Supporting Information

Synthesis of a Unique Isoindoline/Tetrahydroisoquinoline-based Tricyclic Sultam Library Utilizing a Heck-aza-Michael Strategy

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General Experimental Methods

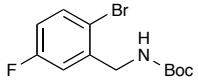
Stirring was achieved with oven-dried magnetic stir bars. Toluene, THF and CH_2Cl_2 were either purchased through Sigma-Aldrich or purified by passage through a Solv-Tek purification system employing activated Al_2O_3 (Grubbs, R. H.; Rosen, R. K.; Timmers, F. J. *Organometallics* **1996**, *15*, 1518–1520). Et_3N was purified by passage over basic alumina or distilled over CaH and stored over KOH. Flash column chromatography was performed with Sorbent Technologies (30930M-25, Silica Gel 60A, 40-63 um). Thin layer chromatography was performed on silica gel 60F254 plates (EM-5717, Merck). Deuterated solvents were purchased from Cambridge Isotope laboratories. ^1H, ^{13}C NMR spectra were recorded on a Bruker DRX-400 spectrometer operating at 400 MHz, 100 MHz respectively as well as a Bruker DRX-500 spectrometer operating at 500 MHz, 126 MHz respectively. High-resolution mass spectrometry (HRMS) and FAB spectra were obtained either on a VG Instrument ZAB double-focusing mass spectrometer boron a LCT Premier Spectrometer (Micromass UK Ltd) operating in the ESI mode (MeOH).

Experimental Procedures

General Experimental Procedure for Boc Protected Amine 1{*1-5*}

To a round bottom flask containing phenylmethylamine (24 mmol, 1 equiv) was added THF/H_2O (30/30 mL, 0.5M), $NaHCO_3$ (48 mmol, 2 equiv) and then di-*tert*-butyl dicarbonate (28.8 mmol, 1.2 equiv). Reaction mixture was stirred for 6-12 hours at room temperature. The reaction was quenched with water and extracted with EtOAc (3x). The combined organic layers were washed with brine, dried (Na_2SO_4), filtered and then concentrated under reduced pressure. The residue was purified with flash chromatography.[1]

tert-butyl 2-bromo-5-fluorobenzylcarbamate 1{*3*}.



FTIR (thin film): 3280, 2977, 1677, 1531, 1429, 1365, 1292, 1253, 1176, 1145, 1095, 1027, 869, 806 cm^{-1};

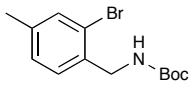
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.49 (dd, J = 8.7, 5.2 Hz, 1H), 7.12 (dd, J = 9.2, 2.8 Hz, 1H), 6.88 (td, J = 8.4, 3.0 Hz, 1H), 5.03 (s, 1H), 4.36 (d, J = 6.3 Hz, 2H), 1.47 (s, 9H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 162.1 (d, $^1J_{CF}$ = 247.1 Hz), 155.7, 140.2 (d, $^3J_{CF}$ = 7.1 Hz), 133.8 (d, $^3J_{CF}$ = 7.9 Hz), 117.1 (d, $^4J_{CF}$ = 3.1 Hz), 116.3 (d, $^2J_{CF}$ = 23.6 Hz), 115.9 (d, $^2J_{CF}$ = 22.5 Hz), 80.1, 44.7, 28.3;

HRMS calculated for $C_{12}H_{15}BrFNO_2$ $(M+H)^+$ = 304.0343; found 304.0346 (TOF MS ES+).

[1] The preparation of **1**{*1*}, **1**{*2*}, **1**{*3*} were previously reported.

***tert*-butyl 2-bromo-4-methylbenzylcarbamate 1{*4*}.**



FTIR (thin film): 3348, 2975, 1701, 1502, 1452, 1365, 1249, 1170, 1037, 862 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.38 (s, 1H), 7.26 (d, *J* = 5.6 Hz, 1H), 7.11–7.07 (m, 1H), 5.00 (s, 1H), 4.35 (d, *J* = 6.1 Hz, 2H), 2.32 (s, 3H), 1.45 (s, 9H);

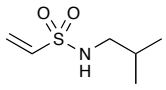
^{13}C NMR (126 MHz, $CDCl_3$) δ 155.7, 139.1, 134.9, 133.2, 129.7, 128.4, 123.4, 44.6, 28.4, 20.7;

HRMS calculated for $C1_3H_{18}BrNO_2Na$ $(M+Na)^+$ = 322.0419; found 319.0419 (TOF MS ES+).

General Experimental Procedure for Sulfonamides 2{*1-8*}.

To a round bottom flask containing amine (18 mmol, 1.0 equiv) and DMAP (1.8 mmol, 0.1 equiv) was added CH_2Cl_2 (90 mL, 0.2M) and Et_3N (54 mmol, 3.0 equiv). This reaction mixture was allowed to stir under argon for several minutes until soluble and placed at 0 ºC. It was added 2-chloroethanesulfonyl chloride (26 mmol, 1.4 equiv) drop-wise over several minutes and then the reaction mixture was stirred at room temperature. After 3–4 hours the reaction was quenched with water, extracted with CH_2Cl_2 (3x), washed with brine and then dried ($MgSO_4$). The mixture was filtered and the filtrate was concentrated under reduced pressure and purified through flash column chromatography.[2]

***N*-isobutylethenesulfonamide 2 {*2*}.**



FTIR (thin film): 3394, 2962, 2873, 2358, 1469, 1427, 1325, 1145, 1070, 968, 817, 734, 659 cm^{-1};

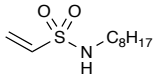
^{1}H NMR (500 MHz, $CDCl_3$) δ 6.52 (dd, *J* = 16.6, 9.9 Hz, 1H), 6.25 (dd, *J* = 16.6, 0.7 Hz, 1H), 5.94 (d, *J* = 9.9 Hz, 1H), 4.46 (s, 1H), 2.89–2.77 (m, 2H), 1.80 (dp, *J* = 13.4, 6.7 Hz, 1H), 0.99–0.89 (m, 6H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 135.9, 126.5, 50.4, 28.6, 19.8;

HRMS calculated for $C_6H_{14}NO_2S$ $(M+H)^+$ = 164.0740; found 164.0738 (TOF MS ES+).

[2] The preparation of **2**{*1*}, **2**{*3*}, **2**{*5*}, **2**{*6*}, **2**{*8*} were previously reported.

***N*-octylethenesulfonamide 2{*4*}.**



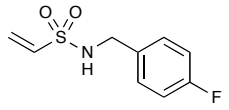
FTIR (thin film): 3292, 2925, 2856, 2358, 2341, 1558, 1330, 1147, 1078, 966, 734, 657, 549 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 6.53 (dd, *J* = 16.6, 9.9 Hz, 1H), 6.26 (d, *J* = 16.6 Hz, 1H), 5.96 (d, *J* = 9.9 Hz, 1H), 4.43 (s, 1H), 3.03 (dt, *J* = 13.3, 6.7 Hz, 2H), 1.65–1.49 (m, 2H), 1.42–1.18 (m, 10H), 0.89 (t, *J* = 7.0 Hz, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 135.9, 126.5, 43.1, 31.7, 29.9, 29.1, 29.1, 26.6, 22.6, 14.1;

HRMS calculated for $C_{10}H_{21}NO_2S$ $(M+H)^+$ = 219.1293; found 219.1288 (TOF MS ES+).

***N*-(4-fluorobenzyl)ethenesulfonamide 2{*7*}.**



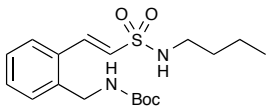
FTIR (thin film): 3286, 2358, 1604, 1510, 1326, 1222, 1149, 1062, 972, 833, 763, 730, 655 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.33–7.28 (m, 2H), 7.08–7.01 (m, 2H), 6.49 (dd, *J* = 16.5, 9.9 Hz, 1H), 6.26 (dd, *J* = 16.5, 2.8 Hz, 1H), 5.95 (d, *J* = 9.9 Hz, 1H), 4.62 (s, 1H), 4.19 (d, *J* = 6.2 Hz, 2H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 162.5 (d, $^1J_{CF}$ = 246.5 Hz), 135.9, 132.3 (d, $^4J_{CF}$ = 3.2 Hz), 129.7 (d, $^3J_{CF}$ = 8.2 Hz), 127.1, 115.7 (d, $^2J_{CF}$ = 21.5 Hz), 46.4;

HRMS calculated for $C_9H_{11}FNO_2S$ $(M+H)^+$ = 216.0490; found 216.0487 (TOF MS ES+).

(*E*)-*tert*-butyl 2-(2-(*N*-butylsulfamoyl)vinyl)benzylcarbamate 3{*1*,*1*}.



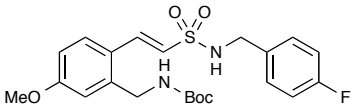
FTIR (thin film): 3288, 2962, 1665, 1515, 1328, 1151, 752, 528 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.75 (d, *J* = 15.3 Hz, 1H), 7.51 (d, *J* = 7.6 Hz, 1H), 7.43–7.36 (m, 2H), 7.36–7.31 (m, 1H), 6.71 (d, *J* = 15.3 Hz, 1H), 4.82 (s, 1H), 4.44 (d, *J* = 4.1 Hz, 3H), 3.11 (dd, *J* = 13.5, 6.8 Hz, 2H), 2.18 (s, 1H), 1.62 (s, 1H), 1.58 (dt, *J* = 14.9, 7.3 Hz, 2H), 1.46 (s, 9H), 1.39 (dq, *J* = 14.6, 7.3 Hz, 2H), 0.93 (t, *J* = 7.4 Hz, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 155.6, 137.7, 131.5, 130.6, 129.3, 128.2, 127.7, 127.1, 79.9, 77.3, 77.0, 76.8, 42.9, 42.3, 32.1, 28.4, 19.7, 13.6;

HRMS calculated for $C_{18}H2_8N_2O_4SNa$ $(M+Na)^+$ = 391.1667; found 391.1671 (TOF MS ES+).

(*E*)-*tert*-butyl 2-(2-(*N*-(4-fluorobenzyl)sulfamoyl)vinyl)-5-methoxybenzylcarbamate 3{*2*,*7*}.



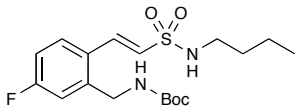
FTIR (thin film): 3276, 2975, 2358, 1691, 1510, 1251, 1143, 864, 730 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.67 (d, *J* = 15.3 Hz, 1H), 7.50 (dd, *J* = 8.6, 5.5 Hz, 1H), 7.11 (dd, *J* = 9.4, 2.6 Hz, 1H), 7.02 (td, *J* = 8.3, 2.6 Hz, 1H), 6.64 (d, *J* = 15.2 Hz, 1H), 4.88 (s, 1H), 4.47–4.33 (m, 3H), 3.10 (dd, *J* = 13.4, 6.9 Hz, 2H), 1.61–1.53 (m, 4H), 1.47 (s, 8H), 1.44–1.33 (m, 3H), 0.93 (t, *J* = 7.4 Hz, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 163.4, 162.3 (d, $^1J_{CF}$ = 246.5 Hz) 161.7, 161.4, 155.6, 139.9, 137.8, 132.7, 132.7 (d, $^4J_{CF}$ = 3.2 Hz), 132.6, 129.9, 129.8 (d, $^3J_{CF}$ = 8.1 Hz), 128.8, 124.8, 123.4, 115.7, 115.6 (d, $^2J_{CF}$ = 21.6 Hz), 115.6, 114.4, 113.6, 80.1, 55.4, 46.4, 42.3, 28.4;

HRMS calculated for $C_{22}H_{27}FN_2O_5SK$ $(M+K)^+$ = 489.1262; found 489.1263 (TOF MS ES+).

(*E*)-*tert*-butyl 2-(2-(*N*-butylsulfamoyl)vinyl)-5-fluorobenzylcarbamate 3{*1*,*3*}.



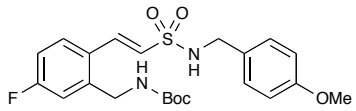
FTIR (thin film): 3296, 2964, 1665, 1149, 871, 806, 621 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.67 (d, *J* = 15.3 Hz, 1H), 7.50 (dd, *J* = 8.6, 5.5 Hz, 1H), 7.11 (dd, *J* = 9.4, 2.6 Hz, 1H), 7.02 (td, *J* = 8.3, 2.6 Hz, 1H), 6.64 (d, *J* = 15.2 Hz, 1H), 4.88 (s, 1H), 4.47–4.33 (m, 3H), 3.10 (dd, *J* = 13.4, 6.9 Hz, 2H), 1.61–1.53 (m, 4H), 1.47 (s, 8H), 1.44–1.33 (m, 3H), 0.93 (t, *J* = 7.4 Hz, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 165.7, 164.3(d, $^1J_{CF}$ = 252.1 Hz), 163.7, 156.3, 141.4, 129.9, 129.8, 129.2 (d, $^3J_{CF}$ = 9.2 Hz) 128.1, 116.4, 116.2, 115.9, 115.8 (d, $^2J_{CF}$ = 22.3 Hz), 115.7, 43.6, 42.6, 32.7, 29.1, 20.4, 14.3;

HRMS calculated for $C_{18}H_{27}FN_2O_4SNa$ $(M+Na)^+$ = 409.1573; found 409.1567 (TOF MS ES+).

(*E*)-*tert*-butyl 5-fluoro-2-(2-(*N*-(4-methoxybenzyl)sulfamoyl)vinyl)benzylcarbamate 3{*2*,*1*}.



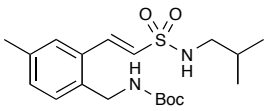
FTIR (thin film): 3272, 2975, 1685, 1514, 1247, 1135, 1027, 869, 516 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.63 (d, *J* = 15.3 Hz, 1H), 7.36 (dd, *J* = 8.6, 5.5 Hz, 1H), 7.25 (s, 1H), 7.09 (dd, *J* = 9.4, 2.6 Hz, 1H), 6.99 (td, *J* = 8.3, 2.6 Hz, 1H), 6.88–6.84 (m, 2H), 6.53 (d, *J* = 15.2 Hz, 1H), 4.88 (s, 1H), 4.70 (t, *J* = 6.0 Hz, 1H), 4.39 (d, *J* = 5.6 Hz, 2H), 4.23 (d, *J* = 6.1 Hz, 2H), 3.77 (s, 3H), 2.18 (s, 5H), 1.60 (s, 2H), 1.46 (s, 9H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 207.1, 164.2 (d, $^1J_{CF}$ = 252 Hz), d159.4, 140.8, 140.8, 136.7, 129.4, 129.2 (d, $^3J_{CF}$ = 9.2 Hz), 128.6, 127.6 (d, $^4J_{CF}$ = 2.2 Hz), 115.5 (d, $^2J_{CF}$ = 22.6 Hz), 115.9 (d, $^2J_{CF}$ = 22.1 Hz), 114.2, 55.3, 46.7, 41.6, 30.9, 28.3;

HRMS calculated for $C_{22}H_{27}FN_2O_4SNa$ $(M+Na)^+$ = 473.1522; found 473.1526 (TOF MS ES+).

(*E*)-*tert*-butyl 2-(2-(*N*-isobutylsulfamoyl)vinyl)-4-methylbenzylcarbamate3{*4,2*}.



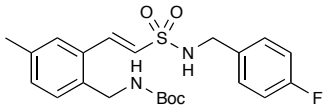
FTIR (thin film): 3282, 29.62, 1665, 1319, 1249, 1141, 858, 732, 547 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.72 (d, *J* = 15.2 Hz, 1H), 7.32 (s, 1H), 7.26 (d, *J* = 8.6 Hz, 3H), 7.21 (d, *J* = 7.8 Hz, 1H), 6.70 (d, *J* = 15.3 Hz, 1H), 4.76 (s, 1H), 4.48 (s, 1H), 4.39 (d, *J* = 5.4 Hz, 2H), 2.92 (t, *J* = 6.6 Hz, 2H), 2.36 (s, 3H), 2.18 (s, 1H), 1.89–1.79 (m, 1H), 1.61 (s, 2H), 1.46 (s, 9H), 0.97 (d, *J* = 6.7 Hz, 6H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 155.6, 137.9, 137.9, 134.9, 131.5, 131.4, 129.5, 127.7, 127.5, 50.6, 42.1, 30.9, 28.8, 28.4, 21.1, 19.9;

HRMS calculated for $C_{19}H_{30}N_2O_4SNa$ $(M+Na)^+$ = 405.1824; found 405.1823 (TOF MS ES+).

((*E*)-*tert*-butyl 2-(2-(*N*-(4-fluorobenzyl)sulfamoyl)vinyl)-4-methylbenzylcarbamate 3{*4,7*}.



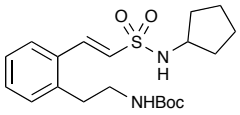
FTIR (thin film): 3282, 2977, 1703, 1510, 1328, 1145, 827, 732, 538 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.73 (d, *J* = 15.2 Hz, 1H), 7.37–7.31 (m, 3H), 7.22 (dd, *J* = 21.5, 7.4 Hz, 4H), 7.03 (t, *J* = 8.7 Hz, 3H), 6.61 (d, *J* = 15.3 Hz, 1H), 4.95 (s, 1H), 4.78 (s, 1H), 4.36 (d, *J* = 5.0 Hz, 3H), 4.27 (d, *J* = 5.3 Hz, 2H), 2.36 (s, 4H), 1.65 (s, 4H), 1.43 (s, 9H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 162.4 (d, $^{1}J_{CF}$ = 246.2 Hz), 155.6, 138.4, 138.1, 134.9, 132.7 (d, $^{4}J_{CF}$ = 3.2 Hz), 131.6, 131.2, 129.8 (d, $^{3}J_{CF}$ = 8.5 Hz), 129.5, 127.9, 127.7, 127.4, 115.7 (d, $^{2}J_{CF}$ = 21.3 Hz), 79.9, 5.50, 44.1, 28.4, 21.1;

HRMS calculated for $C_{22}H_{27}FN_2O_4SK$ $(M+K)^+$ = 473.1316; found 473.1313 (TOF MS ES+).

(*E*)-*tert*-butyl 2-(2-(*N*-cyclopentylsulfamoyl)vinyl)phenethylcarbamate 3{*5*,*3*}.



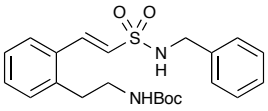
FTIR (thin film): 3267, 2966, 1689, 1508, 1323, 1249, 1143, 966, 745, 622 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.84 (d, *J* = 15.3 Hz, 1H), 7.50 (d, *J* = 7.6 Hz, 1H), 7.36 (t, *J* = 7.1 Hz, 1H), 7.30 (d, *J* = 7.5 Hz, 1H), 7.24 (dd, *J* = 7.5, 1.0 Hz, 1H), 6.78 (d, *J* = 15.3 Hz, 1H), 4.96 (d, *J* = 6.6 Hz, 1H), 4.70 (s, 1H), 3.78 (d, *J* = 6.8 Hz, 1H), 3.26 (dd, *J* = 14.6, 6.7 Hz, 2H), 2.99–2.86 (m, 2H), 1.98 (ddd, *J* = 16.7, 7.6, 4.1 Hz, 2H), 1.69 (s, 2H), 1.61–1.49 (m, 4H), 1.43 (d, *J* = 20.4 Hz, 9H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 155.8, 138.2, 138.1, 132.2, 130.5, 130.4, 128.9, 127.3, 127.1, 79.7, 55.2, 41.7, 34.4, 33.8, 28.4, 23.2;

HRMS calculated for $C_{20}H_{30}N_2O_4SNa$ $(M+Na)^+$ = 417.1824; found 417.1821 (TOF MS ES+).

(*E*)-tert-butyl 2-(2-(*N*-benzylsulfamoyl)vinyl)phenethylcarbamate 3{*5*,*5*}.



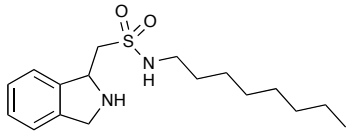
FTIR (thin film): 3267, 2975, 1685, 1498, 1325, 1143, 1056, 752, 549 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.86 (d, *J* = 15.4 Hz, 1H), 7.42 (d, *J* = 7.6 Hz, 1H), 7.38–7.28 (m, 6H), 7.29–7.25 (m, 3H), 7.23 (dd, *J* = 7.6, 0.9 Hz, 1H), 6.73 (d, *J* = 15.4 Hz, 1H), 5.52 (t, *J* = 5.8 Hz, 1H), 4.72 (s, 1H), 4.32 (d, *J* = 6.3 Hz, 2H), 3.23 (dd, *J* = 14.8, 6.8 Hz, 2H), 2.97–2.85 (m, 2H), 1.36 (s, 10H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 155.9, 138.5, 138.2, 136.9, 131.9, 130.5, 130.5, 128.7, 128.1, 128.1, 127.8, 127.3, 127.1, 79.8, 47.4, 41.8, 34.4, 28.3;

HRMS calculated for $C_{22}H_{28}N_2O_4SNa$ $(M+Na)^+$ = 415.1668; found 415.1669 (TOF MS ES+).

1-(isoindolin-1-yl)-*N*-octylmethanesulfonamide 4{*1*,*4*}.



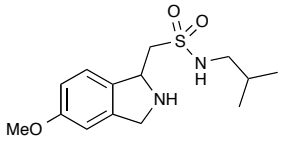
FTIR (thin film): 3280, 2925, 2854, 1458, 1319, 746, 613, 555 518 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.30–7.27 (m, 2H), 7.22 (d, *J* = 4.9 Hz, 1H), 5.09 (d, *J* = 9.9 Hz, 1H), 4.34 (q, *J* = 14.3 Hz, 1H), 3.36 (dd, *J* = 14.3, 2.3 Hz, 1H), 3.28–3.19 (m, 1H), 3.10 (ddt, *J* = 26.6, 12.4, 7.2 Hz, 2H), 1.63–1.51 (m, 2H), 1.37–1.20 (m, 9H), 0.89 (t, *J* = 7.0 Hz, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 128.2, 127.6, 127.4, 127.1, 59.5, 55.3, 51.4, 43.4, 31.8, 30.2, 29.2, 29.1, 26.7, 22.6, 14.1;

HRMS calculated for $C_{17}H_{30}N_2O_2S$ $(M+H)^+$ = 325.1950; found 325.1950 (TOF MS ES+).

***N*-isobutyl-1-(5-methoxyisoindolin-1-yl)methanesulfonamide 4{*2*,*2*}.**



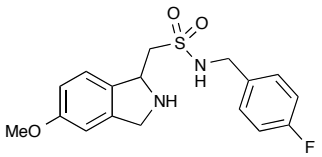
FTIR (thin film): 3292, 2958, 1612, 1494, 1467, 1135, 1074, 817, 736, 559, 518, 430 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.11 (d, *J* = 8.1 Hz, 1H), 6.83–6.78 (m, 2H), 4.96 (d, *J* = 10.3 Hz, 1H), 4.23 (dd, *J* = 37.2, 14.5 Hz, 2H), 3.81 (s, 3H), 3.29 (dd, *J* = 14.3, 2.9 Hz, 1H), 3.09 (dd, *J* = 14.3, 10.7 Hz, 1H), 2.97 (dd, *J* = 12.2, 6.7 Hz, 1H), 2.86 (dd, *J* = 12.2, 6.7 Hz, 1H), 1.83 (dt, *J* = 13.4, 6.7 Hz, 1H), 0.96 (dt, *J* = 6.8, 3.4 Hz, 6H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 159.9, 142.6, 133.2, 122.8, 113.4, 108.1, 59.1, 55.7, 55.5, 51.6, 50.7, 28.8, 19.9, 19.9;

HRMS calculated for $C_{14}H_{23}N_2O_3S$ $(M+H)^+$ = 299.1429; found 299.1419 (TOF MS ES+).

***N*-(4-fluorobenzyl)-1-(5-methoxyisoindolin-1-yl)methanesulfonamide 4{*2*,*7*}.**



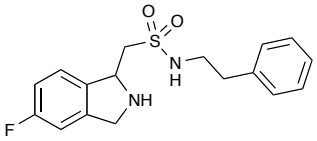
FTIR (thin film): 3265, 2931, 1508, 1326, 1220, 1135, 1110, 910, 798, 732, 522 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.42–7.32 (m, 2H), 7.12–6.98 (m, 3H), 6.88–6.75 (m, 2H), 5.00 (q, *J* = 6.6 Hz, 1H), 4.54–4.16 (m, 4H), 3.93–3.85 (m, 1H), 3.83 (d, *J* = 3.7 Hz, 2H), 3.80 (d, *J* = 3.5 Hz, 1H), 3.68–3.57 (m, 1H), 3.01–2.90 (m, 1H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 162.1 (d, $^1J_{CF}$ = 252 Hz), 159.9, 140.4, 140.1, 140.1, 137.9, 135.1, 133.3, 132.5, 132.3, 131.6, 129.9 (d, $^4J_{CF}$ = 3.7 Hz),128.7, 128.7, 121.4, 115.8 (d, $^3J_{CF}$ = 9.5 Hz), 115.6 (d, $^3J_{CF}$ = 9.6 Hz), 115.4 (d, $^2J_{CF}$ = 21.3 Hz), 115.2, 115.1, 113.5, 112.9, 112.8, 112.5, 109.1, 109.1, 108.3, 108.1, 72.8, 63.2, 55.6, 52.1, 50.9, 47.1, 18.61;

HRMS calculated for $C_{17}H_{20}N_2O_3S$ $(M+H)^+$ = 351.1179; found 251.1172 (TOF MS ES+).

1-(5-fluoroisoindolin-1-yl)-*N*-phenethylmethanesulfonamide 4{*3*,*8*}.



