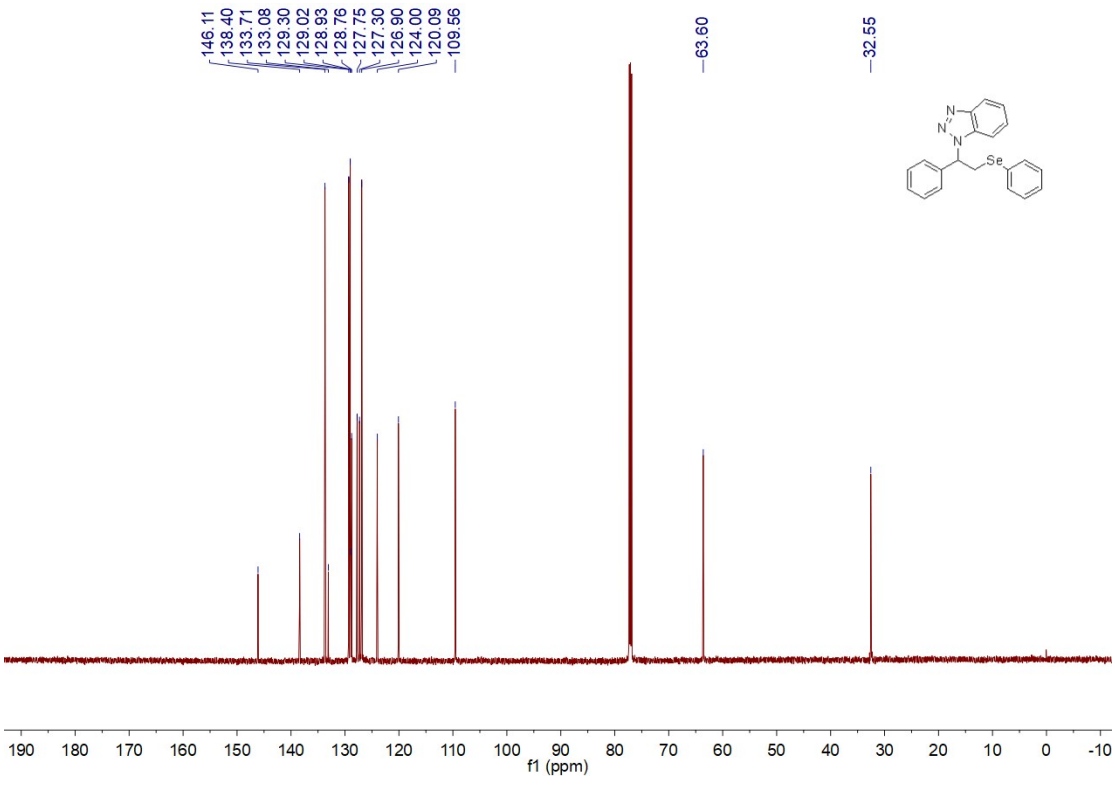


1-(1-phenyl-2-(phenylselanyl)ethyl)-1H-benzo[d][1,2,3]triazole (**5aa**)

