Supporting Information

Photochemistry of *N*-(selenoalkyl)-Phthalimides. Formation of N, Se-heterocyclic systems

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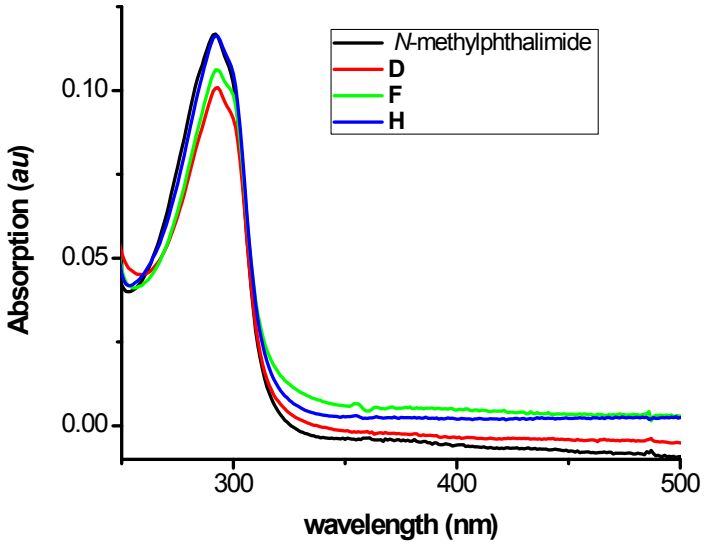


Figure S1: UV-visible absorption spectra of compounds **1a**, **b**, **d** and *N*-methyl-phthalimide (0.6 mM) in acetonitrile

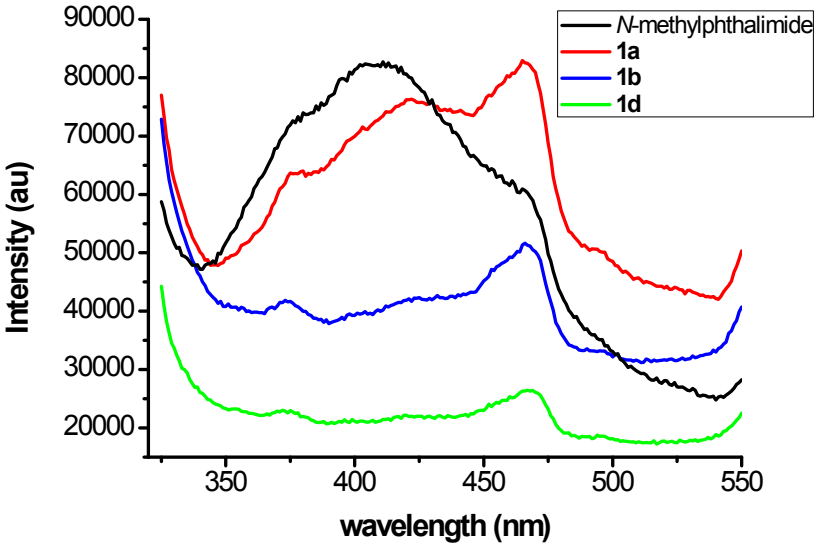


Figure S2: Florescence spectra of compounds **1a**, **b**, **d** and *N*-methyl-phthalimide in acetonitrile, absorption matched to 0.1 at 290 nm.

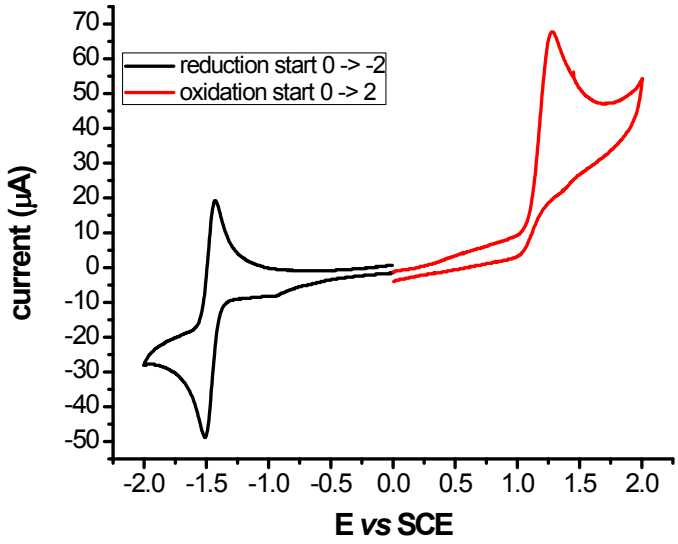


Figure S3: Cyclic voltammogram of **1b** (1.6mM) in acetonitrile with 0.1M $TBABF_4$ *vs* SCE at a glassy carbon electrode at room temperature, sweep rate = 0.1 V s^{-1}

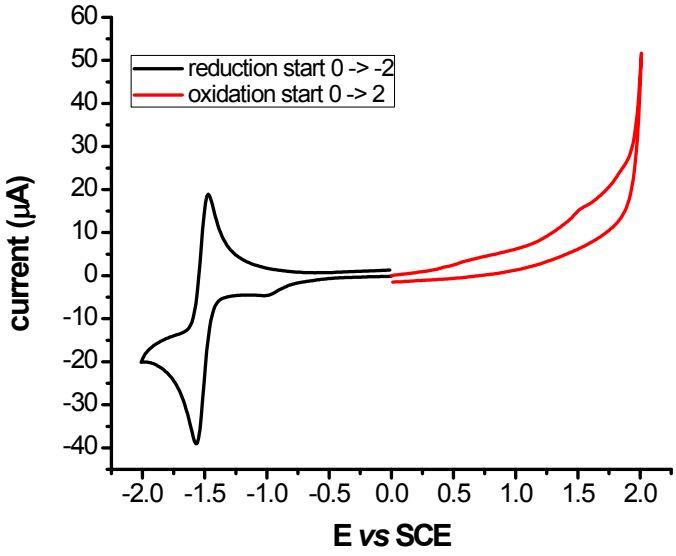


Figure S4: Cyclic voltammogram of *N*-methylphthalimide (1.3mM) in acetonitrile with 0.1M $TBABF_4$ *vs* SCE at a glassy carbon electrode at room temperature, sweep rate = 0.1 V s^{-1}

General Methods: Phthalimide, *N*-(2-chloroethyl)-phthalimide, 1,3-dibromopropane, 1,5-dibromopentane, dimethyldiselenide, diphenyldiselenide, KOH, Na°, benzophenone, 4,4-dimethoxy-benzophenone, xanthone and thioxantone were purchased from Sigma-Aldrich Chemicals Co. Acetonitrile, acetone, dimethylformamide (Merck HPLC grade) were used as purchased without any further purification and stored over molecular sieves (4A˚). Toluene was distilled with Na/benzophenone and stored over nitrogen atmosphere. Water was filtered Milli-Q purity.

The *N*-(haloalkyl)-phthalimides were synthesized and purified according to the previously reported.

General procedure for the synthesis of selenoalkyl phthalimide derivates: Into a three-necked, 250-mL, round-bottomed flask equipped with a coldfinger condenser charged with dry ice-ethanol, a nitrogen inlet, and a magnetic stirrer was condensed 150 mL of ammonia previously dried with Na metal under nitrogen. The dialkyl diselenide (1.1 mmol) was added and then 2 equiv of Na metal in small pieces, waiting for bleaching between each addition. After of the last addition the ammonia was allowed to evaporate and DMF was introduced together with *N*-(haloalkyl)-phthalimide (1 mmol). The crude reaction was dissolved in water and next extracted with diethyl ether. The product was further purified by column chromatography using a mixture of petroleum ether and ethylic ether as the eluent.

General procedure for the photocyclization of selenoalkyl phthalimides derivates: A solution of **1** (0.2 mmol) in acetone (2-5 mM) was irradiated at 300 nm (lamps: 16 x 3000 Å, 300 ± 10 nm) in a Pyrex tube for 24 h while being purged with a stream of nitrogen and cooled to nr. 10 °C. After removal of the solvent under reduced pressure the residue was purified by column chromatography.

***N*-(2-selenomehtyl)ethyl)phthalimide (1a): (yield 65%): ^{1}H NMR (400 MHz, $CDCl_3$)**: δ = 2.07 (s, 3H), 2.83 (t, *J* = 7.2 Hz, 2H), 3.95 (t, *J* = 7.2 Hz, 2H), 7.73 (dd, *J* = 5.6, 3.2 Hz, 2H), 7.85 (dd, *J* = 5.6, 3.2 Hz, 2H); **^{13}C NMR (100 MHz, $CDCl_3$)**: δ = 4.2, 22.7, 37.4, 123.3, 132.0, 134.0, 168.1; **^{77}Se NMR (76 MHz, $CDCl_3$)**: δ = 61.5. **GC-MS (EI)** *m/z* 269

(M^+, 39), 174 (86), 160 (82), 130 (36), 122 (100), 76 (47). **HRMS (ESI-TOF)** *m/z* calcd for $C_{11}H_{12}NO_2Se$: 270.0028 $[M+H]^+$, found: 270.0030.

***N*-(3-selenomethyl)propyl)phthalimide (1b): (yield 76%): ^{1}H NMR (400 MHz, $CDCl_3$)**: δ = 2.00 (s, 3H), 2.05 (q, *J* = 7.0 Hz, 2H), 2.56 (t, *J* = 7.0 Hz, 2H), 3.79 (t, *J* = 7.0 Hz, 2H), 7.72 (dd, *J* = 5.4, 3.1 Hz, 2H), 7.85 (dd, *J* = 5.4, 3.1 Hz, 2H); **^{13}C NMR (100 MHz, $CDCl_3$)**: δ = 4.0, 21.8, 28.9, 38.0, 123.2, 132.1, 133.9, 168.3; **^{77}Se NMR (76 MHz, $CDCl_3$)**: δ = 80.2. **GC-MS (EI)** *m/z* 283 (M^+, 12), 188 (100), 169 (15), 160 (85), 148 (8), 130 (33), 104 (18), 77 (24), 76 (24), 41 (35). **HRMS (ESI-TOF)** *m/z* calcd for $C_{12}H_{14}NO_2Se$: 284.0185 $[M+H]^+$, found: 284.0195.

***N*-(3-selenobenzyl)propyl)phthalimide (1c): (yield 63%): ^{1}H NMR (400 MHz, $CDCl_3$)**: δ = 1.98 (q, *J* = 7.2, 2H), 2.46 (t, *J* = 8.0 Hz, 2H), 3.73 (t, *J* = 7.2 Hz, 2H), 3.78 (s, 2H), 7.11-7.26 (m, 5H), 7.72 (dd, *J* = 5.6Hz, 3.2 Hz, 2H), 7.84 (dd, *J* = 5.6, 3.2 Hz, 2H); **^{13}C NMR (100 MHz, $CDCl_3$)**: δ = 20.3, 26.9, 29.1, 38.0, 123.2, 126.7, 128.5, 128.8, 132.1, 134.0, 139.0, 168.3; **^{77}Se NMR (76 MHz, $CDCl_3$)**: δ = 255.3. **GC-MS (EI)** *m/z* 359 (M^+, 4), 268 (5), 188 (22), 160 (13), 91 (100), 65 (15). **HRMS (ESI-TOF)** *m/z* calcd for $C_{18}H_{17}NNaO_2Se$: 382.0317 $[M+Na]^+$, found: 382.0325.

***N*-(4-selenomethyl)butyl)phthalimide (1d): (yield 65%): ^{1}H NMR (400 MHz, $CDCl_3$)**: δ = 1.67 - 1.76 (m, 2H) 1.77 – 1.82 (m, 2H), 1.98 (s, 3H), 2.58 (t, *J* = 7.2 Hz, 2H), 3.72 (t, *J* = 7.0 Hz, 2H), 7.72 (dd, *J* = 5.5, 3.0 Hz, 2H), 7.85 (dd, *J* = 5.5, 3.0 Hz, 2H); **^{13}C NMR (100 MHz, $CDCl_3$)**: δ = 4.1 24.6,27.4, 28.7, 37.4, 123.2, 132.1, 133.9, 168.4; **^{77}Se NMR (76 MHz, $CDCl_3$)**: δ = 77.5. **GC-MS (EI)** *m/z* 297 (M^+, 7), 202 (32), 160 (100), 130 (12), 77 (10). **HRMS (ESI-TOF)** *m/z* calcd for $C_{13}H_{15}NNaO_2Se$: 320.0161 $[M+Na]^+$, found: 320.0167.

***N*-(5-selenomethyl)pentyl)phthalimide (1e): (yield 57%): ^{1}H NMR (400 MHz, $CDCl_3$)**: δ = 1.41-1.49 (m, 2H), 1.67-1.75 (m, 4H), 1.97 (s, 3H), 2.53 (t, *J* = 7.3 Hz, 2H), 3.69 (t, *J* = 7.3 Hz, 2H), 7.68 (dd, *J* = 5.4, 3.04 Hz, 2H), 7.81 (dd, *J* = 5.4, 3.04 Hz, 2H); **^{13}C NMR (100 MHz, $CDCl_3$)**: δ = 4 (CH_3Se), 25.1, 27.0, 28.1, 29.7, 37.8, 123.2, 132.1, 133.9, 168.4; **^{77}Se NMR (76 MHz, $CDCl_3$)**: δ = 77.0. **GC-MS (EI)** *m/z* 311 (M^+, 12), 216 (53),

160 (100), 148 (13), 130 (24), 104 (10), 77 (15). **HRMS (ESI-TOF)** *m/z* calcd for $C_{14}H_{18}NO_2Se$: 312.0498 $[M+H]^+$, found: 312.0505.

10b-hydroxy-1,3,4,10b-tetrahydro-6H-[1,4]selenazino[3,4-a]isoindol-6-one (2a): ^{1}H NMR (400 MHz, $CDCl_3$): δ = 2.57 (dt, *J* = 14.4, 2.4 Hz, 1H), 2.75 (td, *J* = 12.4, 3.2 Hz, 1H), 2.89 (d, *J* = 12.4 Hz, 1H), 3.15 (d, *J* = 12.4 Hz, 1H), 3.45 (ddd, *J* = 14.2, 12.4, 3.2 Hz, 1H), 4.37 (s, 1H), 4.68 (dt, *J* = 14.4, 2.8 Hz, 1H), 7.51-7.55 (m, 1H), 7.58-7.64 (m, 2H), 7.81-7.83 (m, 1H); **^{13}C NMR (100 MHz, $CDCl_3$)**: δ = 18.9, 30.5, 37.8, 82.9, 121.6, 123.9, 130.1, 131.2, 132.3, 145.7, 165.1; **^{77}Se NMR (76 MHz, $CDCl_3$)**: δ = 74.7. **GC-MS (EI)** *m/z* 253 (24), 251 ($[M-H_2O]^+$, 100), 249 (11), 238 (23), 236 (93), 234 (54), 170 (47), 159 (10), 129 (41), 115 (61), 102 (41), 89 (29), 75 (49). **HRMS (ESI-TOF)** *m/z* calcd for $C_{11}H_{11}NNaO_2Se$: 291.9848 $[M+Na]^+$, found: 291.9859.

11b-hydroxy-1,4,5,11b-tetrahydro-3H,7H-[1,4]selenazepino[3,4-a]isoindol-7-one (2b): ^{1}H NMR (400 MHz, $CDCl_3$): δ = 2.09 (q, *J* = 14.4 Hz, 2H), 2.64-2.67 (m, 2H), 3.09 (m, 1H), 3.15 (d, *J* = 14 Hz, 1H), 3.40 (d, *J* = 14 Hz, 1H), 3.50 (d, *J* = 14.8 Hz, 1H), 4.33 (s, 1H), 7.42-7.46 (m, 1H), 7.51-7.54 (m, 1H), 7.57-7.60 (m, 2H); **^{13}C NMR (100 MHz, $CDCl_3$)**: δ = 25.6, 28.4, 34.1, 38.6, 92.2, 121.7, 123.0, 129.7, 131.5, 132.6, 146.3, 168.2; **^{77}Se NMR (76 MHz, $CDCl_3$)**: δ = 156.9. **GC-MS (EI)** *m/z* 265 ($[M-H_2O]^+$, 75), 263 (40), 236 (45), 184 (100), 129 (21), 115 (10), 102 (26). **HRMS (ESI-TOF)** *m/z* calcd for $C_{12}H_{14}NO_2Se$: 284.0185 $[M+H]^+$, found: 284.0204.

9b-hydroxy-1-(selenomethyl)-1,2,3,9b-tetrahydro-5H-pyrrolo[2,1-a]isoindol-5-one (3b): ^{1}H NMR (400 MHz, $CDCl_3$): δ = 2.03 (s, 3H), 2.74 (m, 2H), 2.83 (m, 1H), 3.34 (d, *J* = 1.4 Hz, 1H), 3.44 (ddd, *J* = 11.3, 5.7, 4.2 Hz, 1H), 3.66 (dt, *J* = 11.3, 8.5 Hz, 1H), 7.50 (td, *J* = 7.5, 1.2 Hz, 1H), 7.59 (td, *J* = 7.5, 1.2 Hz, 1H), 7.67 (dt, *J* = 7.5, 1.2 Hz, 1H), 7.81 (dt, *J* = 7.5, 1.2 Hz, 1H); **^{13}C NMR (100 MHz, $CDCl_3$)**: δ = 4.7, 35.7, 41.1, 44.6, 95.5, 122.8, 123.8, 130.2, 131.7, 132.8, 145.9, 169.8; **^{77}Se NMR (76 MHz, $CDCl_3$)**: δ = 88.5. **GC-MS (EI)** *m/z* 265 ($[M-H_2O]^+$, 100), 263 (61), 250 (98), 169 (85), 142 (23), 115 (79). **HRMS (ESI-TOF)** *m/z* calcd for $C_{12}H_{13}NNaO_2Se$: 306.0004 $[M+Na]^+$, found: 306.0030.

9b-hydroxy-1,2,3,9b-tetrahydro-5H-pyrrolo[2,1-a]isoindol-5-one (4b):[1] **^{1}H NMR (400 MHz, $CDCl_3$)**: δ = 1.61 – 1.49 (m, 1H), 2.40 – 2.23 (m, 2H), 2.73 – 2.53 (m, 1H), 3.51 – 3.32 (m, 1H), 2.91 (s, 1H), 3.65 (dt, *J* = 11.4, 8.5 Hz, 1H), 7.51 – 7.43 (m, 1H), 7.57 (t, *J* =

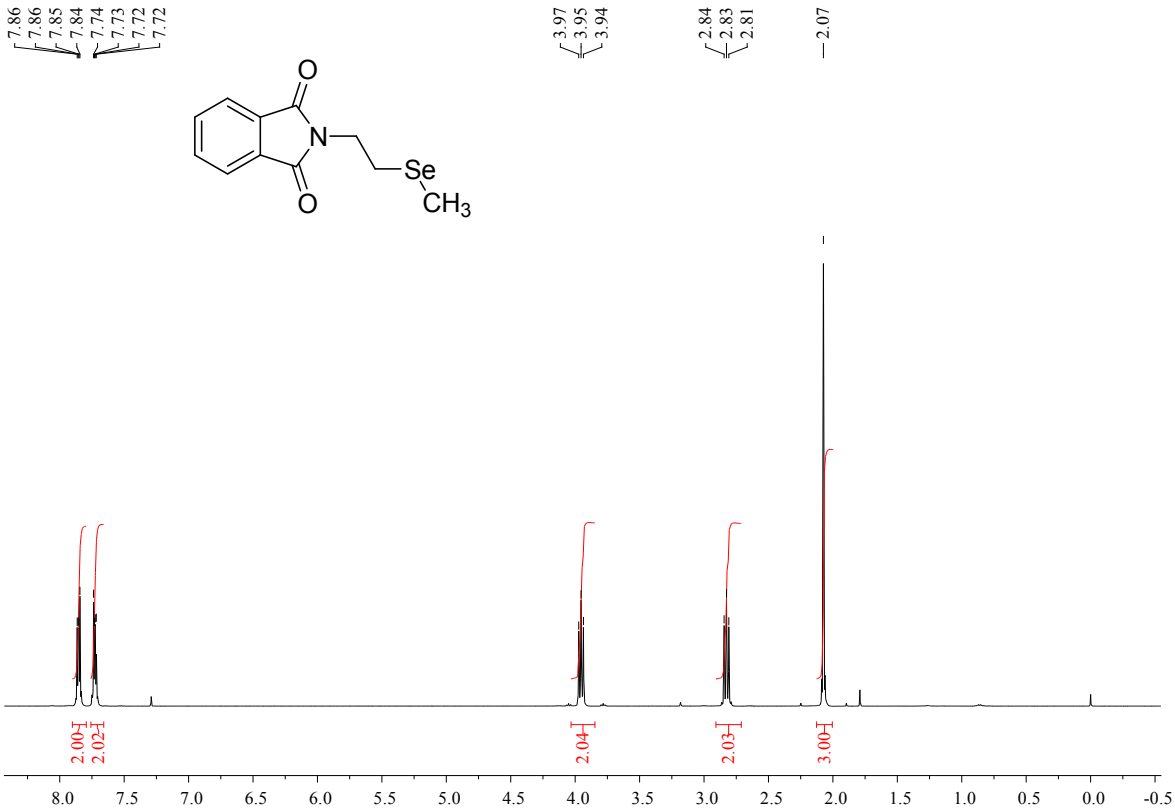
6.0 Hz, 2H), 7.64 (d, *J* = 7.5 Hz, 1H); **^{13}C NMR (100 MHz, $CDCl_3$)**: δ = 27.7, 34.7, 41.5, 96.5, 122.6, 123.7, 129.8, 131.7, 132.8, 147.2, 170.1. **GC-MS (EI)** *m/z* 171 ([M-H_2O]$^+$, 83), 170 (100), 143 (18), 142 (21), 115 (21). **HRMS (ESI-TOF)** *m/z* calcd for $C_{11}H_{12}NO_2$: 190.0863 [M+H]$^+$, found: 190.0887.

5H-pyrrolo[2,1-a]isoindol-5-one (5b):[2] **^{1}H NMR (400 MHz, $CDCl_3$)**: δ = 6.17 (t, *J* = 3.1 Hz, 1H), 6.21 (dd, *J* = 3.1, 0.6 Hz, 1H), 7.01 (dd, *J* = 3.2, 0.7 Hz, 1H), 7.18 (td, *J* = 7.5, 0.8 Hz, 1H), 7.28 (d, *J* = 7.5 Hz, 1H), 7.43 (td, *J* = 7.6, 1.1 Hz, 1H), 7.64 (d, *J* = 7.5 Hz, 1H); **^{13}C NMR (100 MHz, $CDCl_3$)**: δ = 107.4, 116.7, 117.2, 119.5, 125.8, 127.2, 132.0, 134.5, 135.6, 136.4, 163.1. **GC-MS (EI)** *m/z* 169 (M$^+$, 100), 140 (25), 114 (31).