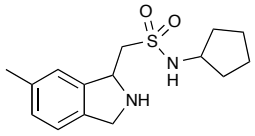
FTIR (thin film): 3288, 2860, 1602, 1487, 1317, 1139, 1076, 736, 700 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.31 (t, *J* = 7.3 Hz, 2H), 7.24 (dd, *J* = 12.7, 4.6 Hz, 3H), 7.08 (dd, *J* = 8.3, 4.8 Hz, 1H), 6.98–6.85 (m, 2H), 4.91 (d, *J* = 10.6 Hz, 1H), 4.13 (dt, *J* = 10.3, 5.4 Hz, 1H), 4.04 (d, *J* = 14.4 Hz, 1H), 3.45 (dt, *J* = 13.0, 6.7 Hz, 1H), 3.39–3.29 (m, 1H), 3.23 (dd, *J* = 14.3, 2.8 Hz, 1H), 3.15–3.05 (m, 1H), 2.99–2.83 (m, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 162.5 (d, $^1J_{CF}$ = 246.1 Hz), 138.2, 132.1 (d, $^3J_{CF}$ = 9.9 Hz), 131.9 (d, $^4J_{CF}$ = 3.2 Hz), 128.8(d, $^2J_{CF}$ = 22.2 Hz), 126.8, 123.4 (d, $^3J_{CF}$ = 9.1 Hz), 114.6(d, $^2J_{CF}$ = 23 Hz), 58.8, 55.7, 51.1, 44.5, 36.3;

HRMS calculated for $C_{17}H_{20}FN_2O_2S$ $(M+H)^+$ = 335.1230; found 335.1231 (TOF MS ES+).

***N*-cyclopentyl-1-(6-methylisoindolin-1-yl)methanesulfonamide 4{*4*,*3*}.**



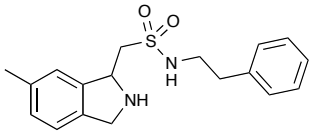
FTIR (thin film): 3274, 2956, 2869, 1452, 1313, 1137, 1080, 910, 808, 732, 601, 514 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.16 (d, *J* = 7.7 Hz, 1H), 7.09 (d, *J* = 7.7 Hz, 1H), 7.01 (s, 1H), 4.99 (d, *J* = 10.5 Hz, 1H), 4.23 (q, *J* = 14.1 Hz, 2H), 3.83–3.72 (m, 1H), 3.35 (dd, *J* = 14.2, 2.7 Hz, 1H), 3.13 (dd, *J* = 14.2, 10.8 Hz, 1H), 2.37 (s, 3H), 2.03–1.92 (m, 2H), 1.72 (dd, *J* = 10.1, 8.6 Hz, 2H), 1.64–1.52 (m, 3H), 1.53–1.44 (m, 1H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 141.3, 137.7, 137.2, 128.8, 122.7, 122.5, 59.4, 56.9, 55.3, 50.9, 34.2, 33.5, 23.2, 23.1, 21.2;

HRMS calculated for $C_{15}H_{23}N_2O_2S$ $(M+H)^+$ = 295.1480; found 295.1482 (TOF MS ES+).

1-(6-methylisoindolin-1-*yl*)-*N*-phenethylmethanesulfonamide 4{*3*,*8*}.



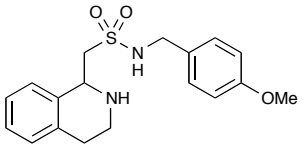
FTIR (thin film): 3282, 2921, 2860, 1494, 1454, 1317, 1135, 1078, 908, 811, 752, 700, 551 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.34–7.27 (m, 2H), 7.23 (t, *J* = 7.6 Hz, 3H), 7.14–7.04 (m, 2H), 6.94 (s, 1H), 4.92 (d, *J* = 9.4 Hz, 1H), 4.17–3.98 (m, 2H), 3.45 (ddd, *J* = 13.3, 8.9, 4.8 Hz, 1H), 3.39–3.19 (m, 2H), 3.16–3.06 (m, 1H), 2.90 (qd, *J* = 13.5, 6.8 Hz, 2H), 2.35 (d, *J* = 5.8 Hz, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 138.3, 137.3, 128.9, 128.9, 128.7, 128.4, 126.7, 122.7, 122.5, 59.3, 56.6, 55.4, 50.9, 44.4, 36.3, 21.2;

HRMS calculated for $C_{18}H_{23}N_2O_2S$ $(M+H)^+$ = 331.1480; found 331.1480 (TOF MS ES+).

***N*-(4-methoxybenzyl)-1-(1,2,3,4-tetrahydroisoquinolin-1-yl)methanesulfonamide 4{*5*,*6*}.**



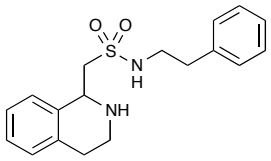
FTIR (thin film): 3317, 2931, 2835, 1610, 1512, 1303, 1249, 1139, 1031, 846, 821, 553, 505 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.25 (d, *J* = 2.3 Hz, 2H), 7.16–7.12 (m, 2H), 7.08–7.05 (m, 1H), 6.89–6.85 (m, 3H), 4.57 (dd, *J* = 11.0, 1.9 Hz, 1H), 4.29 (d, *J* = 13.8 Hz, 1H), 4.19 (d, *J* = 13.8 Hz, 1H), 3.79 (s, 3H), 3.38 (dd, *J* = 14.7, 11.1 Hz, 1H), 3.20 (dd, *J* = 14.7, 2.5 Hz, 1H), 3.00 (ddd, *J* = 13.2, 5.3, 3.9 Hz, 1H), 2.93–2.84 (m, 1H), 2.79–2.63 (m, 2H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 159.4, 135.4, 135.1, 129.7, 129.6, 129.1, 127.1, 126.5, 126.4, 114.2, 56.2, 55.3, 51.7, 46.8, 38.5, 29.1;

HRMS calculated for $C_{18}H_{23}N_2O_2S$ $(M+H)^+$ = 331.1480; found 331.1480. (TOF MS ES+).

***N*-phenethyl-1-(1,2,3,4-tetrahydroisoquinolin-1-yl)methanesulfonamide 4{*5*,*8*}.**



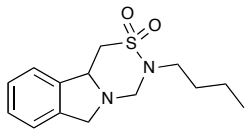
FTIR (thin film): 3321, 2925, 1494, 1452, 1323, 1305, 1141, 1074, 908, 798, 744, 700, 553 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.36–7.31 (m, 2H), 7.26–7.22 (m, 3H), 7.20–7.15 (m, 2H), 7.11–7.07 (m, 1H), 7.05–7.00 (m, 1H), 5.44 (s, 1H), 4.56 (dd, *J* = 11.1, 2.4 Hz, 1H), 3.50 (dt, *J* = 12.8, 6.5 Hz, 1H), 3.42–3.17 (m, 3H), 3.01–2.77 (m, 4H), 2.79–2.57 (m, 2H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 138.2, 135.4, 134.9, 129.7, 128.9, 128.7, 127.1, 126.8, 126.4, 126.4, 55.2, 51.6, 44.4, 38.4, 36.4, 28.9;

HRMS calculated for $C_{18}H_{24}N_2O_2S$ $(M+H)^+$ = 332.1559; found 332.1561 (TOF MS ES+).

3-butyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*1*,*1*}.



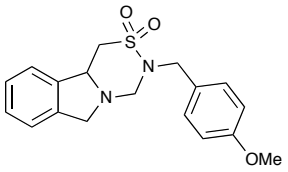
FTIR (thin film): 2956, 2931, 2869, 1338, 1151, 1103, 1081, 910, 792, 536, 510 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.30 (dd, *J* = 5.3, 1.5 Hz, 2H), 7.28 (d, *J* = 2.8 Hz, 1H), 7.26 (d, *J* = 4.7 Hz, 1H), 7.17 (d, *J* = 6.6 Hz, 1H), 4.68 (d, *J* = 12.9 Hz, 1H), 4.62 (dd, *J* = 11.3, 1.7 Hz, 1H), 4.29 (dd, *J* = 11.9, 1.3 Hz, 1H), 4.20 (d, *J* = 12.9 Hz, 1H), 4.01 (dd, *J* = 11.9, 1.4 Hz, 1H), 3.43 (dd, *J* = 12.8, 3.1 Hz, 1H), 3.27 (t, *J* = 7.2 Hz, 2H), 2.95 (dd, *J* = 12.8, 11.4 Hz, 1H), 1.68–1.52 (m, 3H), 1.46–1.33 (m, 2H), 0.95 (t, *J* = 7.4 Hz, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 140.9, 139.1, 128.1, 127.4, 123.1, 120.9, 65.9, 63.4, 53.8, 51.1, 47.5, 31.1, 19.7, 13.7;

HRMS calculated for $C_{14}H_{20}N_2O_2SK$ $(M+K)^+$ = 319.0883; found 319.0878 (TOF MS ES+).

3-(4-methoxybenzyl)-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*1*,*6*}.



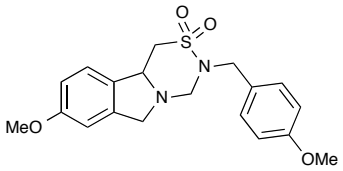
FTIR (thin film): 2935, 2853, 1612, 1512, 1338, 1249, 1181, 1031, 902, 796, 750, 727, 534, 501, 473 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.33–7.27 (m, 5H), 7.20–7.16 (m, 1H), 6.94–6.90 (m, 2H), 4.66–4.58 (m, 1H), 4.51 (d, *J* = 12.8 Hz, 1H), 4.43–4.32 (m, 2H), 4.18 (dd, *J* = 12.1, 1.3 Hz, 1H), 4.02 (d, *J* = 12.7 Hz, 1H), 3.87 (dd, *J* = 12.1, 1.7 Hz, 1H), 3.84 (s, 3H), 3.55 (dd, *J* = 12.8, 3.0 Hz, 1H), 3.09 (dd, *J* = 12.8, 11.4 Hz, 1H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 159.4, 140.7, 139.1, 130.1, 128.1, 127.6, 127.4, 122.9, 120.9, 114.1, 64.1, 63.4, 55.3, 53.7, 51.3, 49.8;

HRMS calculated for $C_{18}H_{20}N_2O_3SK$ $(M+K)^+$ = 383.0832 found 383.0814 (TOF MS ES+).

8-methoxy-3-(4-methoxybenzyl)-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*2*,*6*}.



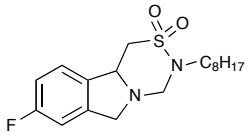
FTIR (thin film): 2933, 2835, 1512, 1336, 1247, 1151, 1031, 796 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.34–7.28 (m, 2H), 7.08 (d, *J* = 8.1 Hz, 1H), 6.94–6.90 (m, 2H), 6.84–6.79 (m, 2H), 4.55 (dd, *J* = 11.2, 1.7 Hz, 1H), 4.50 (d, *J* = 12.8 Hz, 1H), 4.41–4.32 (m, 2H), 4.14 (dd, *J* = 9.5, 5.8 Hz, 1H), 4.00 (d, *J* = 12.8 Hz, 1H), 3.83 (dd, *J* = 10.8, 6.2 Hz, 7H), 3.50 (dd, *J* = 12.8, 3.0 Hz, 1H), 3.04 (dd, *J* = 12.8, 11.3 Hz, 1H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 159.8, 159.4, 140.7, 132.9, 130.1, 127.7, 121.6, 114.1, 112.7, 109.1, 64.1, 62.9, 55.5, 55.3, 53.8, 51.5, 49.7;

HRMS calculated for $C_{19}H_{22}N_2O_4SNa$ $(M+Na)^+$ = 397.1198; found 397.1191 (TOF MS ES+).

8-fluoro-3-octyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*3*,*4*}.



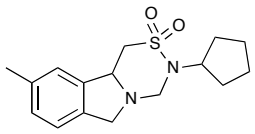
FTIR (thin film): 2925, 2854, 1600, 1484, 1338, 1153, 1101, 794 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.11 (dd, *J* = 8.2, 4.9 Hz, 1H), 6.98 (ddd, *J* = 10.7, 10.0, 2.2 Hz, 2H), 4.68 (d, *J* = 12.9 Hz, 1H), 4.58 (d, *J* = 11.1 Hz, 1H), 4.28 (d, *J* = 12.3 Hz, 1H), 4.18 (d, *J* = 12.9 Hz, 1H), 4.00 (d, *J* = 12.2 Hz, 1H), 3.40 (dd, *J* = 12.8, 3.1 Hz, 1H), 3.25 (dd, *J* = 11.0, 4.6 Hz, 2H), 2.92 (dd, *J* = 12.8, 11.3 Hz, 1H), 1.66–1.55 (m, 4H), 1.39–1.23 (m, 10H), 0.89 (t, *J* = 7.0 Hz, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 162.7 (d, $^1J_{CF}$ = 245.9 Hz), 141.3 (d, $^3J_{CF}$ = 8.7 Hz), 136.5 (d, $^4J_{CF}$ = 2.5 Hz), 122.1 (d, $^3J_{CF}$ = 9.3 Hz), 114.3 (d, $^2J_{CF}$ = 22.9 Hz), 110.7 (d, $^2J_{CF}$ = 23.6 Hz) , 65.8, 62.8, 53.8, 53.8, 51.1, 47.8, 31.8, 29.2, 29.2, 29.1, 26.7, 22.7, 14.1;

HRMS calculated for $C_{18}H_{27}FN_2O_2SNa$ (M+Na)+ = 377.1675; found 377.1671 (TOF MS ES+).

3-cyclopentyl-9-methyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*4*,*3*}.



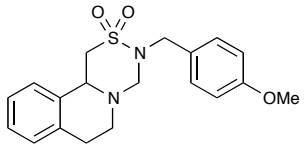
FTIR (thin film): 2952, 2871, 1456, 1328, 1309, 1203, 966, 811, 792, 730 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.17 (d, *J* = 7.7 Hz, 1H), 7.09 (d, *J* = 7.7 Hz, 1H), 6.98 (s, 1H), 4.70 (t, *J* = 11.1 Hz, 2H), 4.35–4.19 (m, 3H), 3.95 (d, *J* = 11.9 Hz, 1H), 3.31 (dd, *J* = 12.7, 3.4 Hz, 1H), 2.89 (dd, *J* = 12.7, 11.3 Hz, 1H), 2.36 (s, 3H), 2.00–1.90 (m, 2H), 1.74–1.64 (m, 3H), 1.64–1.51 (m, 4H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 141.5, 137.2, 136.1, 128.7, 122.8, 121.8, 62.9, 61.6, 56.2, 52.8, 52.6, 30.2, 30.1, 23.8, 23.3, 21.4;

HRMS calculated for $C_{16}H_{22}N_2O_2SNa$ $(M+Na)^+$ = 307.1480; found 307.1489 (TOF MS ES+).

3-(4-methoxybenzyl)-1,3,4,6,7,11b-hexahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinoline 2,2-dioxide 5{*5*,*6*}.



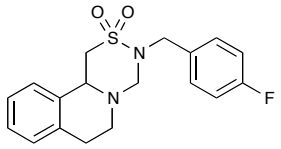
FTIR (thin film): 2931, 2835, 1612, 1512, 1353, 1249, 1153, 1031, 973, 892, 781 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.32–7.28 (m, 2H), 7.24–7.20 (m, 2H), 7.17–7.14 (m, 1H), 7.11–7.07 (m, 1H), 6.94–6.89 (m, 2H), 4.49–4.37 (m, 3H), 4.28 (d, *J* = 13.6 Hz, 1H), 3.86 (s, 1H), 3.83 (s, 3H), 3.43 (dd, *J* = 13.4, 2.8 Hz, 1H), 3.23 (dd, *J* = 13.3, 11.6 Hz, 1H), 3.04–2.84 (m, 3H), 2.60 (ddd, *J* = 11.1, 6.2, 5.0 Hz, 1H), 1.59 (s, 1H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 159.4, 134.3, 134.1, 130.1, 129.4, 127.6, 127.4, 126.5, 125.4, 114.2, 69.3, 58.8, 55.3, 51.4, 49.1, 45.2, 29.4;

HRMS calculated for $C_{19}H_{23}N_2O_2S$ $(M+H)^+$ = 359.1429; found 359.1408 (TOF MS ES+).

3-(4-fluorobenzyl)-1,3,4,6,7,11b-hexahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinoline 2,2-dioxide 5{*5*,*7*}.



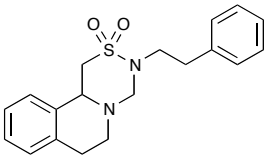
FTIR (thin film): 2925, 2835, 1508, 1353, 1220, 1153, 1139, 973, 756, 505 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.40–7.33 (m, 2H), 7.25–7.20 (m, 2H), 7.19–7.14 (m, 1H), 7.12–7.05 (m, 3H), 4.52–4.40 (m, 3H), 4.33 (d, *J* = 14.0 Hz, 1H), 3.83 (d, *J* = 13.0 Hz, 1H), 3.46 (dd, *J* = 13.4, 2.8 Hz, 1H), 3.23 (dd, *J* = 13.4, 11.6 Hz, 1H), 3.08–2.85 (m, 3H), 2.62 (ddd, *J* = 10.8, 6.2, 5.0 Hz, 1H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 163.5, 161.5, 134.1, 133.9, 131.6, 131.6, 130.3, 130.3, 129.4, 127.4, 126.5, 125.3, 115.8, 115.6, 69.7, 58.8, 51.5, 49.1, 45.3, 29.4;

HRMS calculated for $C_{18}H_{20}N_2O_2S$ $(M+H)^+$ = 347.1259; found 347.1253 (TOF MS ES+).

3-phenethyl-1,3,4,6,7,11b-hexahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinoline 2,2-dioxide 5{*5*,*8*}.



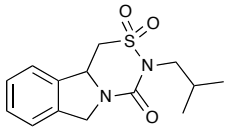
FTIR (thin film): 2927, 1494, 1452, 1299, 1151, 1139, 1097, 958, 906, 808, 754, 736 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.35–7.30 (m, 2H), 7.26 (dd, *J* = 8.0, 2.2 Hz, 2H), 7.24–7.18 (m, 2H), 7.17–7.11 (m, 1H), 7.08–7.03 (m, 1H), 4.57 (d, *J* = 13.2 Hz, 1H), 4.44 (dd, *J* = 11.5, 2.4 Hz, 1H), 3.87 (d, *J* = 13.2 Hz, 1H), 3.62–3.54 (m, 1H), 3.46 (ddd, *J* = 13.9, 8.2, 7.1 Hz, 1H), 3.33 (dd, *J* = 13.4, 2.8 Hz, 1H), 3.12 (dd, *J* = 13.3, 11.6 Hz, 1H), 3.05–2.85 (m, 5H), 2.70 (dt, *J* = 11.1, 5.4 Hz, 1H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 138.5, 134.3, 133.8, 129.3, 128.9, 128.6, 127.3, 126.6, 126.4, 125.4, 72.1, 58.5, 50.9, 49.7, 45.1, 36.7, 29.3;

HRMS calculated for $C_{19}H_{23}N_2O_2S$ $(M+H)^+$ = 343.1480; found 343.1481 (TOF MS ES+).

3-isobutyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3H)-one 2,2-dioxide 6{*1*,*2*}.



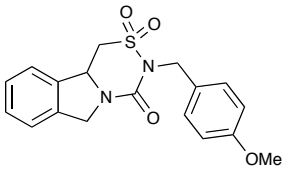
FTIR (thin film): 2960, 1674, 1411, 1388, 1326, 1147, 1004, 559 cm^{-1};

^{1}H NMR (500 MHz, CDC_{l3}) δ 7.44–7.36 (m, 3H), 7.25–7.22 (m, 1H), 5.47 (dd, *J* = 12.5, 1.3 Hz, 1H), 5.07 (dd, *J* = 15.1, 2.0 Hz, 1H), 4.76 (d, *J* = 15.0 Hz, 1H), 3.94 (dd, *J* = 12.9, 3.0 Hz, 1H), 3.79 (dd, *J* = 14.3, 8.0 Hz, 1H), 3.51 (dd, *J* = 14.3, 7.2 Hz, 1H), 3.26 (t, *J* = 12.7 Hz, 1H), 2.17 (ddq, *J* = 20.6, 13.7, 6.8 Hz, 1H), 1.57 (s, 1H), 0.99 (dd, *J* = 8.6, 6.7 Hz, 6H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 150.2, 135.9, 135.8, 129.4, 128.3, 123.4, 121.8, 56.6, 52.9, 52.1, 48.5, 28.3, 20.1, 19.8;

HRMS calculated for $C_{14}H_{19}N_2O_3S$ $(M+H)^+$ = 295.1116; found 295.1108 (TOF MS ES+).

3-(4-methoxybenzyl)-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3H)-one 2,2-dioxide 6{*1*,*6*}.



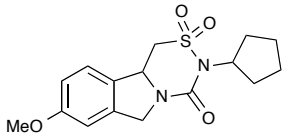
FTIR (thin film): 2935, 1677, 1514, 1409, 1326, 1245, 1176, 1033, 852, 729, 559 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.49–7.44 (m, 2H), 7.44–7.34 (m, 3H), 7.24–7.20 (m, 1H), 6.91–6.83 (m, 2H), 5.43 (dd, *J* = 12.5, 1.3 Hz, 1H), 5.04 (dd, *J* = 15.1, 1.9 Hz, 1H), 4.97 (d, *J* = 15.3 Hz, 1H), 4.84 (d, *J* = 15.3 Hz, 1H), 4.72 (d, *J* = 15.0 Hz, 1H), 3.96 (dd, *J* = 13.0, 3.0 Hz, 1H), 3.79 (s, 3H), 3.30 (t, *J* = 12.8 Hz, 1H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 159.2, 149.7, 135.9, 135.6, 130.5, 129.4, 128.8, 128.3, 123.4, 121.8, 113.8, 56.5, 55.2, 52.8, 52.1, 43.8;

HRMS calculated for $C_{18}H_{18}N_2O_4SNa$ $(M+Na)^+$ = 381.0885; found 381.0888 (TOF MS ES+).

3-cyclopentyl-8-methoxy-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3H)-one 2,2-dioxide 6{*2*,*3*}.



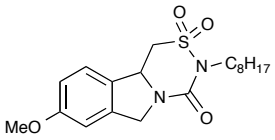
FTIR (thin film): 2958, 1681, 1427, 1392, 1319, 1199, 1143, 1031, 914, 734, 549 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.04 (d, J = 8.4 Hz, 1H), 6.84–6.78 (m, 2H), 5.32–5.26 (m, 1H), 4.88 (dd, J = 15.1, 2.0 Hz, 1H), 4.65–4.51 (m, 2H), 3.80 (dd, J = 13.0, 2.8 Hz, 1H), 3.76 (s, 3H), 3.73 (s, 1H), 3.24–3.17 (m, 1H), 2.15 (tt, J = 8.5, 5.2 Hz, 1H), 2.07–1.99 (m, 1H), 1.98–1.86 (m, 2H), 1.86–1.78 (m, 2H), 1.54–1.43 (m, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 160.8, 149.5, 137.4, 127.5, 122.8, 114.7, 108.3, 55.8, 55.6, 55.2, 53.3, 52.6, 30.1, 29.7, 24.9, 24.8;

HRMS calculated for $C_{16}H_{20}N_2O_4SK$ $(M+K)^+$ = 375.0781; found 375.0778 (TOF MS ES+).

8-methoxy-3-octyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3H)-one 2,2-dioxide 6{*2*,*4*}.



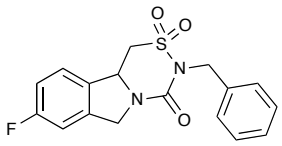
FTIR (thin film): 2923, 1666, 1415, 1350, 1323, 1263, 1147, 1023, 764, 549 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.12 (d, *J* = 8.4 Hz, 1H), 6.93–6.86 (m, 2H), 5.37 (dd, *J* = 12.5, 1.9 Hz, 1H), 5.01 (dd, *J* = 15.1, 1.9 Hz, 1H), 4.71 (d, *J* = 15.1 Hz, 1H), 3.87 (ddd, *J* = 7.5, 6.5, 2.2 Hz, 2H), 3.84 (s, 3H), 3.74–3.67 (m, 1H), 3.22 (t, *J* = 12.7 Hz, 1H), 1.74 (dt, *J* = 15.5, 7.7 Hz, 2H), 1.40–1.22 (m, 11H), 0.88 (t, *J* = 7.0 Hz, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 160.8, 149.7, 137.5, 127.6, 122.6, 114.7, 108.3, 56.1, 55.6, 52.8, 52.2, 41.6, 31.8, 29.6, 29.2, 29.2, 26.8, 22.6, 14.1;

HRMS calculated for $C_{19}H_{28}N_2O_4SK$ $(M+K)^+$ = 419.1408; found 419.1407 (TOF MS ES+).

3-benzyl-8-fluoro-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*3,5*}.



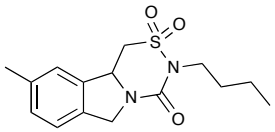
FTIR (thin film): 2935, 1681, 1604, 1492, 1422, 1409, 1328, 1157, 945, 848, 757, 698 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.44–7.39 (m, 2H), 7.29–7.23 (m, 2H), 7.22–7.17 (m, 1H), 7.10 (dd, *J* = 8.1, 4.7 Hz, 1H), 7.00 (dd, *J* = 13.9, 5.3 Hz, 2H), 5.33 (d, *J* = 12.5 Hz, 1H), 4.98–4.90 (m, 2H), 4.81 (d, *J* = 15.5 Hz, 1H), 4.61 (d, *J* = 15.4 Hz, 1H), 3.87 (dd, *J* = 13.0, 3.0 Hz, 1H), 3.22 (t, *J* = 12.7 Hz, 1H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 163.1 (d, $^{1}J_{CF}$ = 248.5 Hz), 149.6, 138.6 (d, $^{3}J_{CF}$ = 9 Hz), 136.5, 131.2 (d, $^{4}J_{CF}$ = 2.5 Hz), 128.7, 128.4, 127.8, 123.2 (d, $^{3}J_{CF}$ = 9.1 Hz), 115.7 (d, $^{2}J_{CF}$ = 23.3 Hz), 110.8 (d, $^{2}J_{CF}$ = 23.9 Hz), 56.1, 52.6, 52.5, 52.1, 44.3;

HRMS calculated for $C_{17}H_{16}N_2O_3S$ $(M+H)^+$ = 347.0866; found 347.0831 (TOF MS ES+).