^{1}H NMR

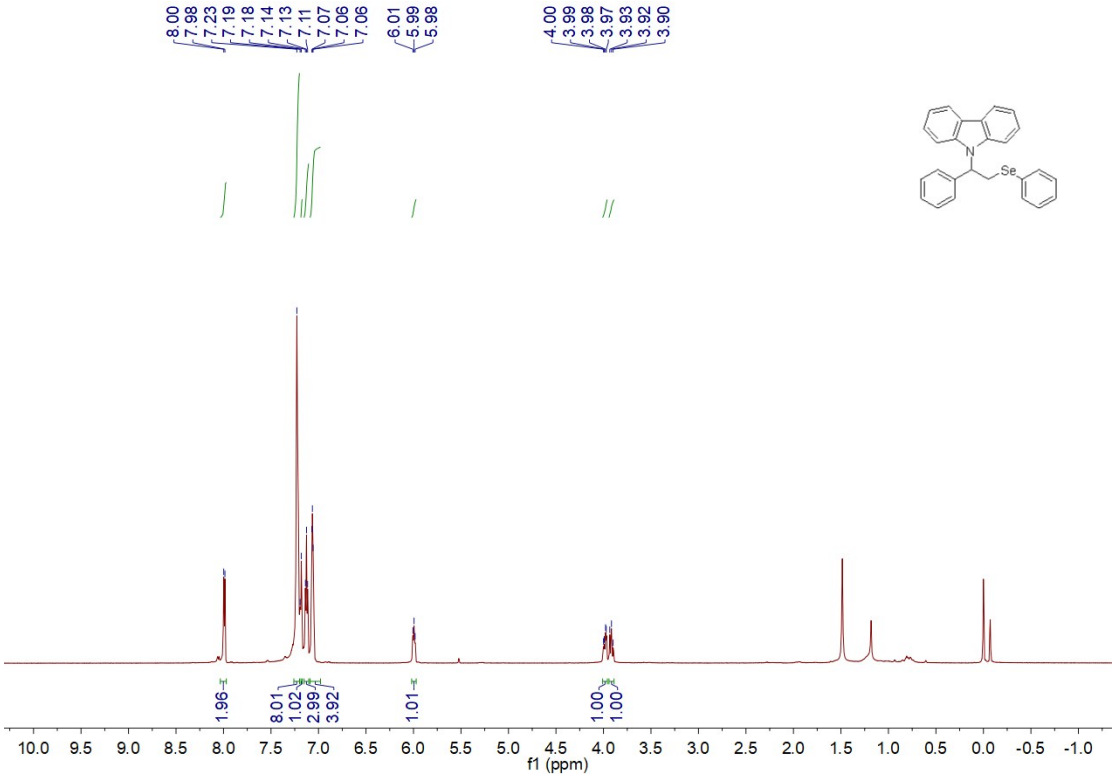


^{13}C NMR

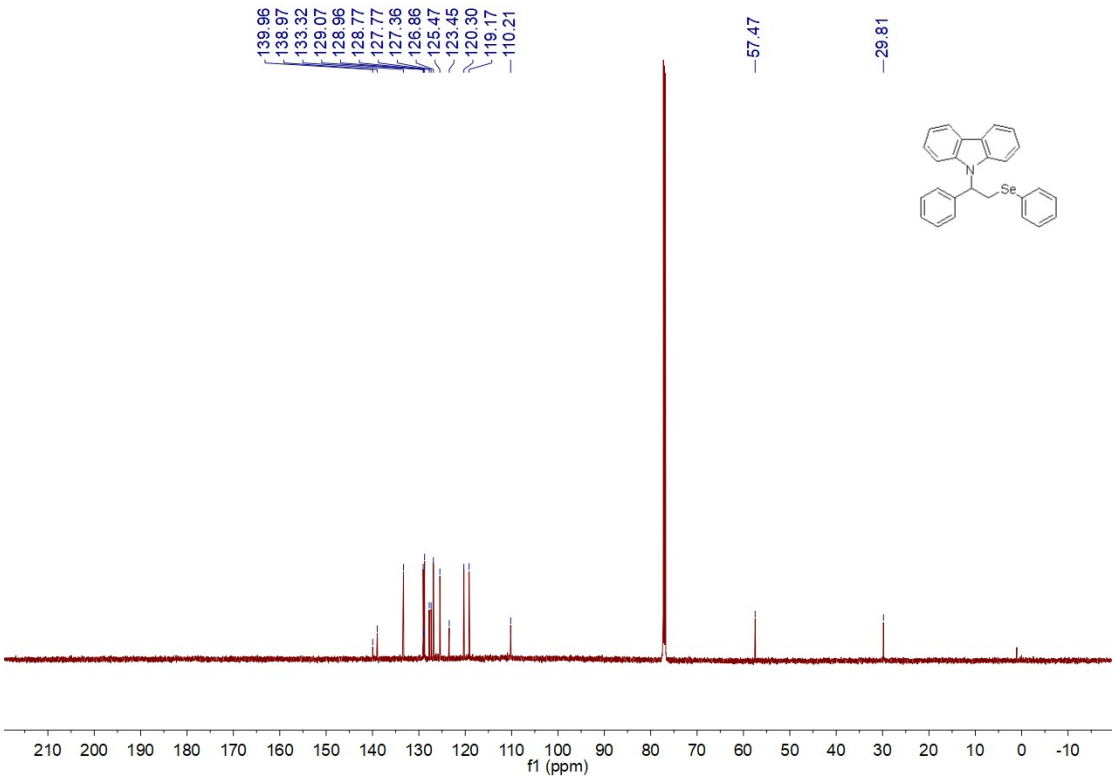


9-(1-phenyl-2-(phenylselanyl)ethyl)-9H-carbazole (**5ab**)