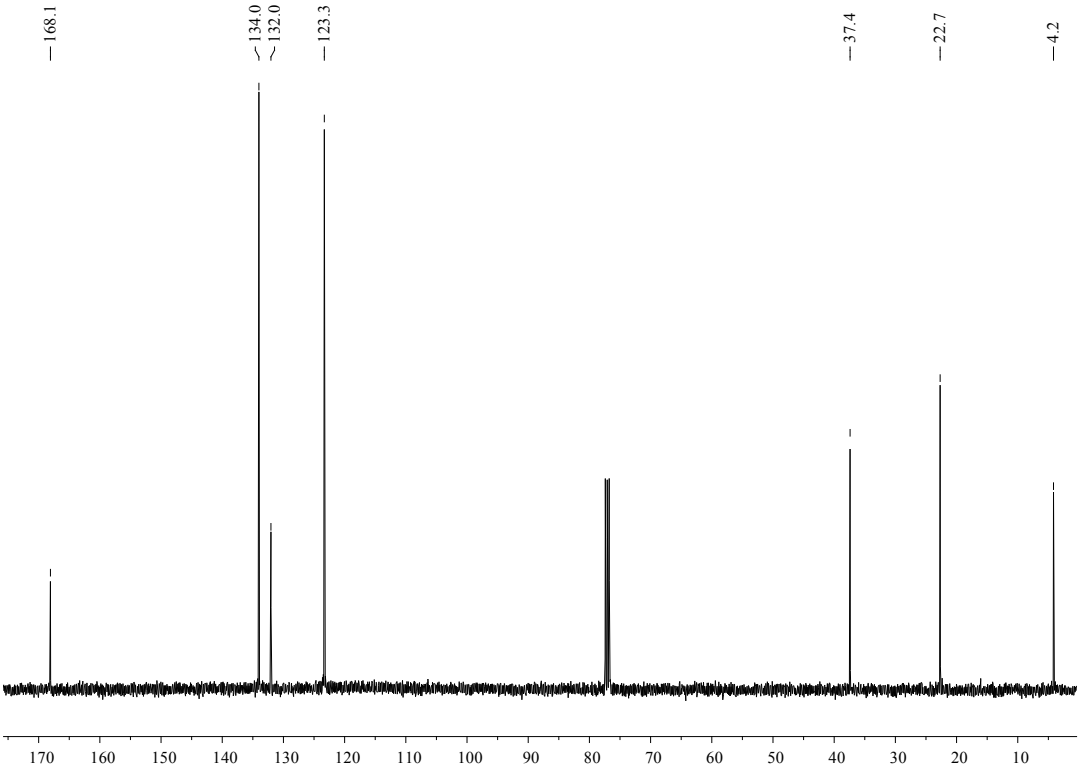
10b-hydroxy-1-(selenomethyl)-1,3,4,10b-tetrahydropyrido[2,1-a]isoindol-6(2H)-one (3d): ^{1}H NMR (400 MHz, $CDCl_3$): δ = 1.52 – 1.37 (m, 1H), 1.84 – 1.75 (m, 1H), 2.05 (s, 3H), 2.21 – 2.12 (m, 1H), 2.33 (qd, *J* = 13.0, 3.7 Hz, 1H), 2.49 (dd, *J* = 13.0, 4.0 Hz, 1H), 3.00 (td, *J* = 13.0, 3.4 Hz, 1H), 3.73 (d, *J* = 1.6 Hz, 1H), 4.04 (dd, *J* = 13.0, 4.9 Hz, 1H), 7.39 (td, *J* = 7.5, 0.9 Hz, 1H), 7.53 (m, 2H), 8.28 (d, *J* = 7.6 Hz, 1H). **^{13}C NMR (100 MHz, $CDCl_3$):** δ = 4.3, 27.1, 29.6, 35.5, 46.2, 88.5, 123.1, 124.5, 129.6, 130.8, 131.6, 147.1, 164.9. **^{77}Se NMR (76 MHz, $CDCl_3$)**: δ = 159.3. **GC-MS (EI)** *m/z* 279 ([M-H_2O]$^+$, 100), 264 (99), 234 (19), 184 (69), 182 (99), 172 (39), 154 (26), 130 (26), 129 (28), 128 (39), 127 (42), 102 (41). **HRMS (ESI-TOF)** *m/z* calcd for $C_{13}H_{16}NNaO_2Se$: 320.0161 [M+Na]$^+$, found: 320.0174.

13b-hydroxy-1,4,5,6,7,13b-hexahydro-3H,9H-[1,4]selenazonino[3,4-a]isoindol-9-one (2e): ^{1}H NMR (400 MHz, $CDCl_3$): δ = 1.49 - 1.57 (m, 2H), 1.66 - 1.74 (m, 1H), 1.78 - 1.86 (m, 2H), 2.03 - 2.15 (m, 1H), 2.52 - 2.58 (m, 1H), 2.63 – 2.69 (m, 1H), 3.28 (d, *J* = 14.1 Hz, 1H), 3.41 (m, 2H), 3.58 – 3.64 (m, 1H), 3.53 (s, 1H), 7.41 – 7.44 (m, 2H), 7.54 – 7.58 (m, 1H), 7.60 – 7.62 (m, 1H); **^{13}C NMR (100 MHz, $CDCl_3$)**: δ = 22.1, 24.4, 24.8, 26.8, 29.4, 38.0, 91.0, 121.3, 123.1, 129.9, 131.5, 132.4, 146.5, 169.0; **^{77}Se NMR (76 MHz, $CDCl_3$)**: δ = 117.5. **GC-MS (EI)** *m/z* 293 ([M-H_2O]$^+$, 17), 236 (12), 212 (14), 198 (16), 184 (88), 158 (100), 146 (33), 130 (20), 115 (13), 102 (29), 89 (21). **HRMS (ESI-TOF)** *m/z* calcd for $C_{14}H_{17}NNaO_2Se$: 334.0317 [M+Na]$^+$, found: 334.0343.

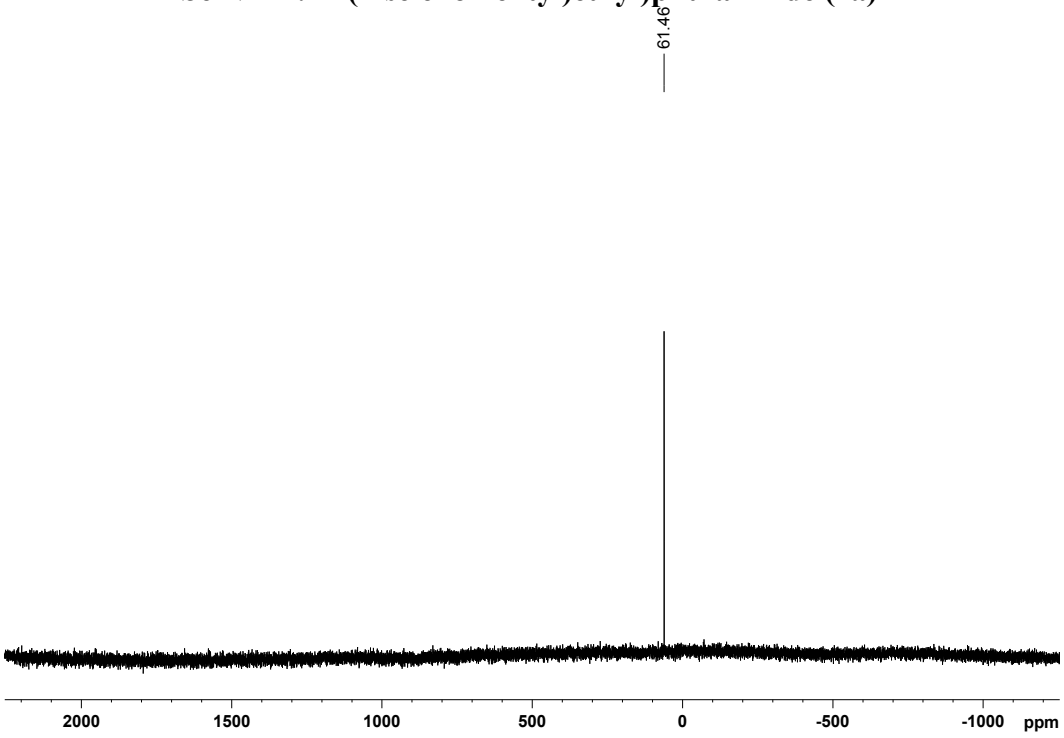
^{1}H NMR. *N*-(2-selenomehtyl)ethyl)phthalimide (1a)



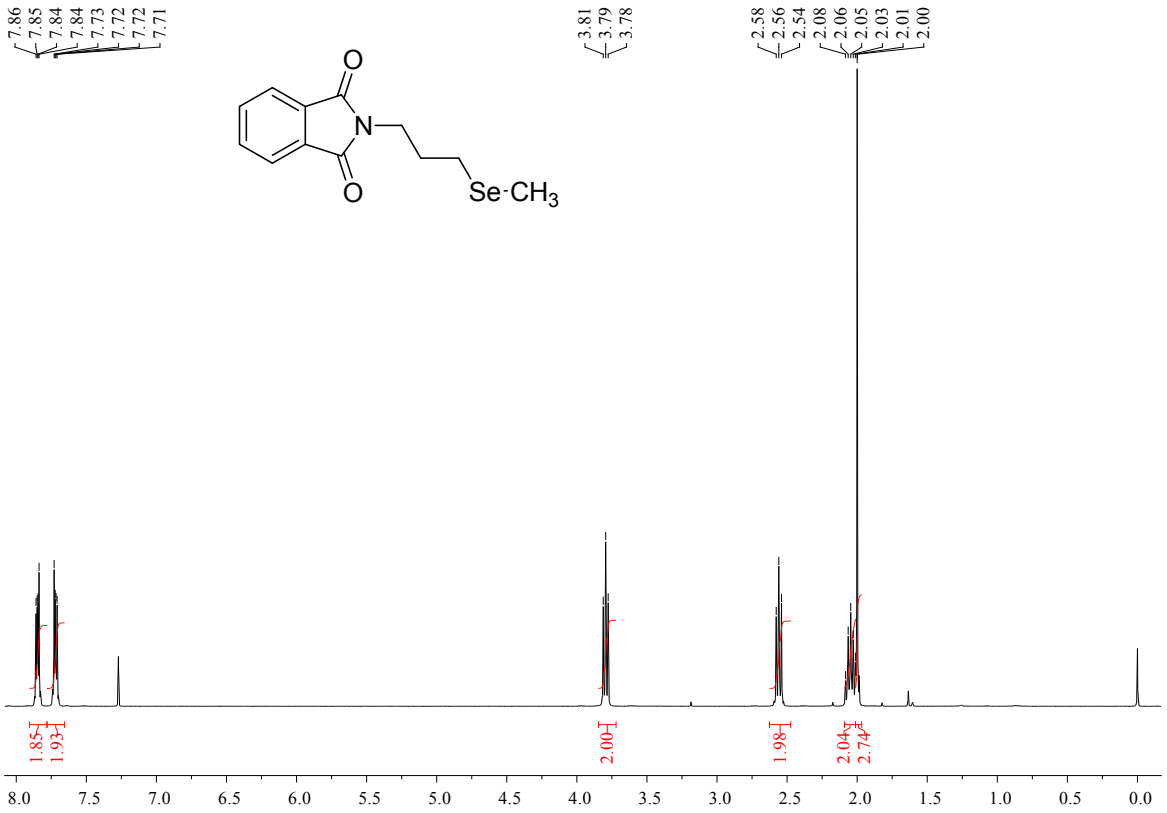
^{13}C NMR. *N*-(2-selenomehtyl)ethyl)phthalimide (1a)



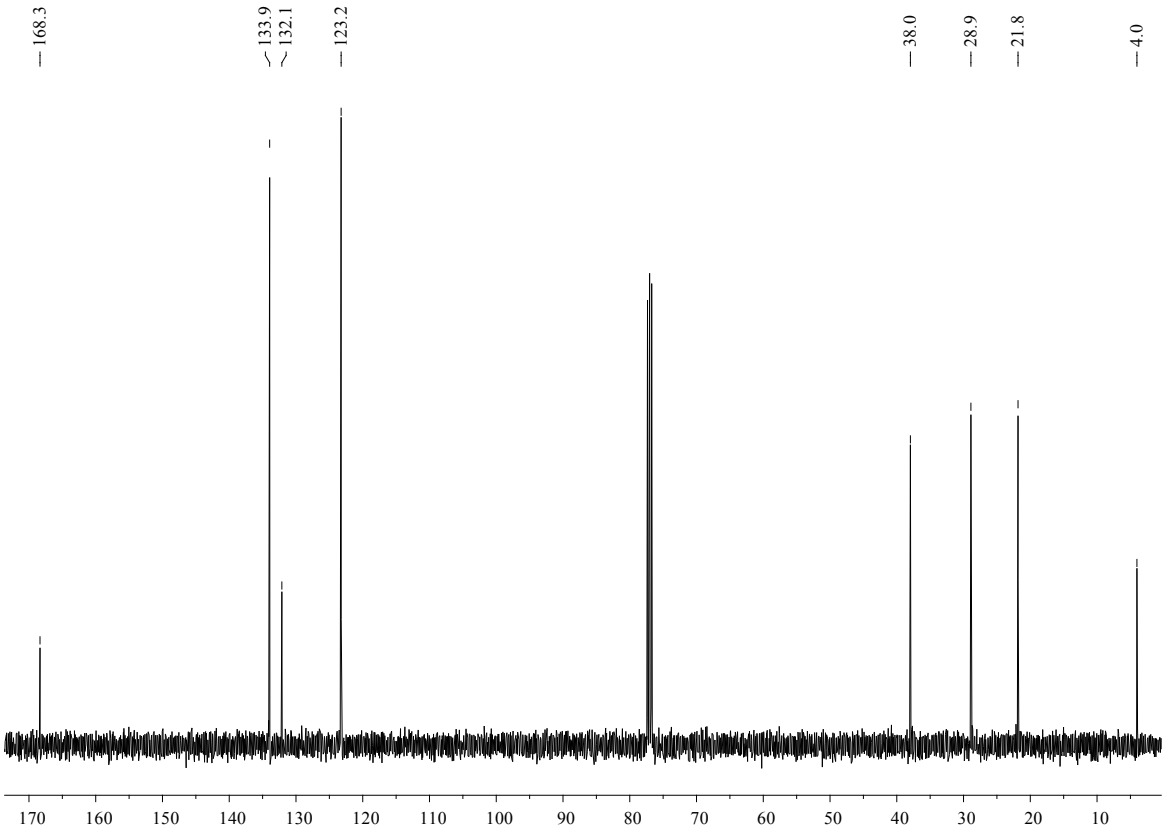
^{77}Se NMR. *N*-(2-selenomehtyl)ethyl)phthalimide (1a)



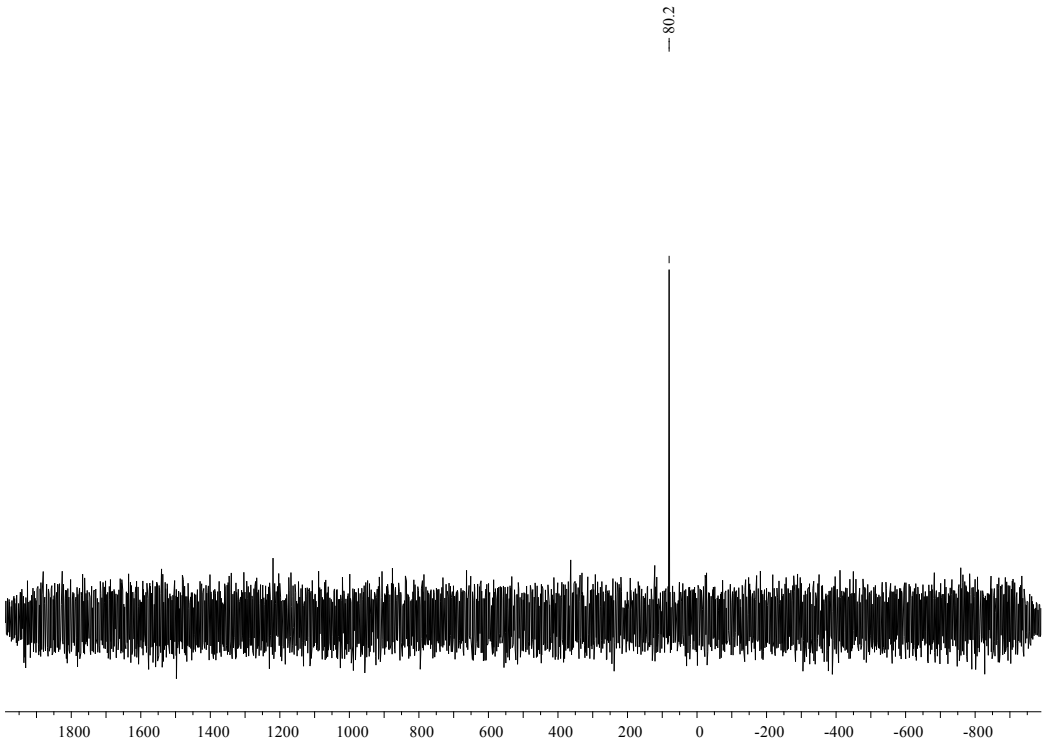
^{1}H NMR. *N*-(3-selenomethyl)propyl)phthalimide (1b)



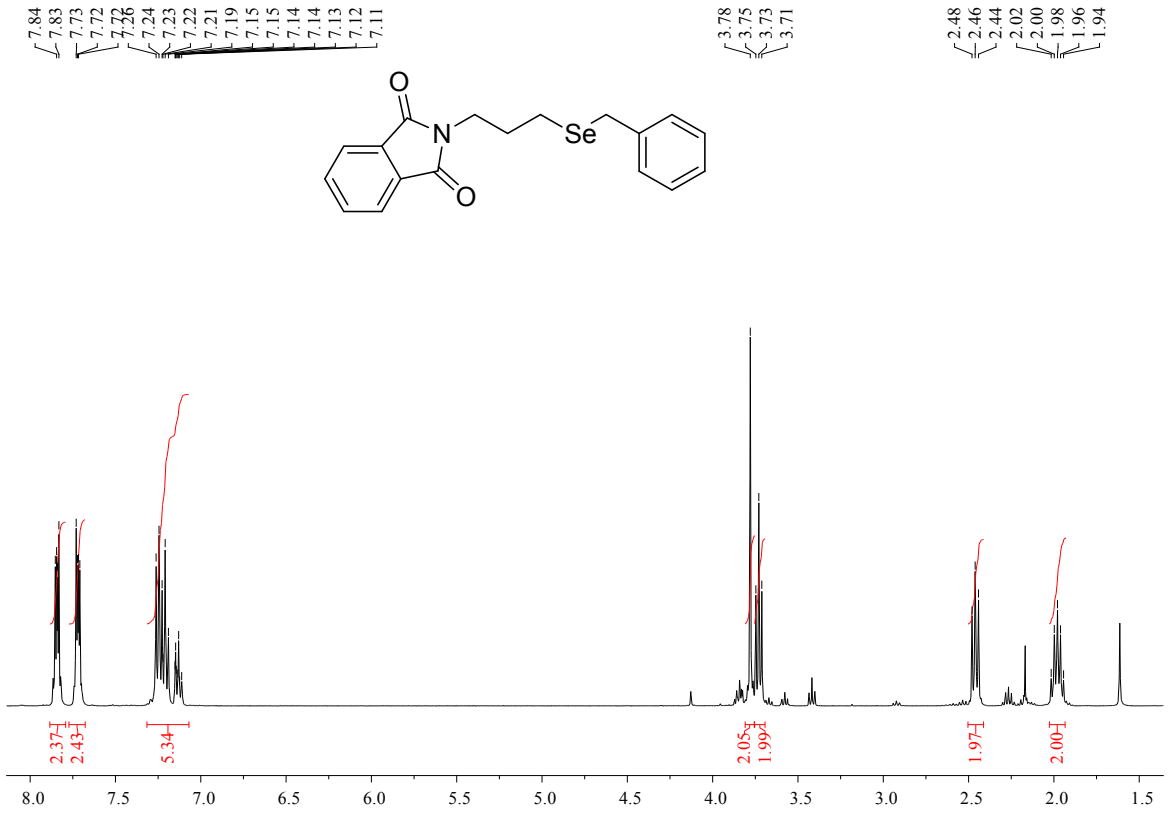
^{13}C NMR. *N*-(3-selenomethyl)propyl)phthalimide (1b)



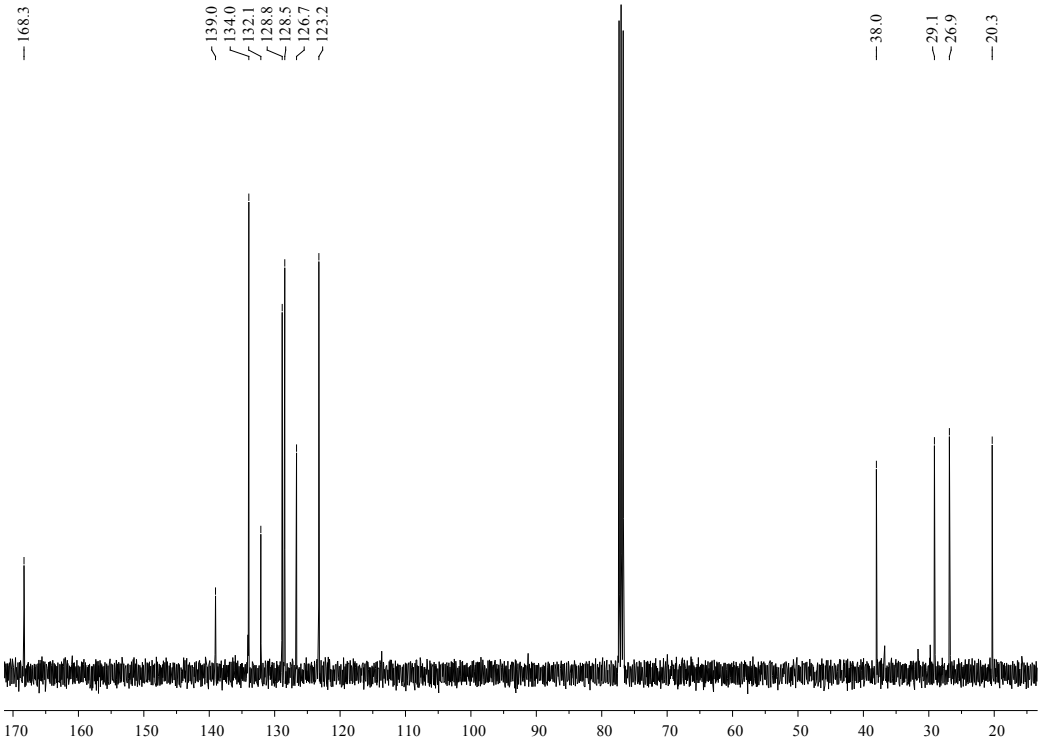
^{77}Se NMR. *N*-(3-selenomethyl)propyl)phthalimide (1b)



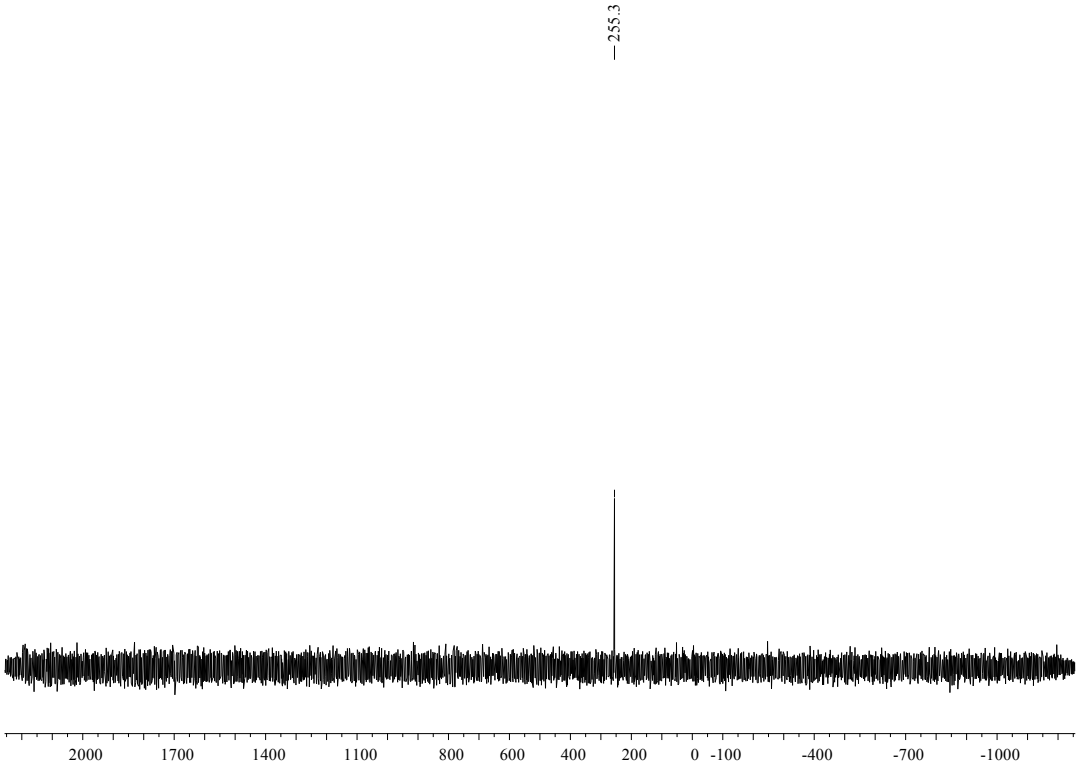
^{1}H NMR. *N*-(3-selenobenzyl)propyl)phthalimide (1c)