3-butyl-9-methyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*4,1*}.



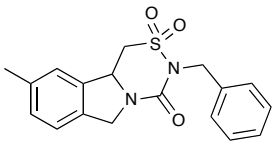
FTIR (thin film): 2923, 1660, 1328, 1149, 808, 734, 584, 543 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.23 (dd, *J* = 20.5, 7.8 Hz, 2H), 7.02 (s, 1H), 5.39 (dd, *J* = 12.5, 1.2 Hz, 1H), 5.00 (d, *J* = 14.8 Hz, 1H), 4.70 (d, *J* = 14.8 Hz, 1H), 3.94–3.83 (m, 2H), 3.76–3.67 (m, 1H), 3.24 (t, *J* = 12.8 Hz, 1H), 2.40 (s, 3H), 1.74 (dq, *J* = 12.5, 7.7 Hz, 2H), 1.47–1.33 (m, 2H), 0.96 (t, *J* = 7.4 Hz, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 149.8, 138.3, 135.9, 132.9, 130.2, 123.1, 122.2, 56.4, 52.6, 52.1, 41.3, 31.7, 21.4, 20.1, 13.7;

HRMS calculated for $C_{15}H_{21}N_2O_3S$ $(M+H)^+$ = 309.1273; found 309.1287 (TOF MS ES+).

3-benzyl-9-methyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*4*,*5*}.



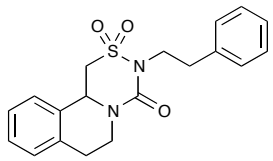
FTIR (thin film): 2925, 2869, 1683, 1496, 1436, 1409, 1326, 1157, 954, 846, 732 cm^{-1};

^{1}H NMR (500 MHz, $CDCl_3$) δ 7.53–7.47 (m, 2H), 7.37–7.31 (m, 2H), 7.31–7.28 (m, 1H), 7.23 (q, *J* = 7.8 Hz, 2H), 7.02 (s, 1H), 5.42 (d, *J* = 12.5 Hz, 1H), 5.01 (t, *J* = 14.2 Hz, 2H), 4.90 (d, *J* = 15.5 Hz, 1H), 4.68 (d, *J* = 14.8 Hz, 1H), 3.96 (dd, *J* = 13.0, 3.0 Hz, 1H), 3.30 (t, *J* = 12.8 Hz, 1H), 2.40 (s, 3H);

^{13}C NMR (126 MHz, $CDCl_3$) δ 149.7, 138.4, 136.7, 135.7, 132.9, 130.2, 128.7, 128.4, 127.7, 123.1, 122.1, 56.4, 52.6, 52.1, 44.2, 21.3;

HRMS calculated for $C_{18}H_{19}N_2O_3S$ $(M+H)^+$ = 343.1116; found 343.1118 (TOF MS ES+).

3-phenethyl-1,6,7,11b-tetrahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinolin-4(3*H*)-one 2,2-dioxide 6{*5*,*8*}.



FTIR (thin film): 2939, 1668, 1458, 1411, 1342, 1342, 1153, 960, 757, 734, 702 cm^{-1};

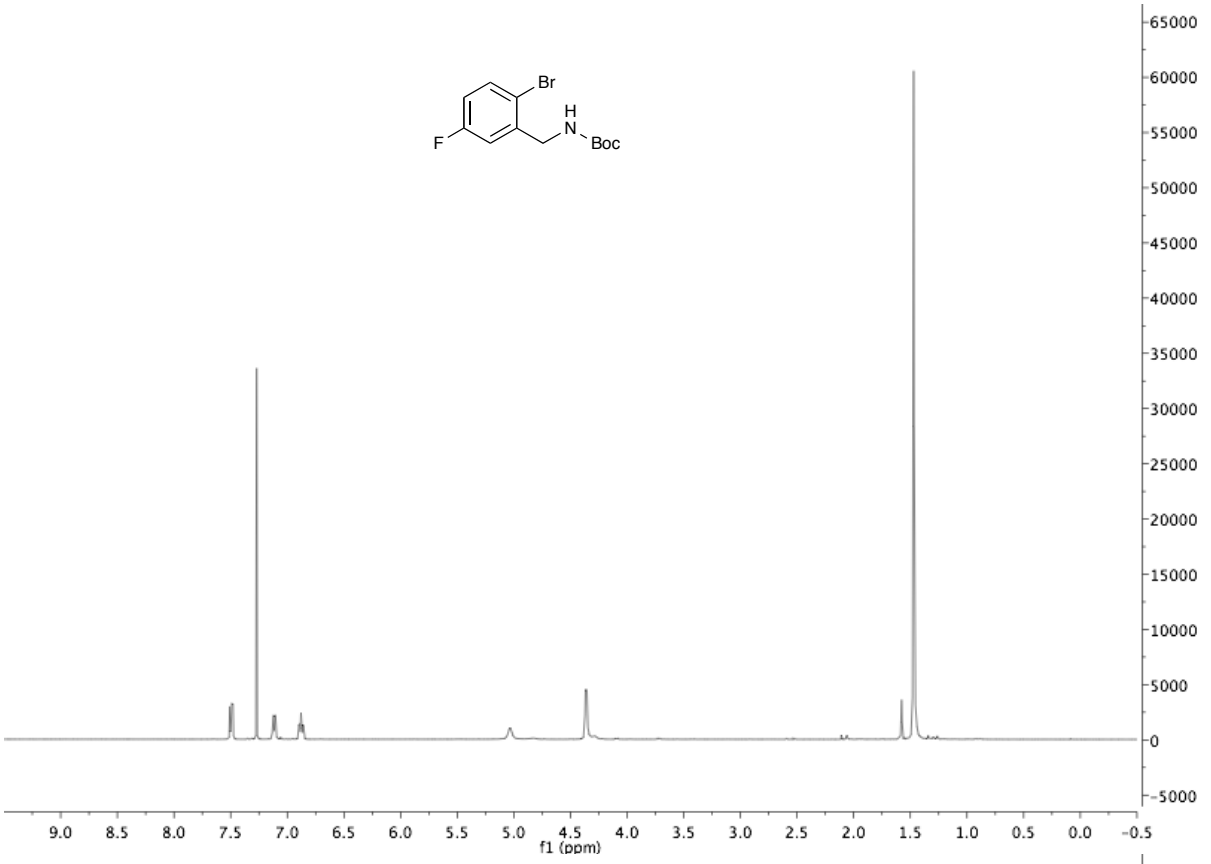
^{1}H NMR (500 MHz, $CDCl_3$) δ 7.32–7.28 (m, 2H), 7.27–7.22 (m, 3H), 7.22–7.18 (m, 1H), 7.12–7.08 (m, 1H), 5.21 (dd, *J* = 12.4, 4.0 Hz, 1H), 4.73–4.65 (m, 1H), 4.10–3.93 (m, 2H), 3.87 (dd, *J* = 13.4, 4.1 Hz, 1H), 3.18–2.94 (m, 5H), 2.88–2.80 (m, 1H);

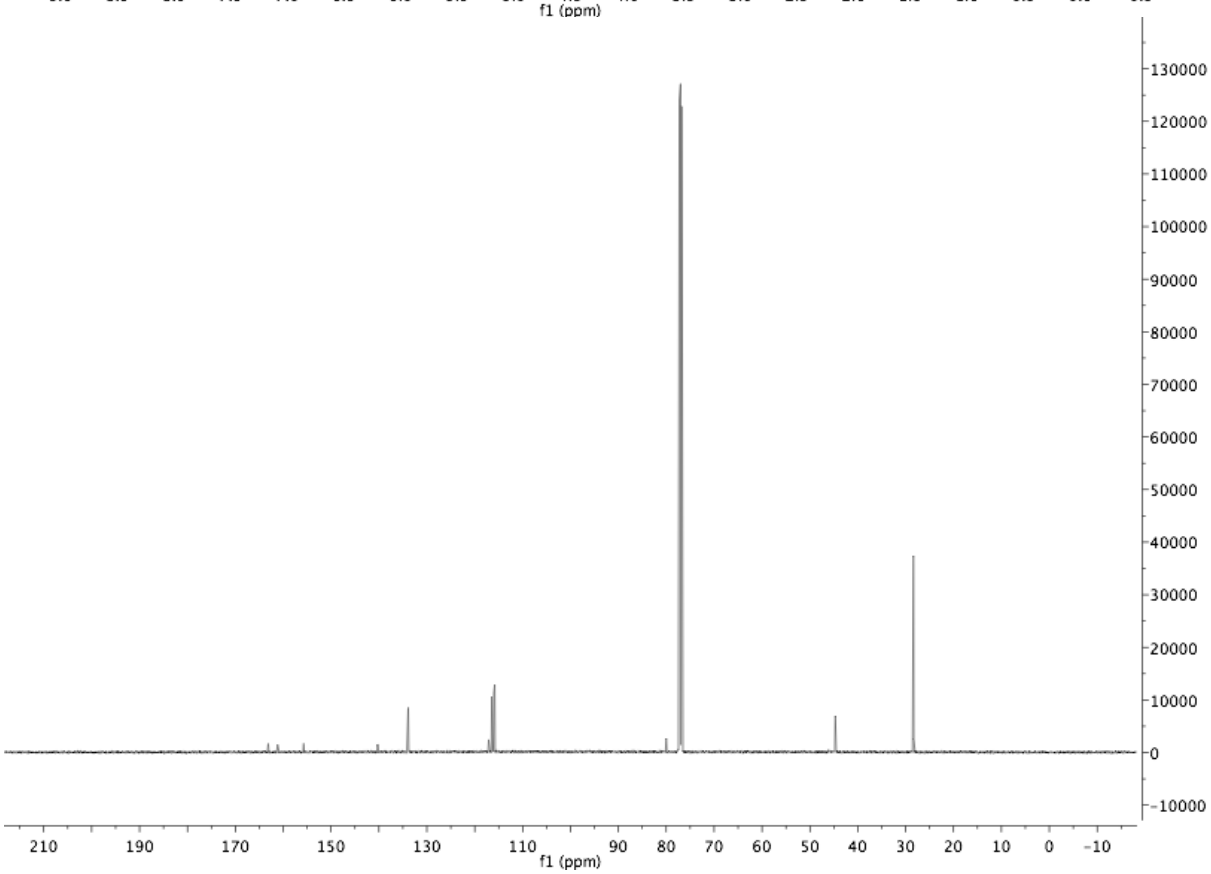
^{13}C NMR (126 MHz, $CDCl_3$) δ 150.9, 138.1, 135.3, 132.2, 129.6, 129.1, 128.5, 128.1, 127.2, 126.6, 124.9, 53.8, 52.1, 43.2, 42.2, 35.6, 28.9;

HRMS calculated for $C_{19}H_{20}N_2O_3SNa$ $(M+H)^+$ = 379.1092; found 379.1093 (TOF MS ES+).

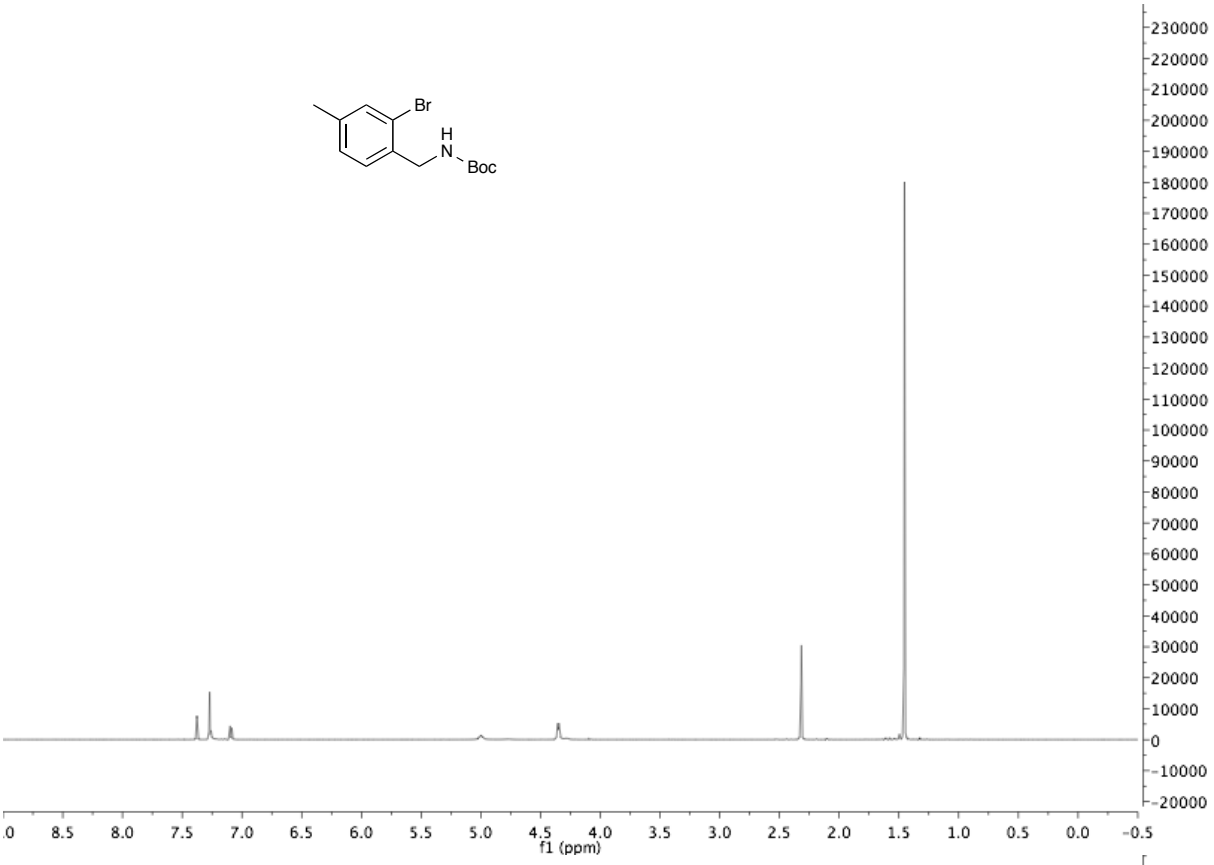
Spectral Data for Compounds 1 and **2**

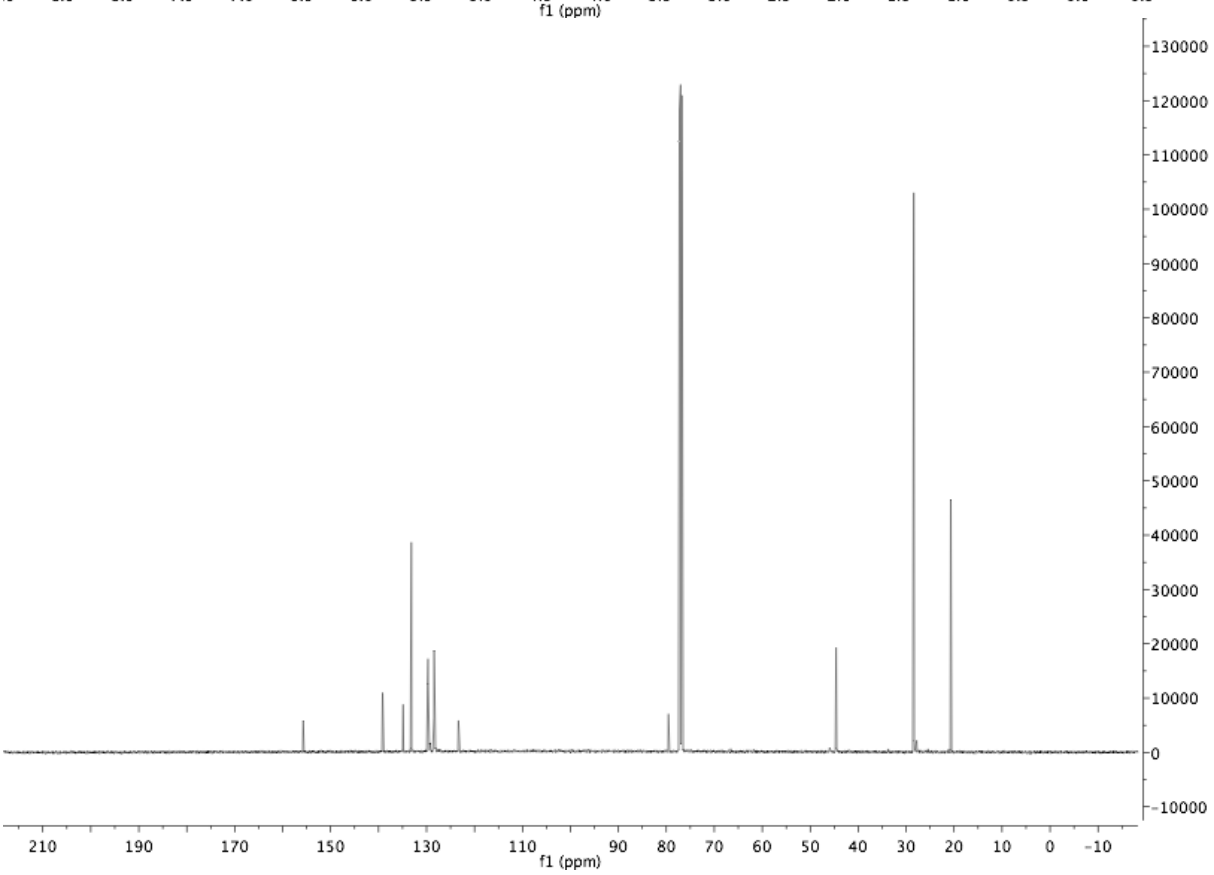
***tert*-butyl 2-bromo-5-fluorobenzylcarbamate 1{*3*}.**



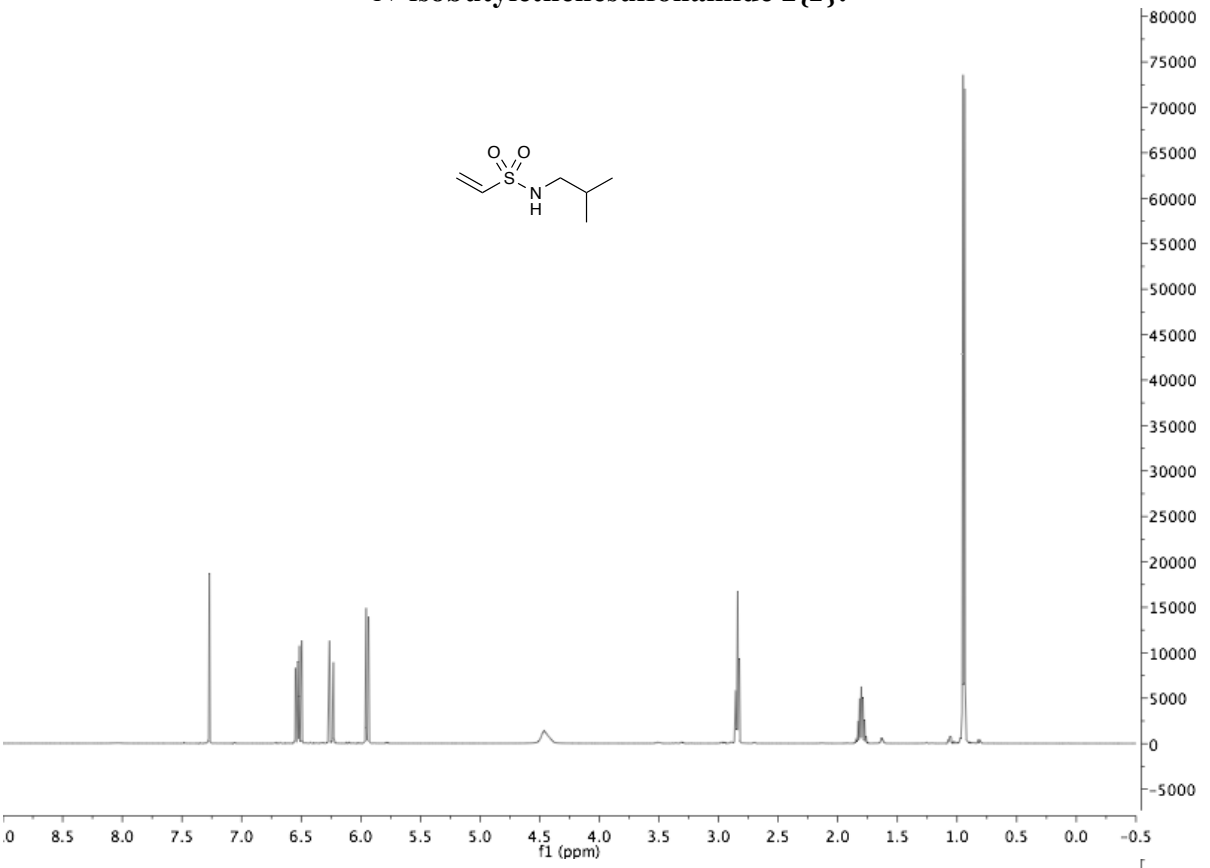


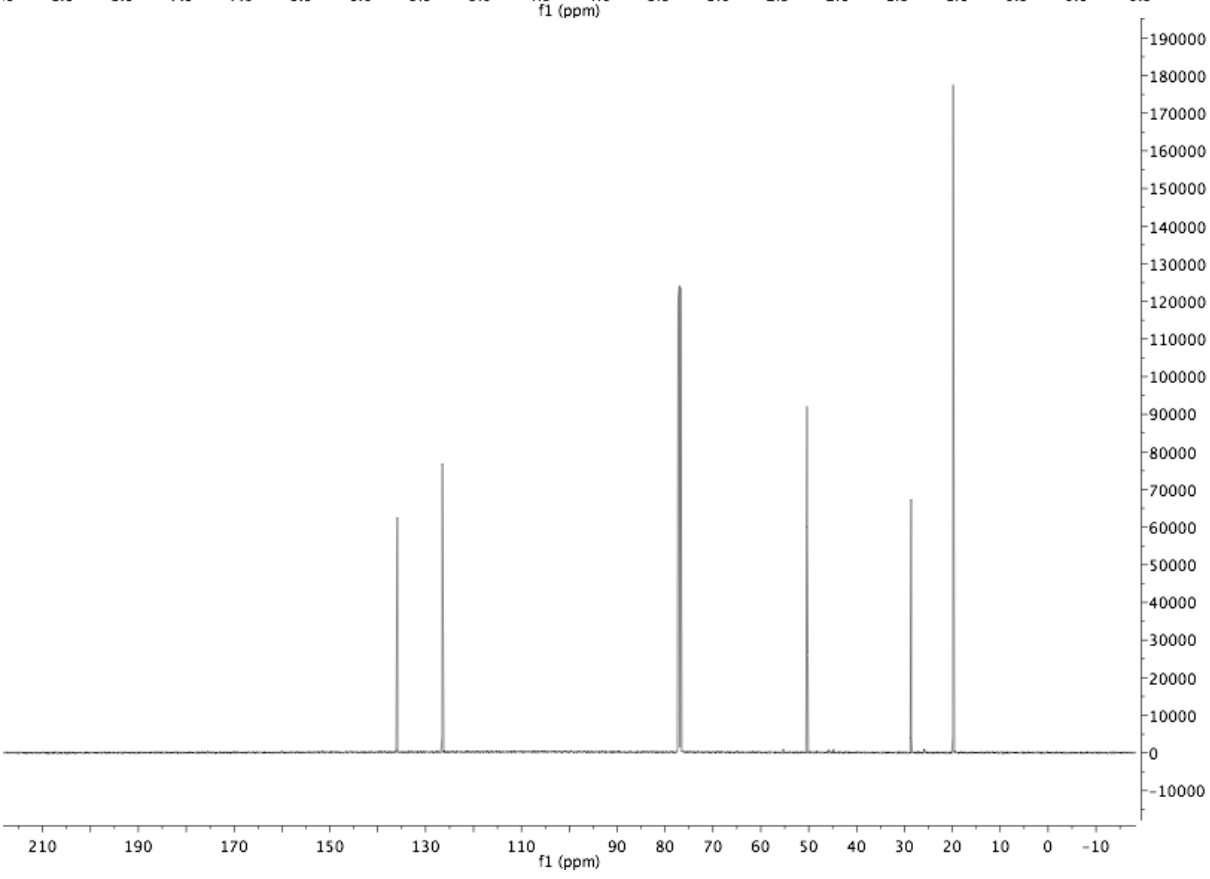
tert-butyl 2-bromo-4-methylbenzylcarbamate 1{*4*}.