^{1}H NMR

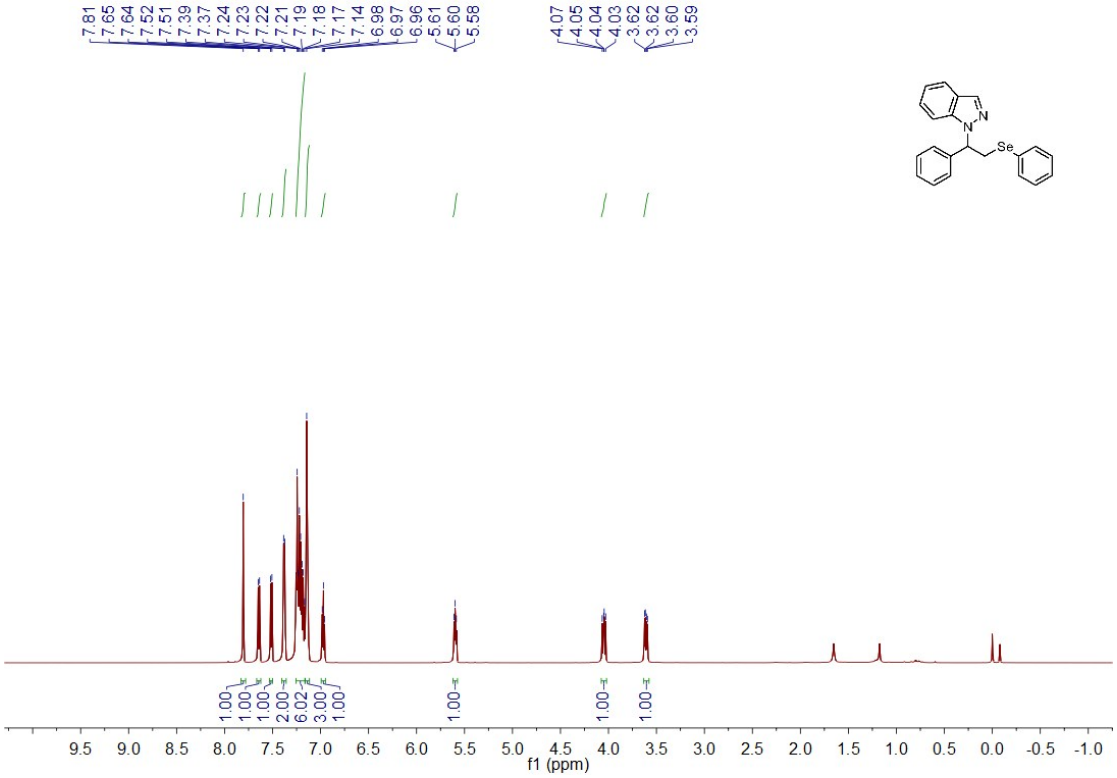


^{13}C NMR

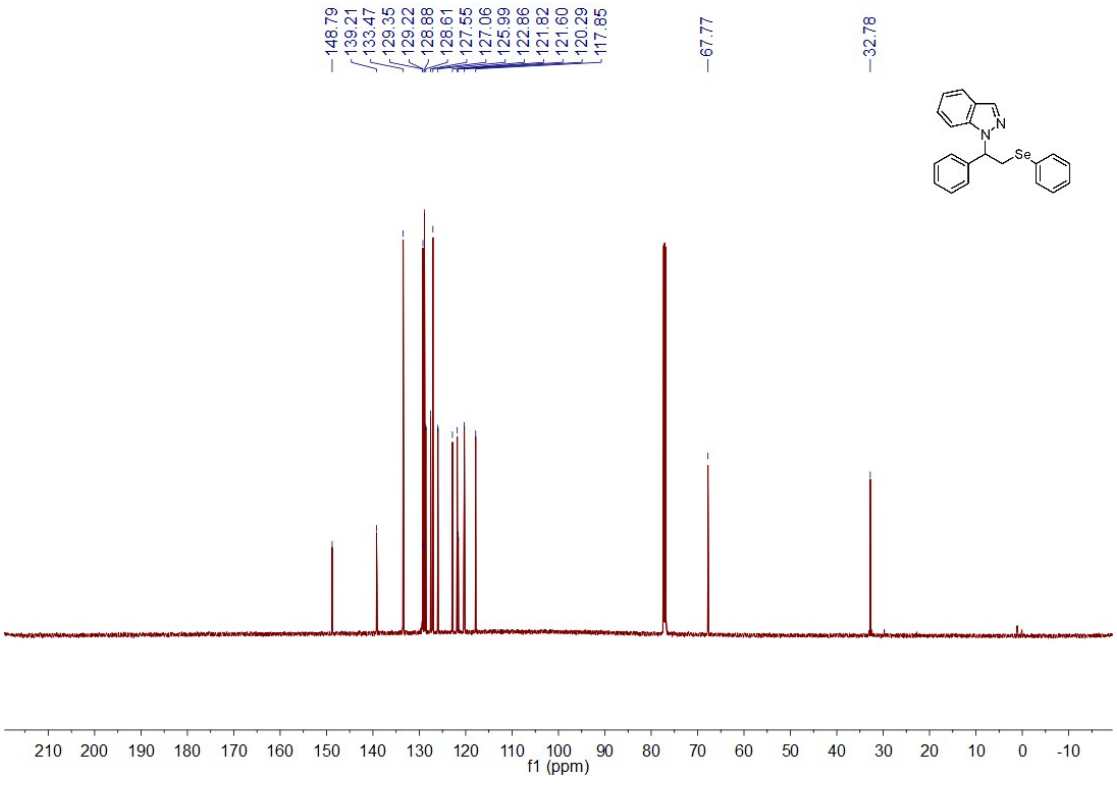


1-(1-phenyl-2-(phenylselanyl)ethyl)-1H-indazole (**5ac**)