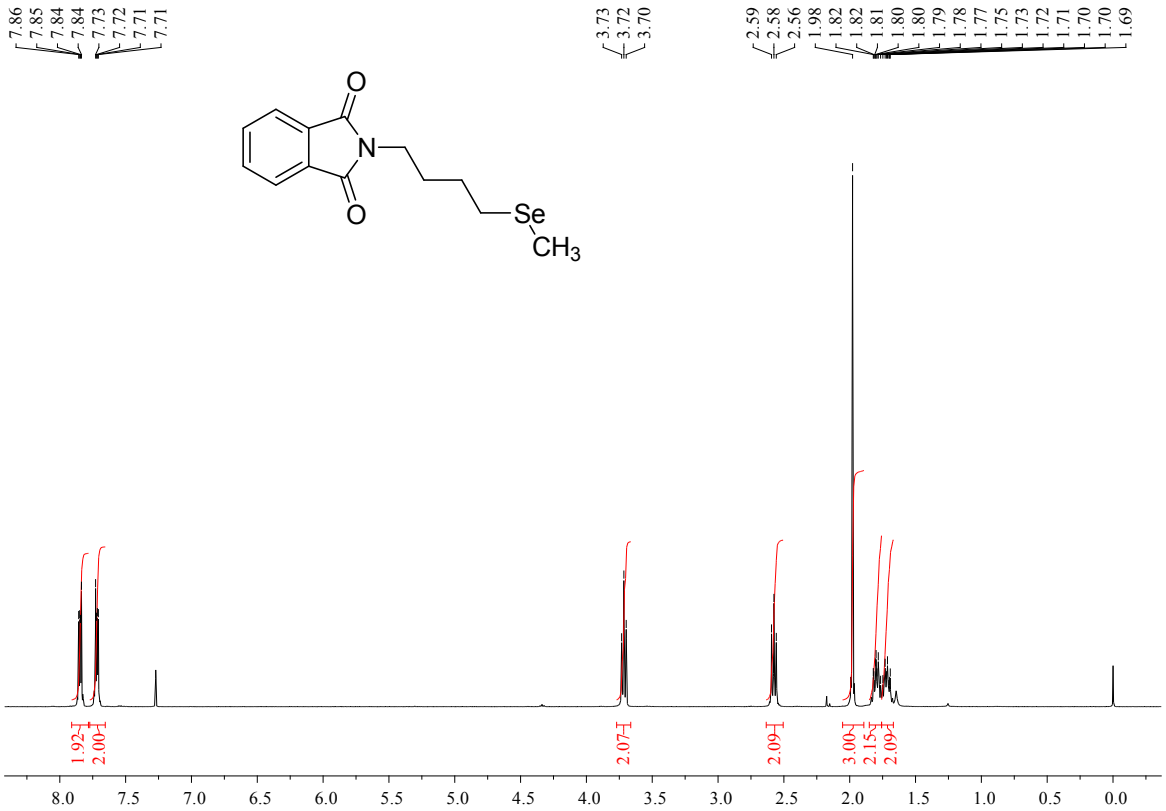
^{13}C NMR. *N*-(3-selenobenzyl)propyl)phthalimide (1c)



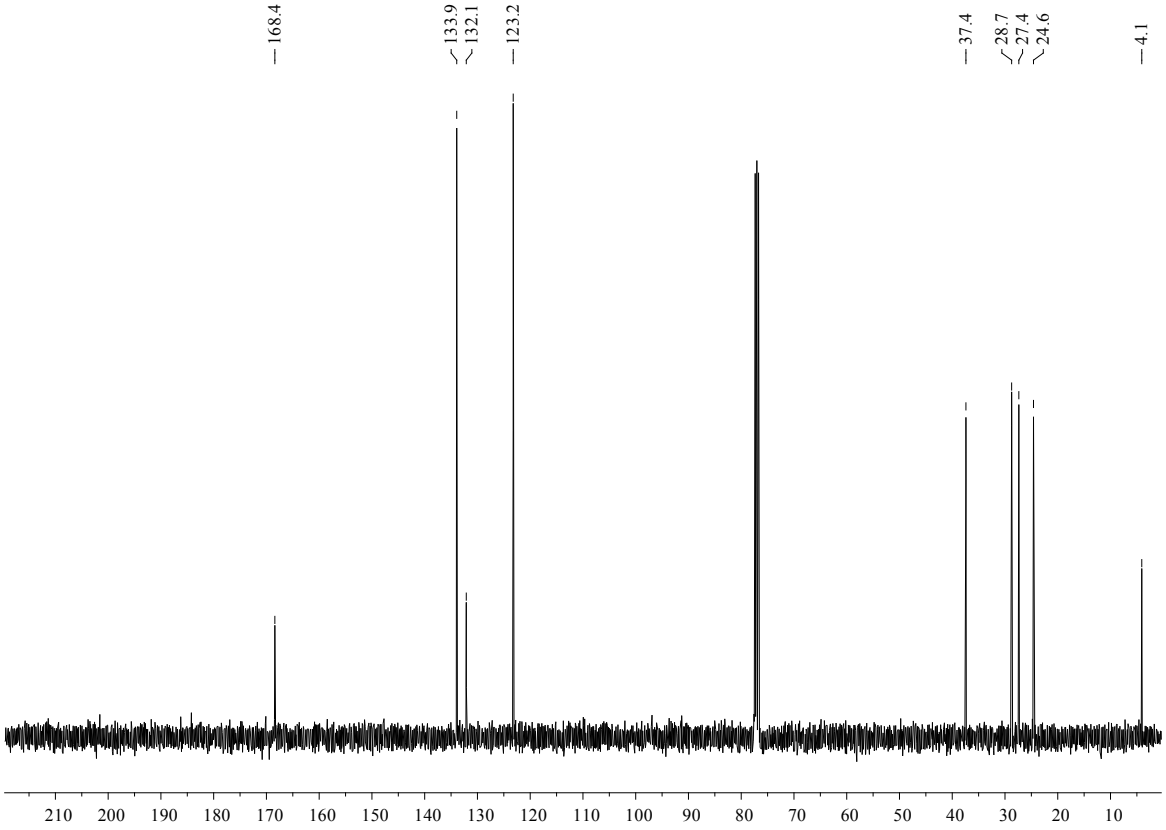
^{77}Se NMR. *N*-(3-selenobenzyl)propyl)phthalimide (1c)



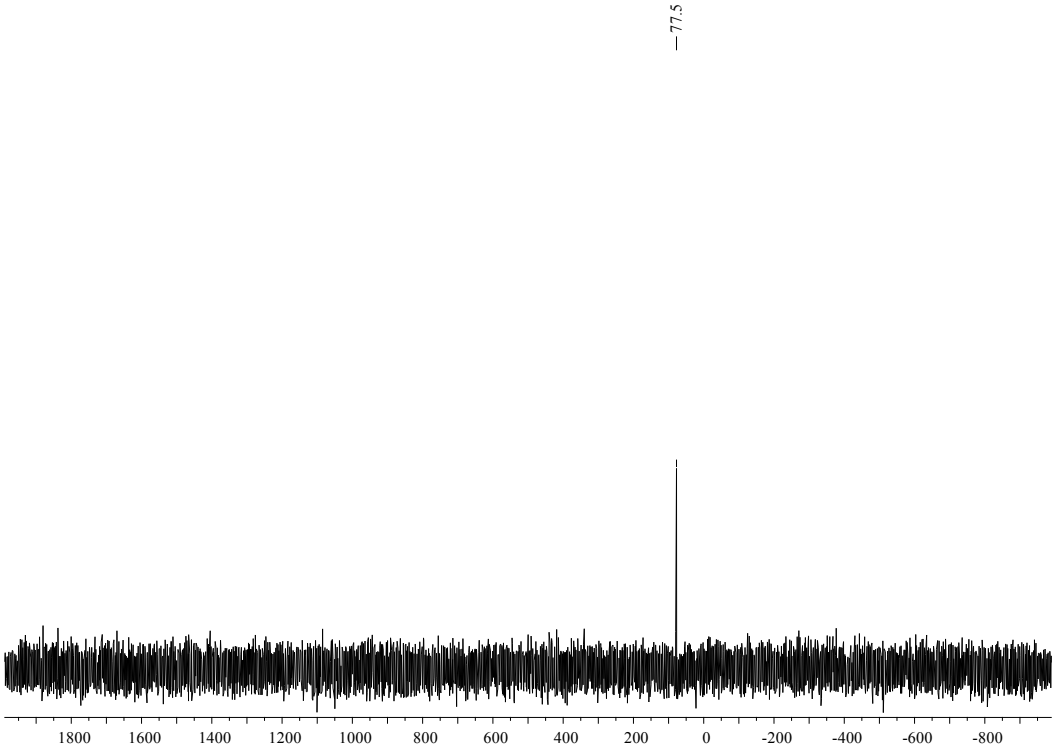
^{1}H NMR. N-(4-selenomethyl)butyl)phthalimide (1d).



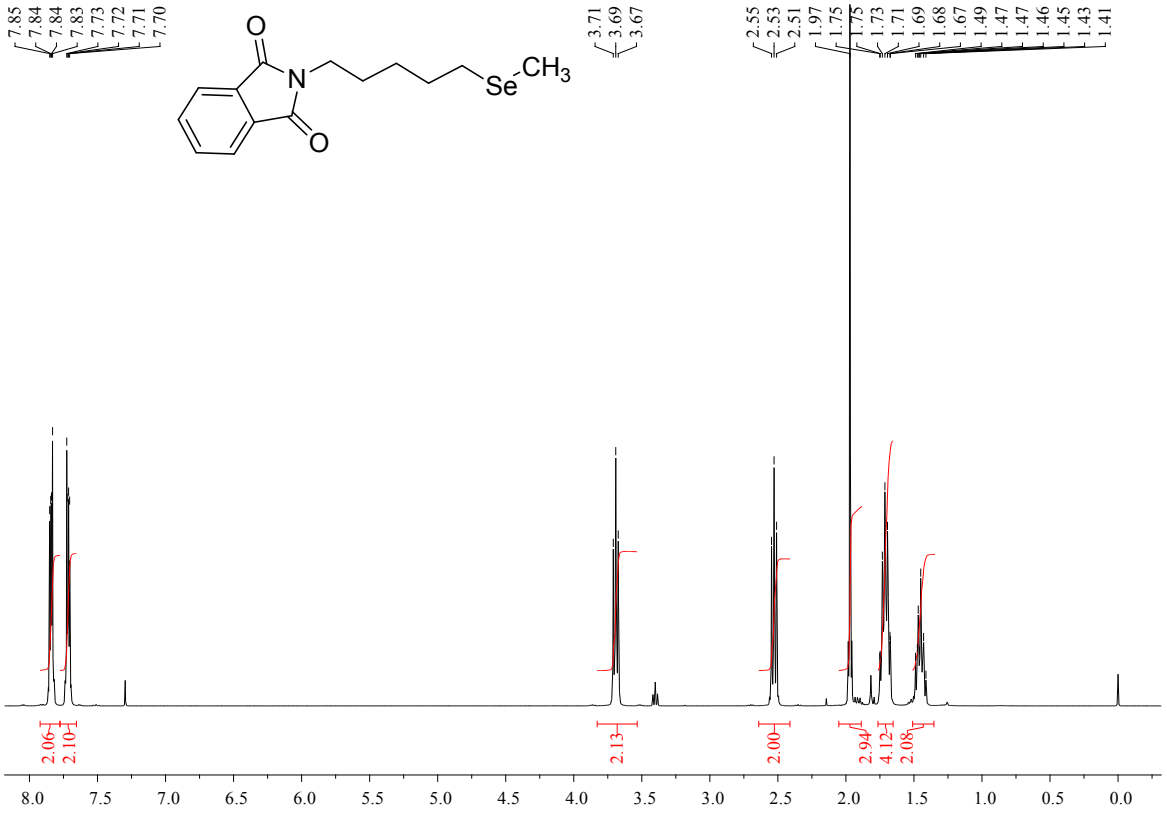
^{13}C NMR. N-(4-selenomethyl)butyl)phthalimide (1d).



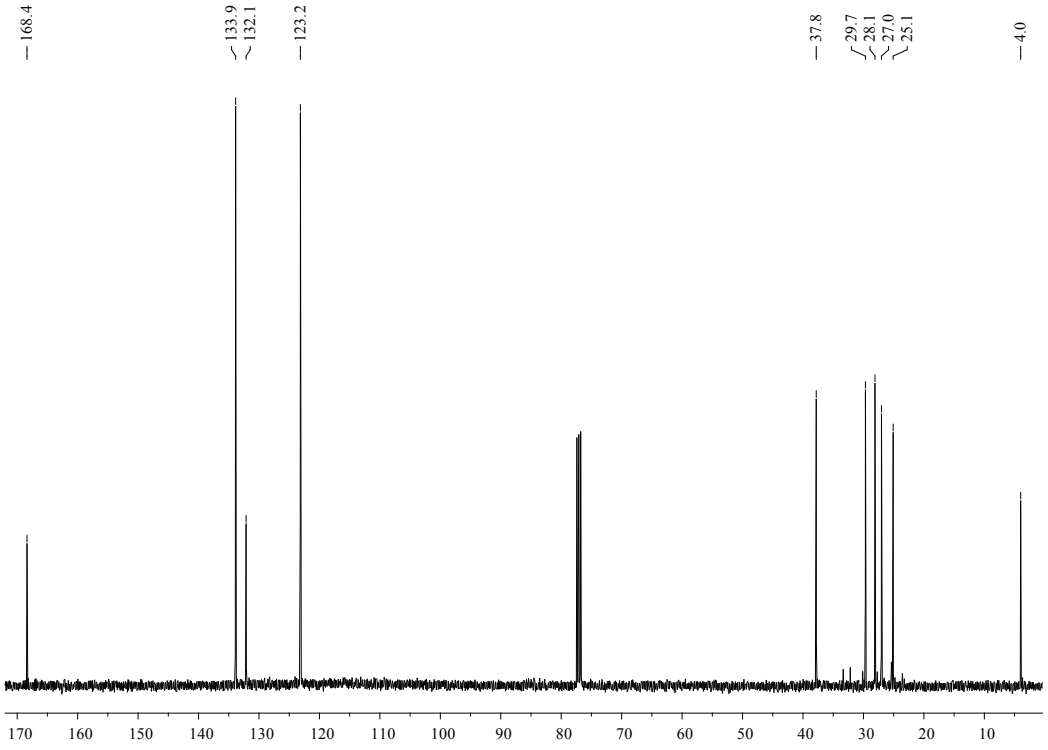
^{77}Se NMR. *N*-(4-selenomethyl)butyl)phthalimide (1d)



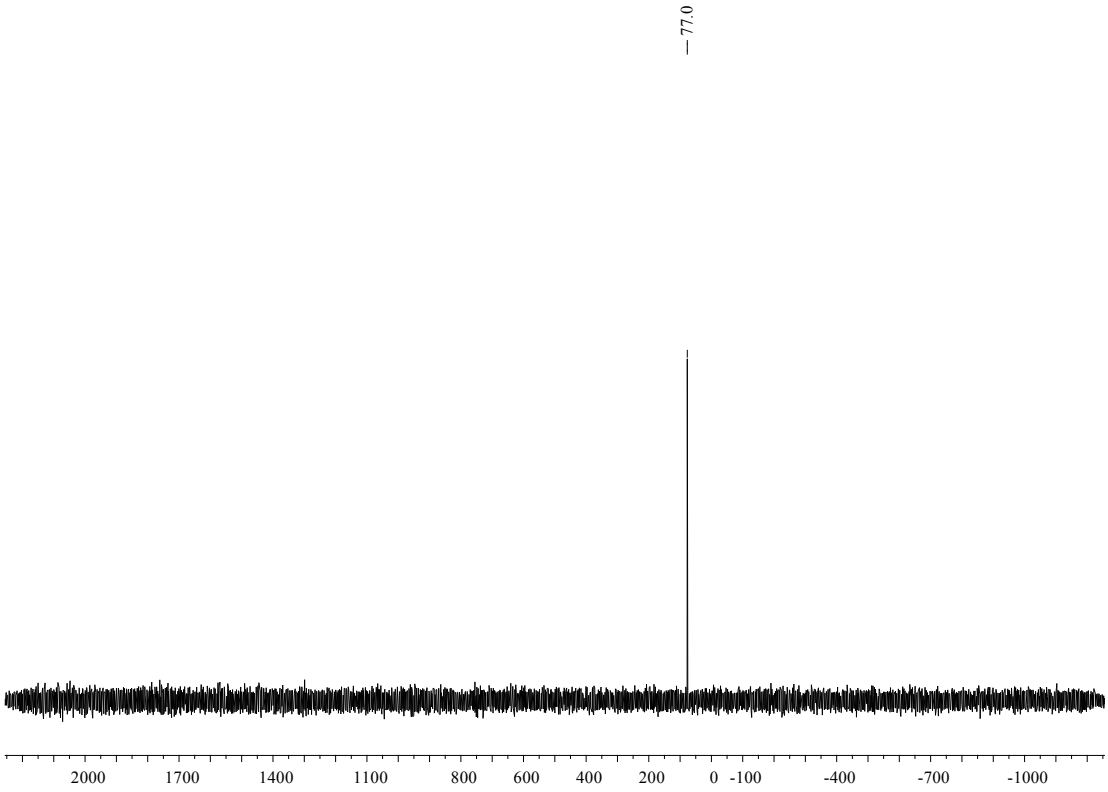
^{1}H NMR. *N*-(5-selenomethyl)pentyl)phthalimide (1e)



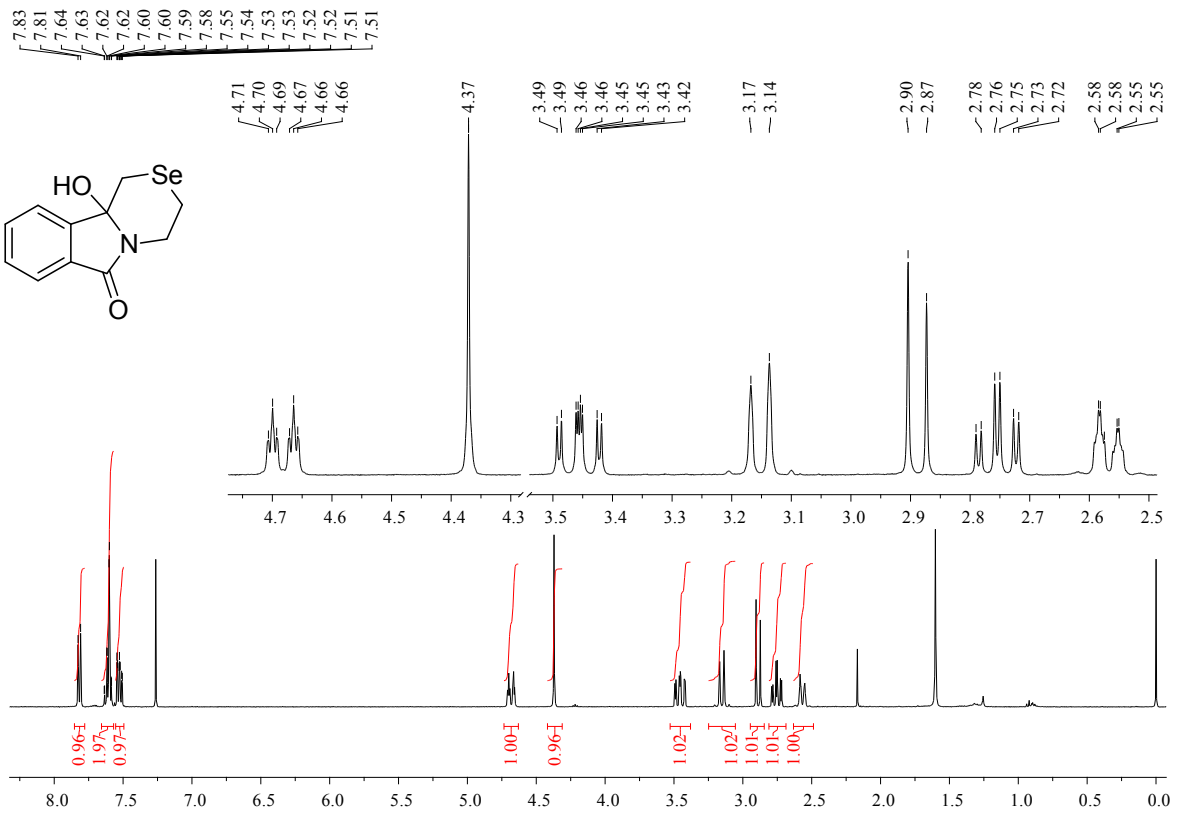
^{13}C NMR. *N*-(5-selenomethyl)pentyl)phthalimide (1e)



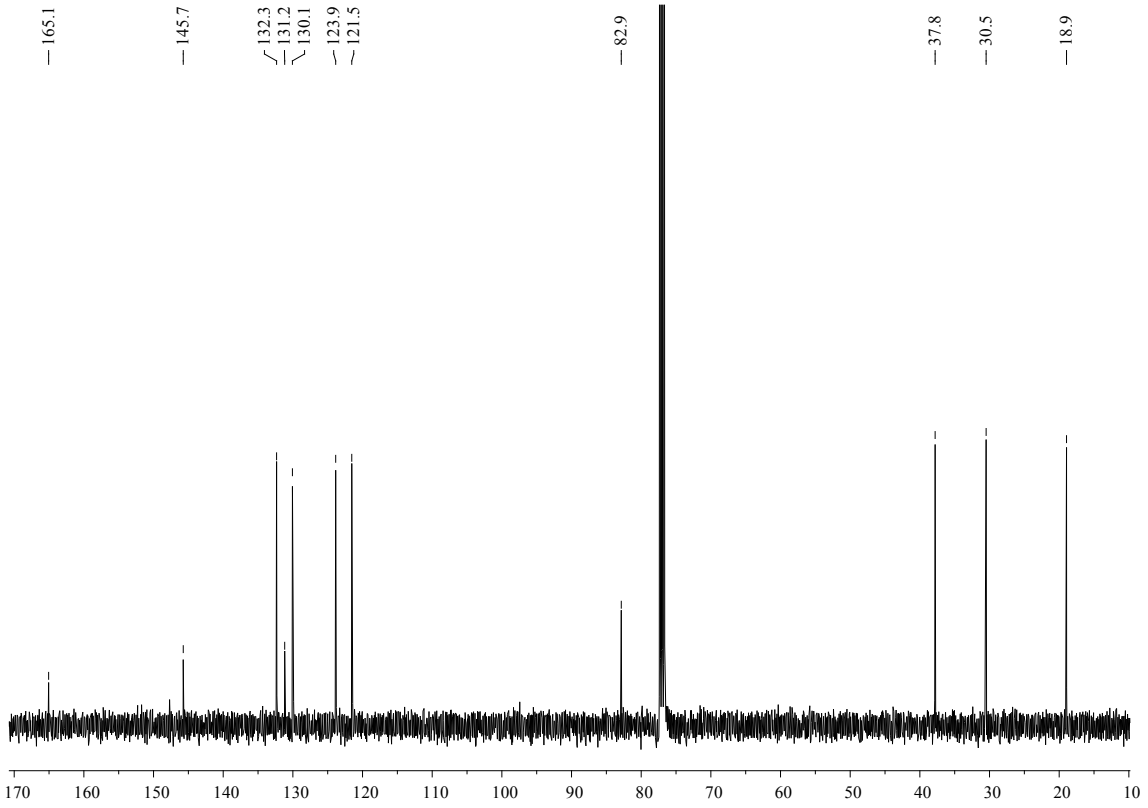
^{77}Se NMR. *N*-(5-selenomethyl)pentyl)phthalimide (1e)