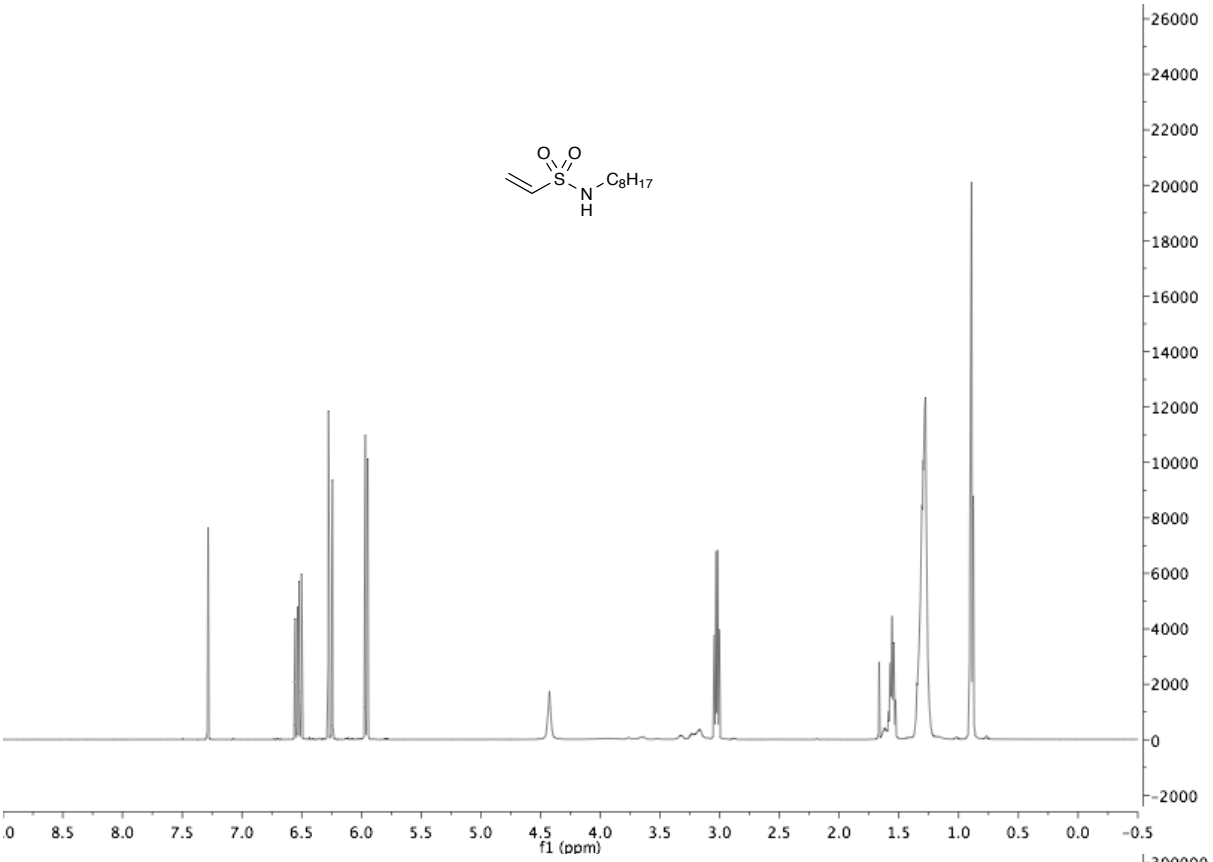


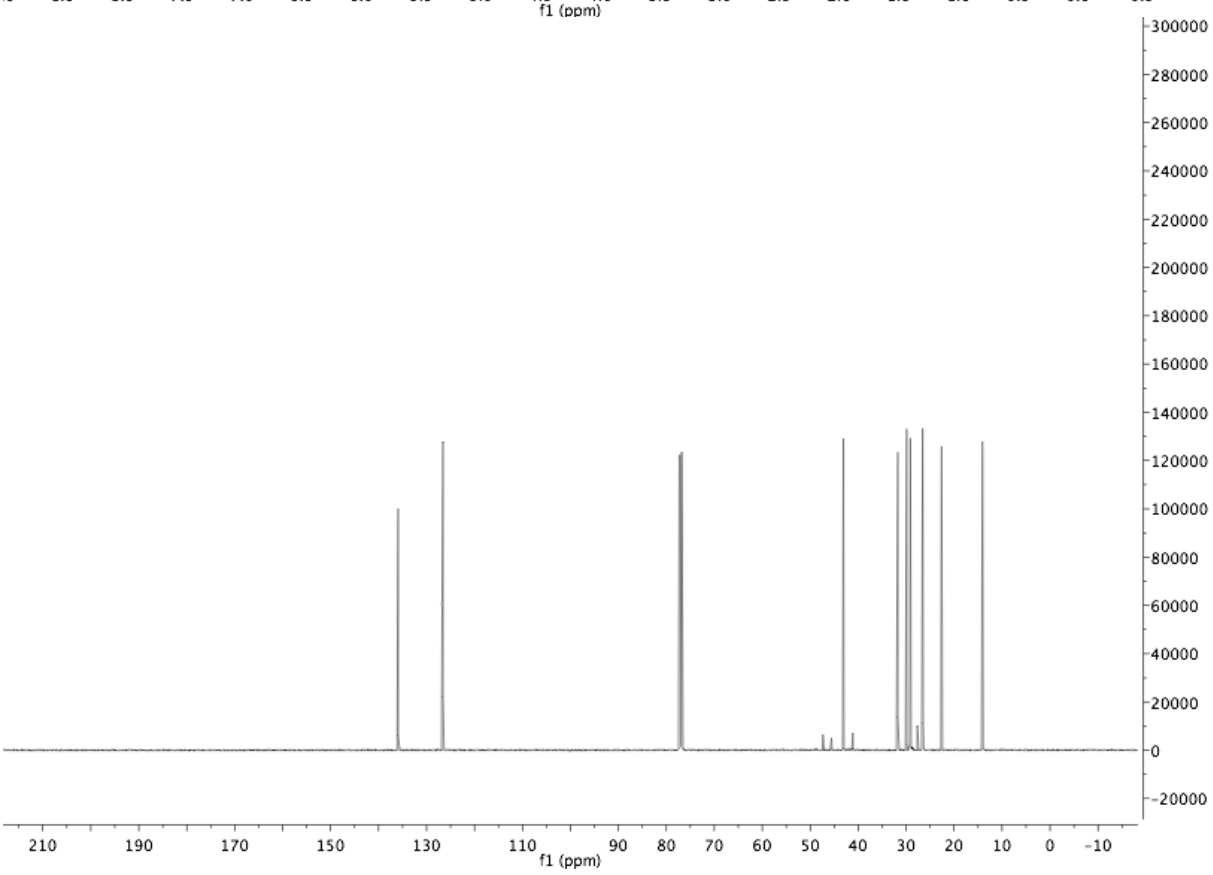
_N_-isobutylethenesulfonamide 2{*2*}.



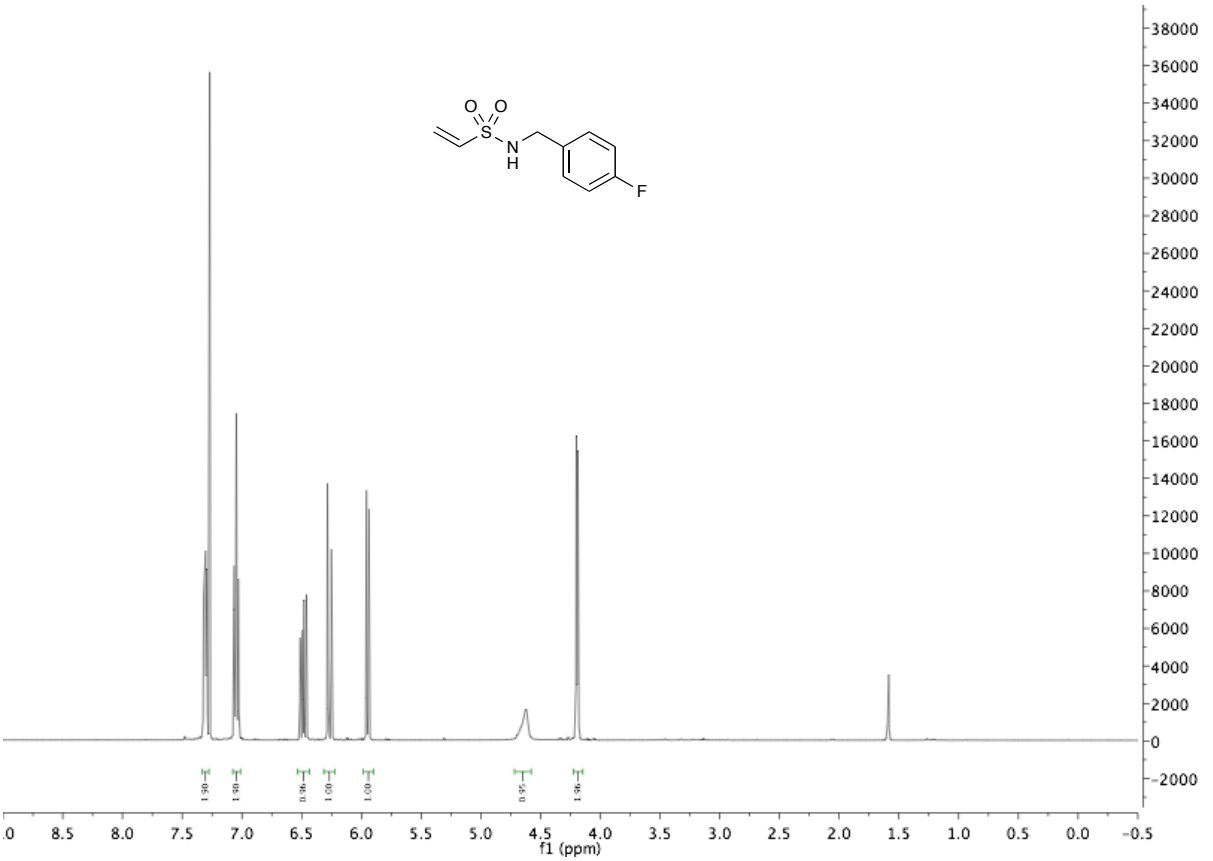


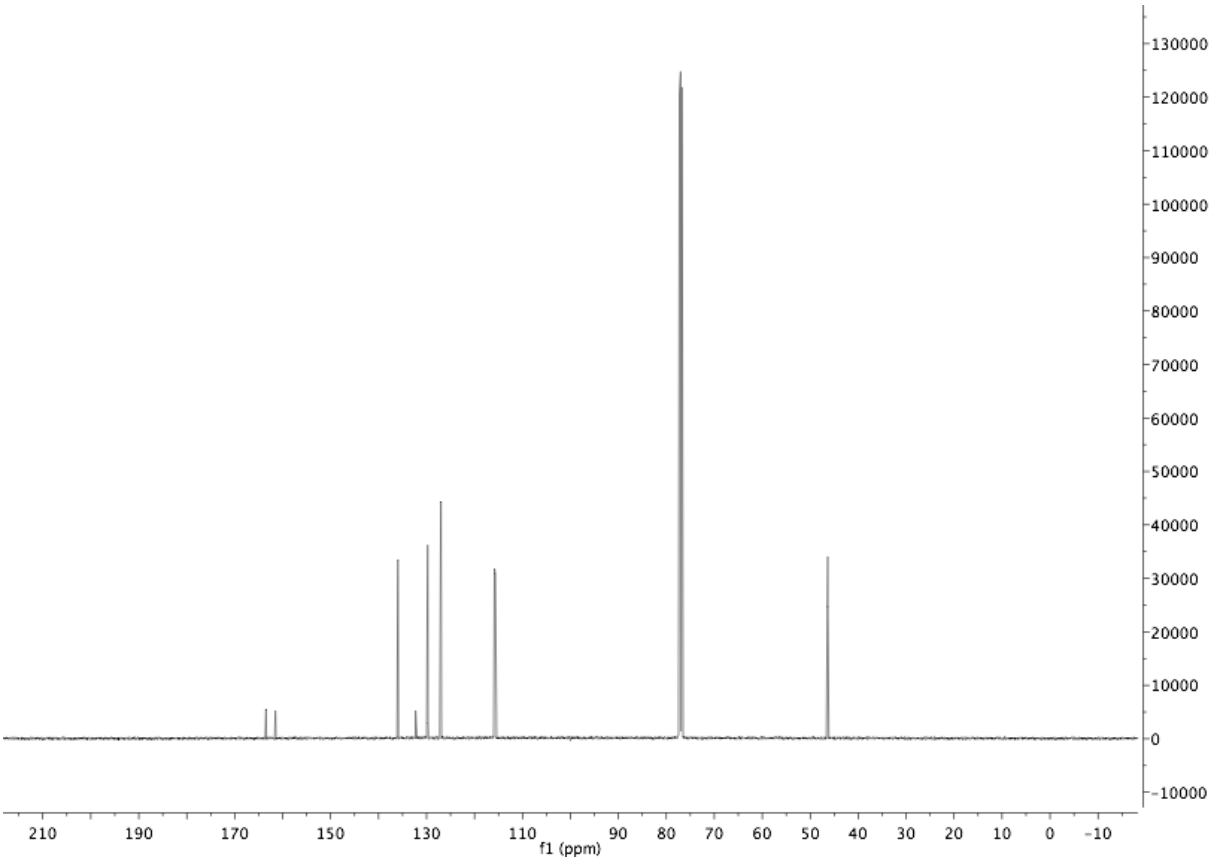
_N_-octylethenesulfonamide 2{4}.



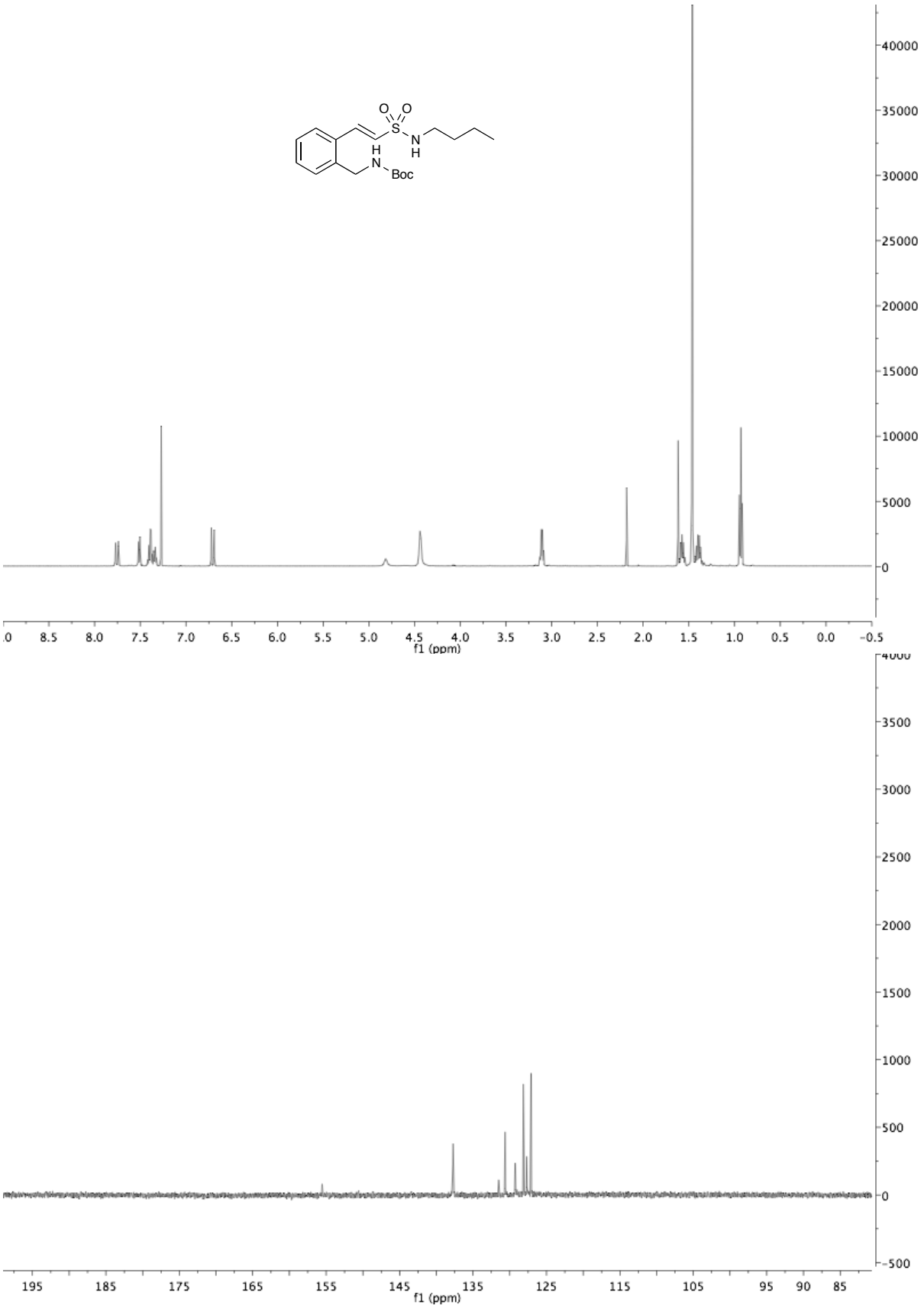


_N_-(4-fluorobenzyl)ethenesulfonamide 2{*7*}.

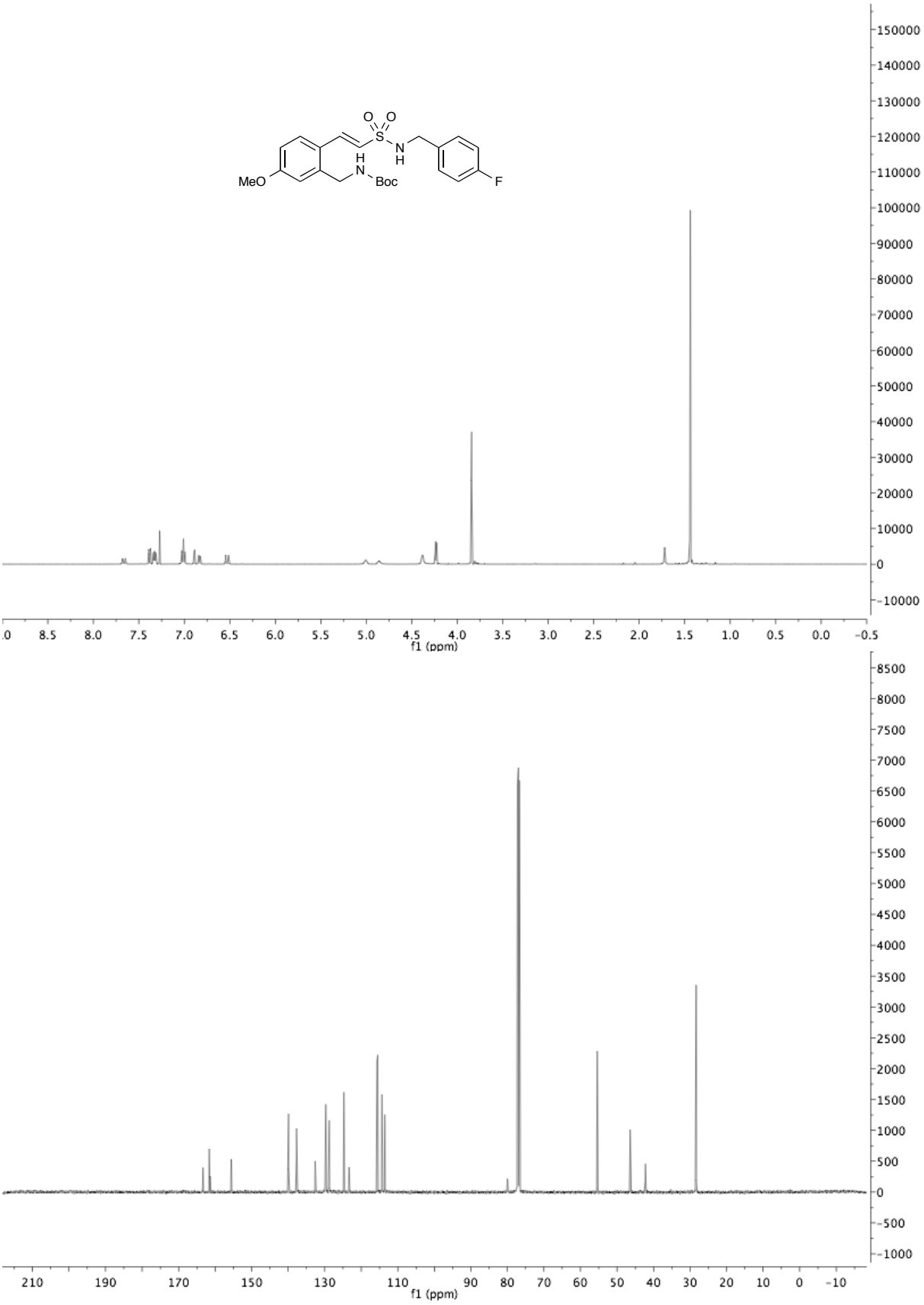




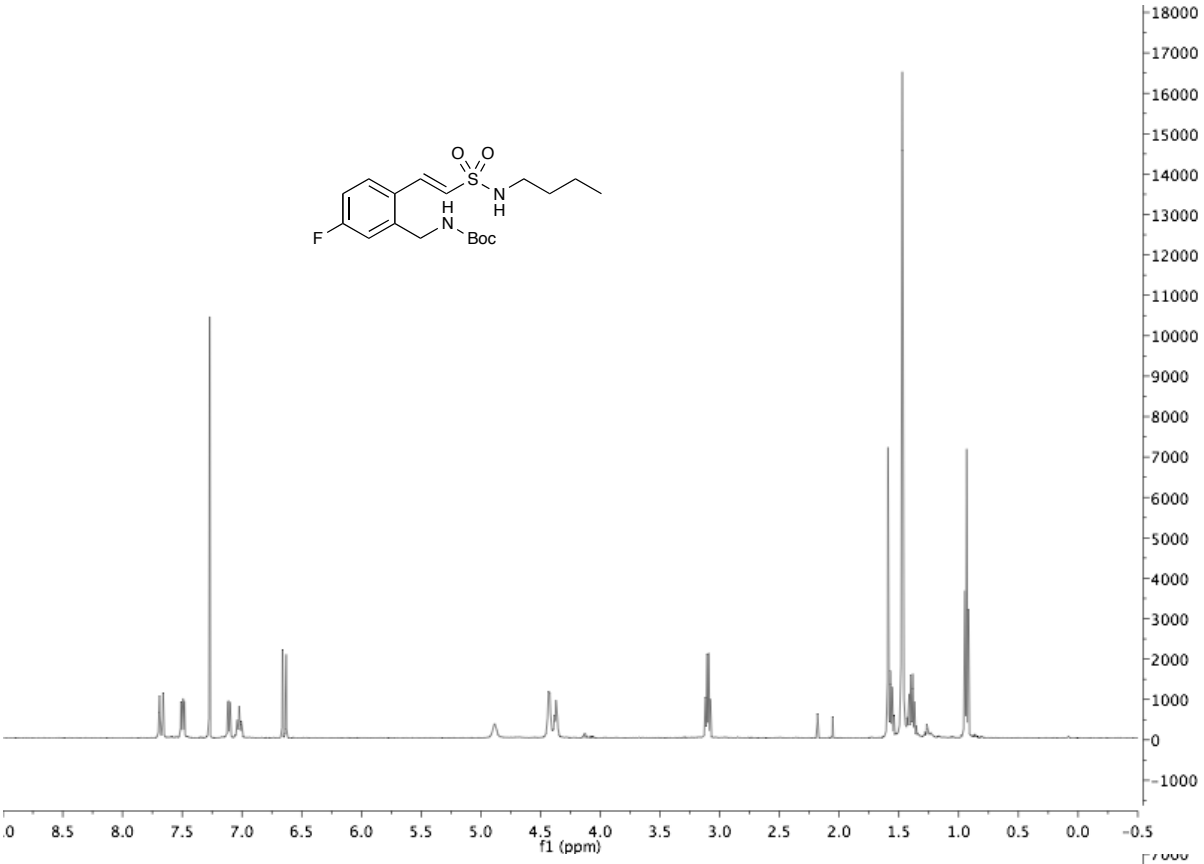
(*E*)-*tert*-butyl 2-(2-(*N*-butylsulfamoyl)vinyl)benzylcarbamate 3{*1*,*1*}.

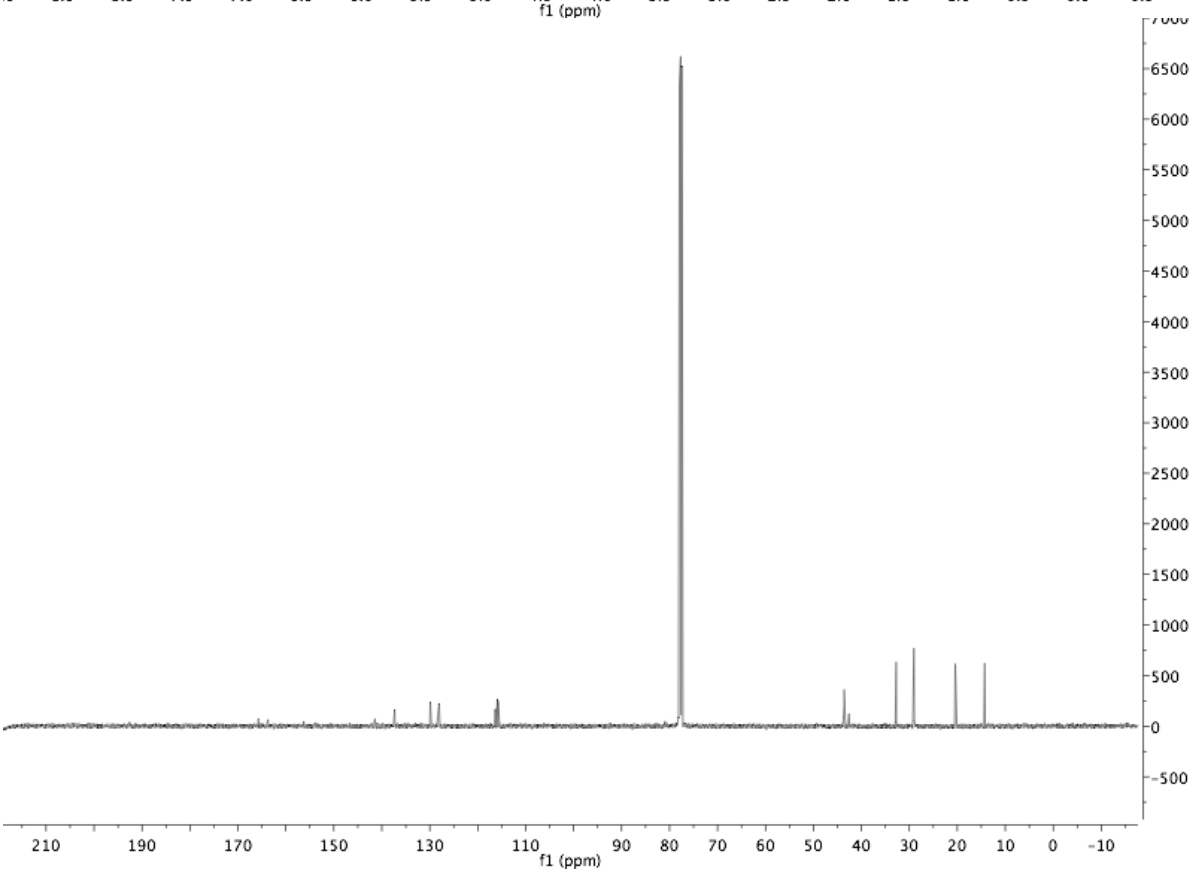


(*E*)-*tert*-butyl 2-(2-(*N*-(4-fluorobenzyl)sulfamoyl)vinyl)-5-methoxybenzylcarbamate 3{*2*,*7*}.