^{1}H NMR

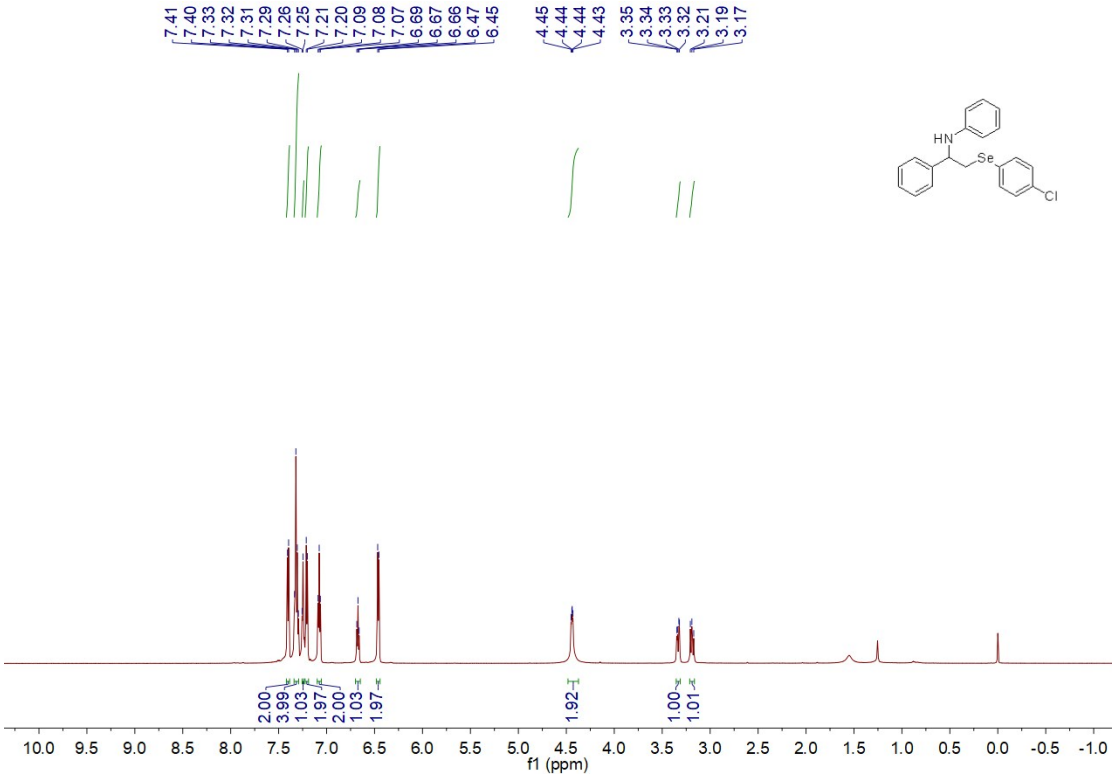


^{13}C NMR

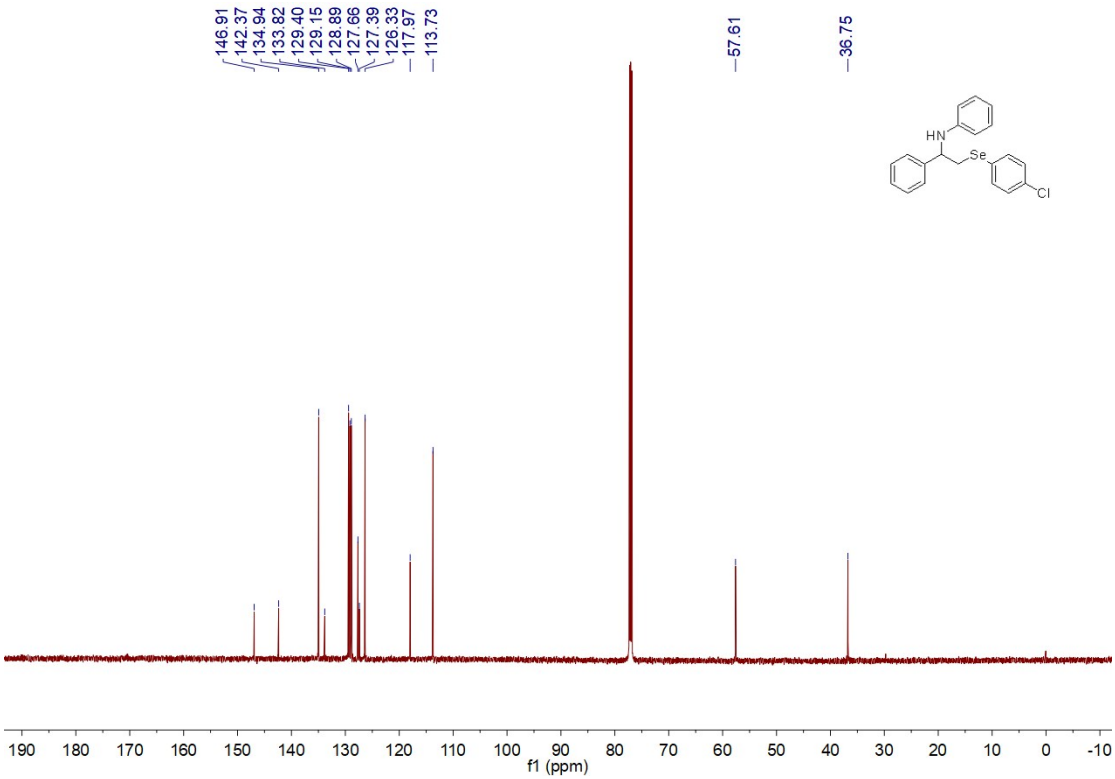


N-(2-((4-chlorophenyl)selanyl)-1-phenylethyl)aniline (**6b**)