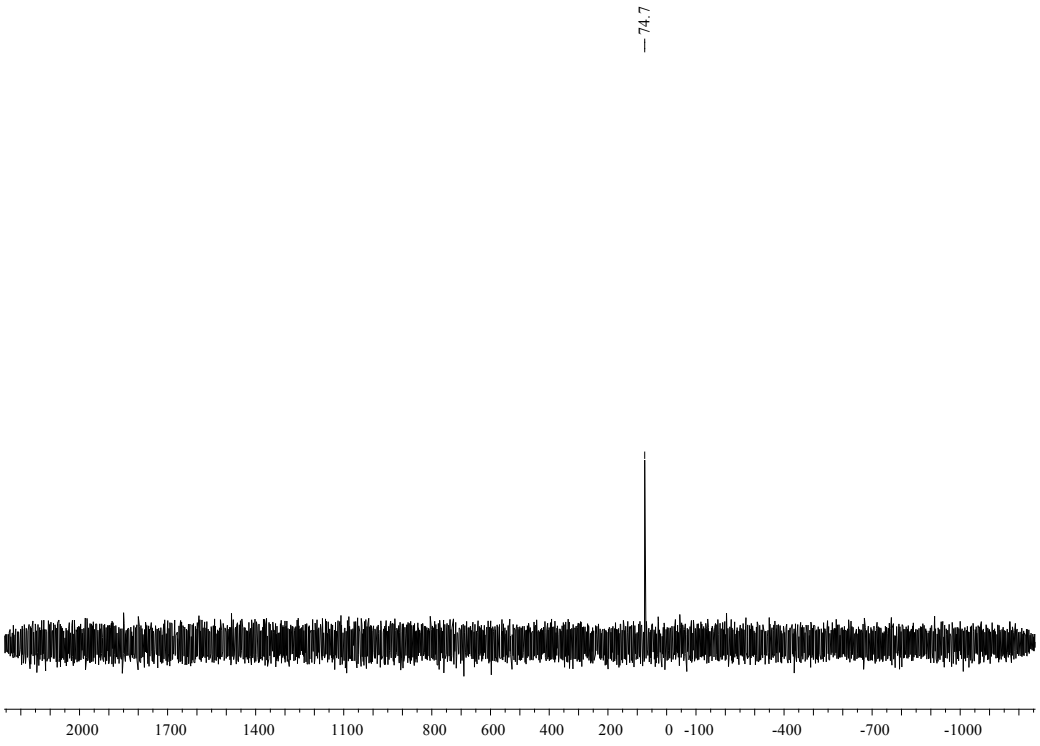
^{1}H NMR 10b-hydroxy-1,3,4,10b-tetrahydro-6H-[1,4]selenazino[3,4-a]isoindol-6-one (2a)



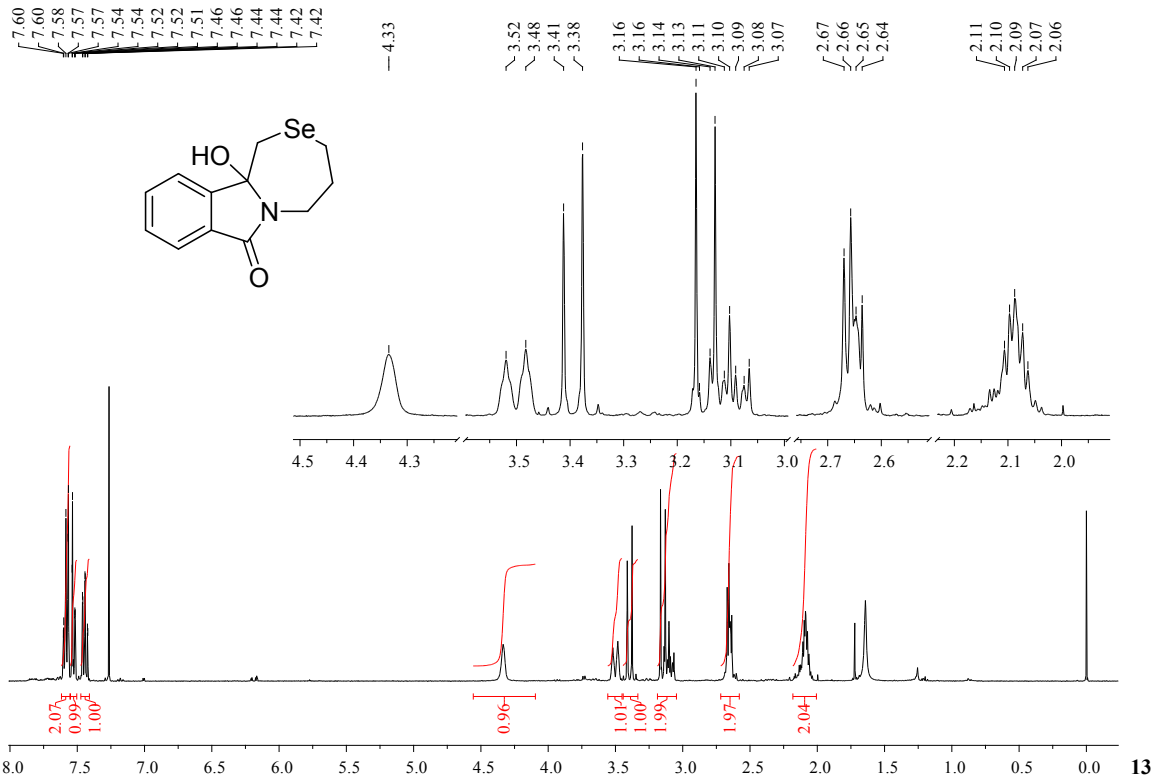
^{13}C NMR 10b-hydroxy-1,3,4,10b-tetrahydro-6H-[1,4]selenazino[3,4-a]isoindol-6-one (2a)



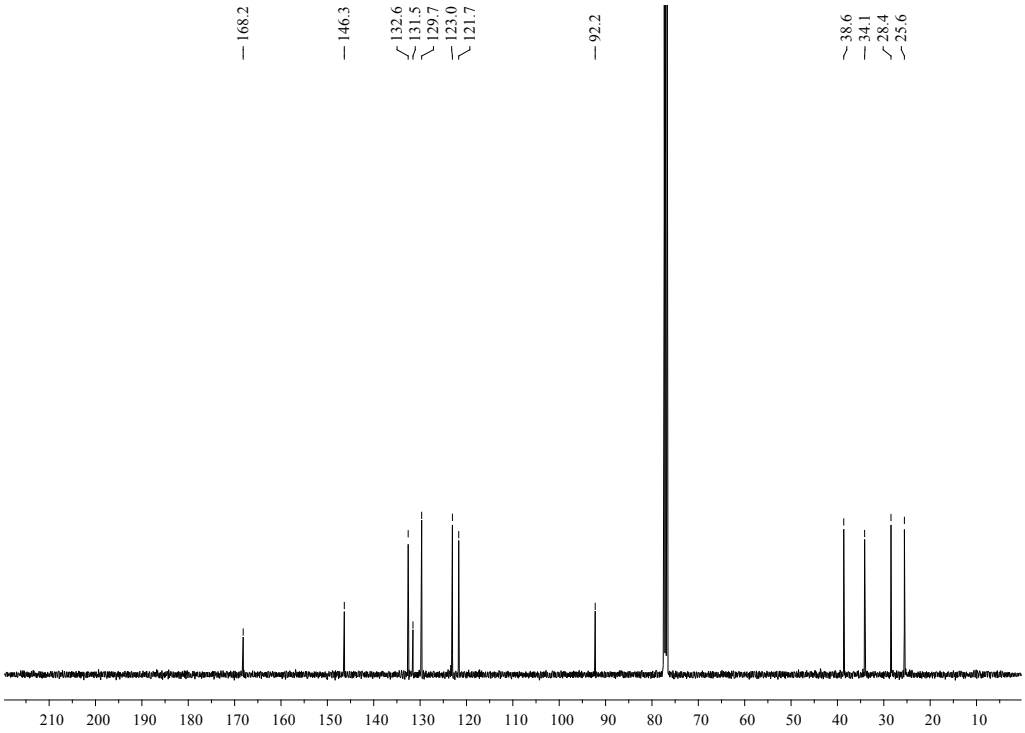
^{77}Se NMR 10b-hydroxy-1,3,4,10b-tetrahydro-6H-[1,4]selenazino[3,4-a]isoindol-6-one (2a)



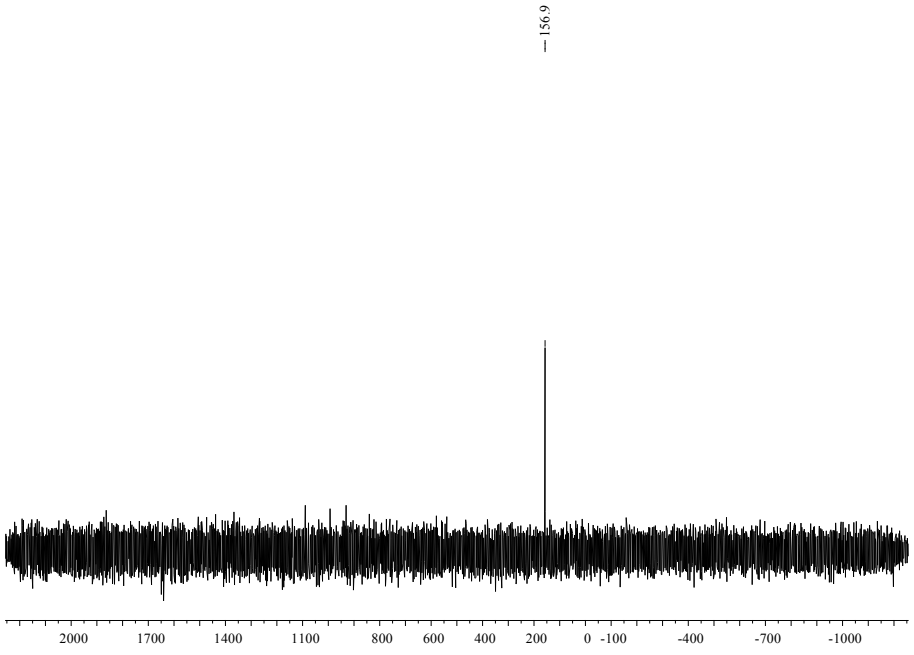
^{1}H NMR. 11b-hydroxy-1,4,5,11b-tetrahydro-3H,7H-[1,4]selenazepino[3,4-a]isoindol-7-one (2b)



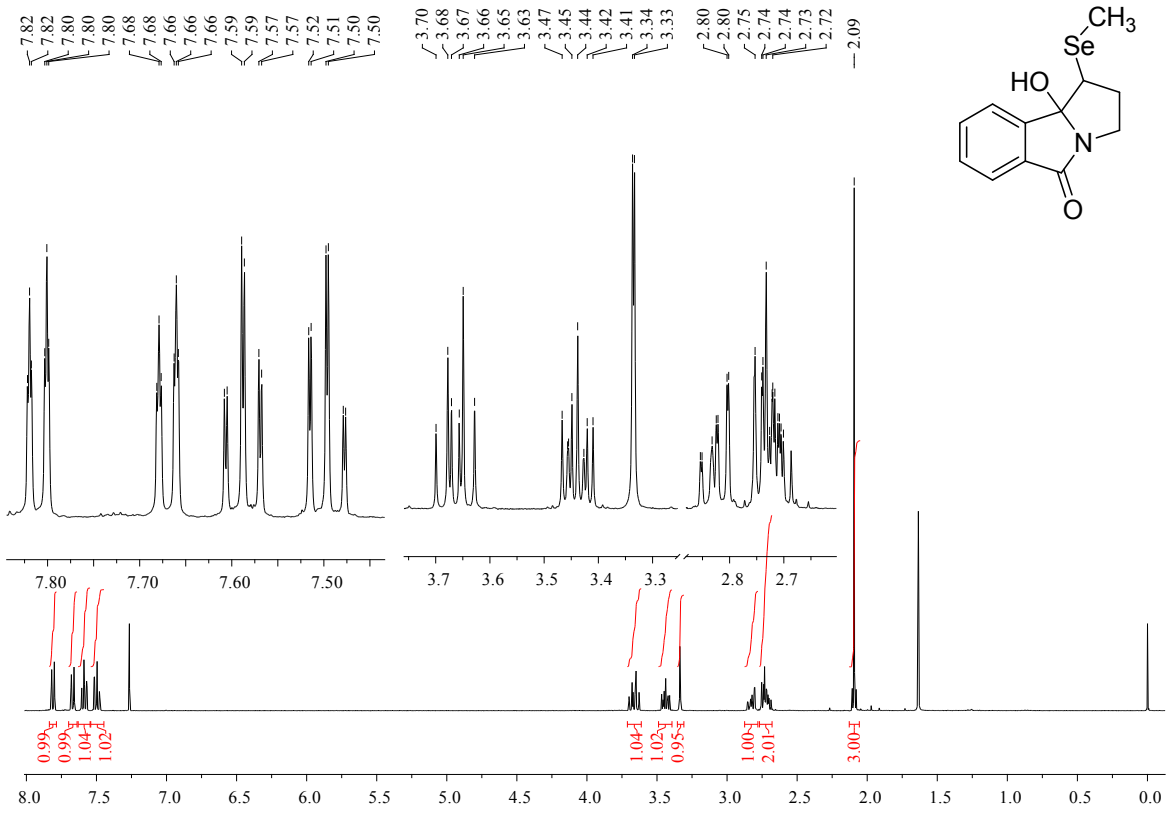
C NMR. 11b-hydroxy-1,4,5,11b-tetrahydro-3H,7H-[1,4]selenazepino[3,4-a]isoindol-7-one (2b)



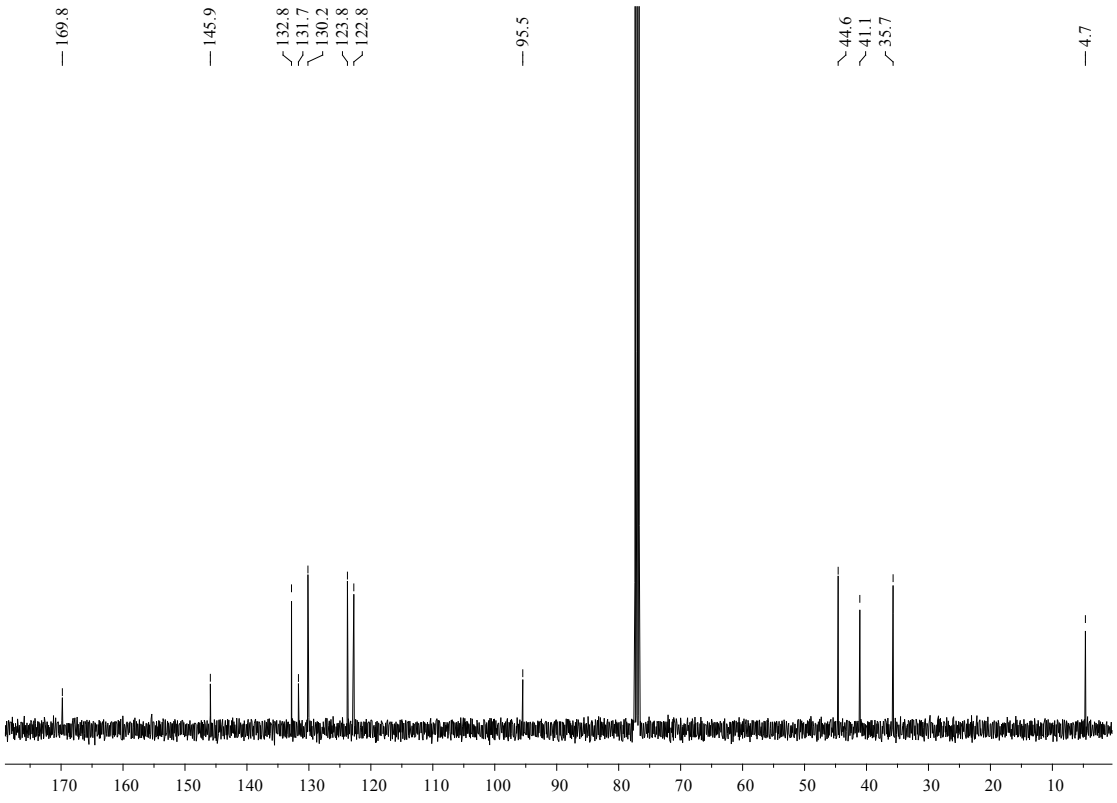
^{77}Se NMR. **11b-hydroxy-1,4,5,11b-tetrahydro-3H,7H-[1,4]selenazepino[3,4-a]isoindol-7-one (2b)**



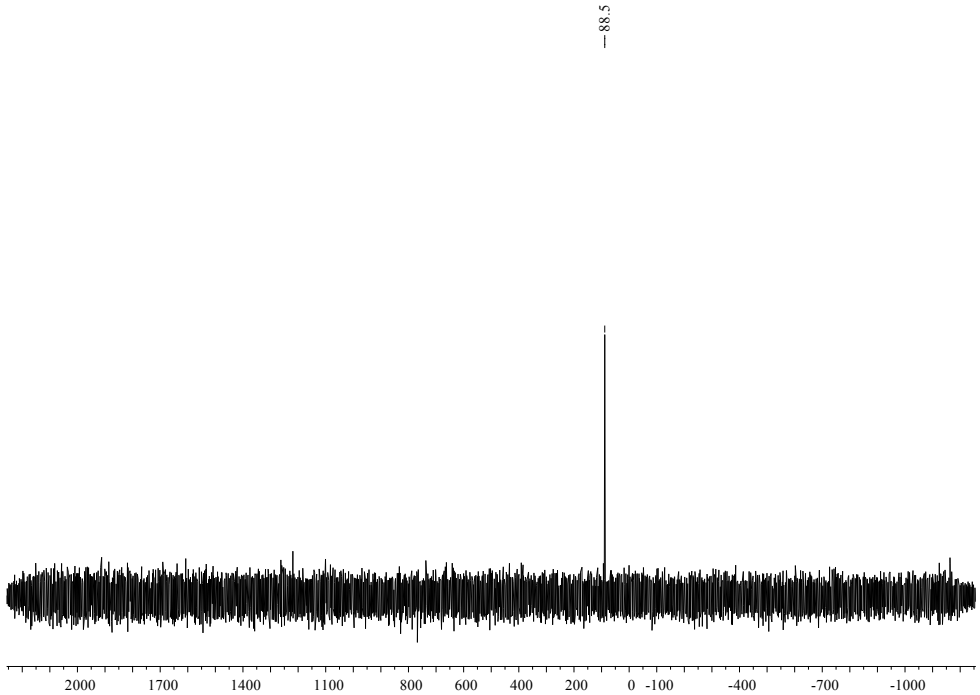
^{1}H NMR. 9b-hydroxy-1-(selenomethyl)-1,2,3,9b-tetrahydro-5H-pyrrolo[2,1-a]isoindol-5-one (3b)



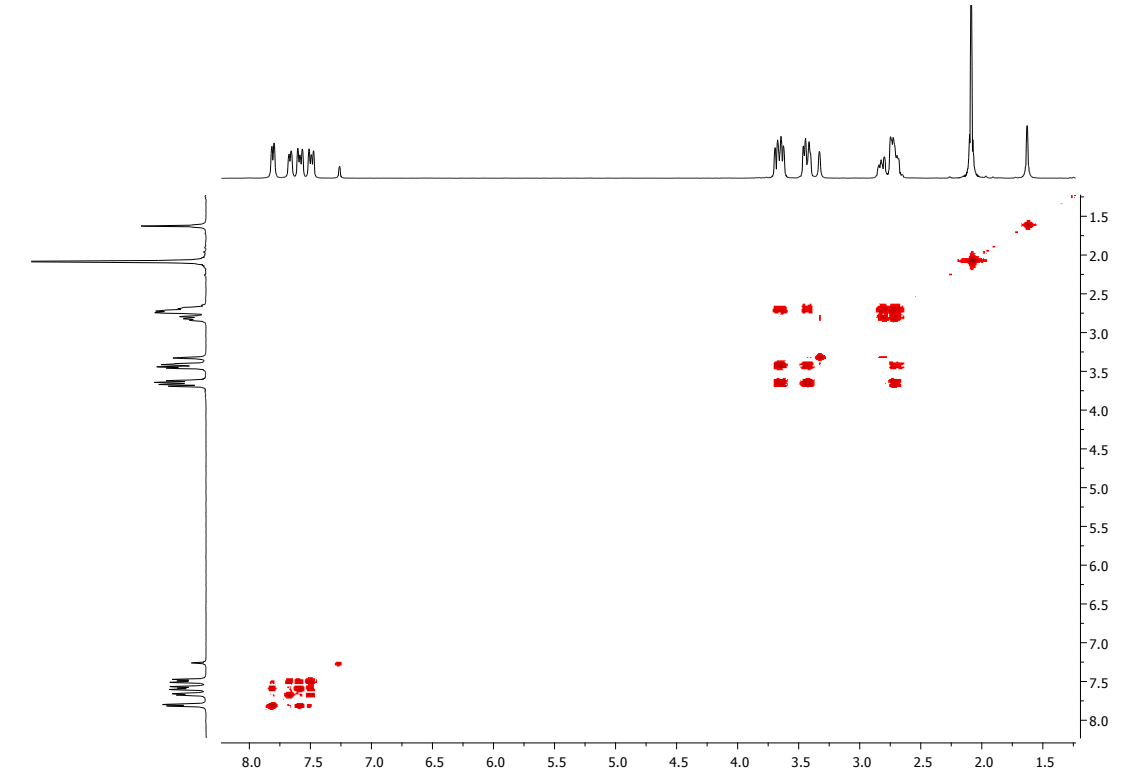
^{13}C NMR. 9b-hydroxy-1-(selenomethyl)-1,2,3,9b-tetrahydro-5H-pyrrolo[2,1-a]isoindol-5-one (3b)