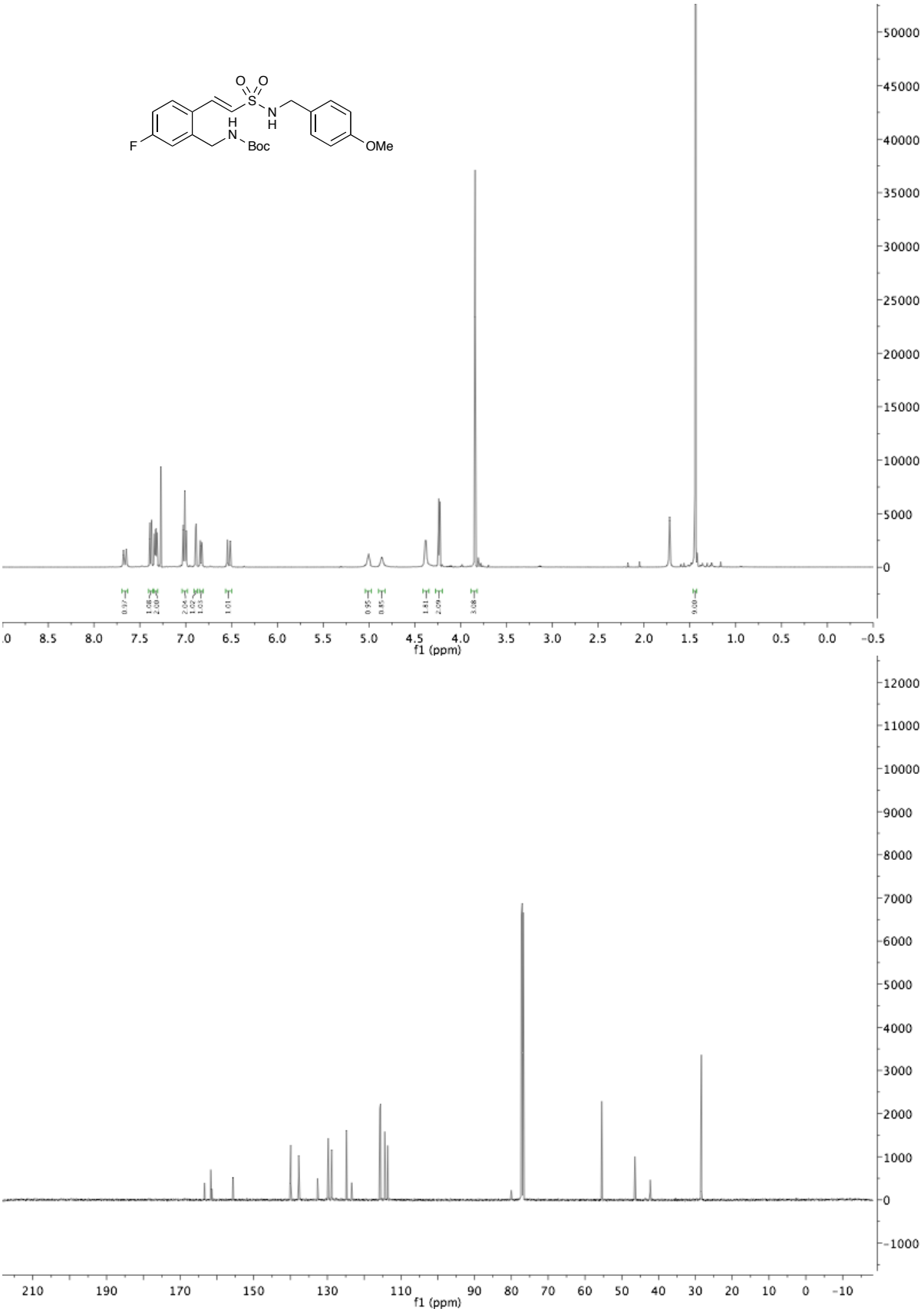


(*E*)-*tert*-butyl 2-(2-(*N*-butylsulfamoyl)vinyl)-5-fluorobenzylcarbamate 3{*1*,*3*}.

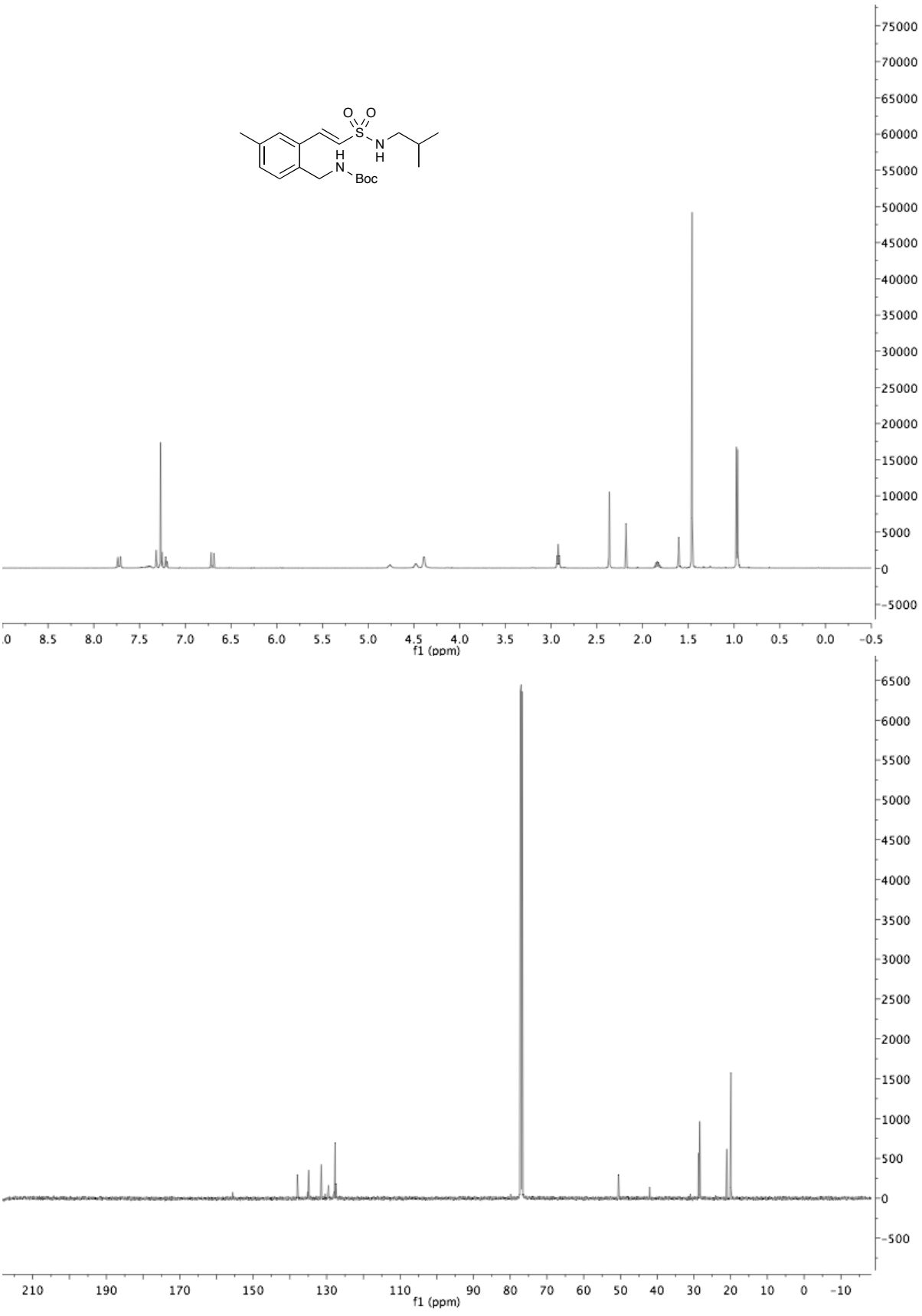




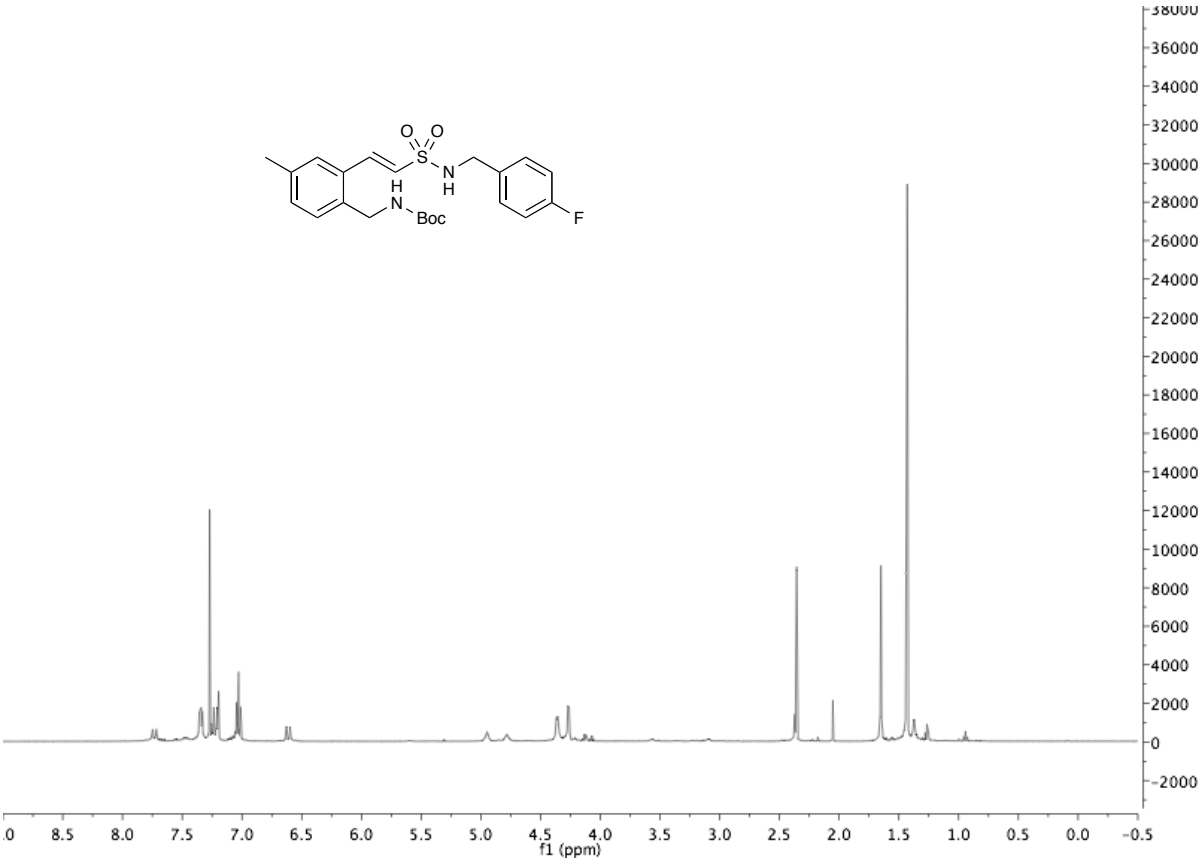
(*E*)-*tert*-butyl 5-fluoro-2-(2-(*N*-(4-methoxybenzyl)sulfamoyl)vinyl)benzylcarbamate 3{*2*,*1*}.

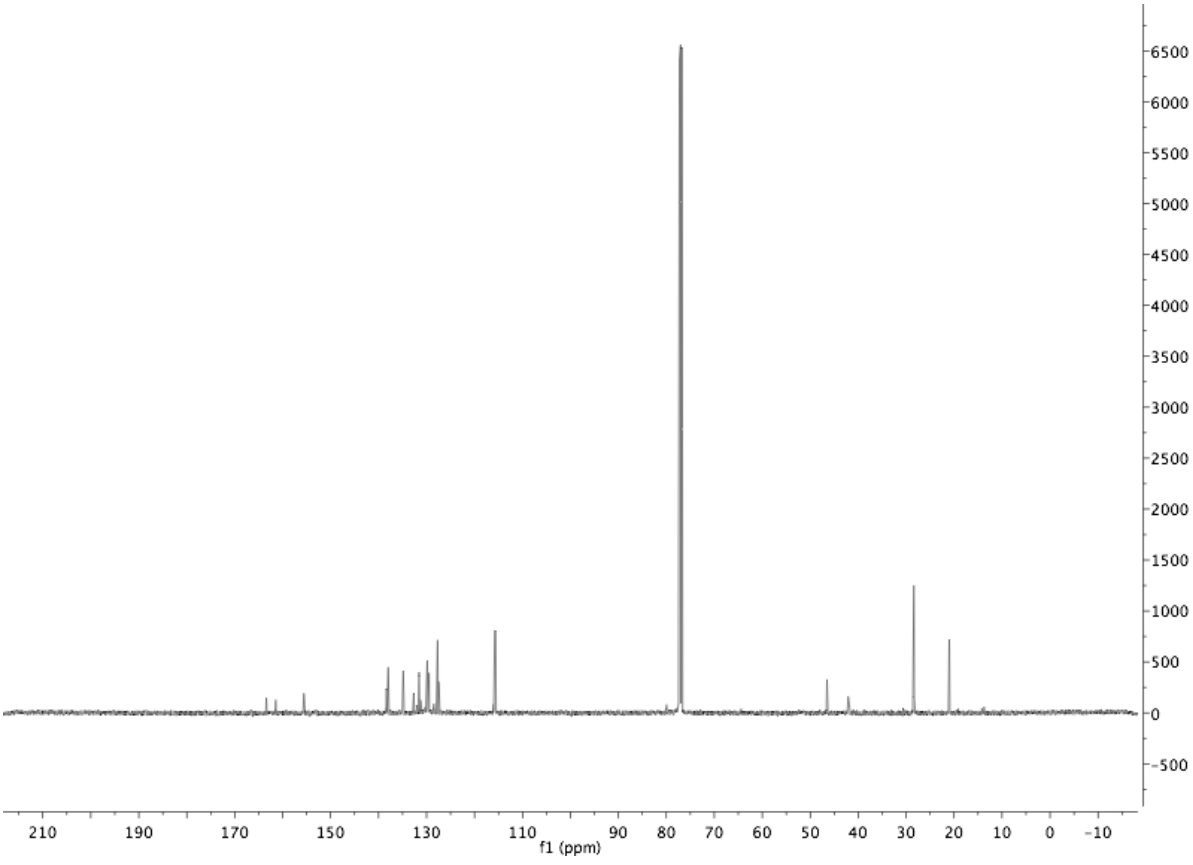


(*E*)-*tert*-butyl 2-(2-(*N*-isobutylsulfamoyl)vinyl)-4-methylbenzylcarbamate3{*4,2*}.

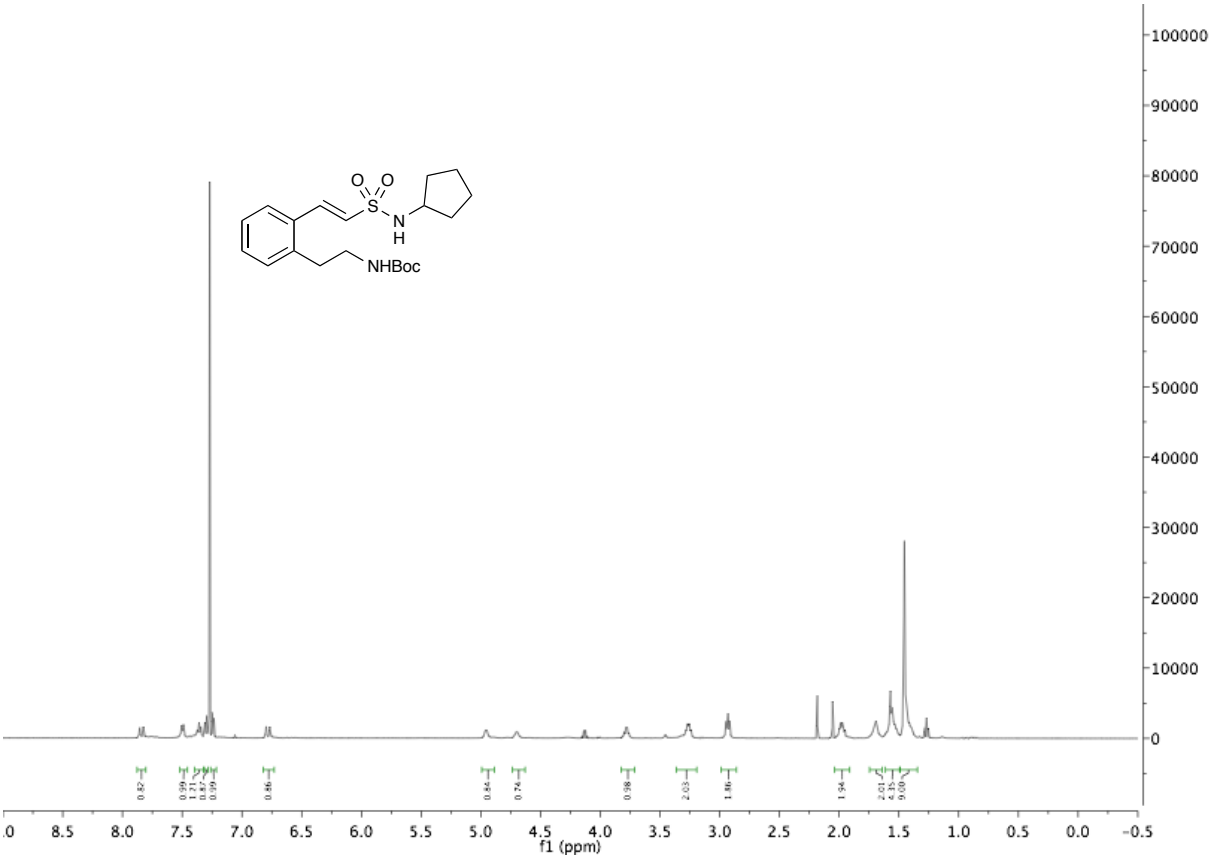


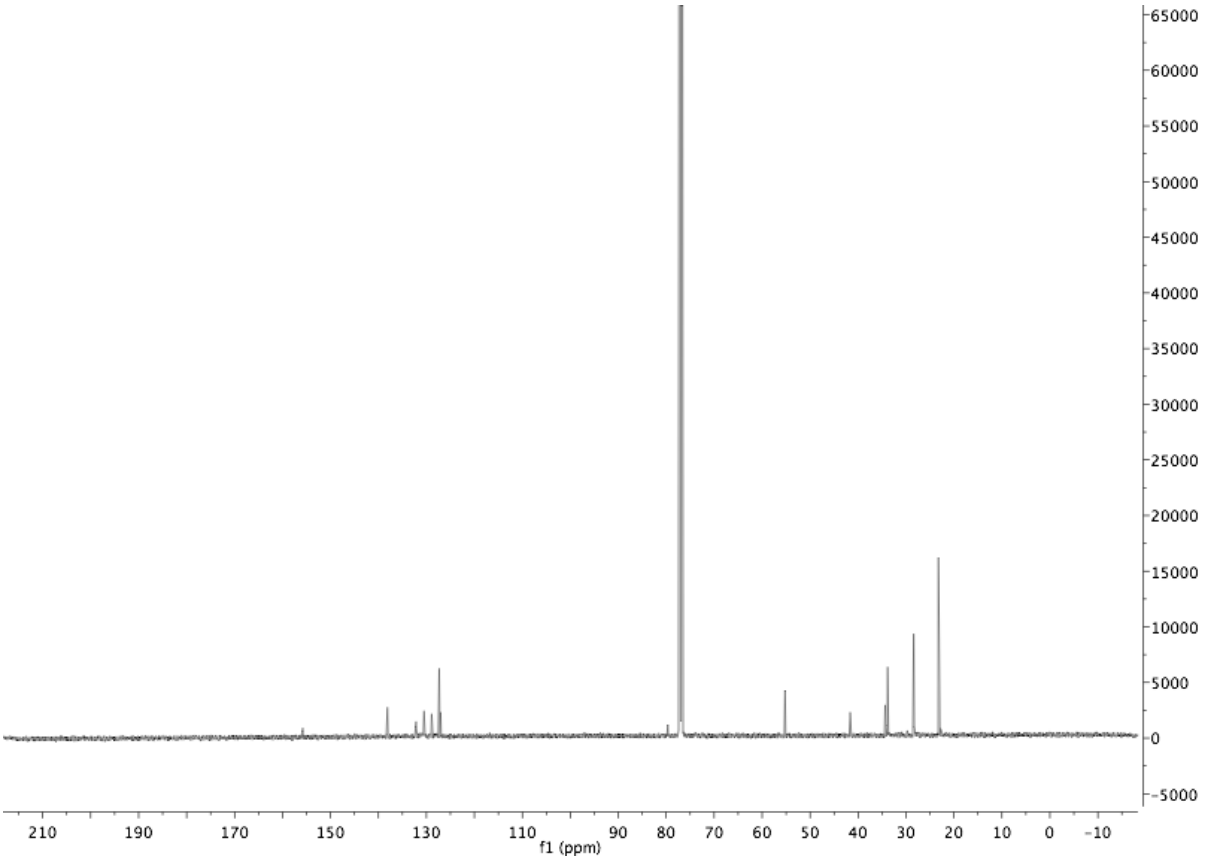
((*E*)-*tert*-butyl 2-(2-(*N*-(4-fluorobenzyl)sulfamoyl)vinyl)-4-methylbenzylcarbamate 3{*4*,*7*}.