^{1}H NMR

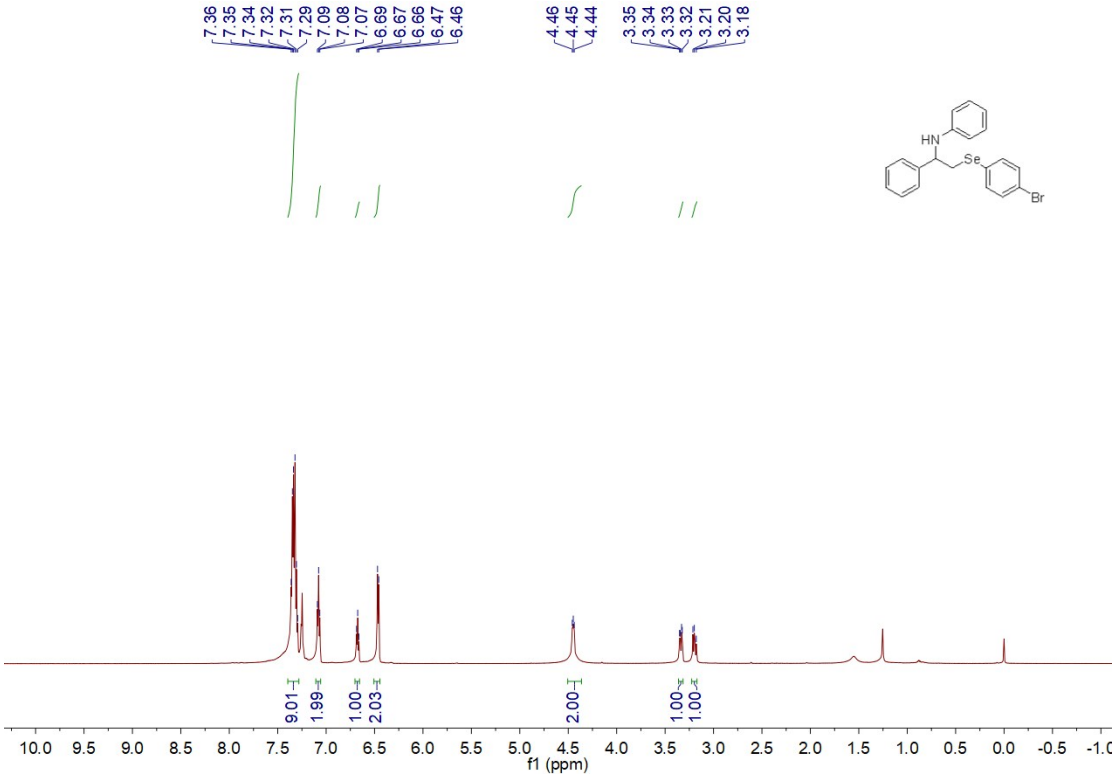


^{13}C NMR

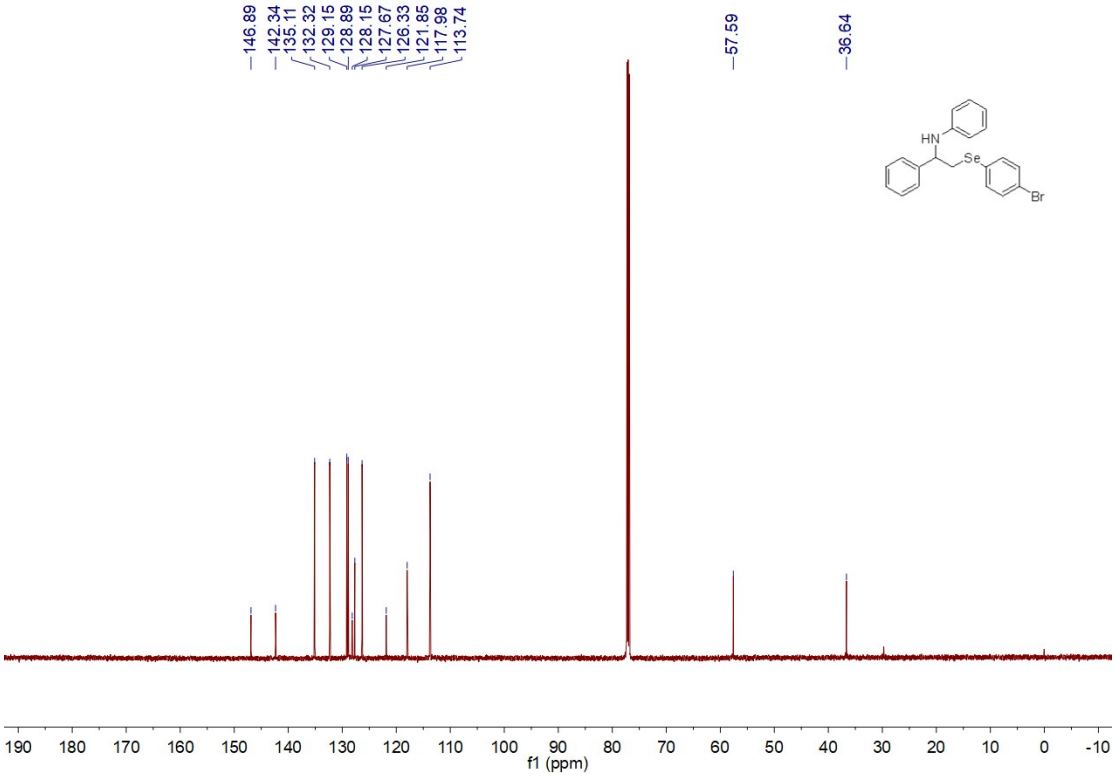


N-(2-((4-bromophenyl)selanyl)-1-phenylethyl)aniline (**6c**)