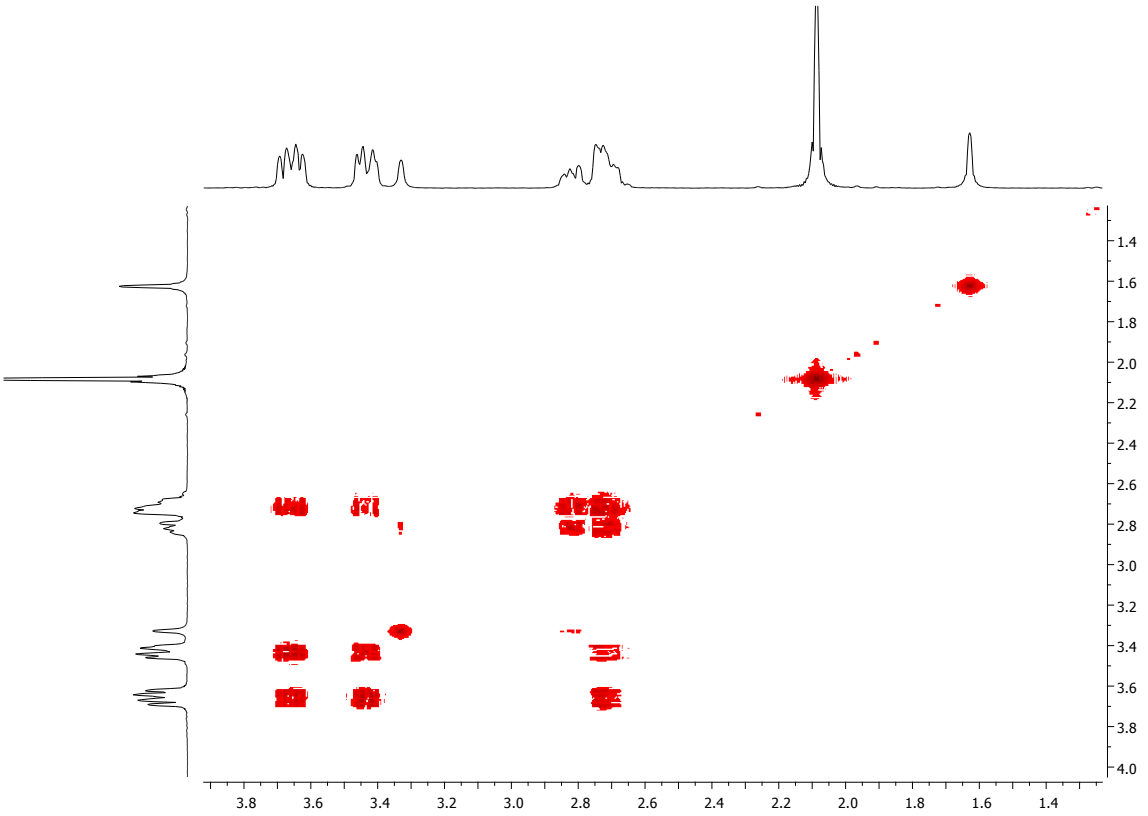


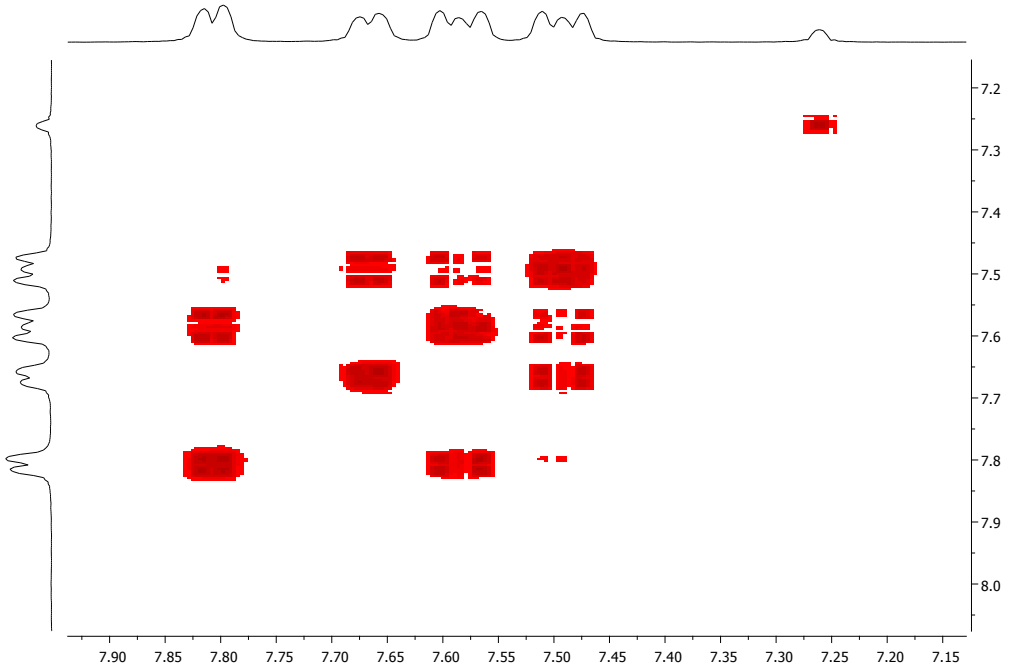
^{77}Se NMR. 9b-hydroxy-1-(selenomethyl)-1,2,3,9b-tetrahydro-5H-pyrrolo[2,1-a]isoindol-5-one (3b)



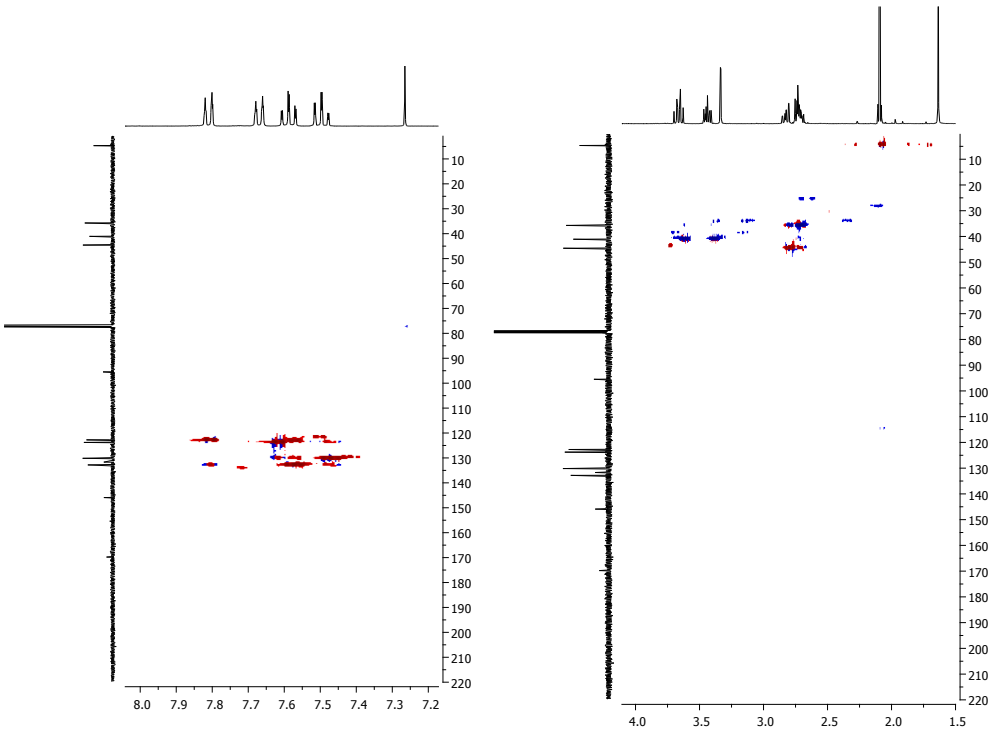
COSY **9b-hydroxy-1-(selenomethyl)-1,2,3,9b-tetrahydro-5H-pyrrolo[2,1-a]isoindol-5-one (3b)**



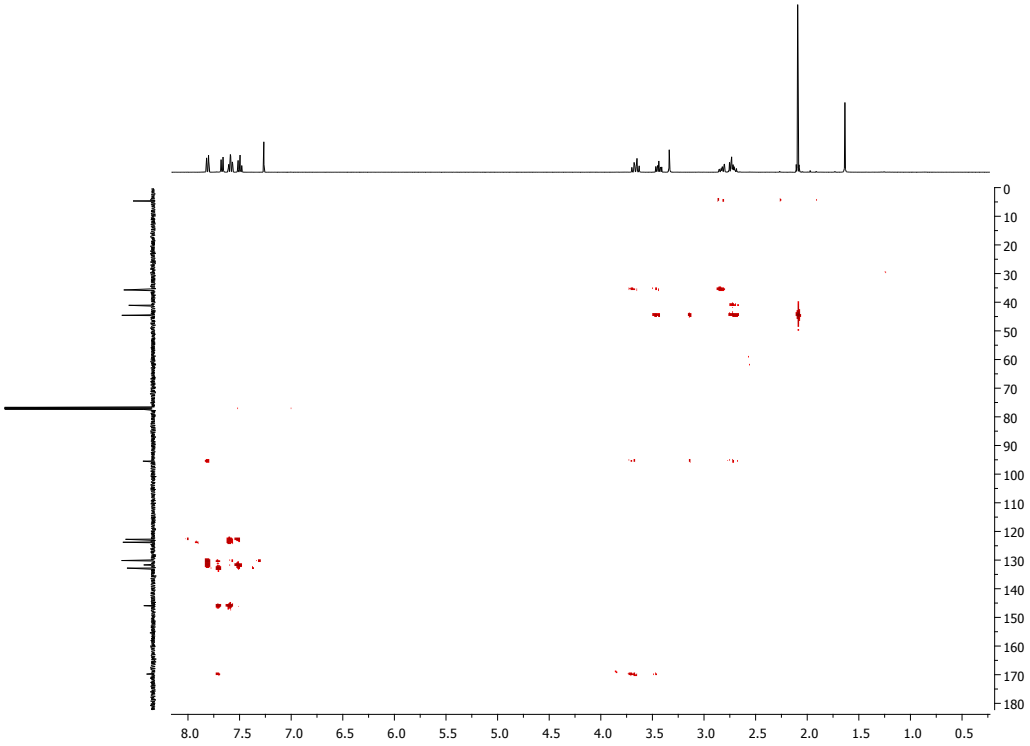




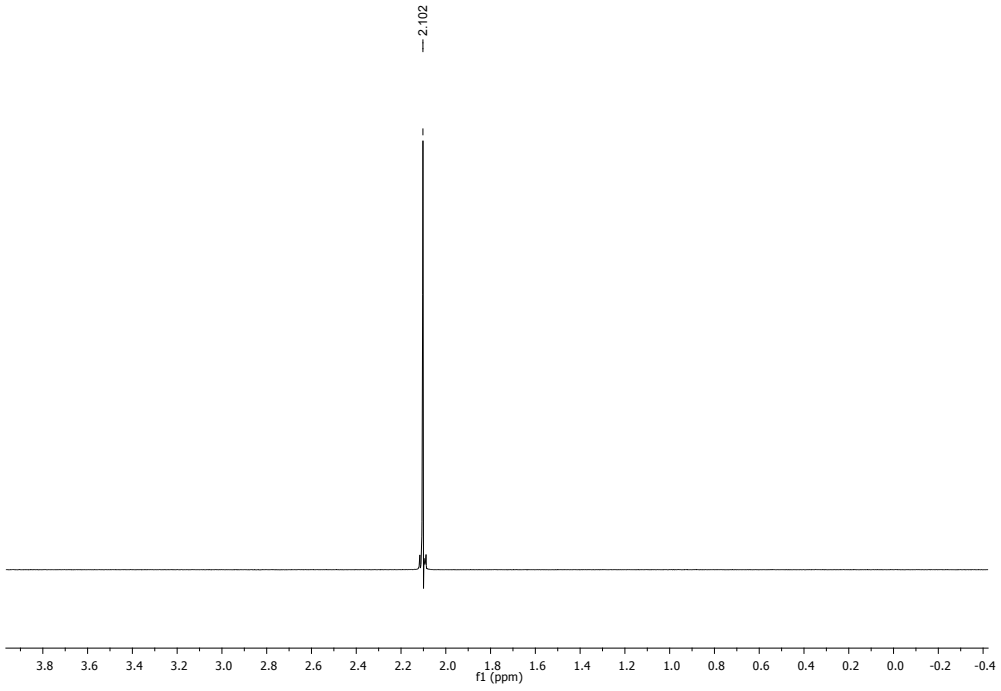
HSQC-DEPT 9b-hydroxy-1-(selenomethyl)-1,2,3,9b-tetrahydro-5H-pyrrolo[2,1-a]isoindol-5-one (3b)

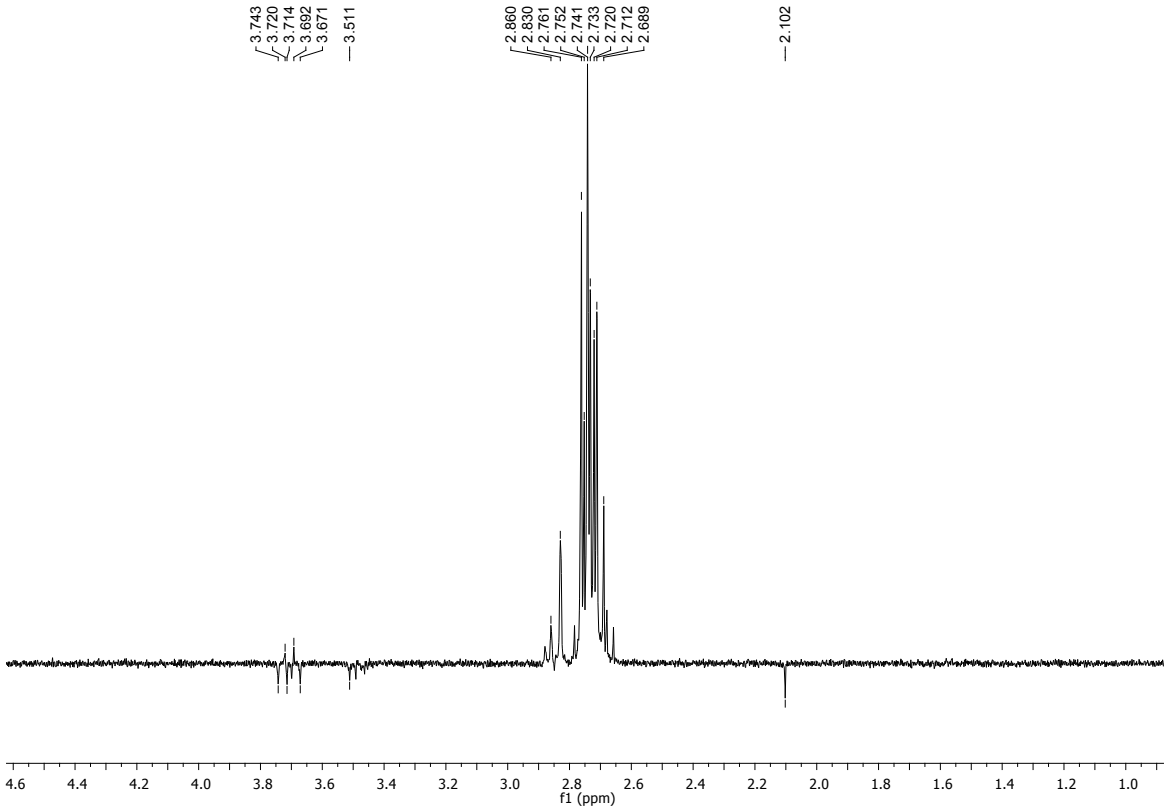


HMQC 9b-hydroxy-1-(selenomethyl)-1,2,3,9b-tetrahydro-5H-pyrrolo[2,1-a]isoindol-5-one (3b)



1D NOE. **9b-hydroxy-1-(selenomethyl)-1,2,3,9b-tetrahydro-5H-pyrrolo[2,1-a]isoindol-5-one (3b)**

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3.692
3.671
3.511
2.860
2.830
2.761
2.752
2.741
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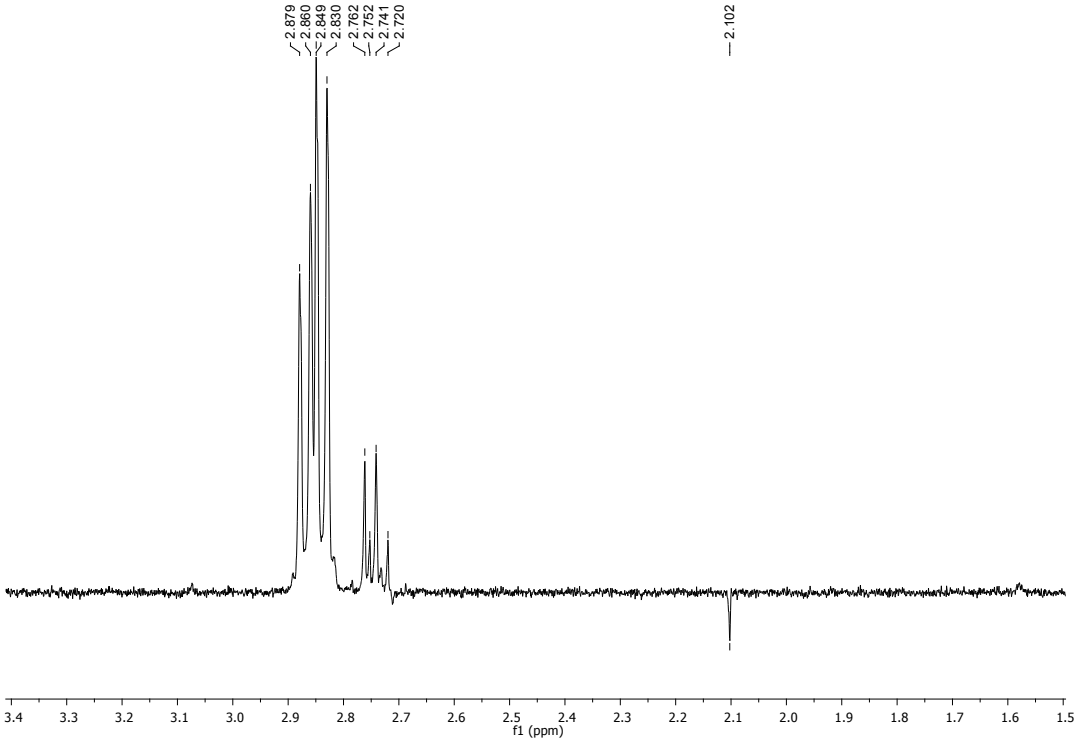
2.689
2.102
f1 (ppm)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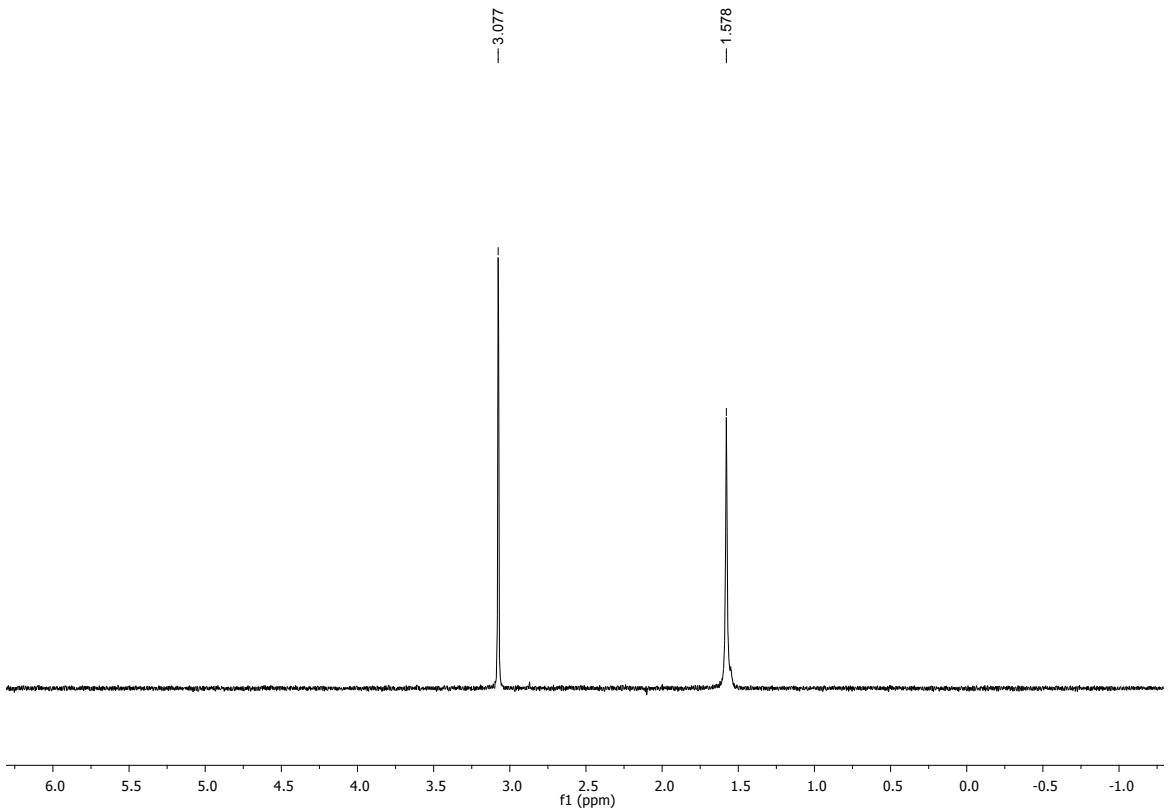
2.720
2.102
f1 (ppm)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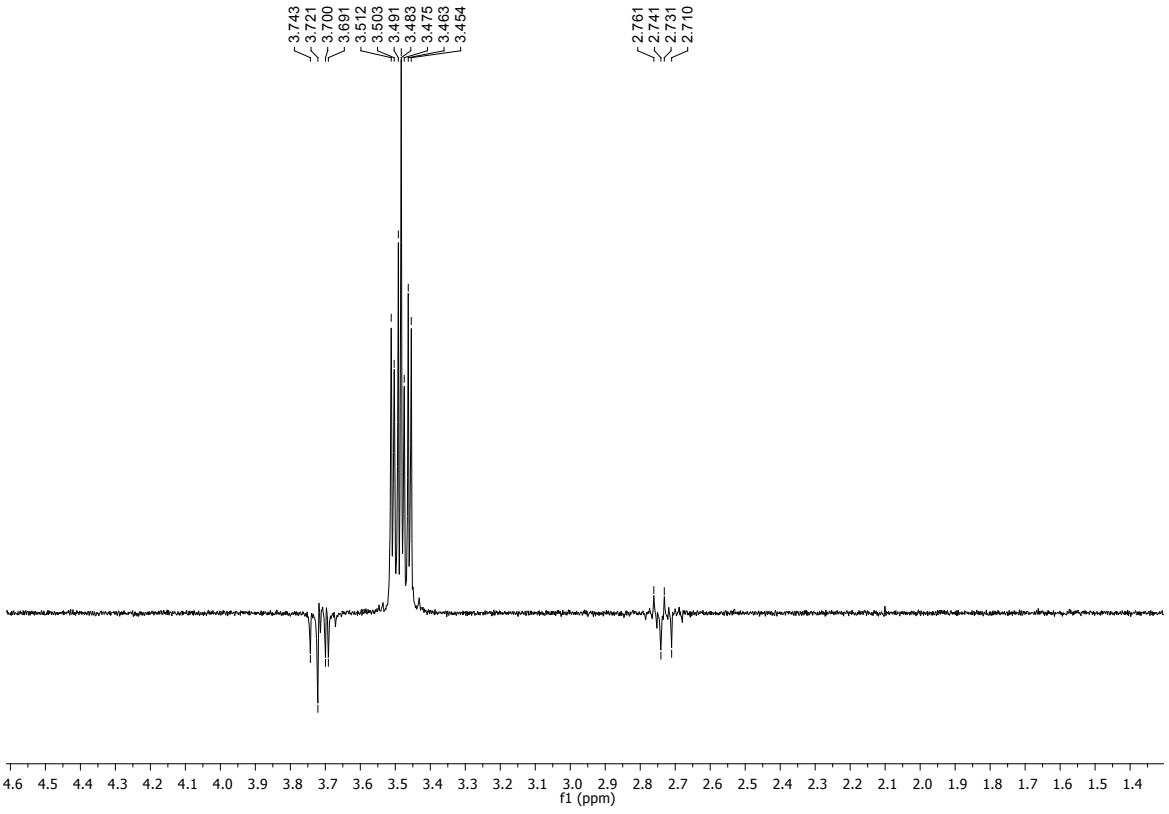
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2.731
2.710
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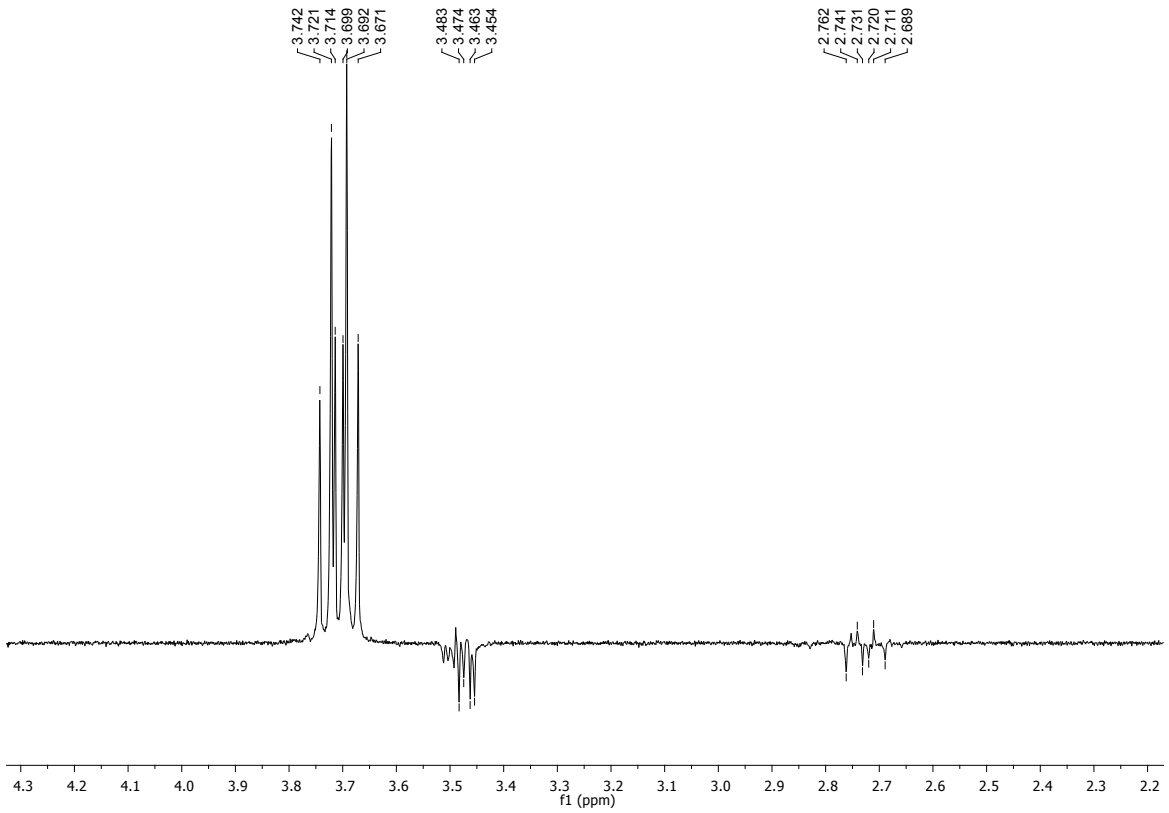
f1 (ppm)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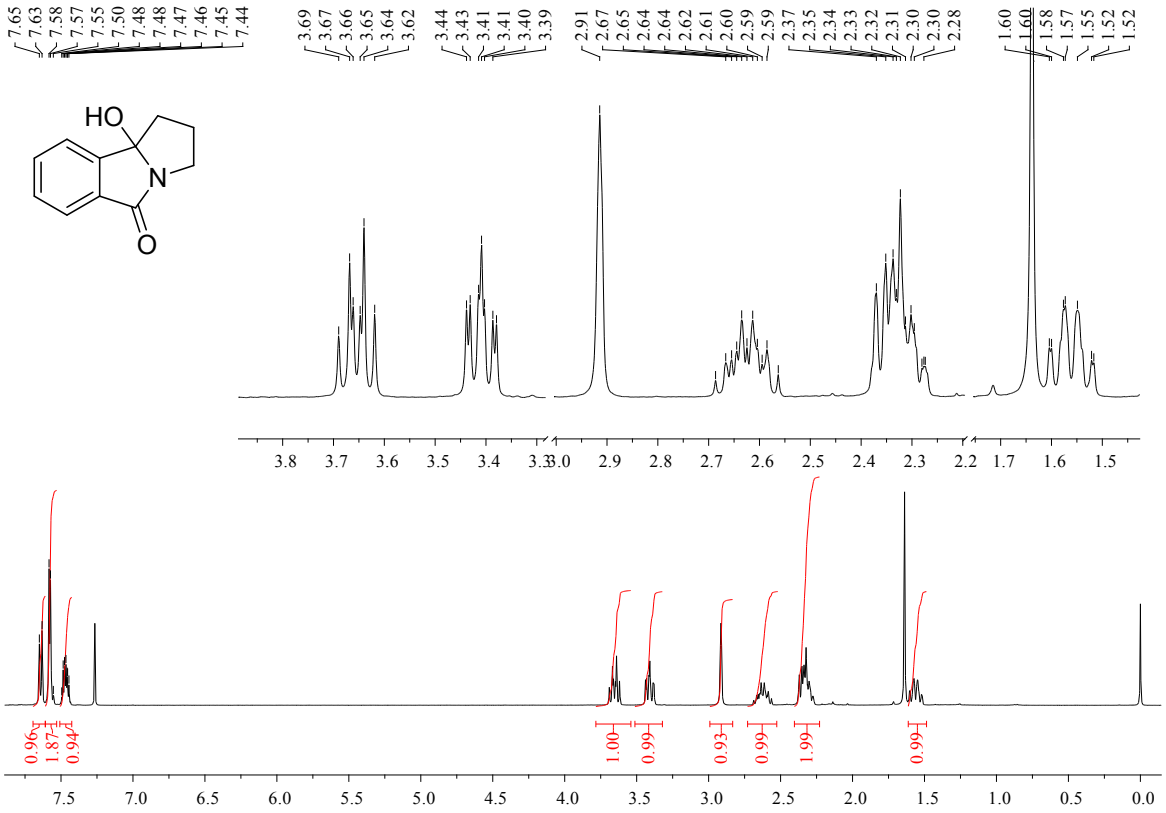
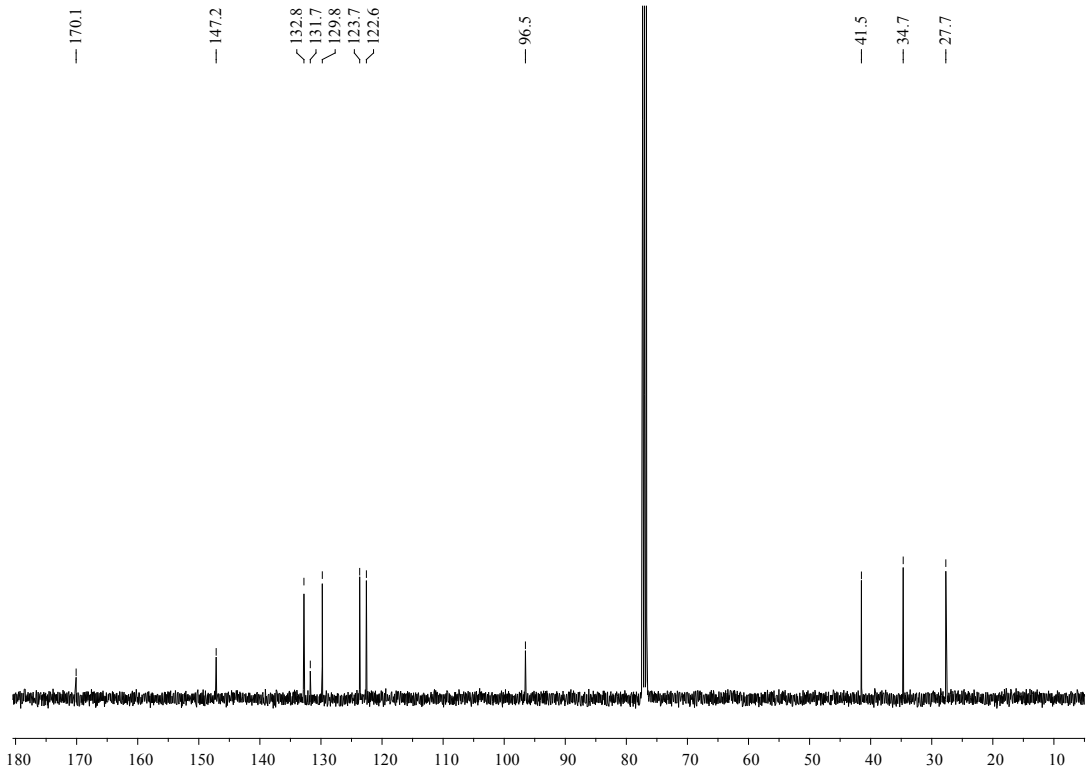
2.720
2.711
2.689
4.3 4.2 4.1 4.0 3.9 3.8 3.7 3.6 3.5 3.4 3.3 3.2 3.1 3.0 2.9 2.8 2.7 2.6 2.5 2.4 2.3 2.2
f1 (ppm)