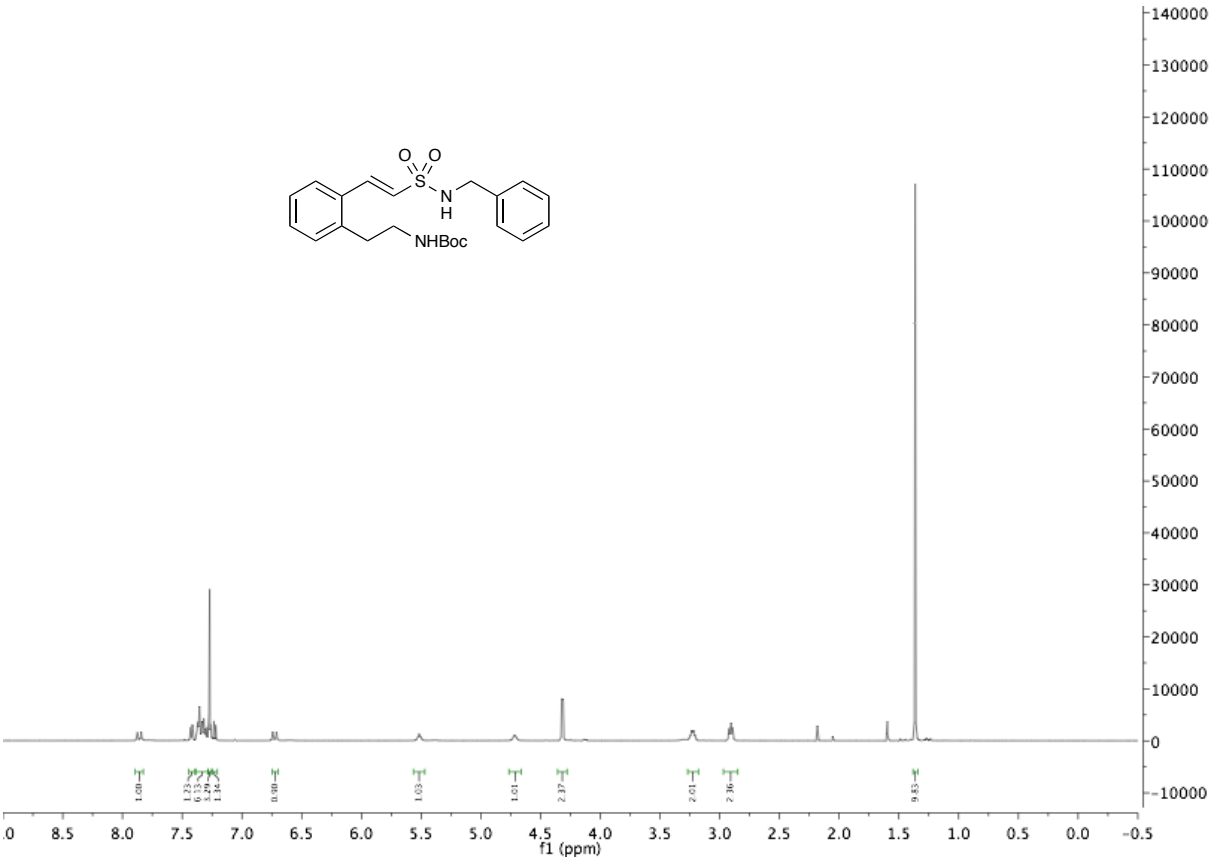


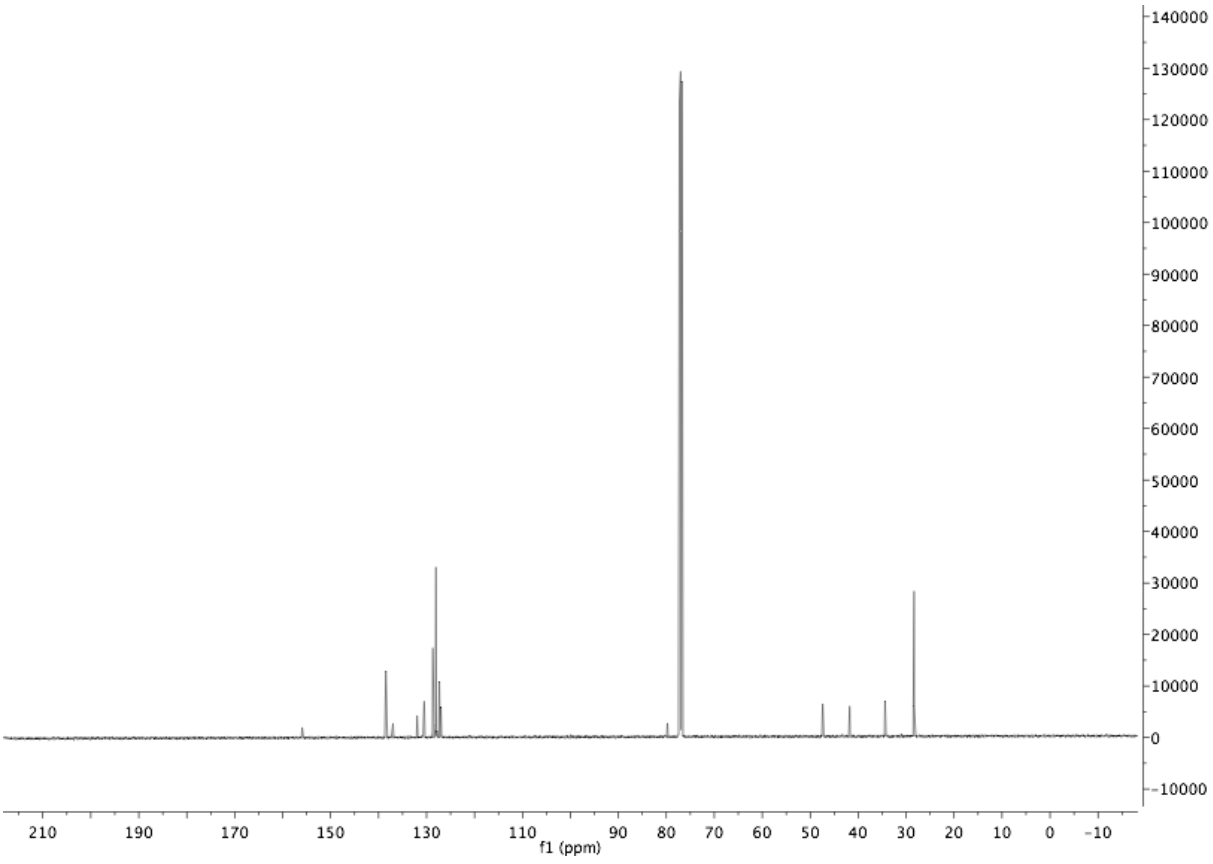
(*E*)-*tert*-butyl 2-(2-(*N*-cyclopentylsulfamoyl)vinyl)phenethylcarbamate 3{*5*,*3*}.



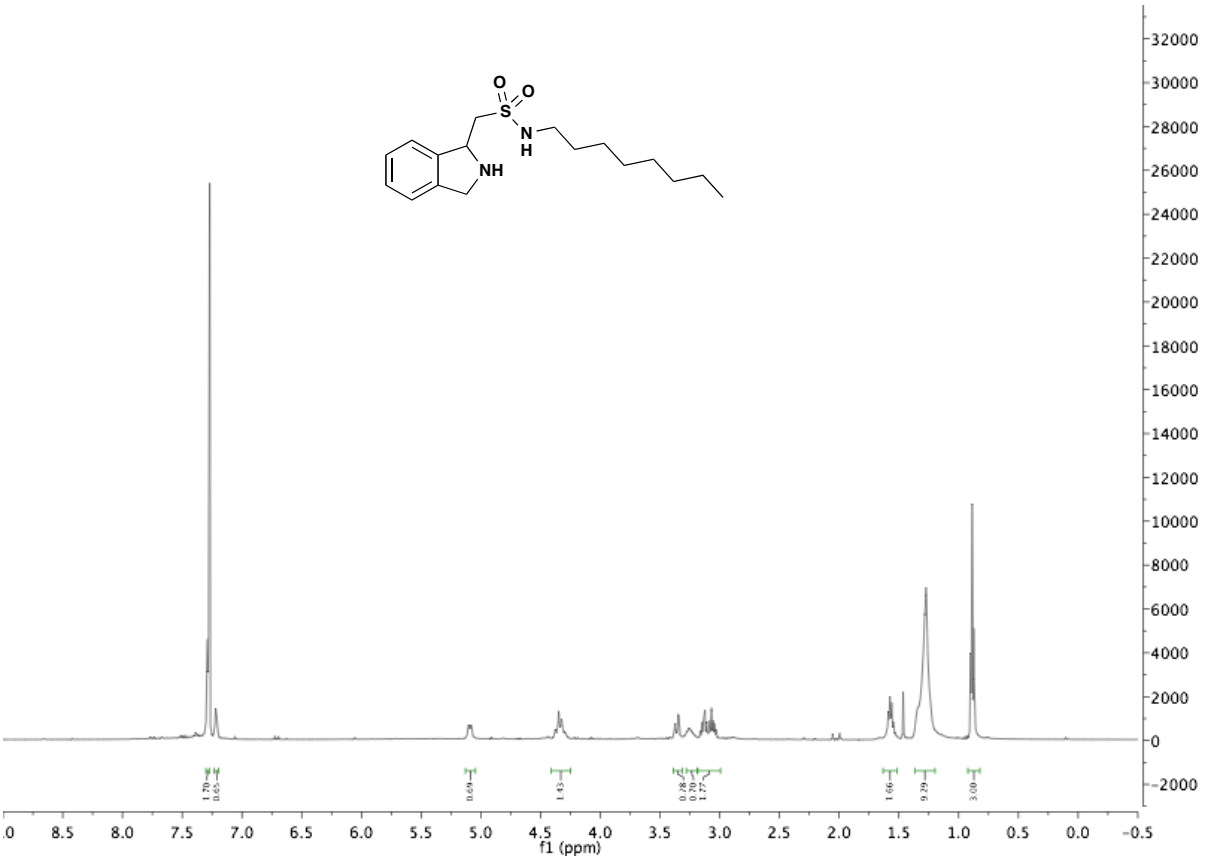


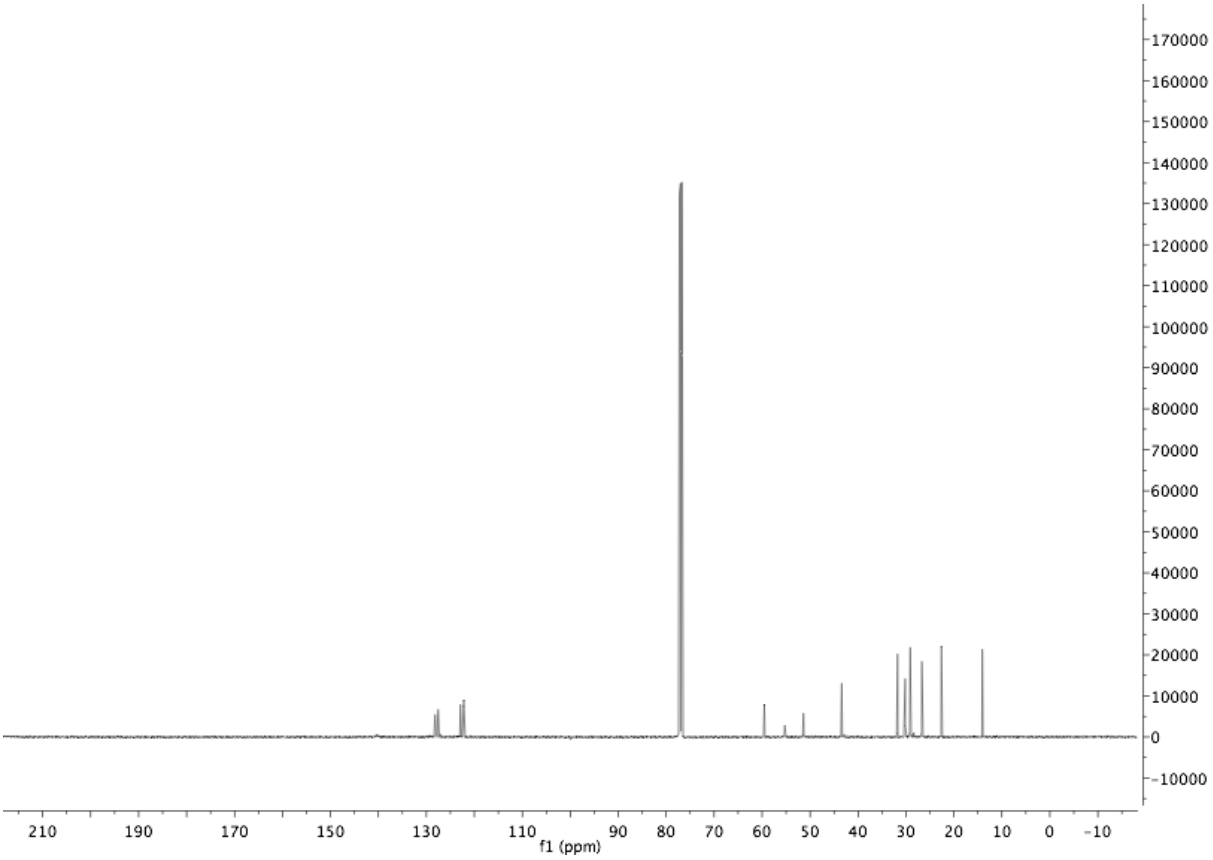
(*E*)-tert-butyl 2-(2-(*N*-benzylsulfamoyl)vinyl)phenethylcarbamate 3{*5*,*5*}.



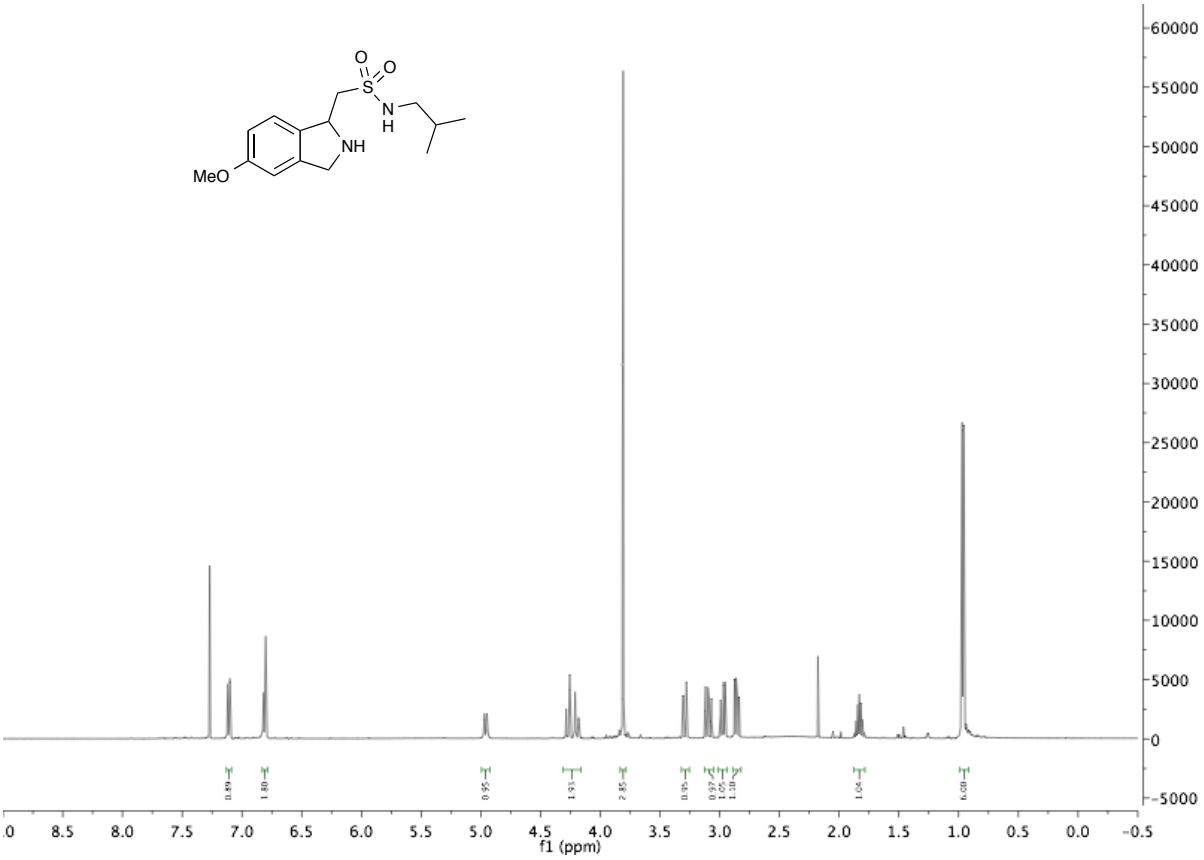


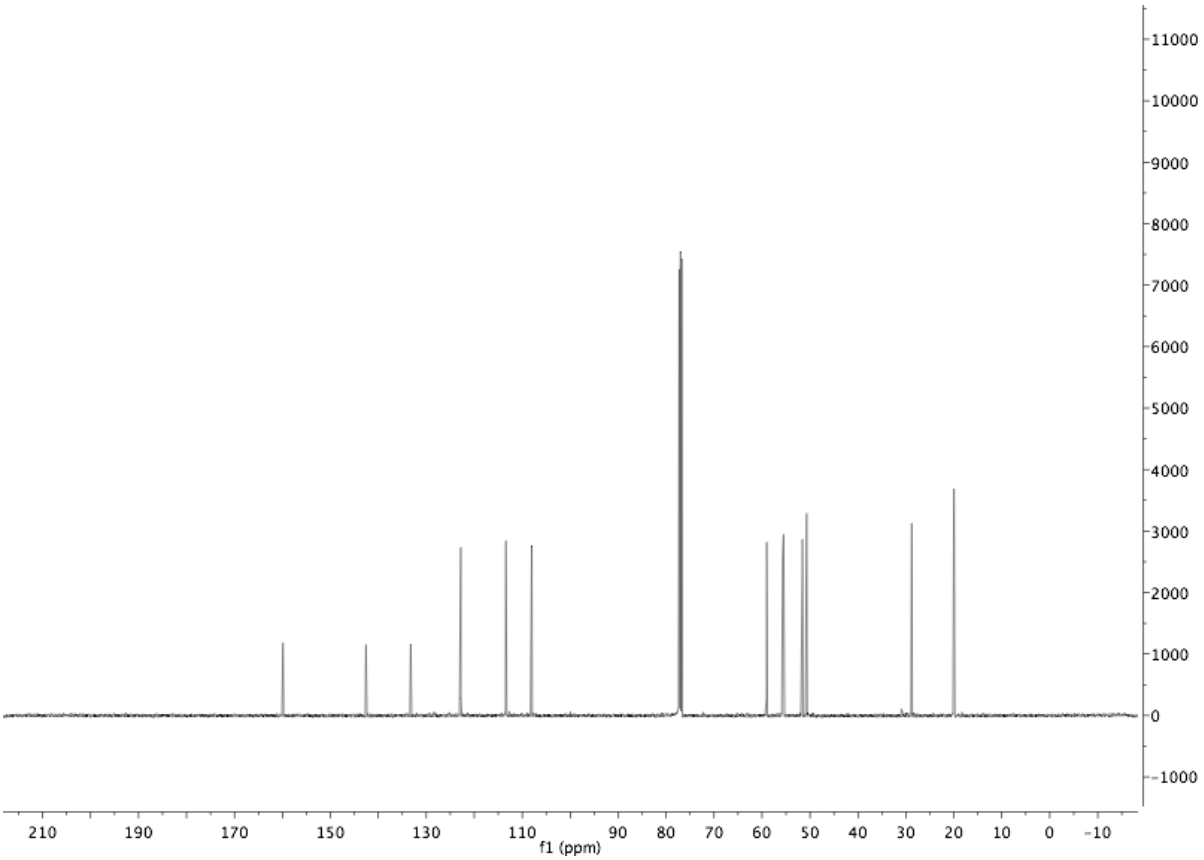
1-(isoindolin-1-yl)-*N*-octylmethanesulfonamide 4{*1*,*4*}.



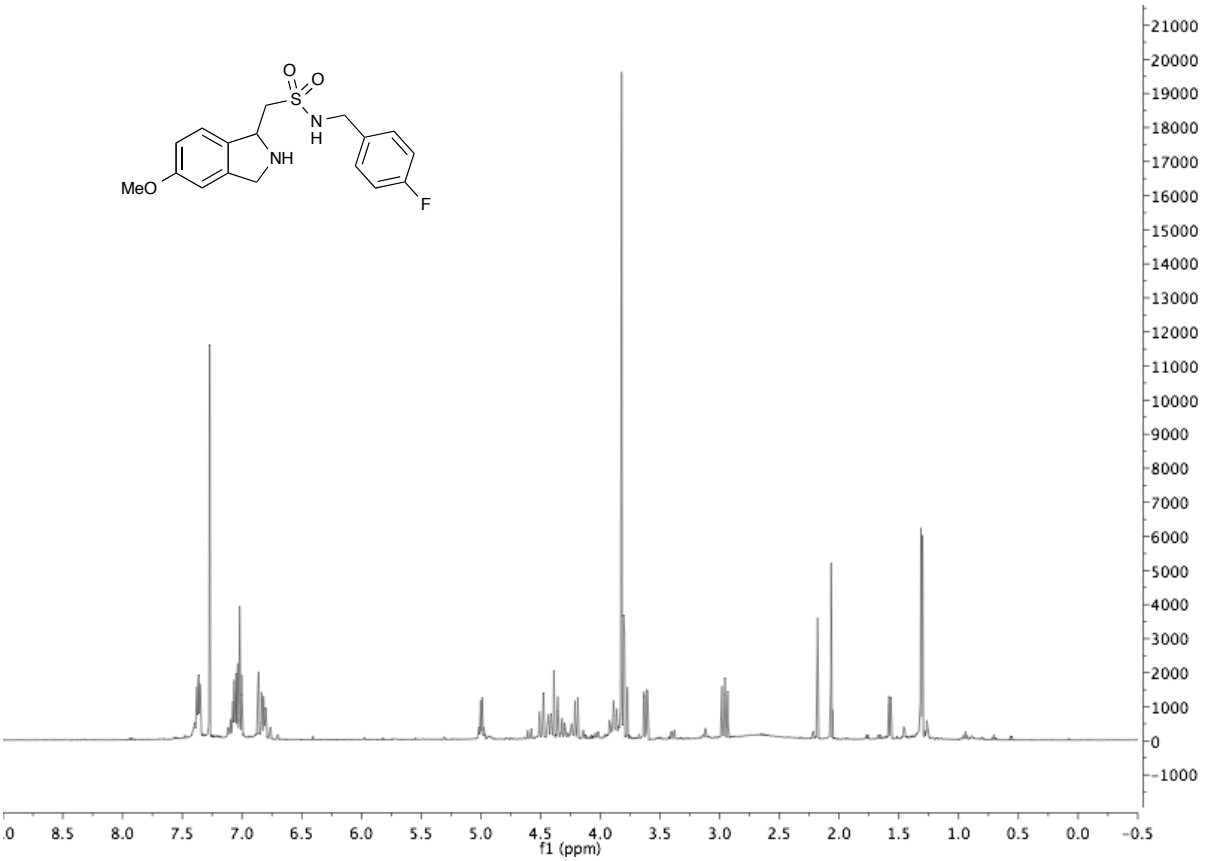


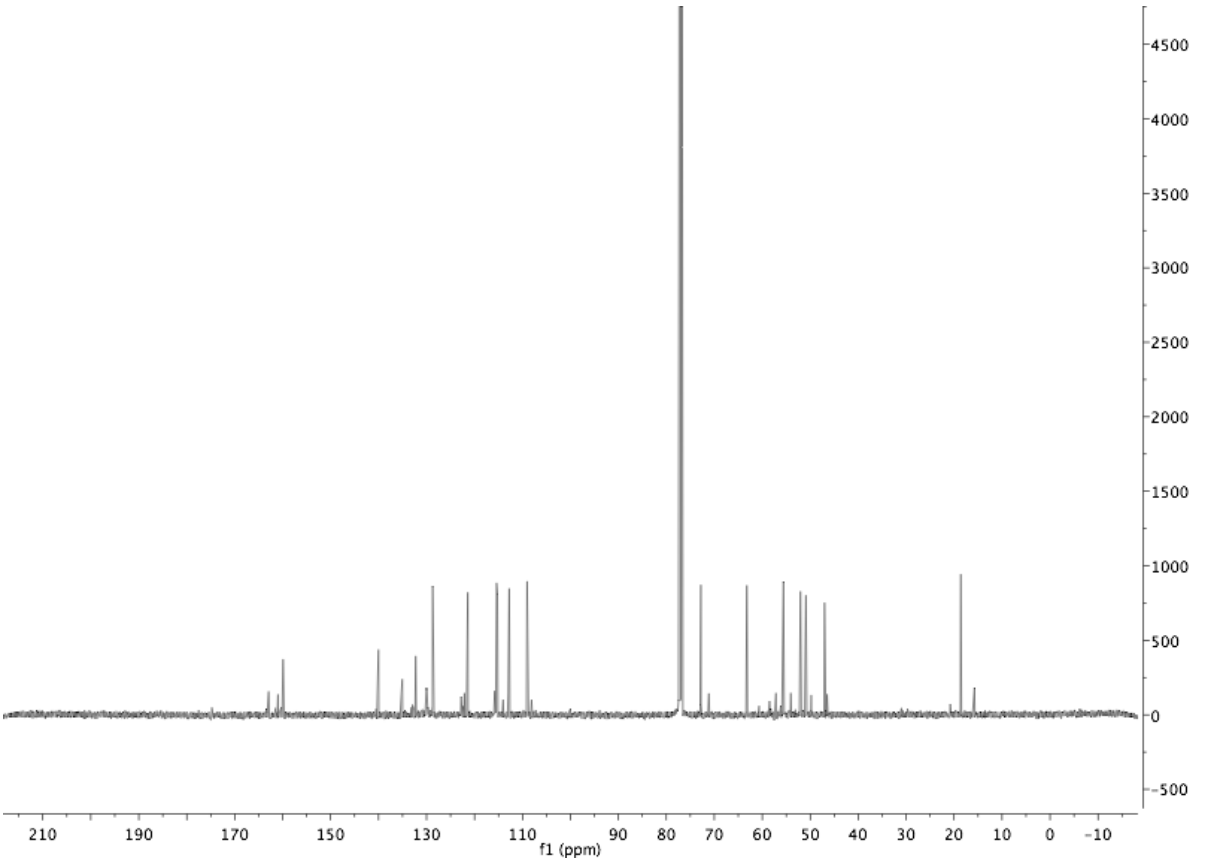
_N_-isobutyl-1-(5-methoxyisoindolin-1-yl)methanesulfonamide 4{*2*,*2*}.