^{1}H NMR

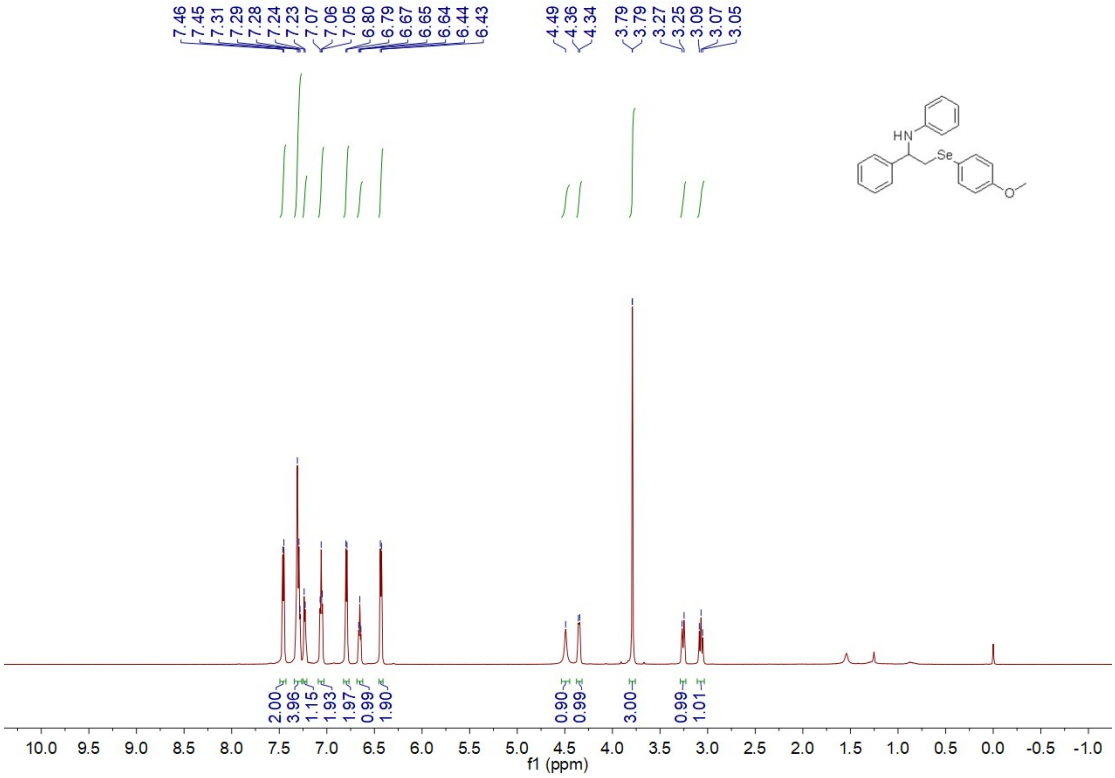


^{13}C NMR

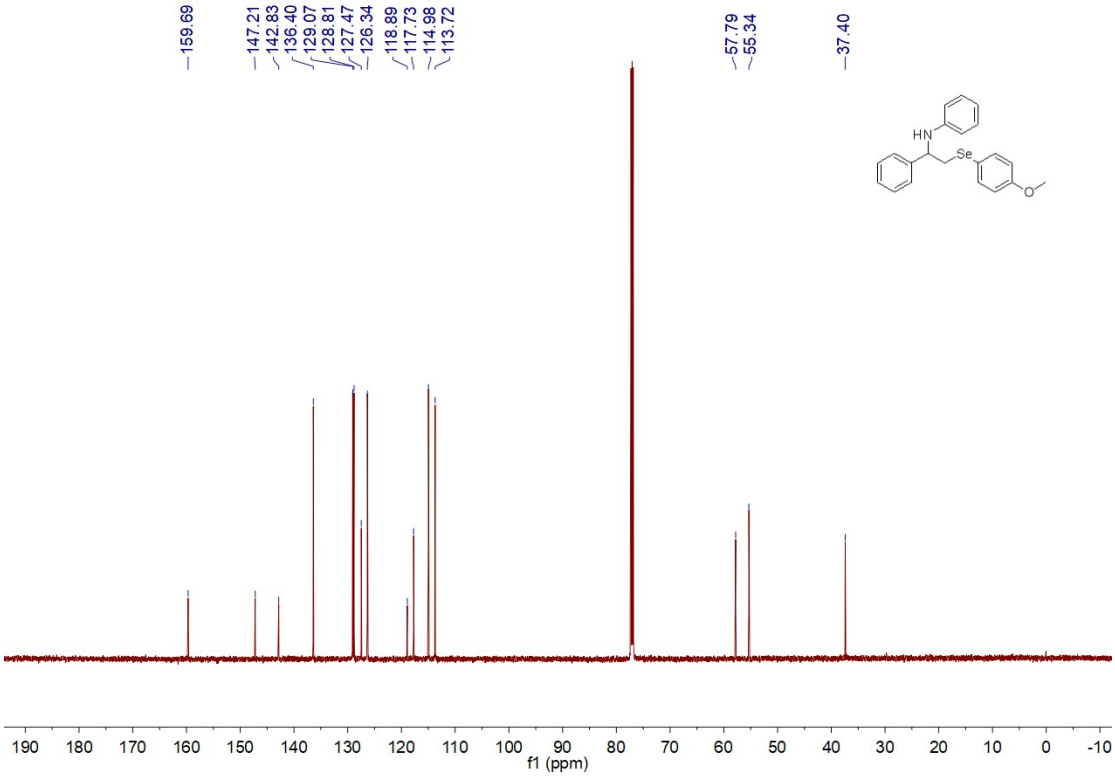


N-(2-((4-methoxyphenyl)selanyl)-1-phenylethyl)aniline (**6d**)