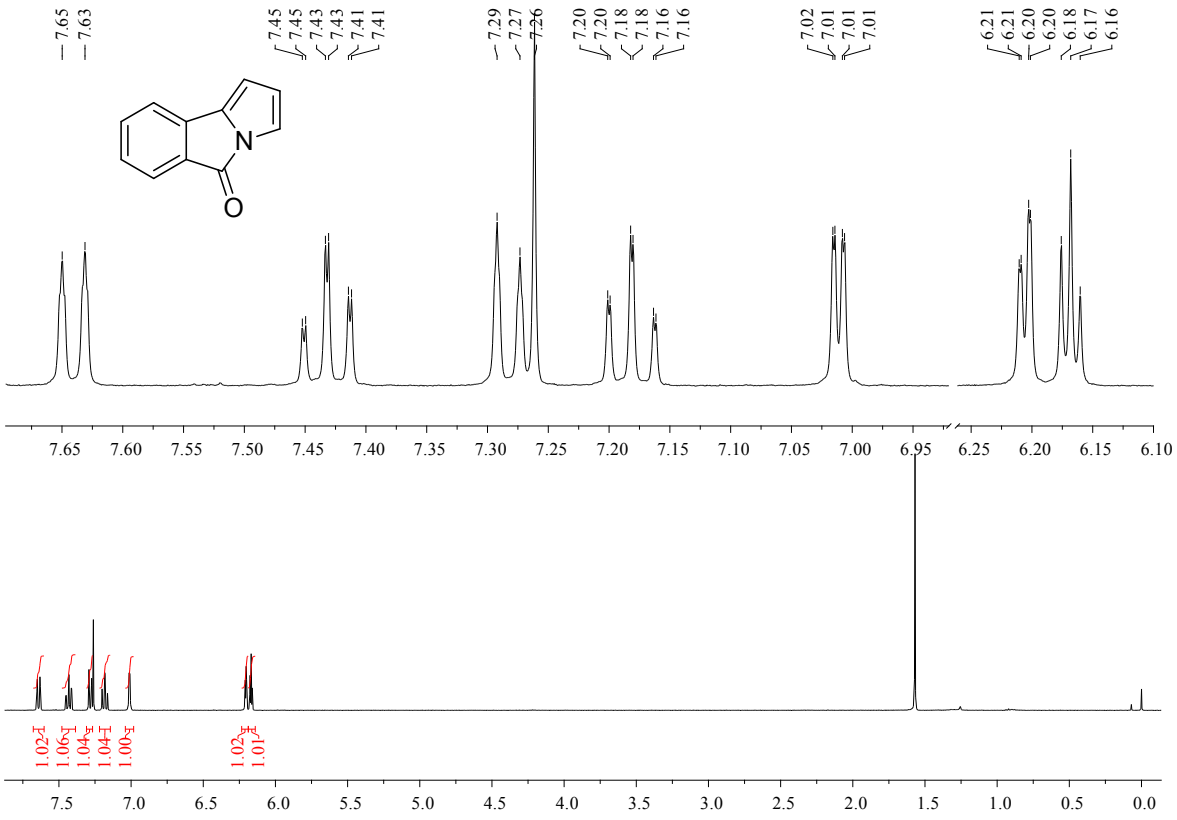
^{1}H NMR. 9b-hydroxy-1,2,3,9b-tetrahydro-5H-pyrrolo[2,1-a]isoindol-5-one (4b)



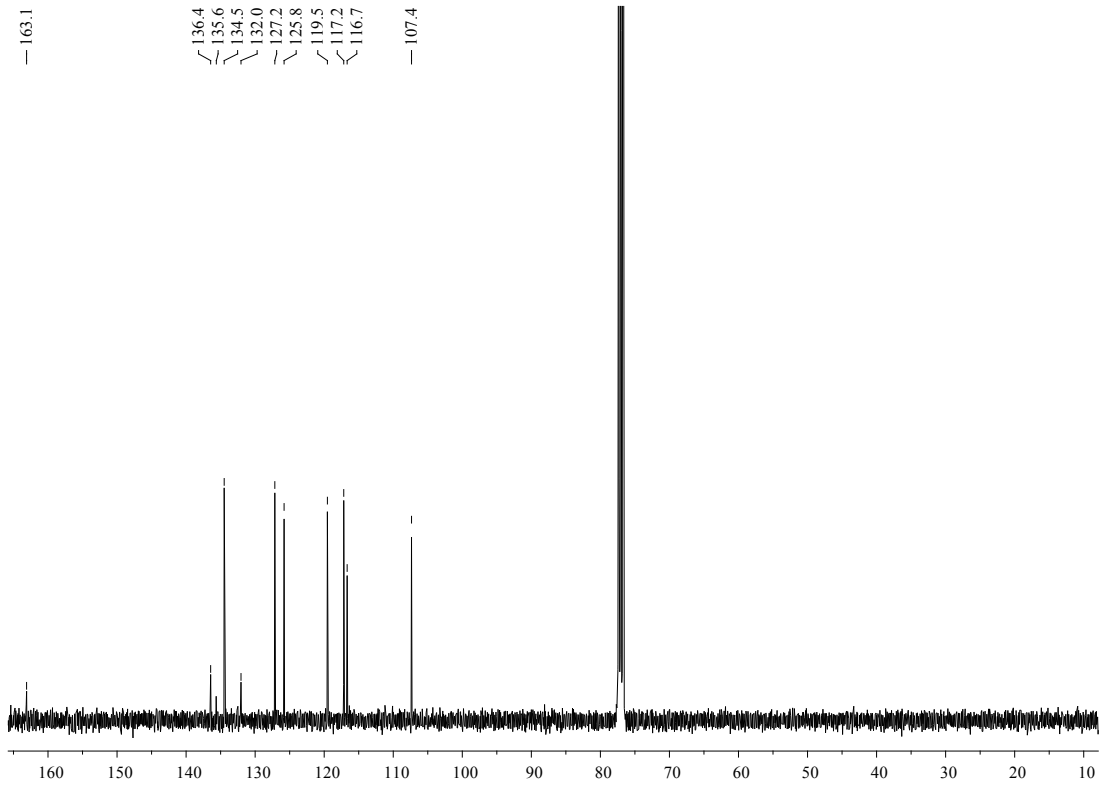
^{13}C NMR. 9b-hydroxy-1,2,3,9b-tetrahydro-5H-pyrrolo[2,1-a]isoindol-5-one (4b)



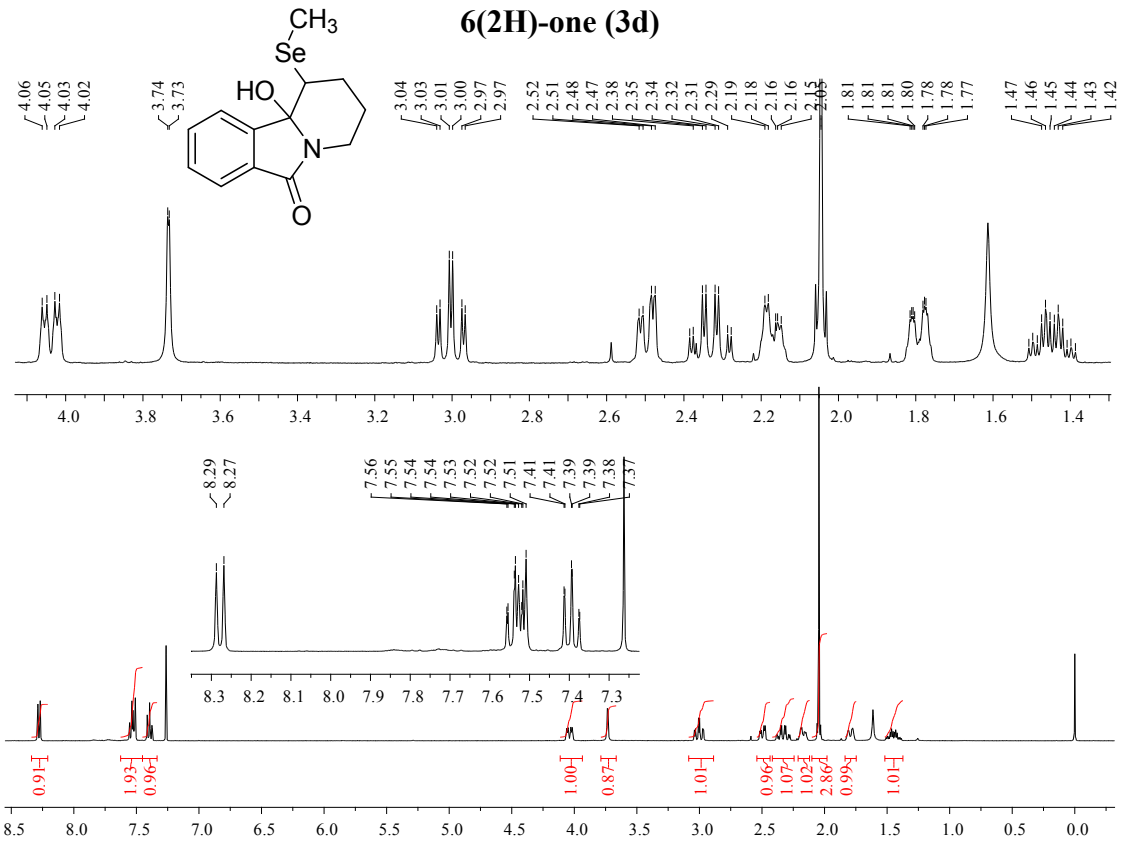
^{1}H NMR. 5H-pyrrolo[2,1-a]isoindol-5-one (5b)



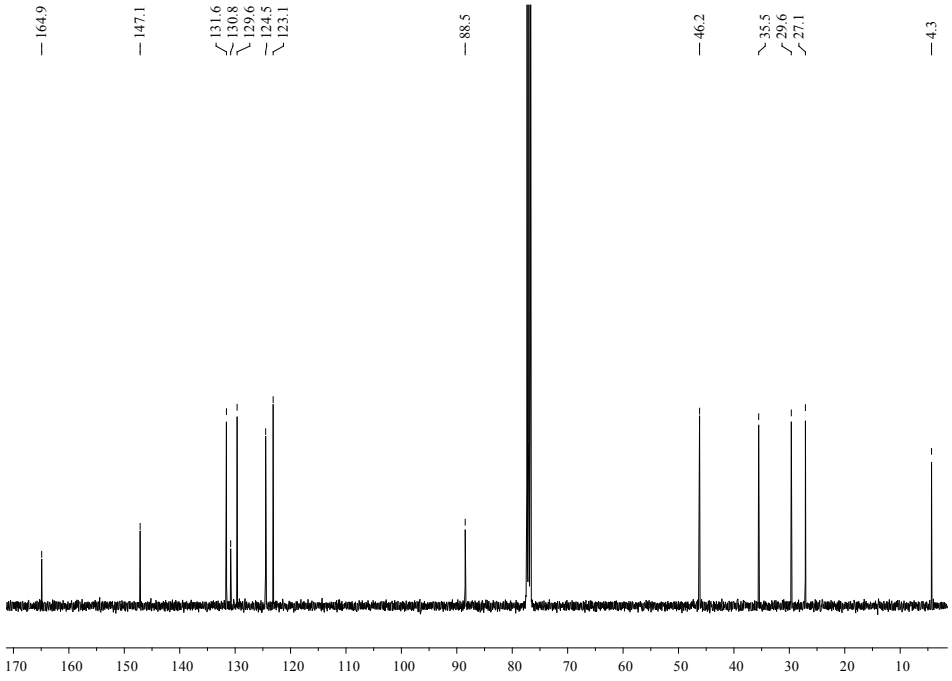
^{13}C NMR. 5H-pyrrolo[2,1-a]isoindol-5-one (5b)



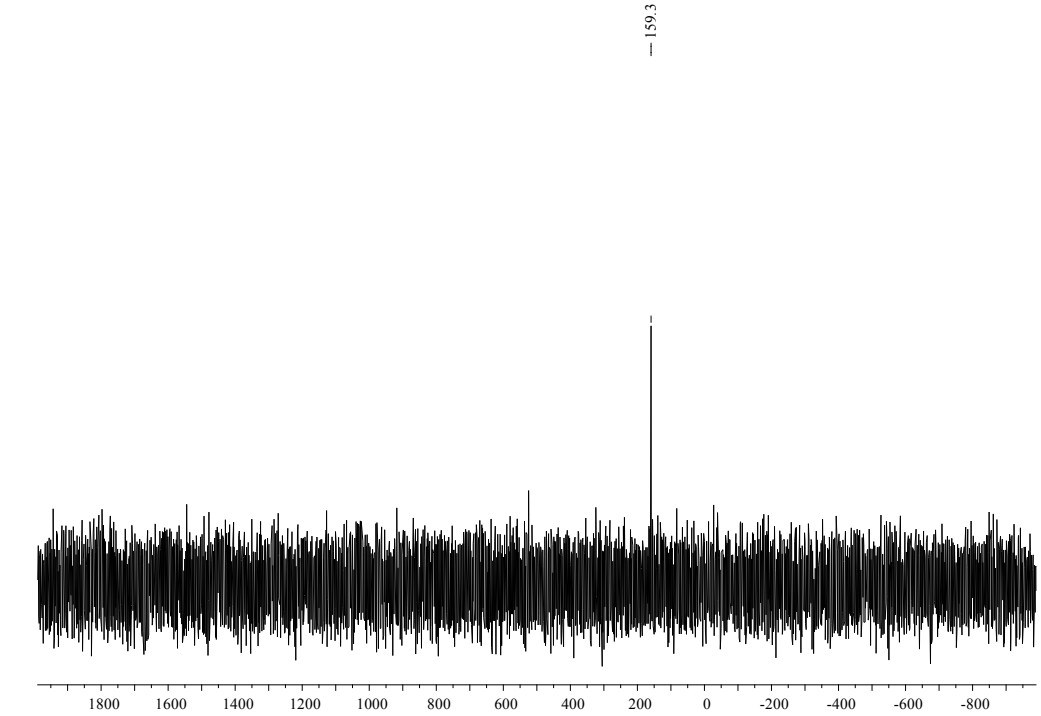
^{1}H NMR. 10b-hydroxy-1-(selenomethyl)-1,3,4,10b-tetrahydropyrido[2,1-a]isoindol-6(2H)-one (3d)



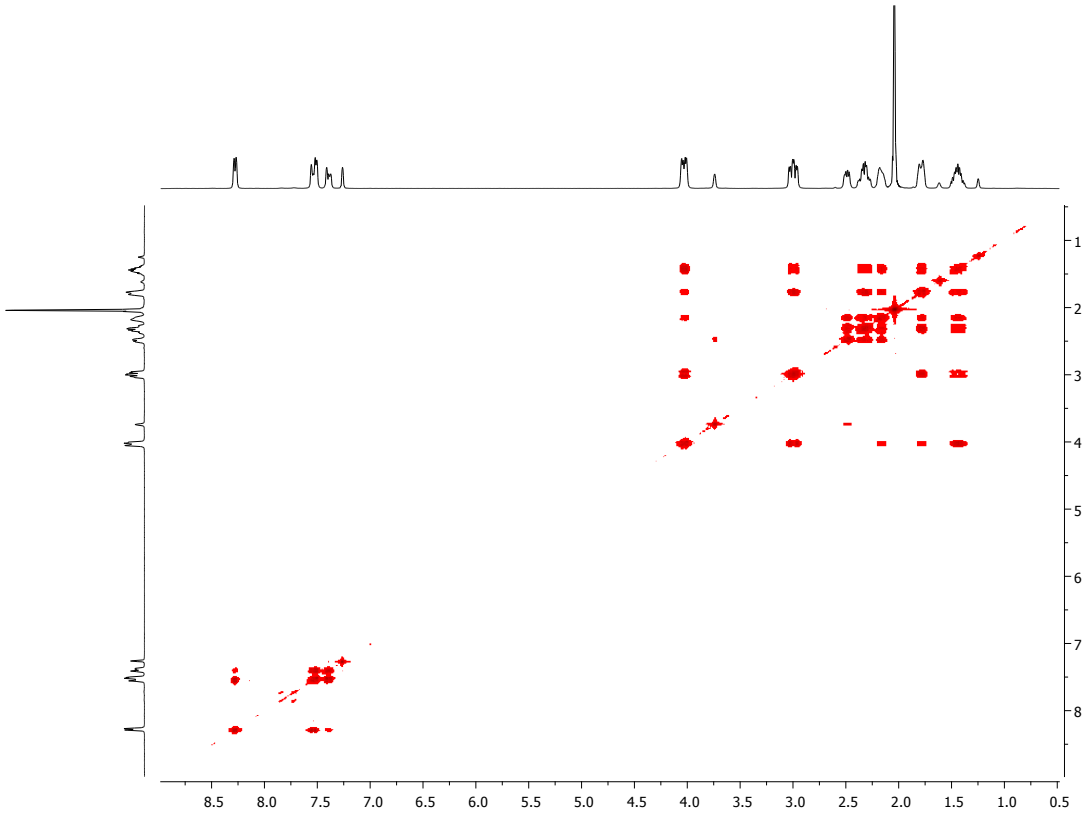
^{13}C NMR. 10b-hydroxy-1-(selenomethyl)-1,3,4,10b-tetrahydropyrido[2,1-a]isoindol-6(2H)-one (3d)