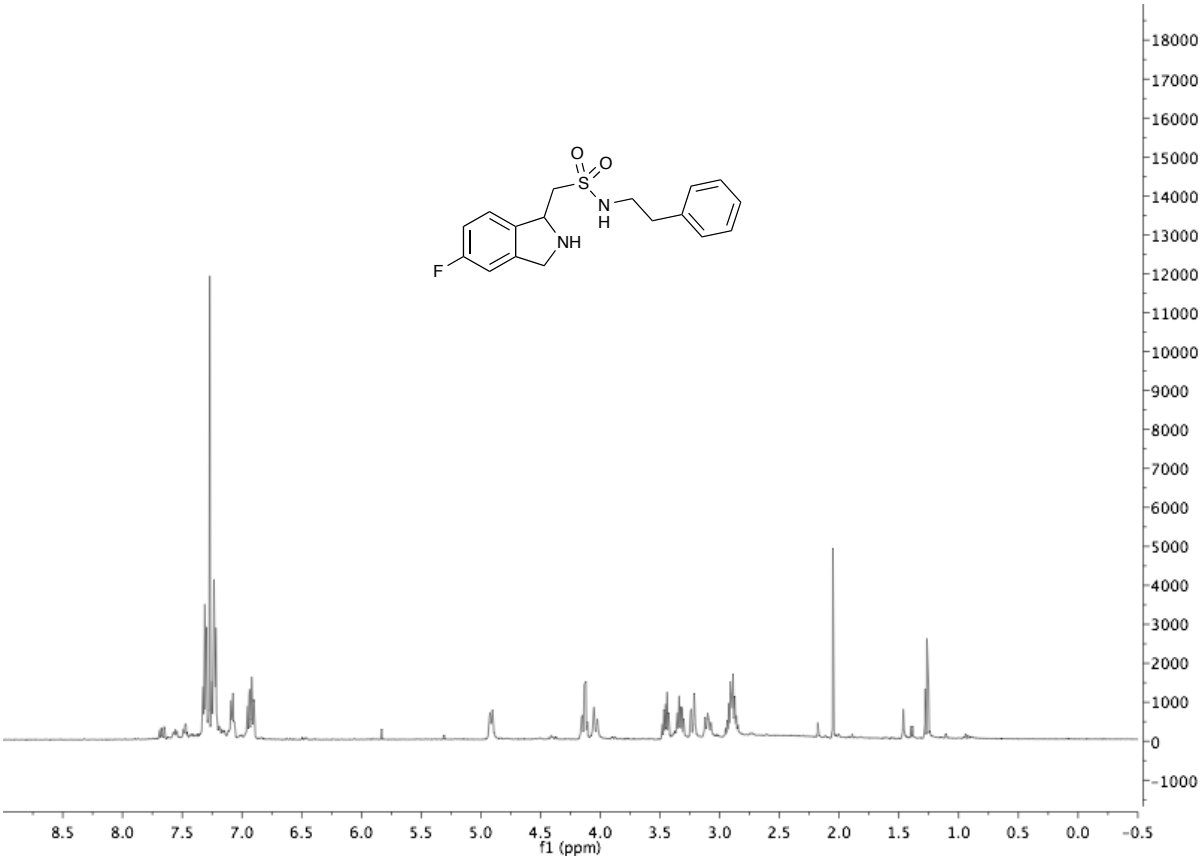


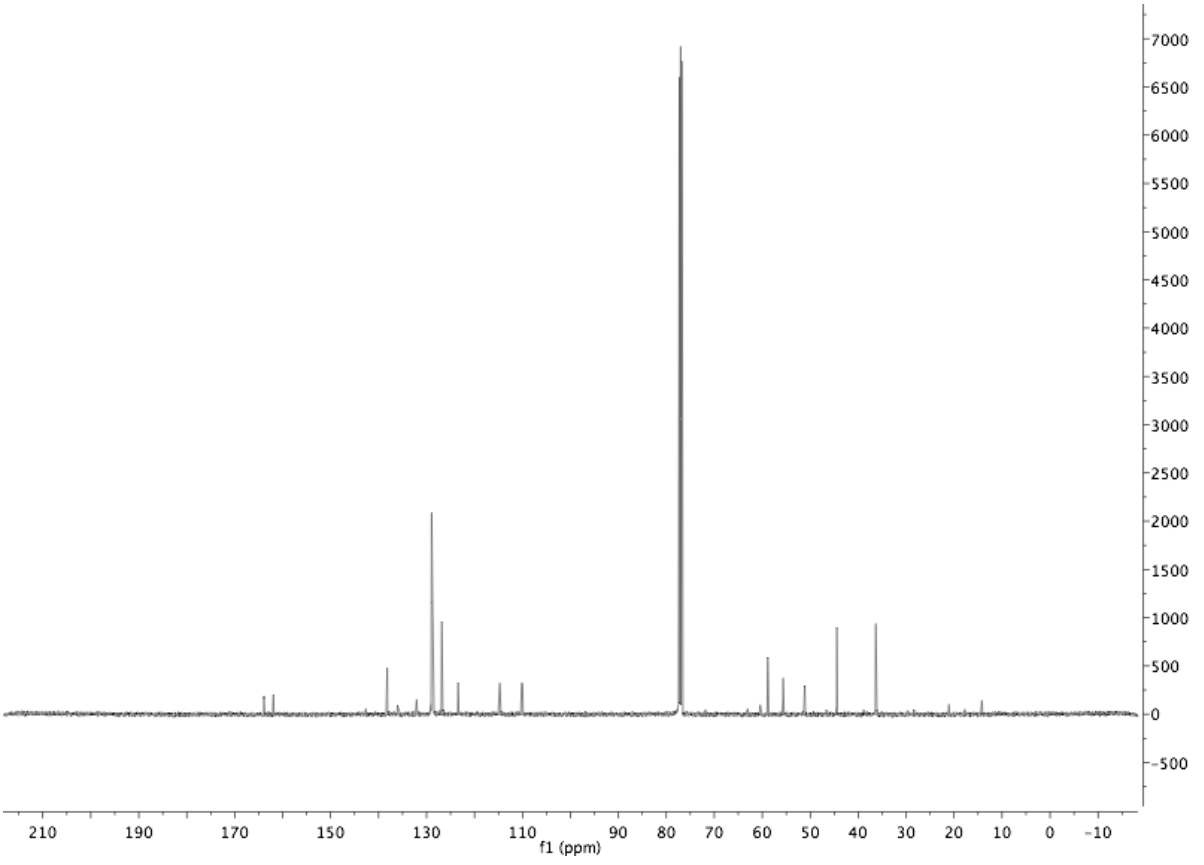
_N_-(4-fluorobenzyl)-1-(5-methoxyisoindolin-1-yl)methanesulfonamide 4 {*2*,*7*}.



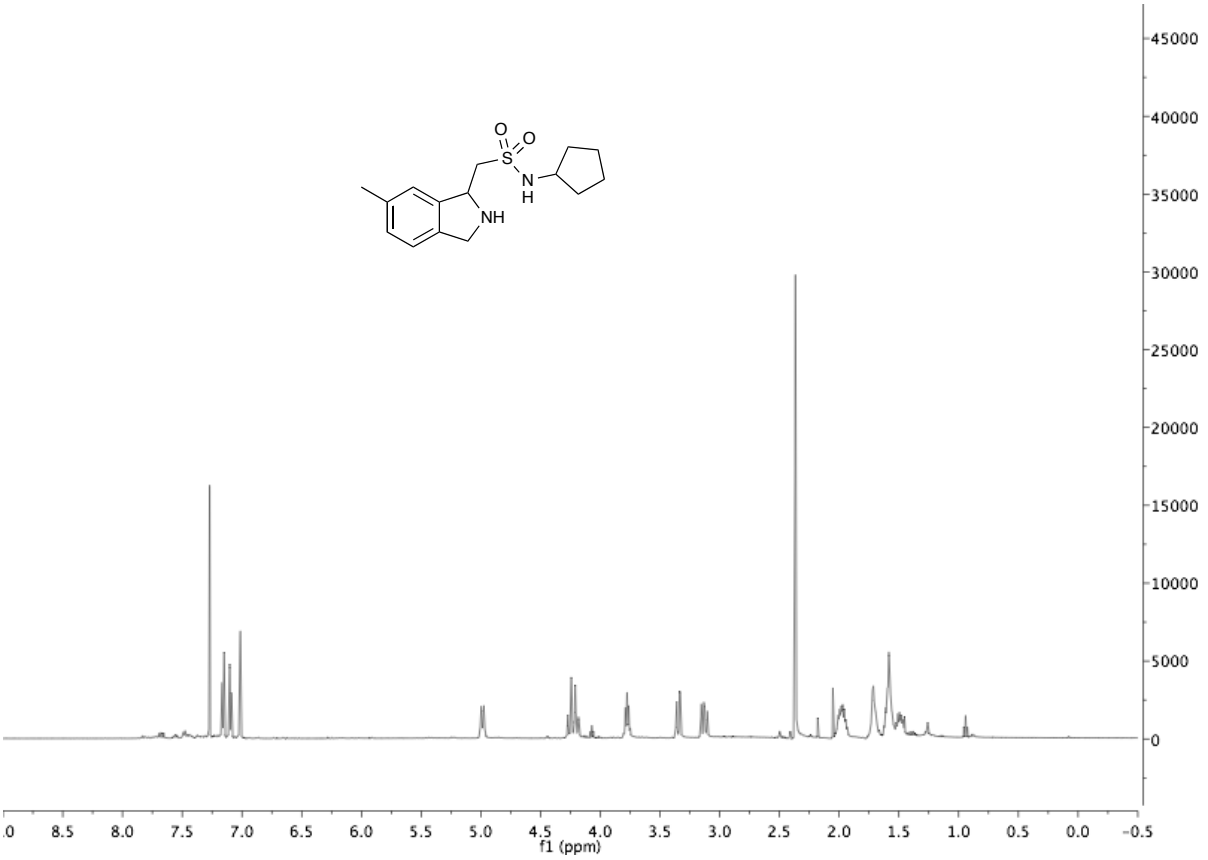


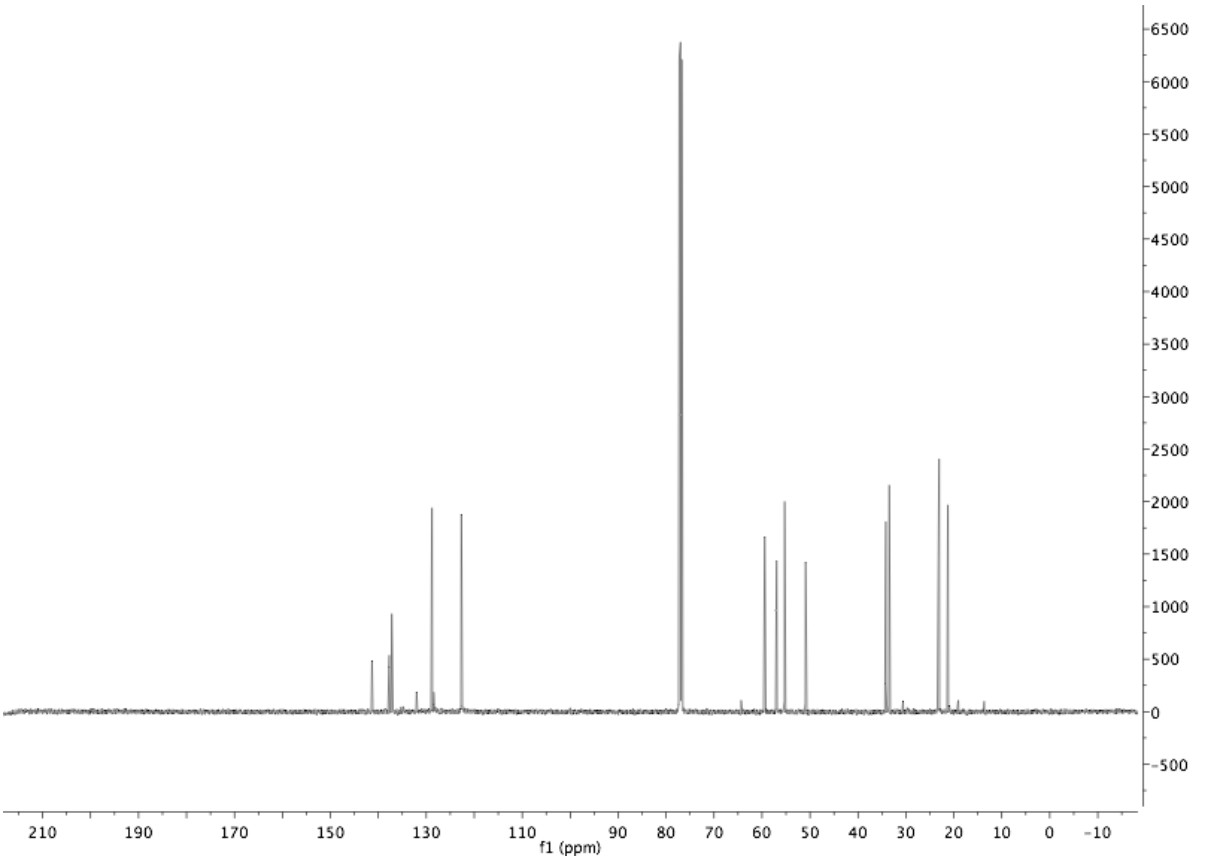
1-(5-fluoroisoindolin-1-yl)-*N*-phenethylmethanesulfonamide 4{*3*,*8*}.



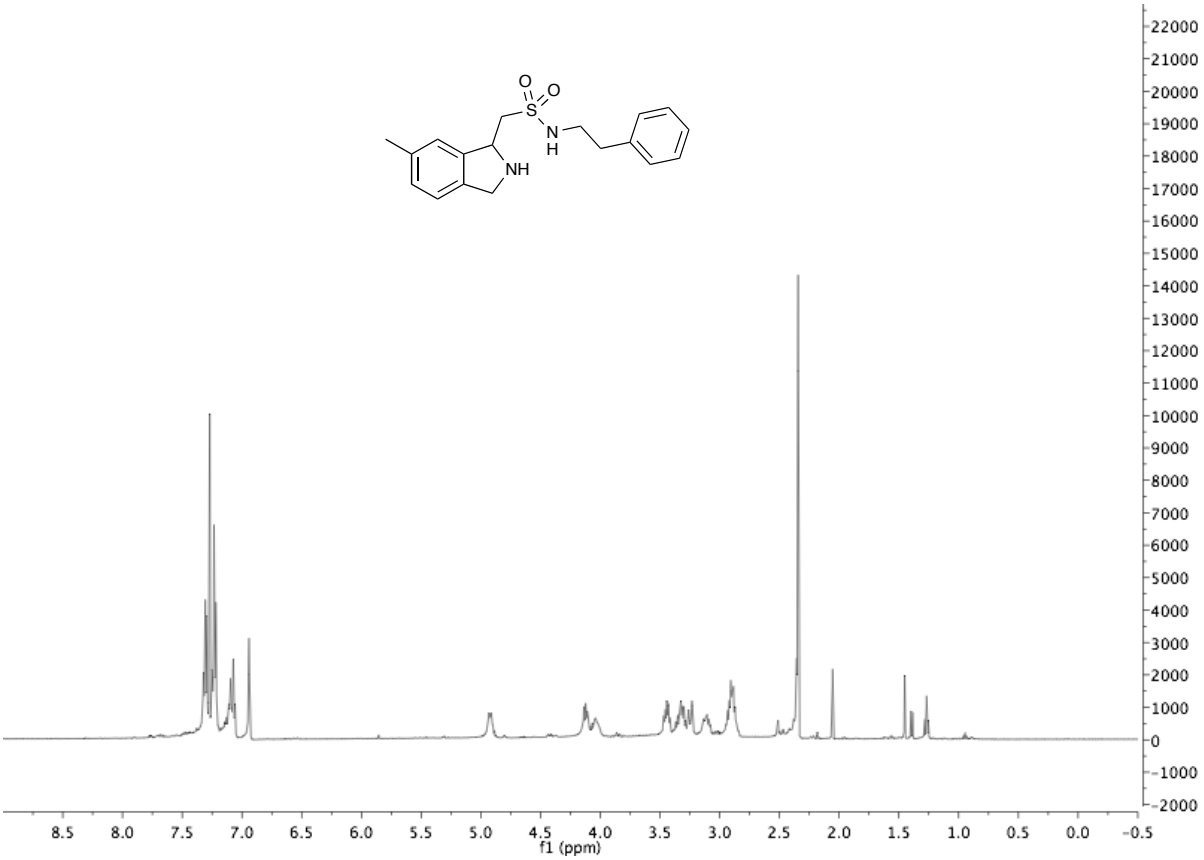


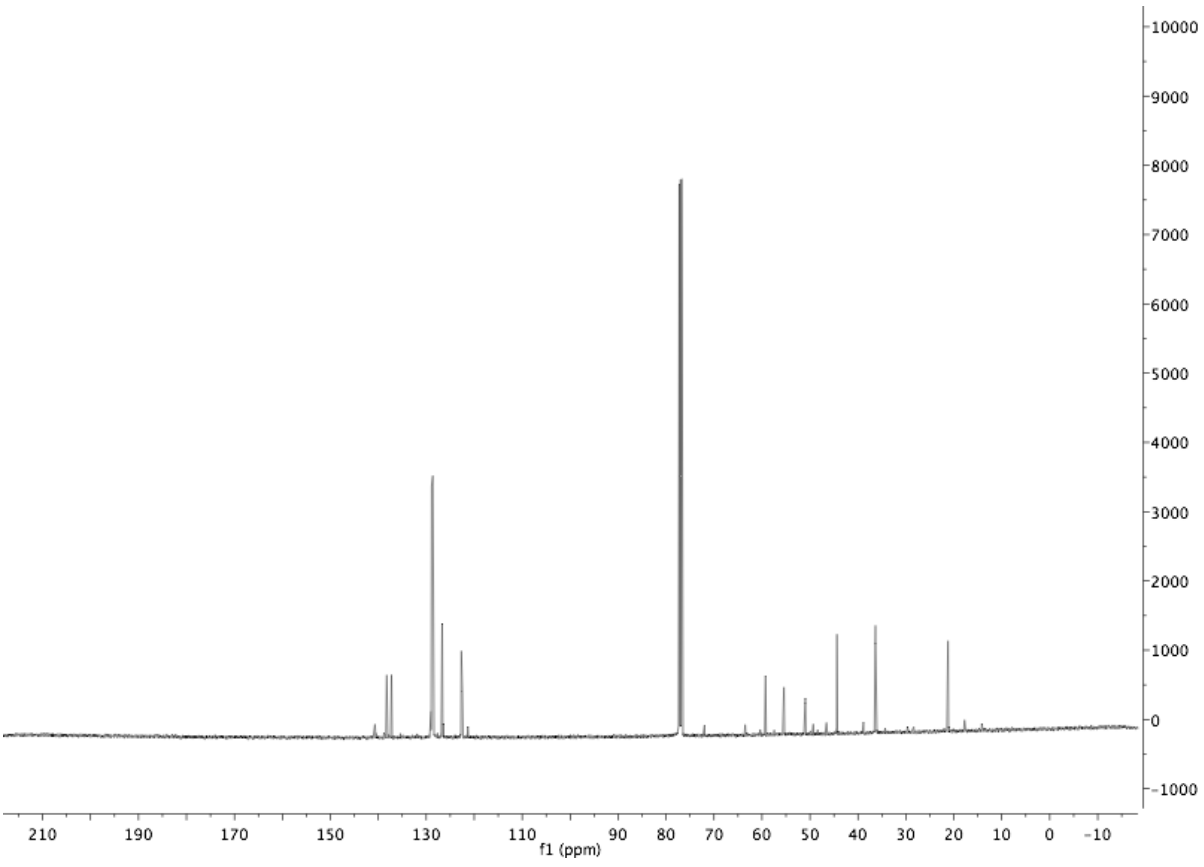
_N_-cyclopentyl-1-(6-methylisoindolin-1-yl)methanesulfonamide 4{*4*,*3*}.



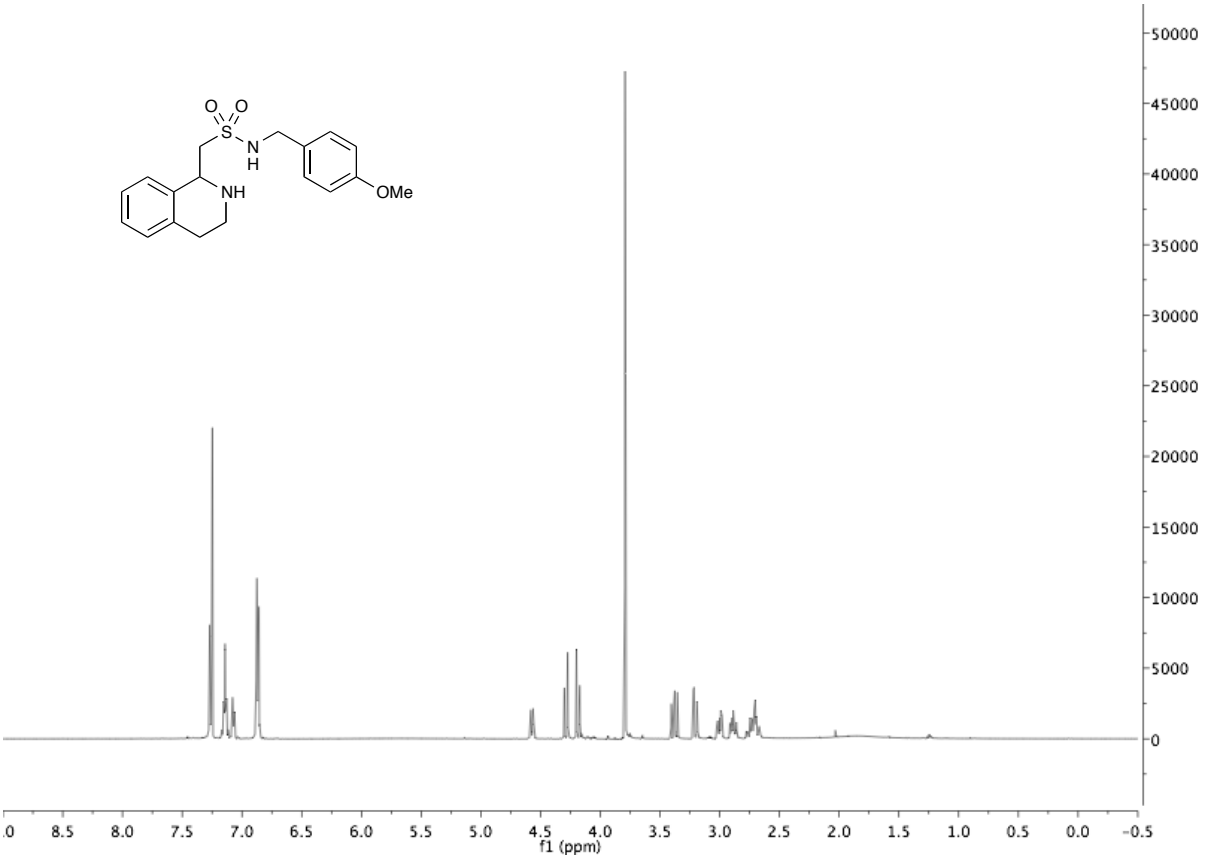


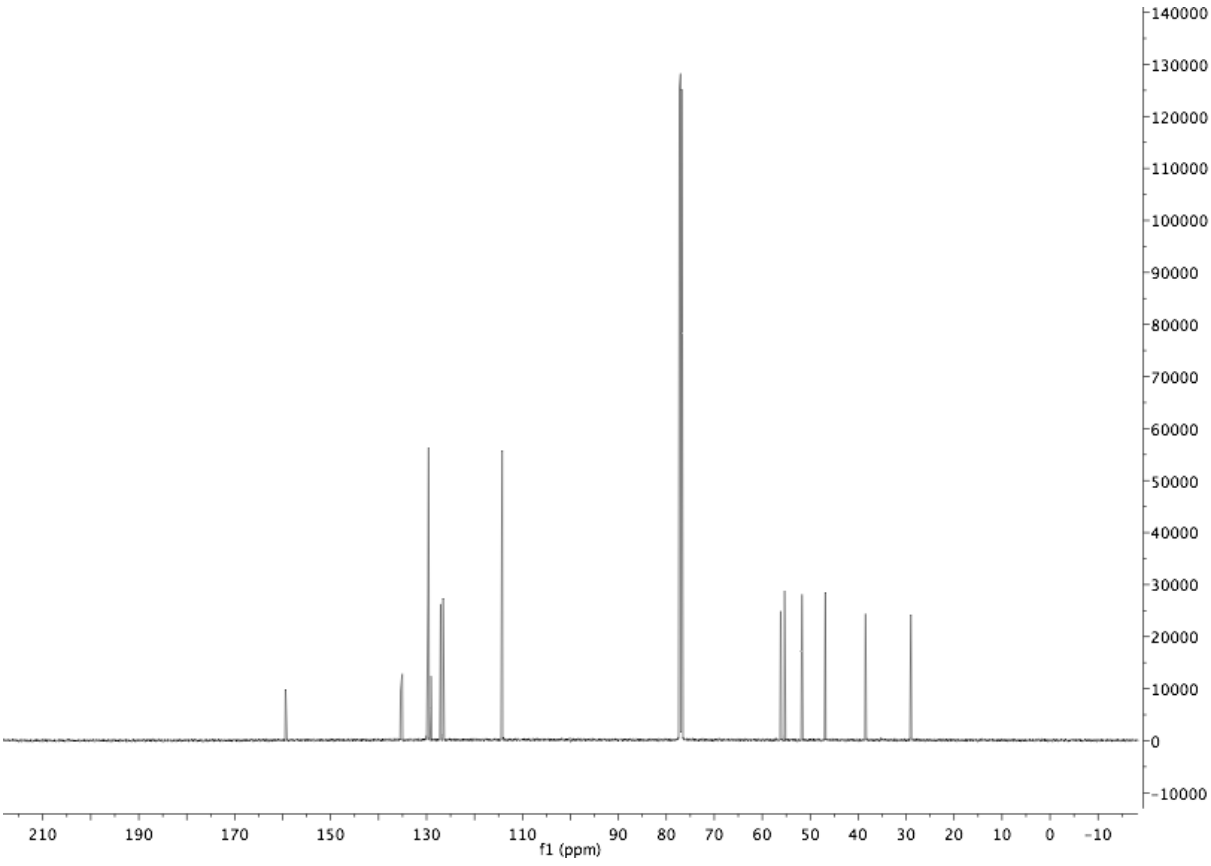
1-(6-methylisoindolin-1-yl)-*N*-phenethylmethanesulfonamide 4{*4*,*8*}