^{1}H NMR

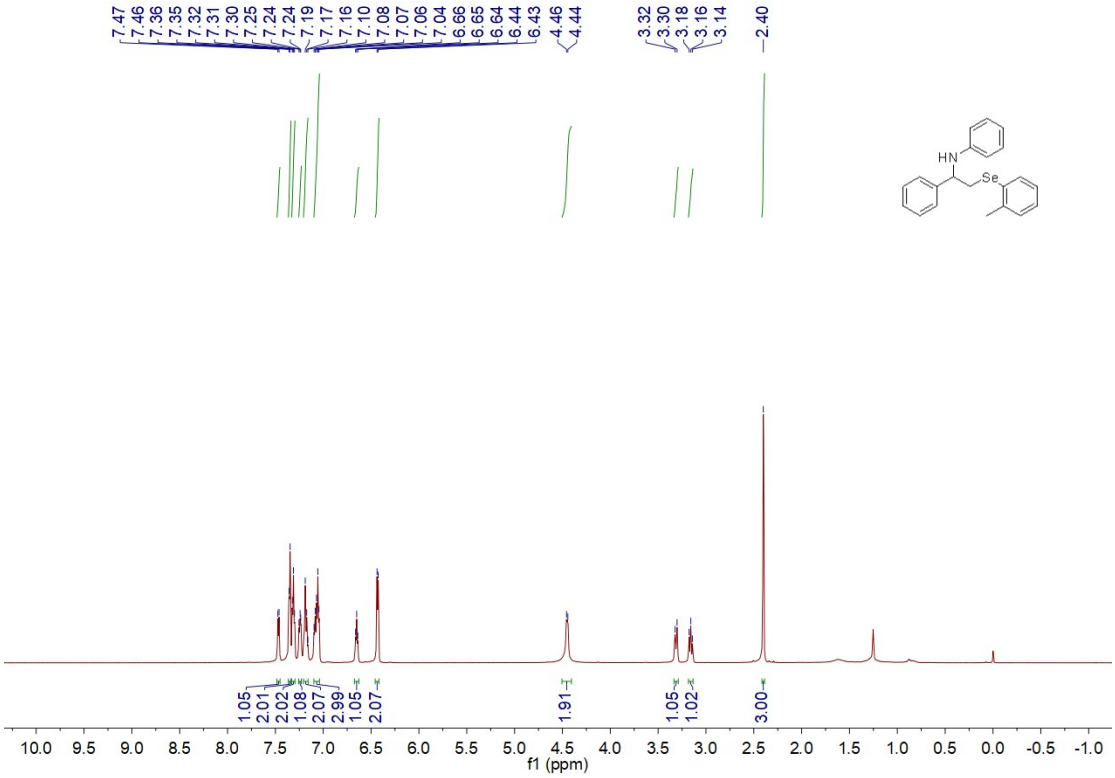


^{13}C NMR

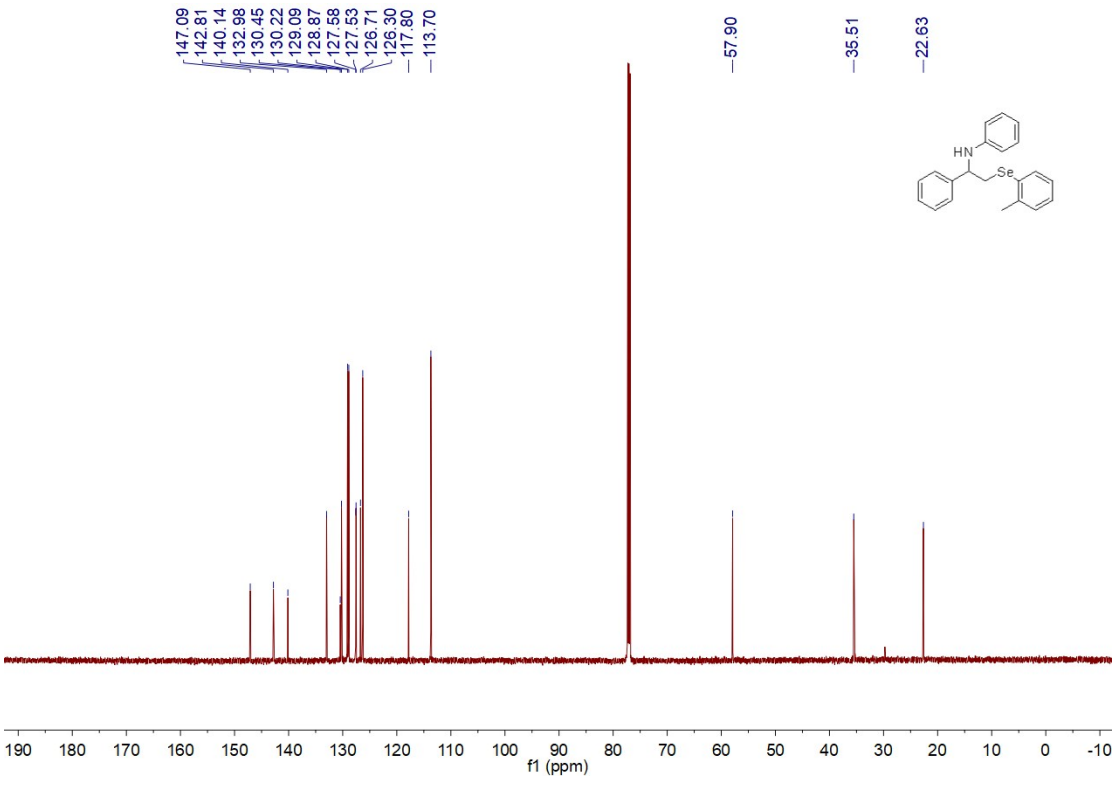


N-(1-phenyl-2-(o-tolylselanyl)ethyl)aniline (**6e**)