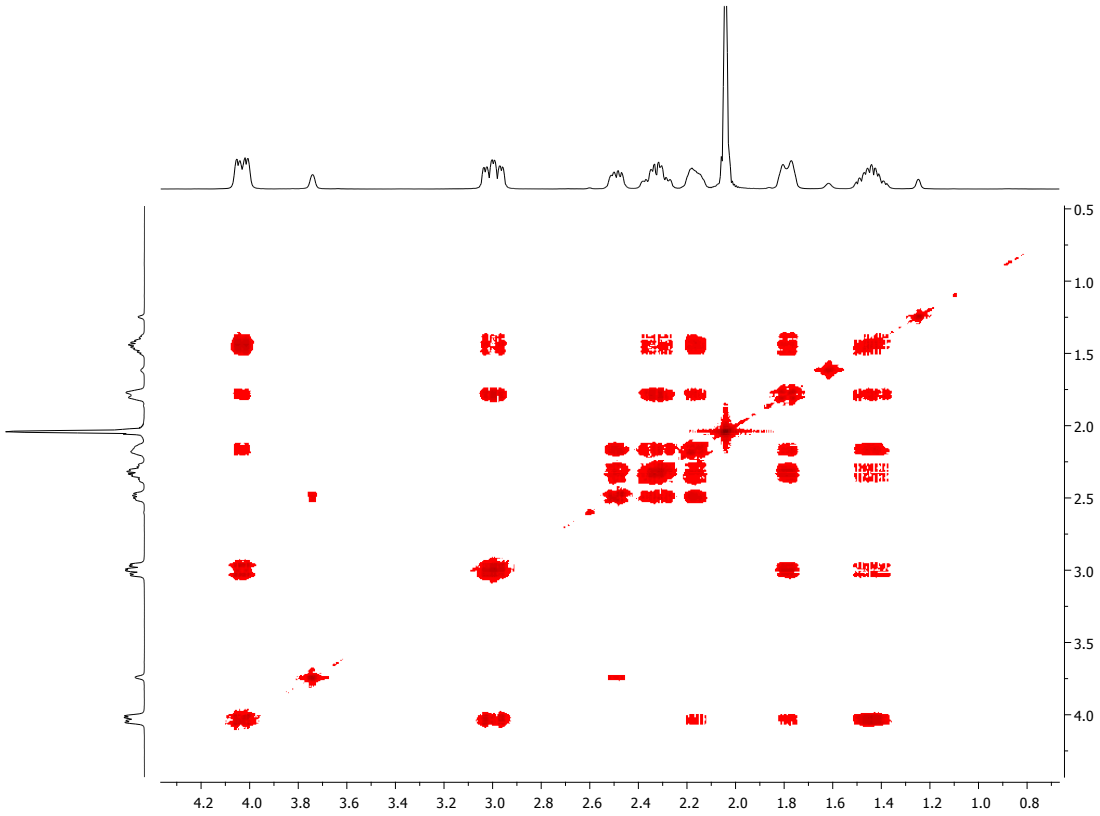


^{77}Se NMR. 10b-hydroxy-1-(selenomethyl)-1,3,4,10b-tetrahydropyrido[2,1-a]isoindol-6(2H)-one (3d)



COSY. 10b-hydroxy-1-(selenomethyl)-1,3,4,10b-tetrahydropyrido[2,1-a]isoindol-6(2H)-one (3d)

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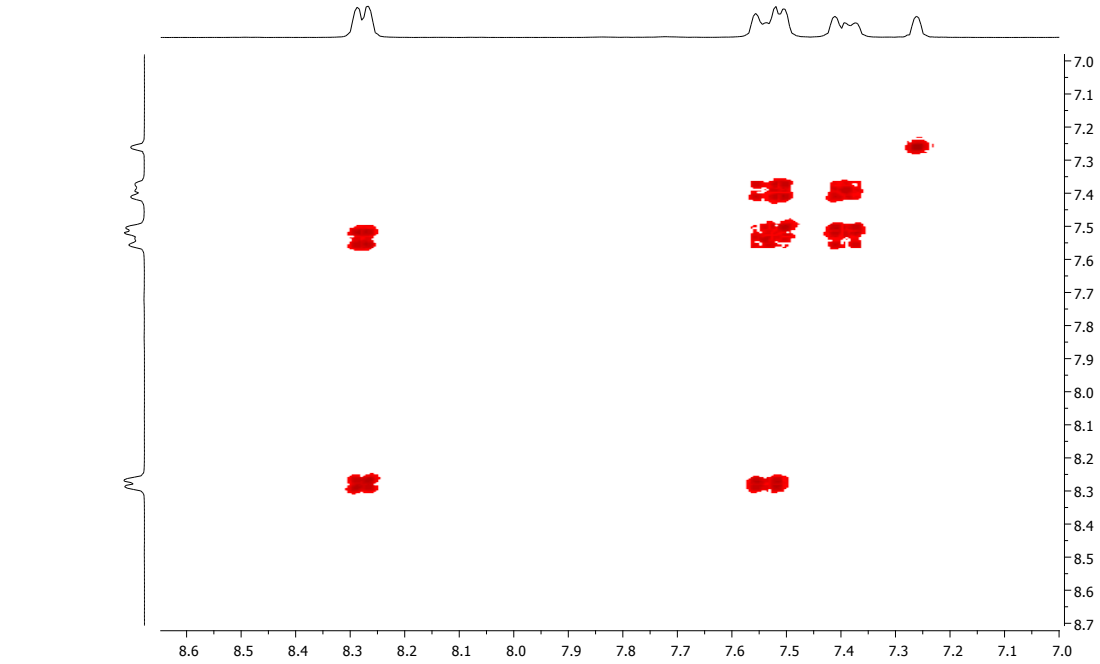
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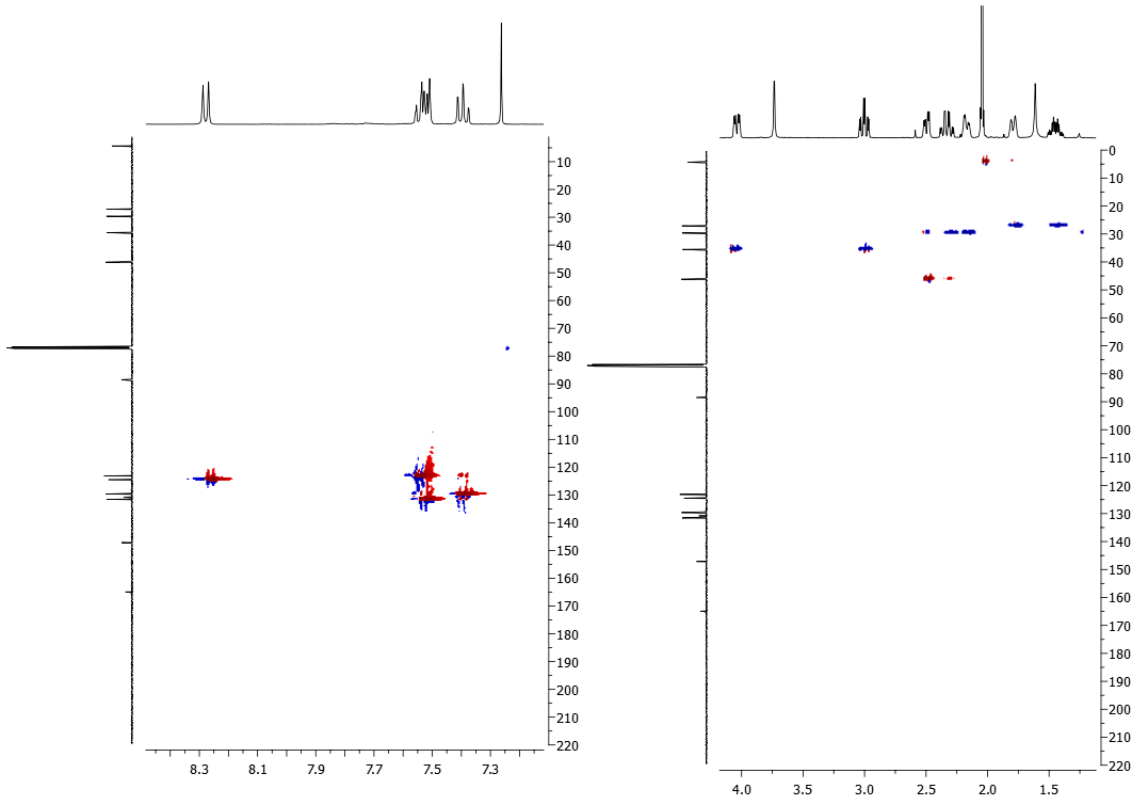
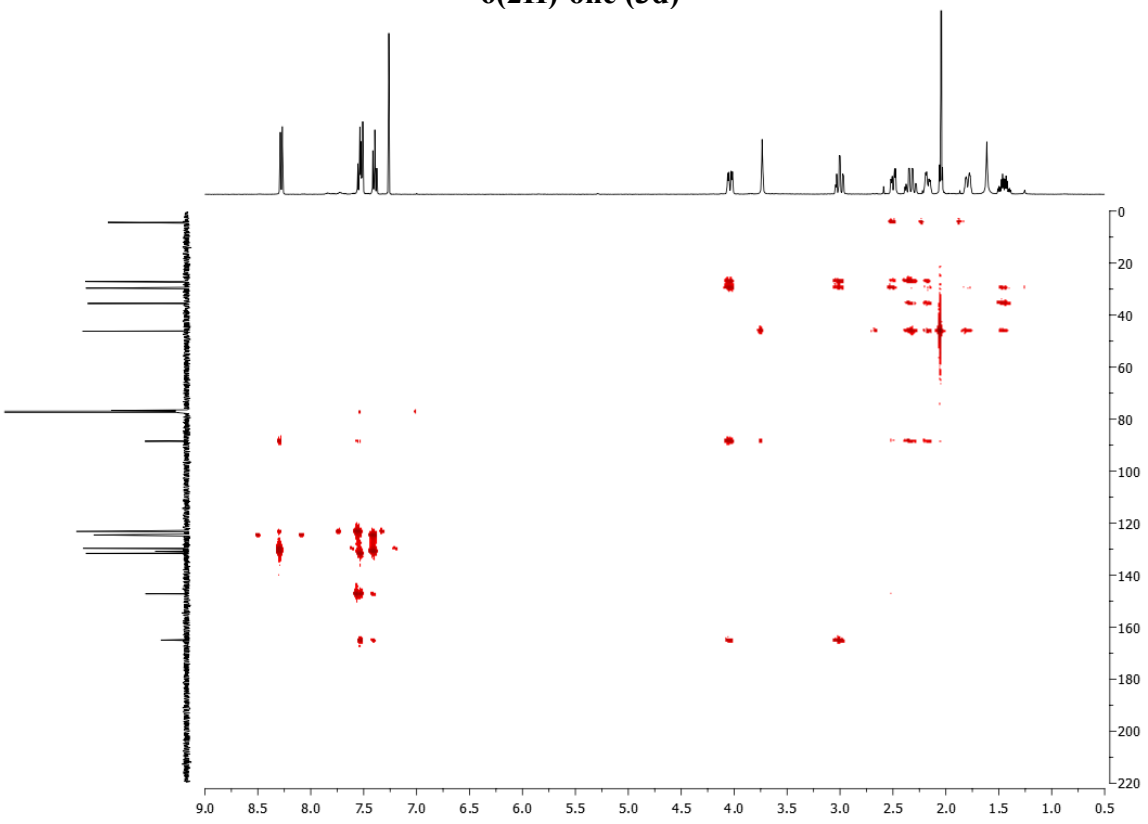
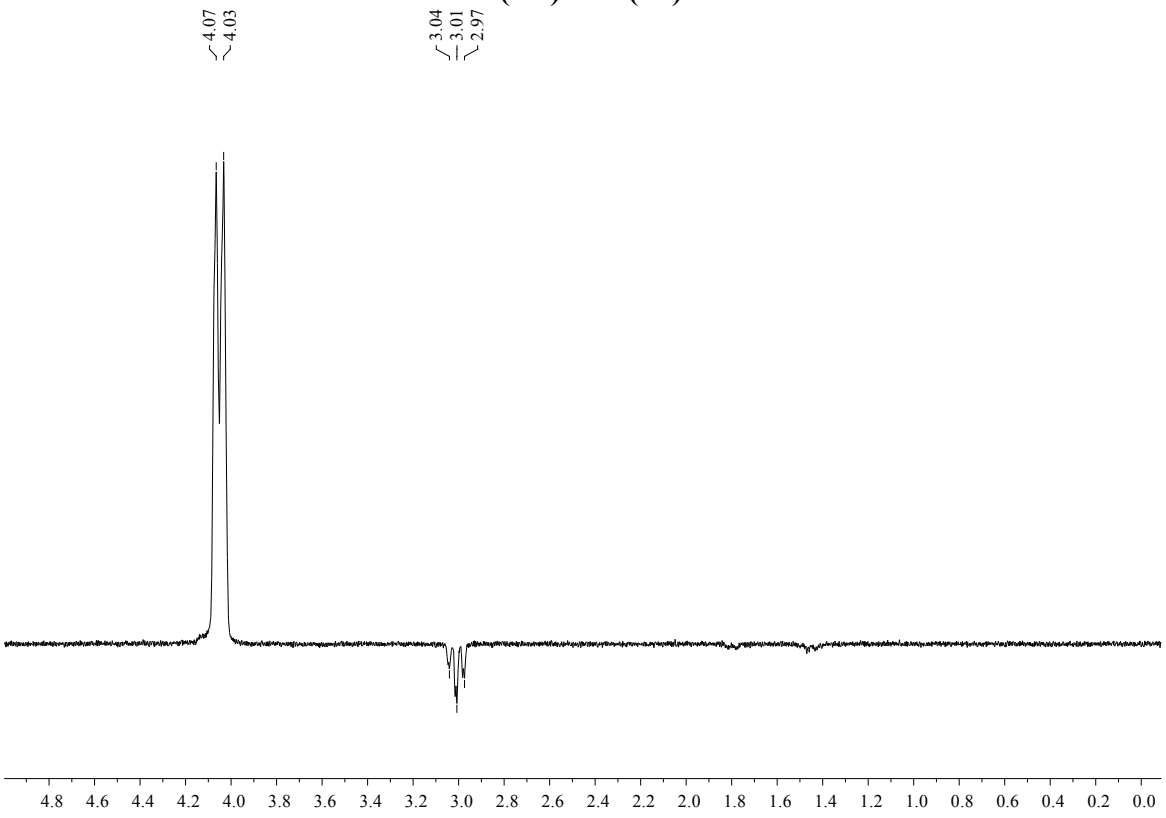
HSQC. 10b-hydroxy-1-(selenomethyl)-1,3,4,10b-tetrahydropyrido[2,1-a]isoindol-6(2H)-one (3d)

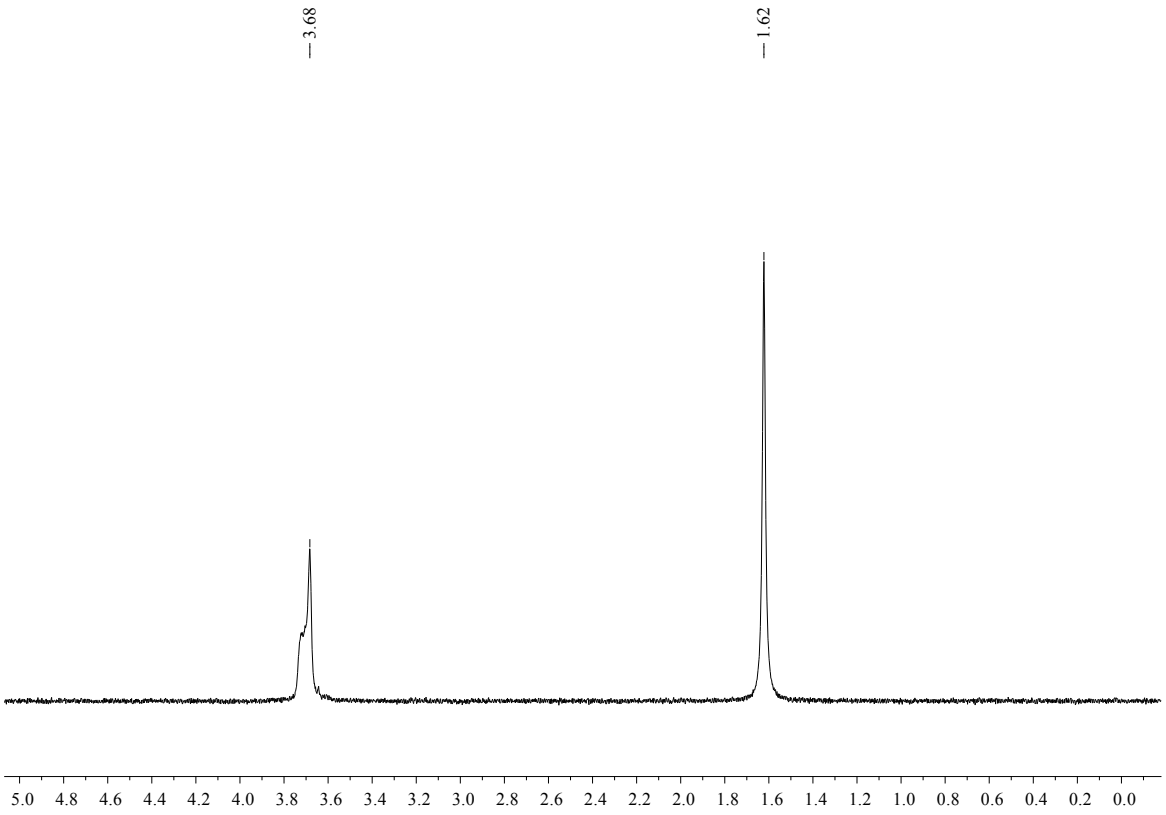


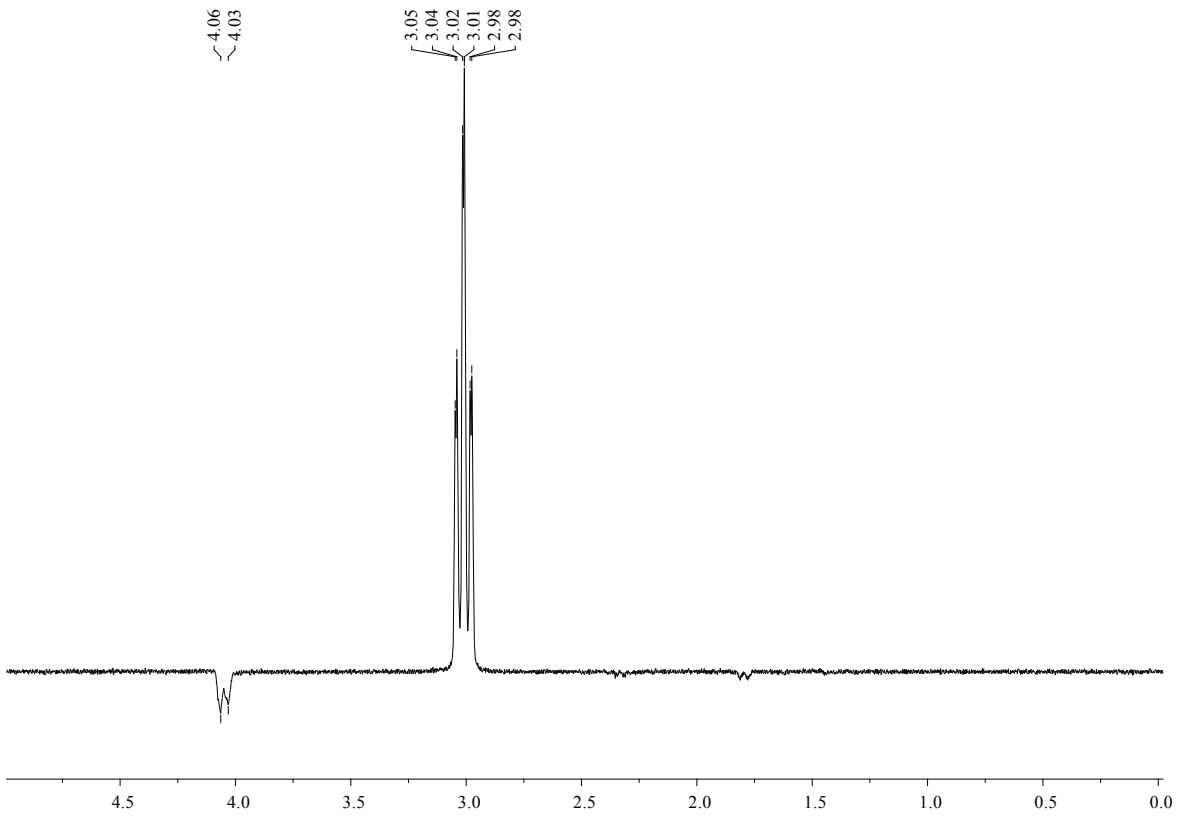
HMBC. **10b-hydroxy-1-(selenomethyl)-1,3,4,10b-tetrahydropyrido[2,1-a]isoindol-6(2H)-one (3d)**



1D NOE. 10b-hydroxy-1-(selenomethyl)-1,3,4,10b-tetrahydropyrido[2,1-a]isoindol-6(2H)-one (3d)