^{1}H NMR

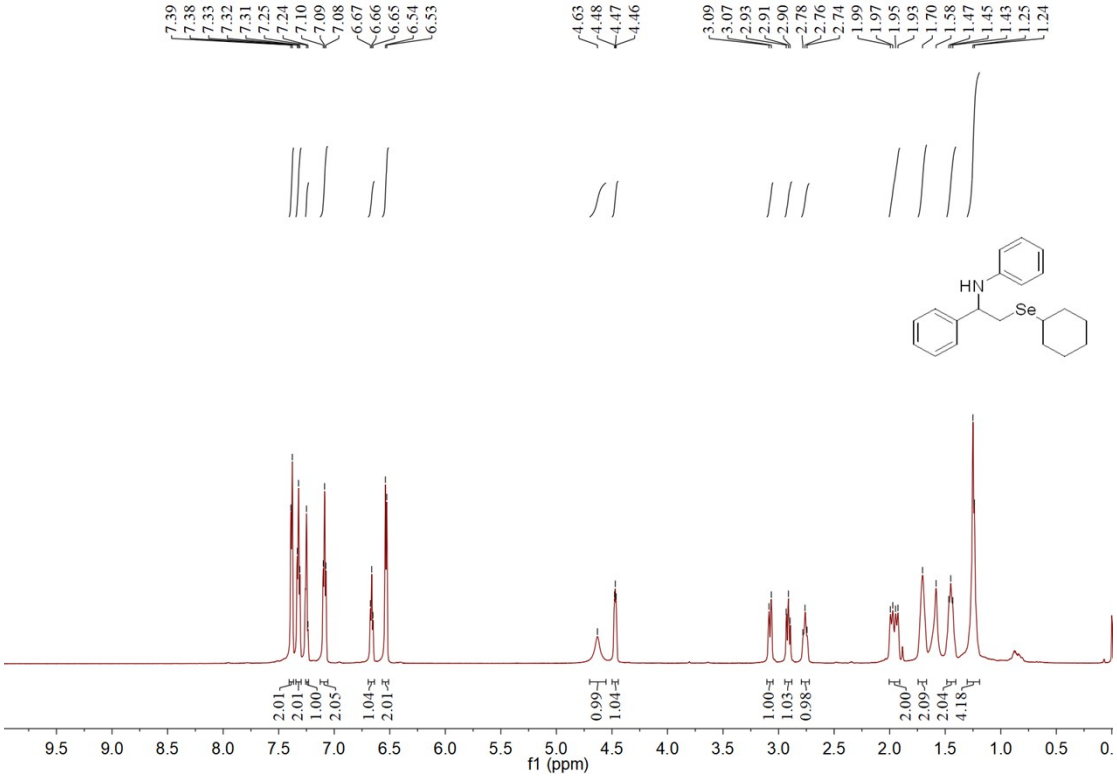


^{13}C NMR



N-(2-(cyclohexylselanyl)-1-phenylethyl)aniline (**6f**)

^{1}H NMR



^{13}C NMR