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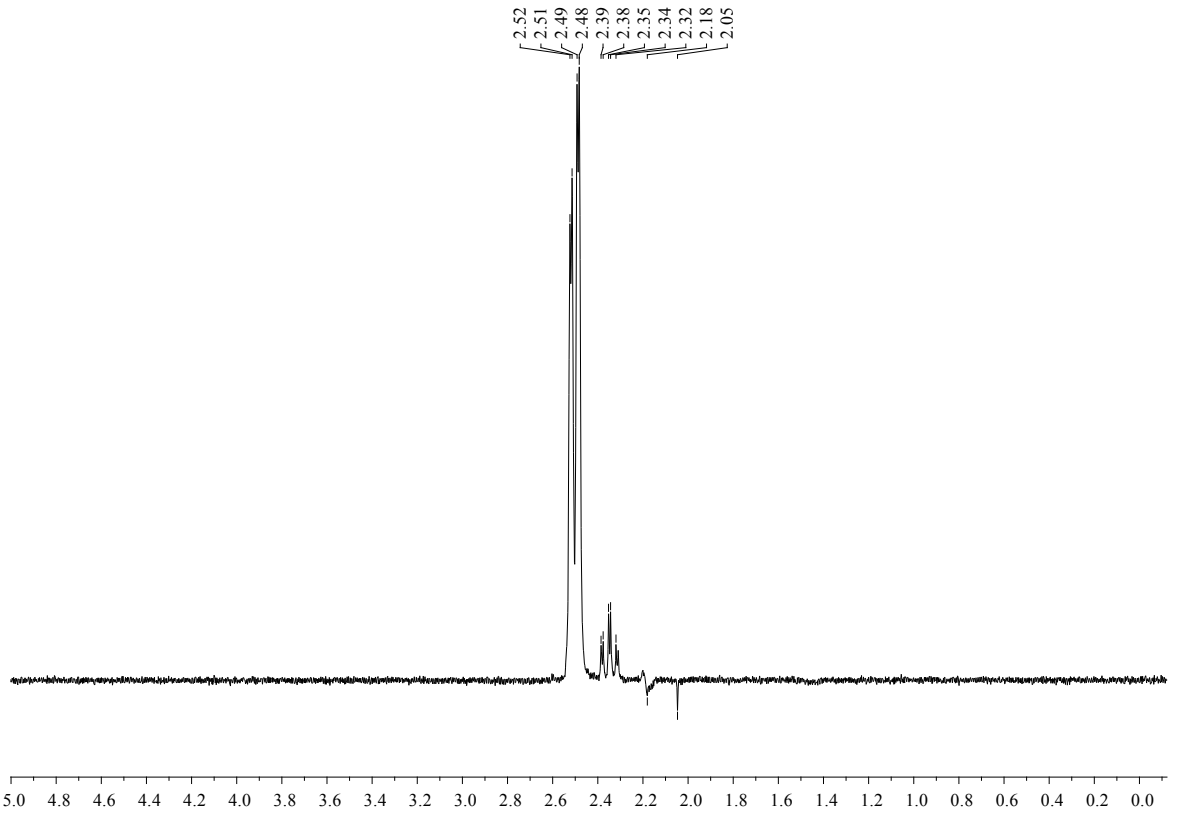
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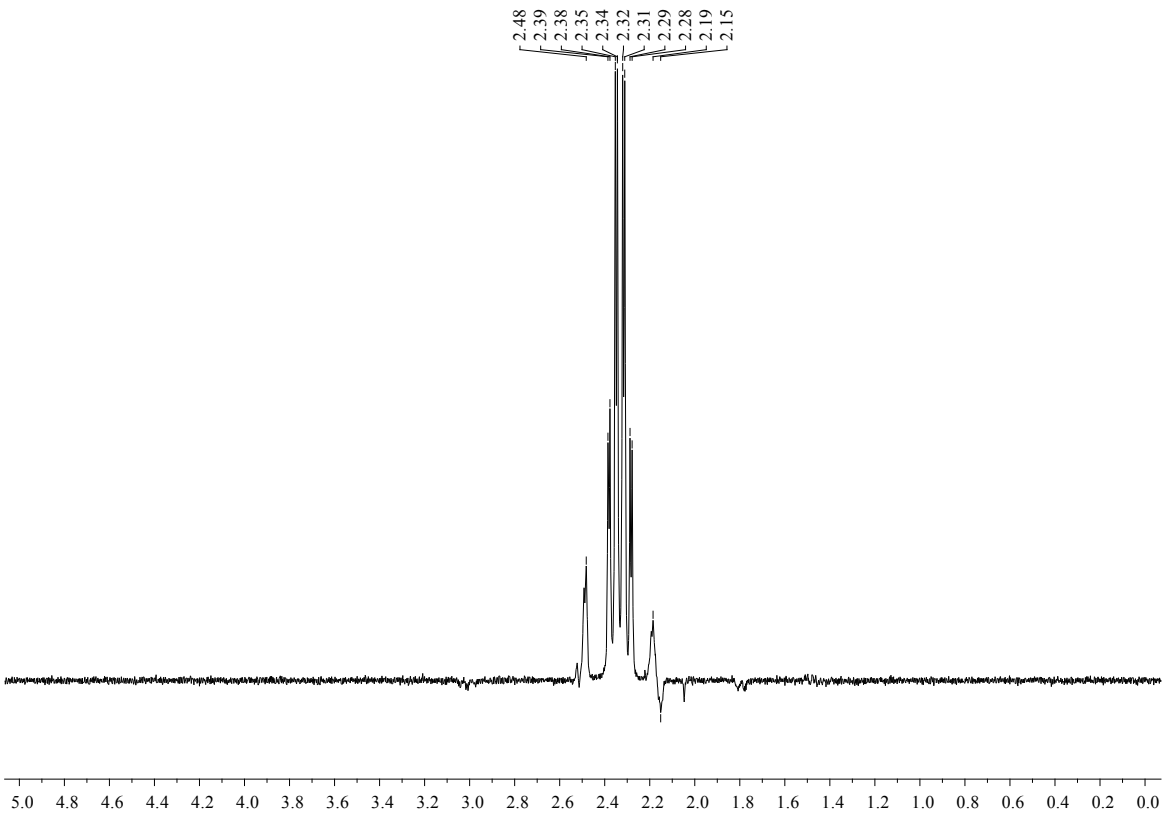
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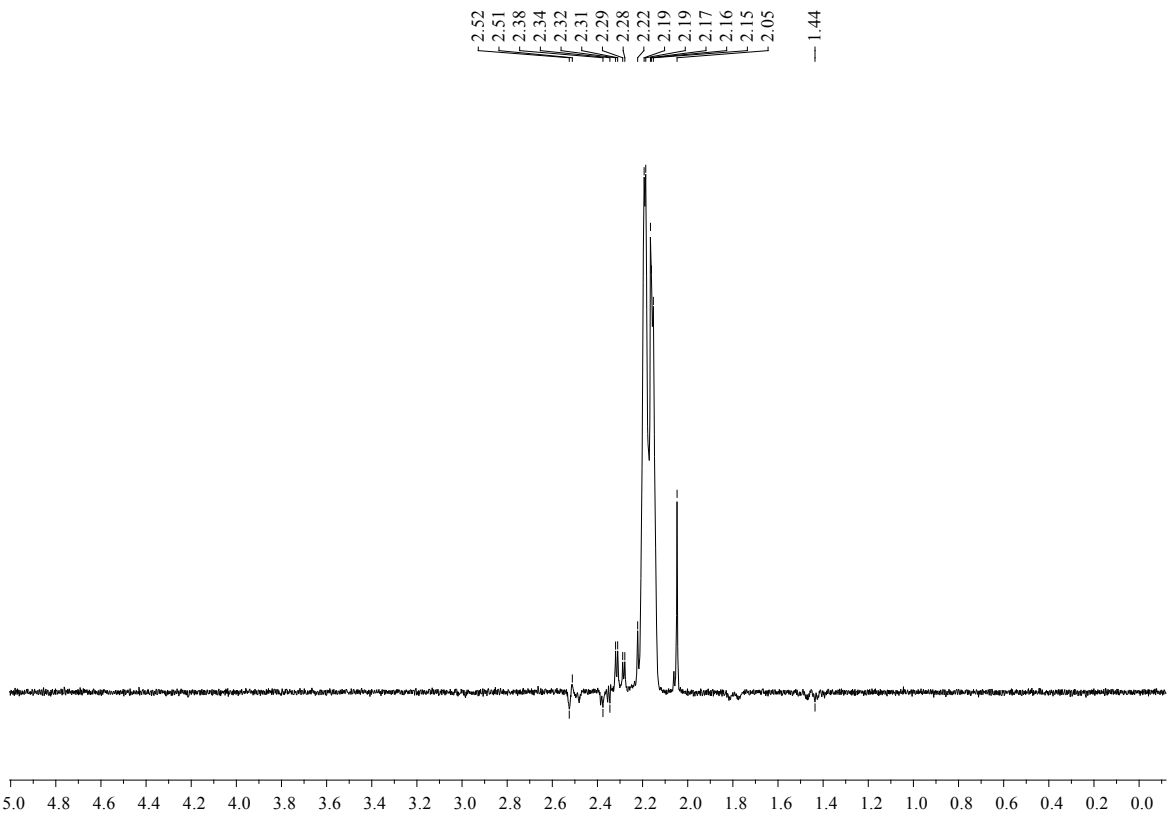
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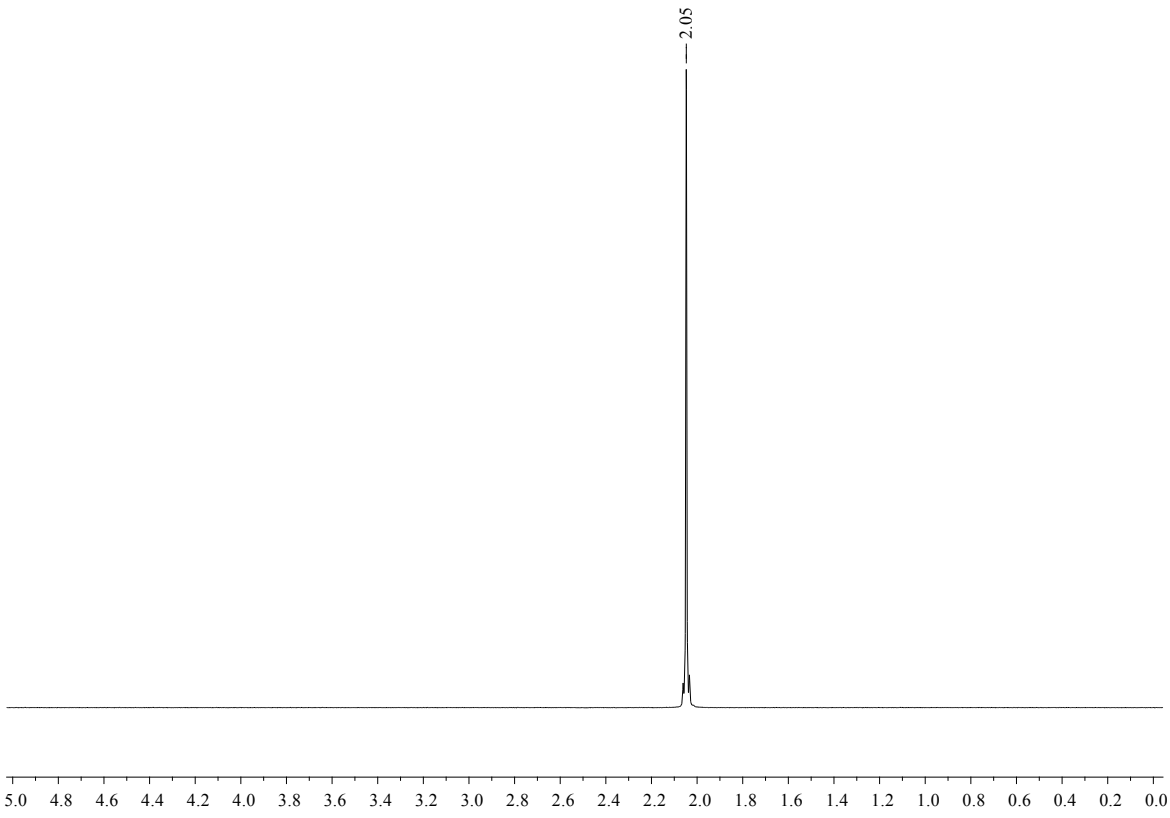
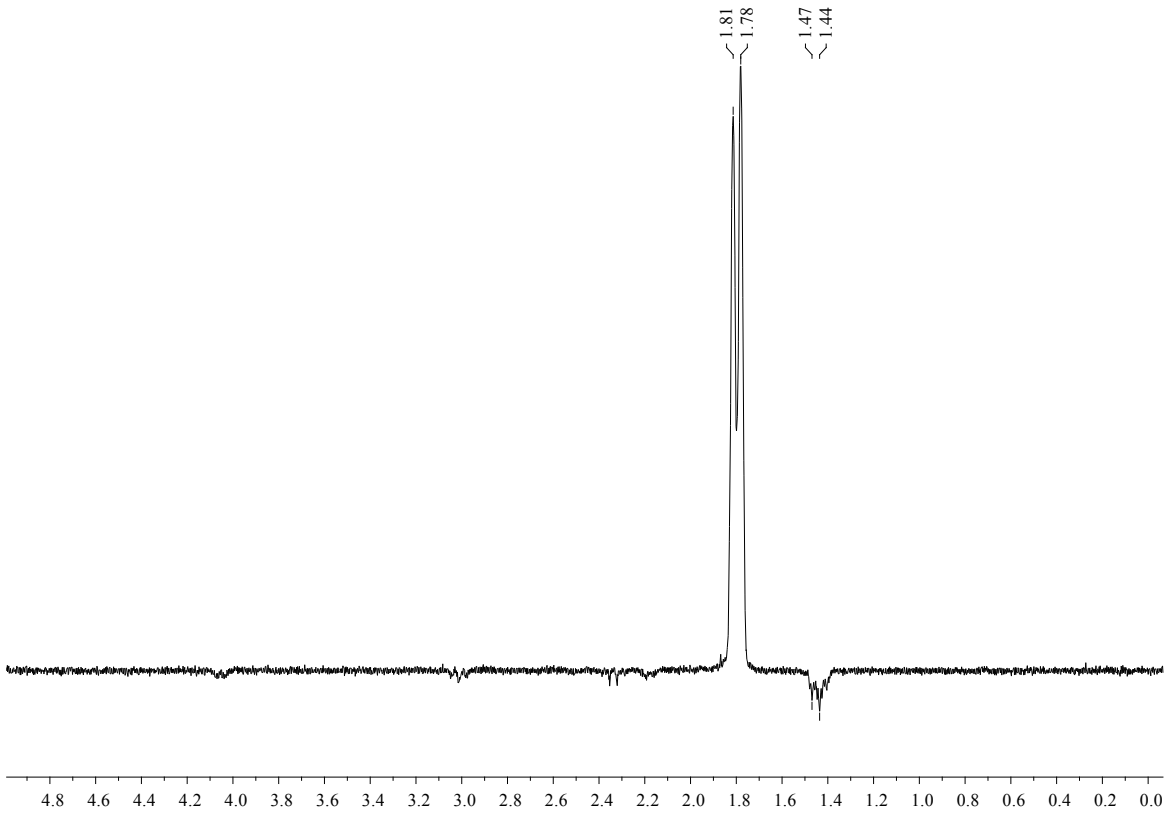
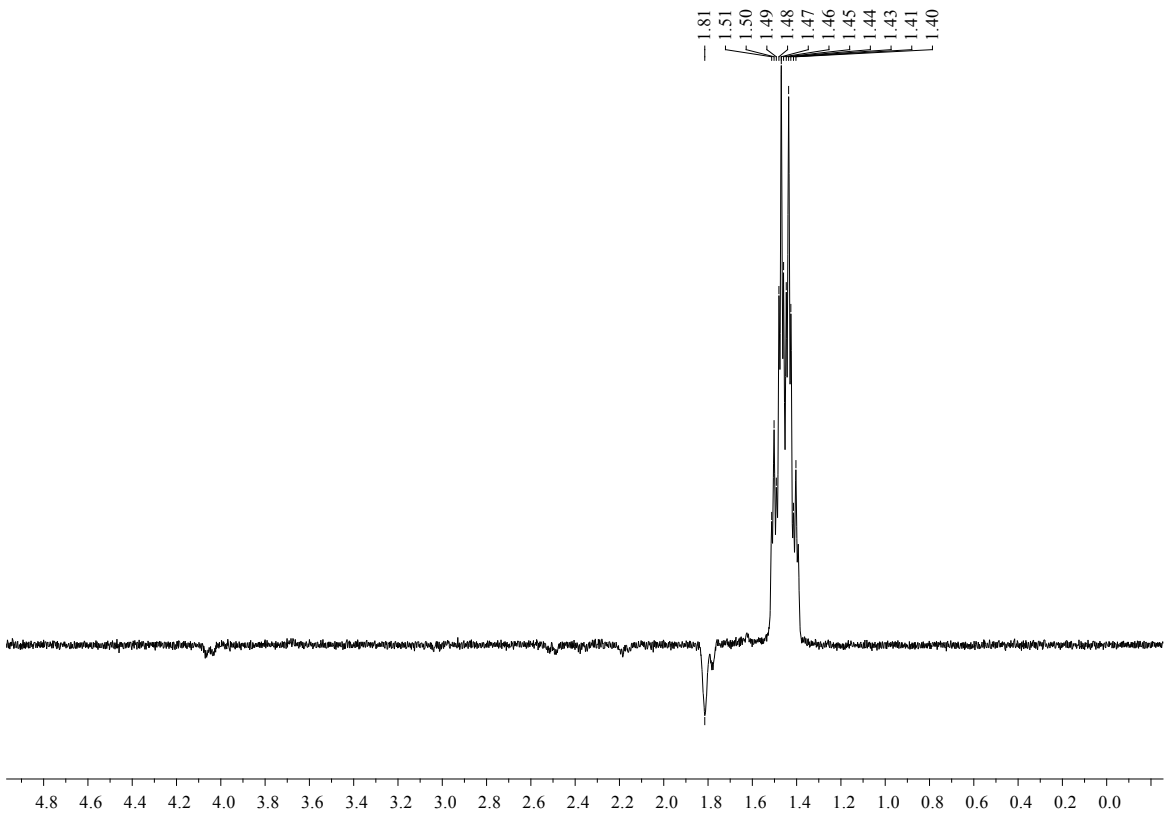
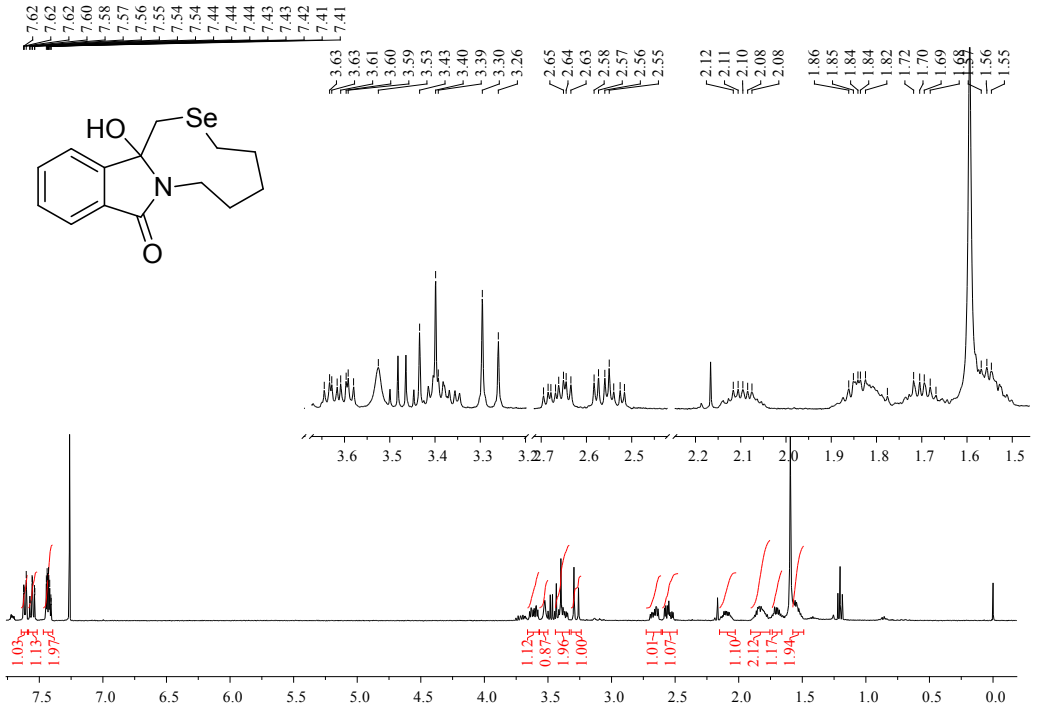

2.05
5.0 4.8 4.6 4.4 4.2 4.0 3.8 3.6 3.4 3.2 3.0 2.8 2.6 2.4 2.2 2.0 1.8 1.6 1.4 1.2 1.0 0.8 0.6 0.4 0.2 0.0

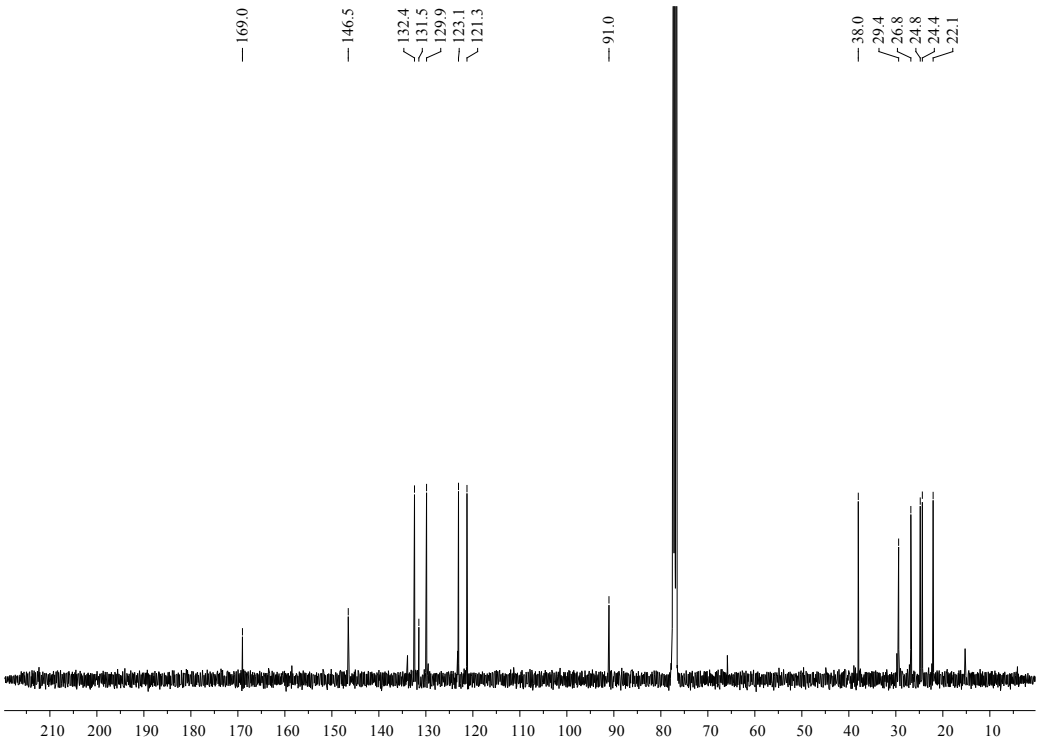

1.81
1.78
1.47
1.44
4.8 4.6 4.4 4.2 4.0 3.8 3.6 3.4 3.2 3.0 2.8 2.6 2.4 2.2 2.0 1.8 1.6 1.4 1.2 1.0 0.8 0.6 0.4 0.2 0.0


1.81
1.51
1.50
1.49
1.48
1.47
1.46
1.45
1.44
1.43
1.41
1.40
4.8 4.6 4.4 4.2 4.0 3.8 3.6 3.4 3.2 3.0 2.8 2.6 2.4 2.2 2.0 1.8 1.6 1.4 1.2 1.0 0.8 0.6 0.4 0.2 0.0

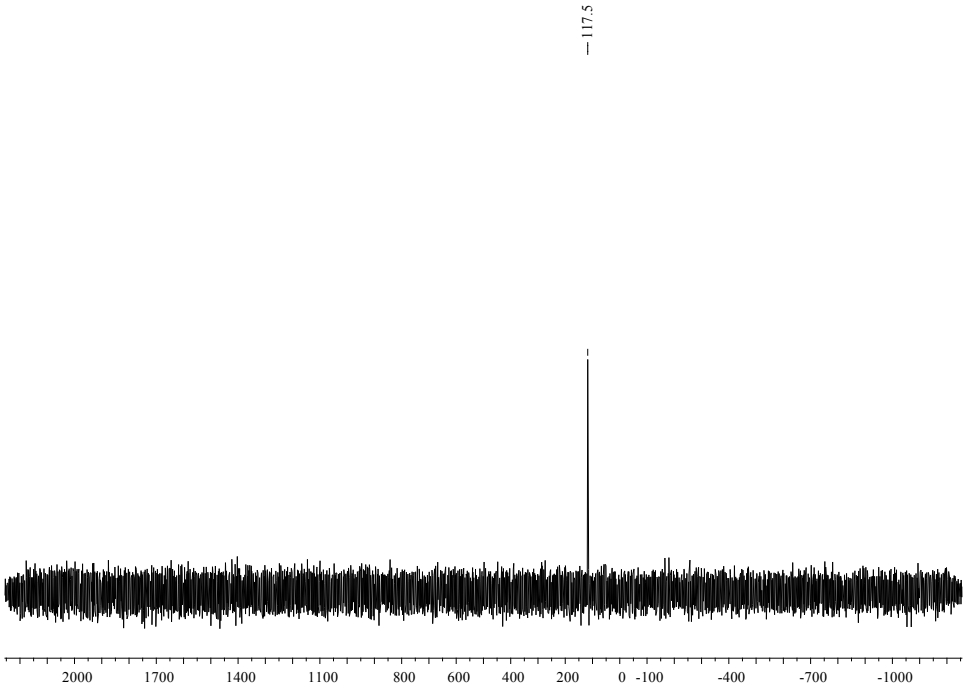
^{1}H NMR. 13b-hydroxy-1,4,5,6,7,13b-hexahydro-3H,9H-[1,4]selenazonino[3,4-a]isoindol-9-one (2e)



^{13}C NMR. 13b-hydroxy-1,4,5,6,7,13b-hexahydro-3H,9H-[1,4]selenazonino[3,4-a]isoindol-9-one (2e)



^{77}Se NMR. 13b-hydroxy-1,4,5,6,7,13b-hexahydro-3H,9H-[1,4]selenazonino[3,4-a]isoindol-9-one (2e)



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