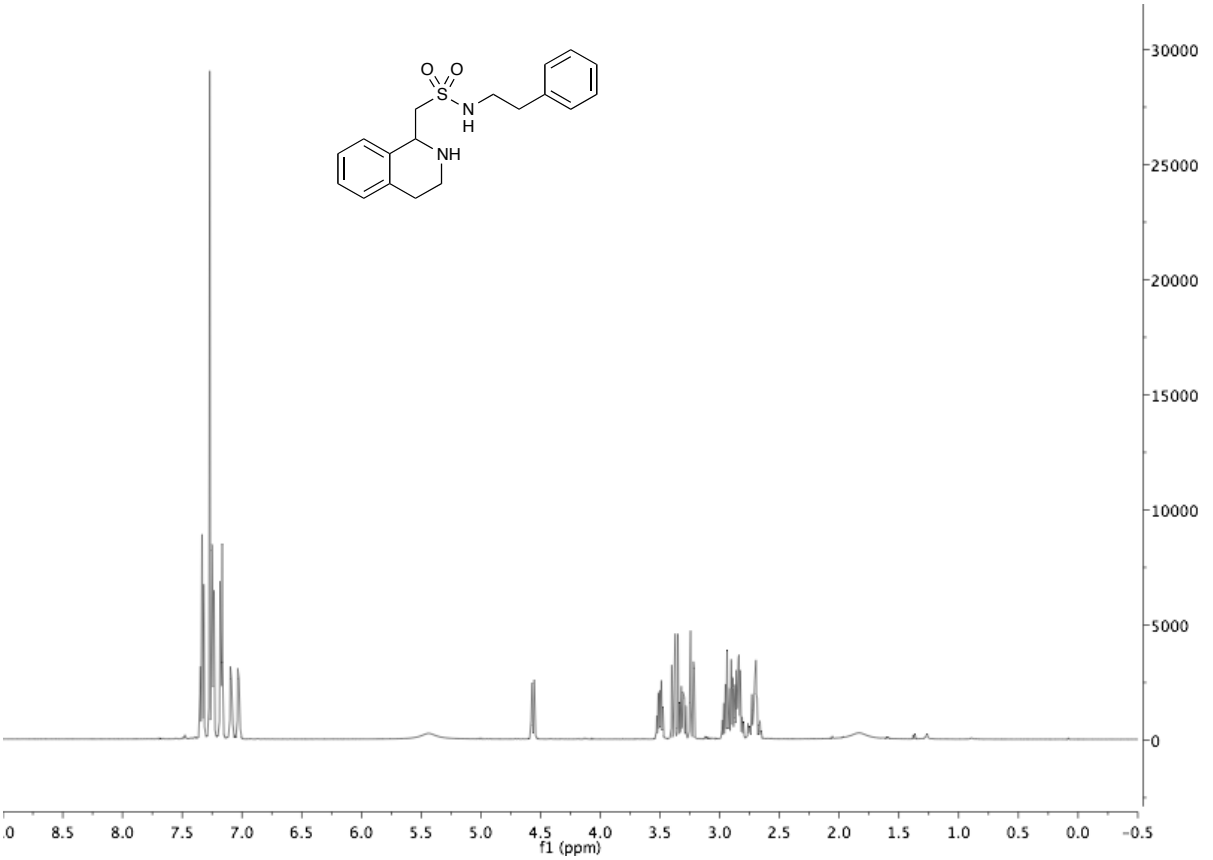


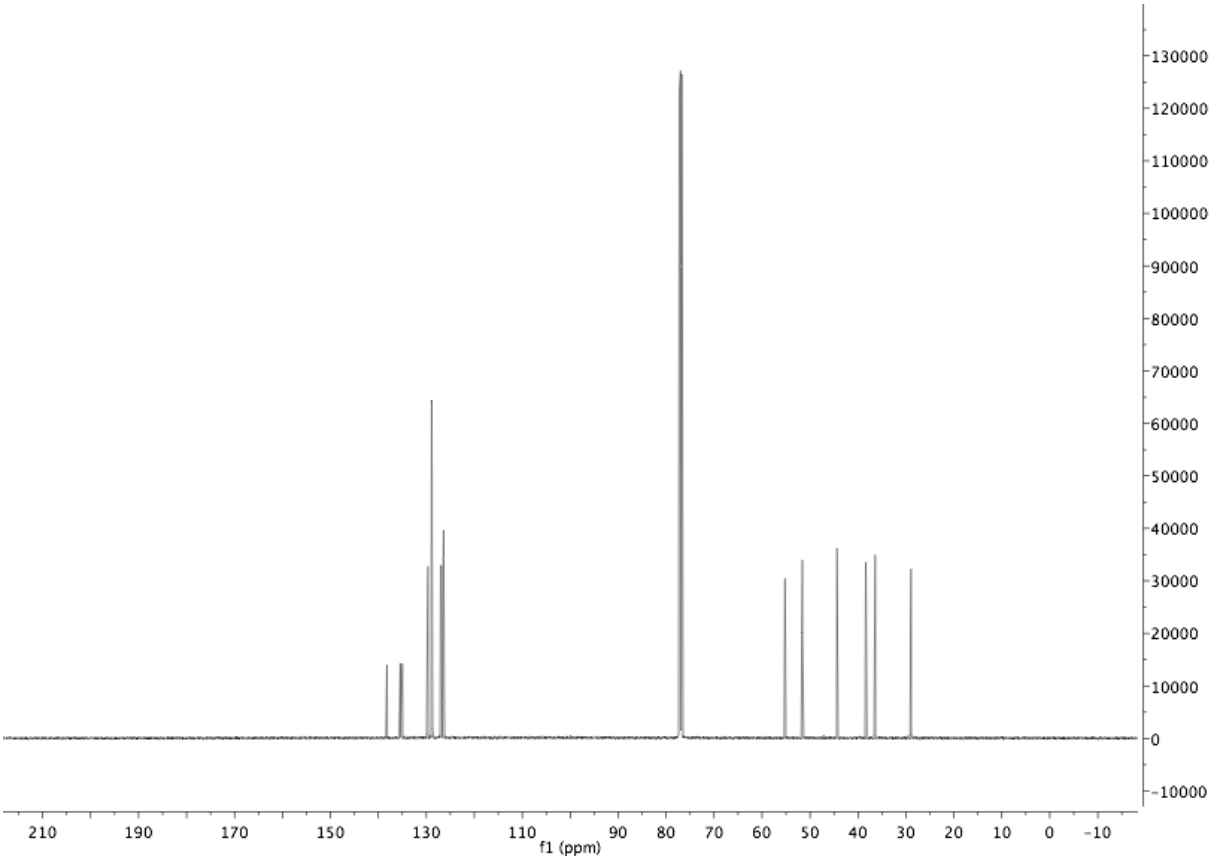
_N_-(4-methoxybenzyl)-1-(1,2,3,4-tetrahydroisoquinolin-1-yl)methanesulfonamide 4{*5*,*6*}.



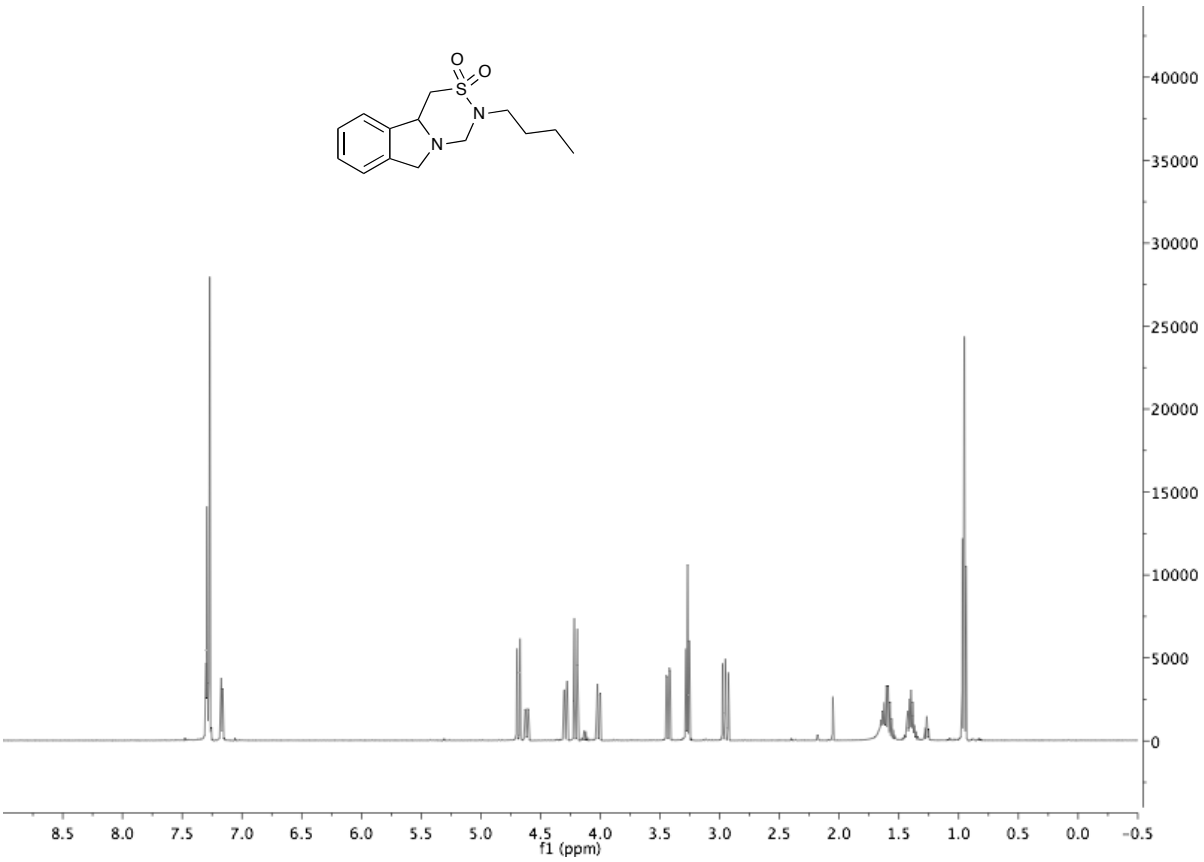


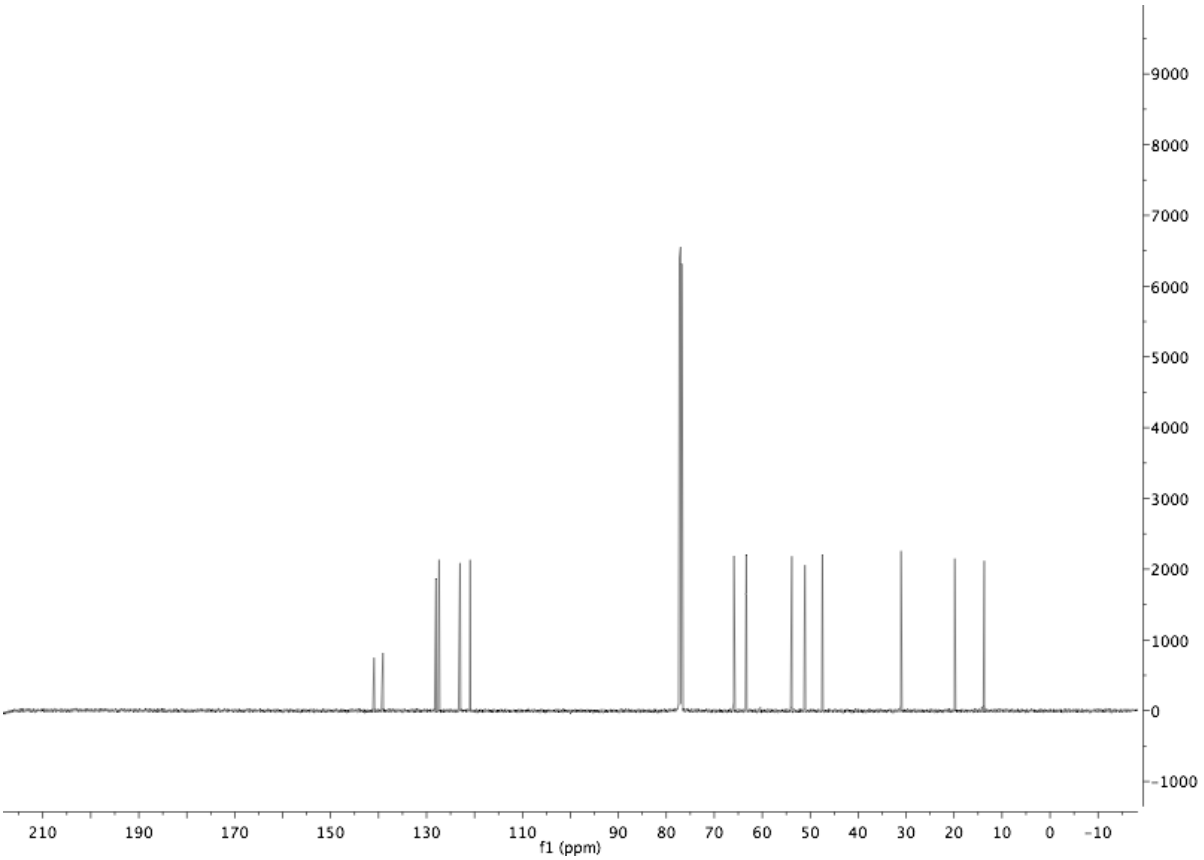
_N_-phenethyl-1-(1,2,3,4-tetrahydroisoquinolin-1-yl)methanesulfonamide 4{*5,8*}.



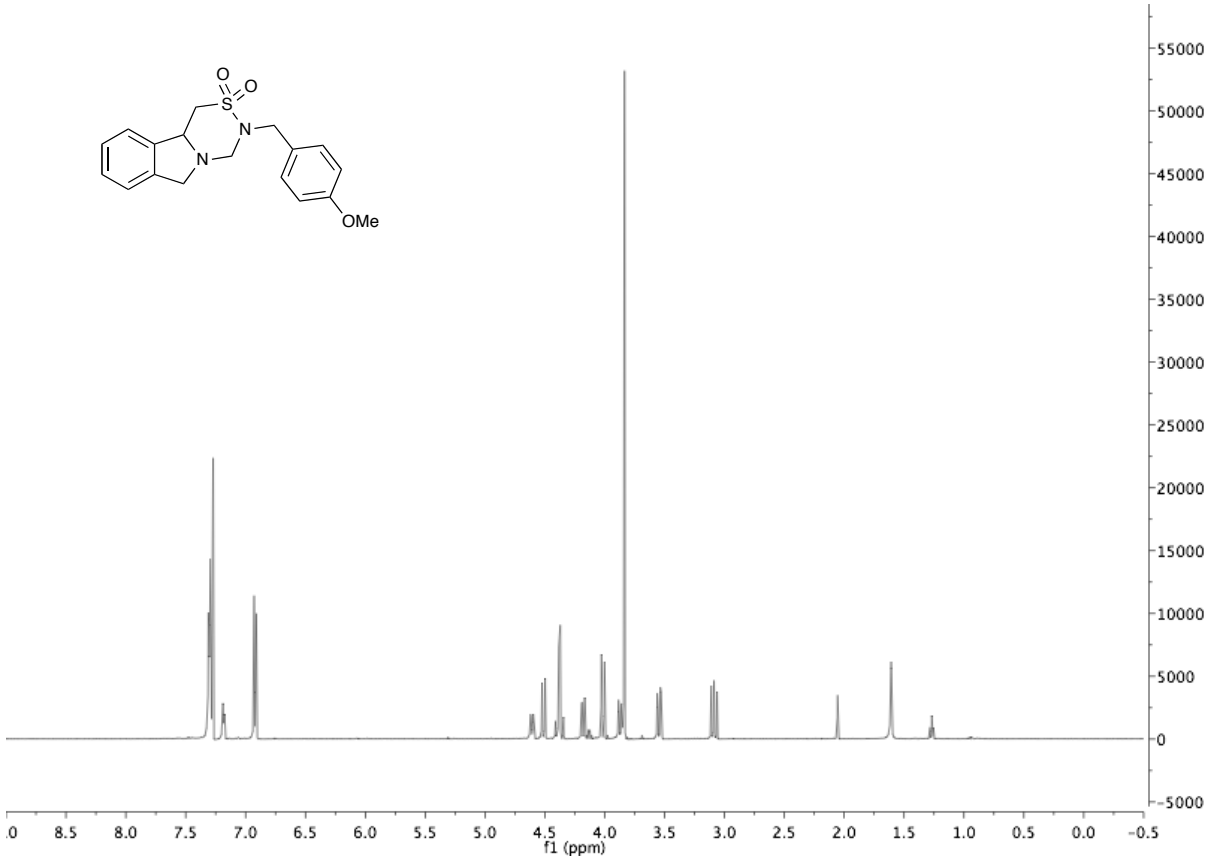


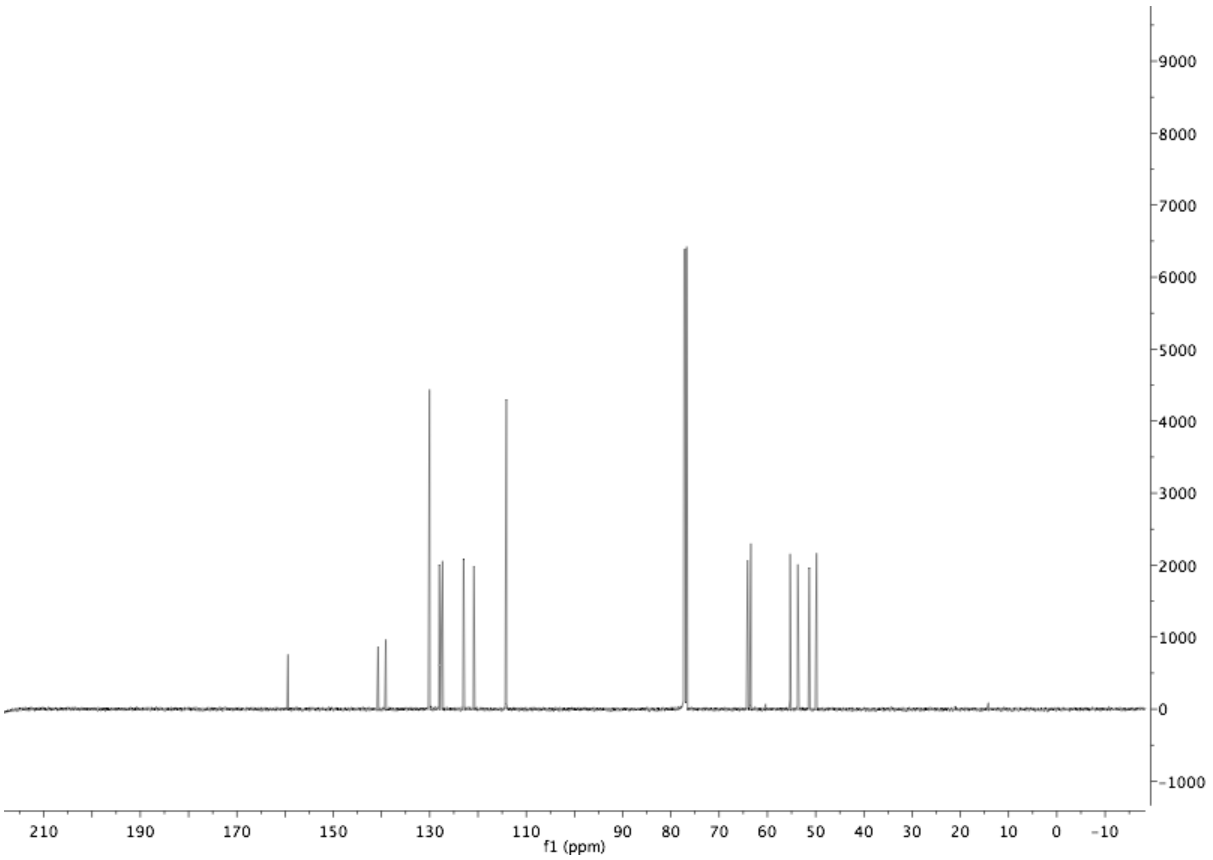
3-butyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*1*,*1*}.



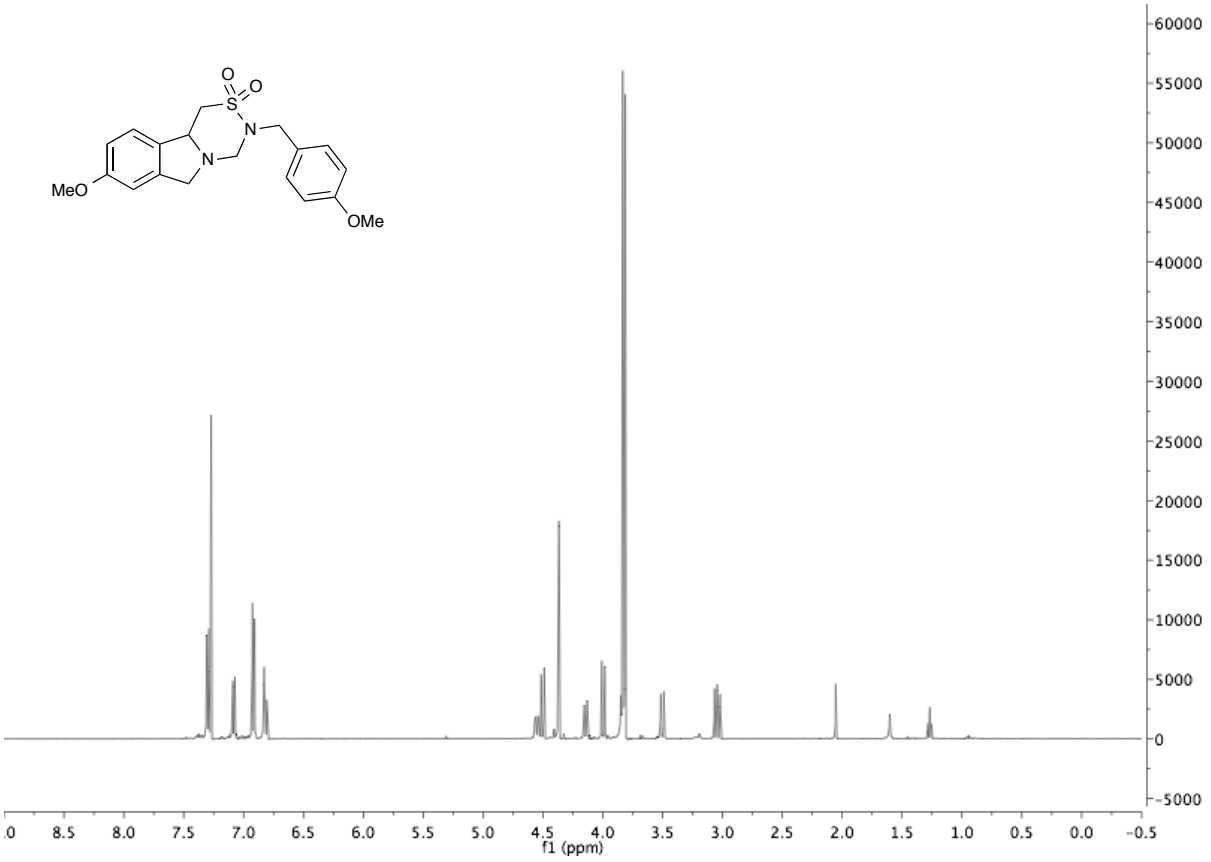


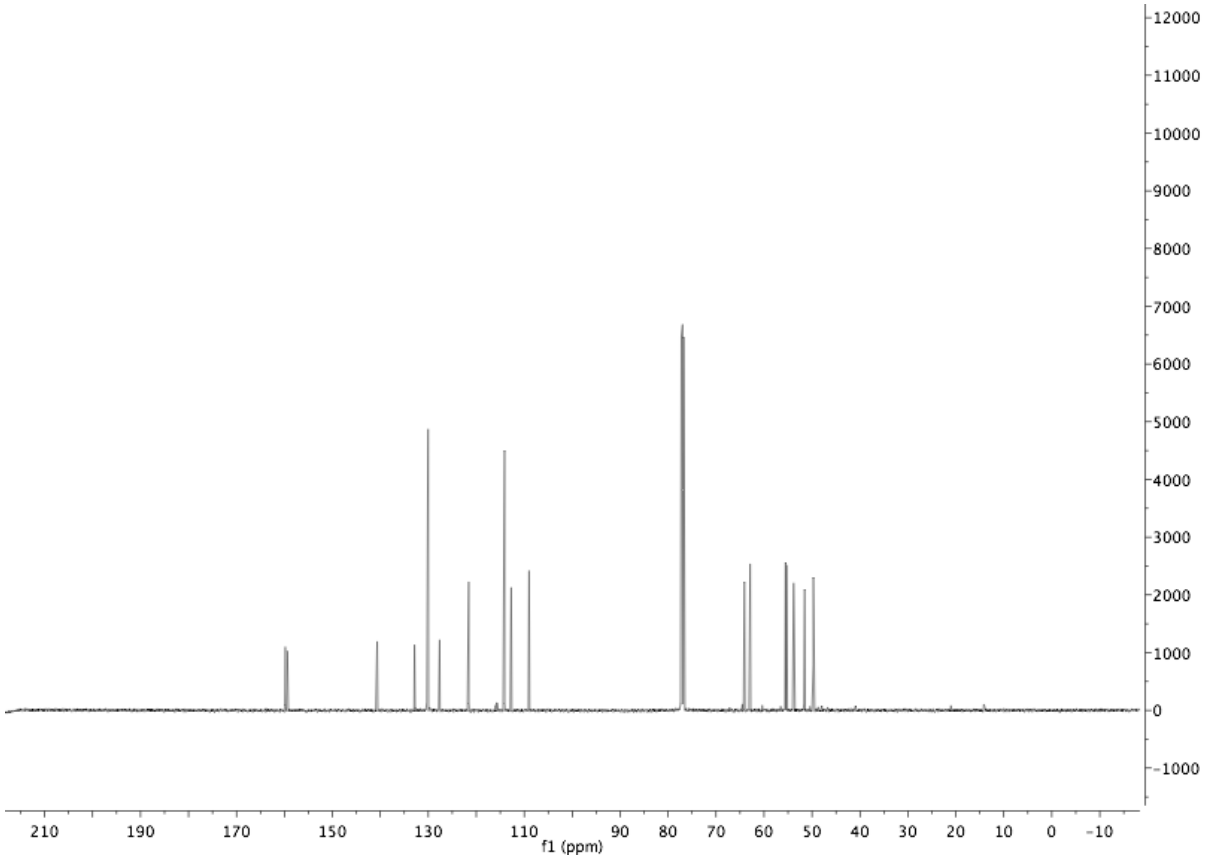
3-(4-methoxybenzyl)-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*1*,*6*}.



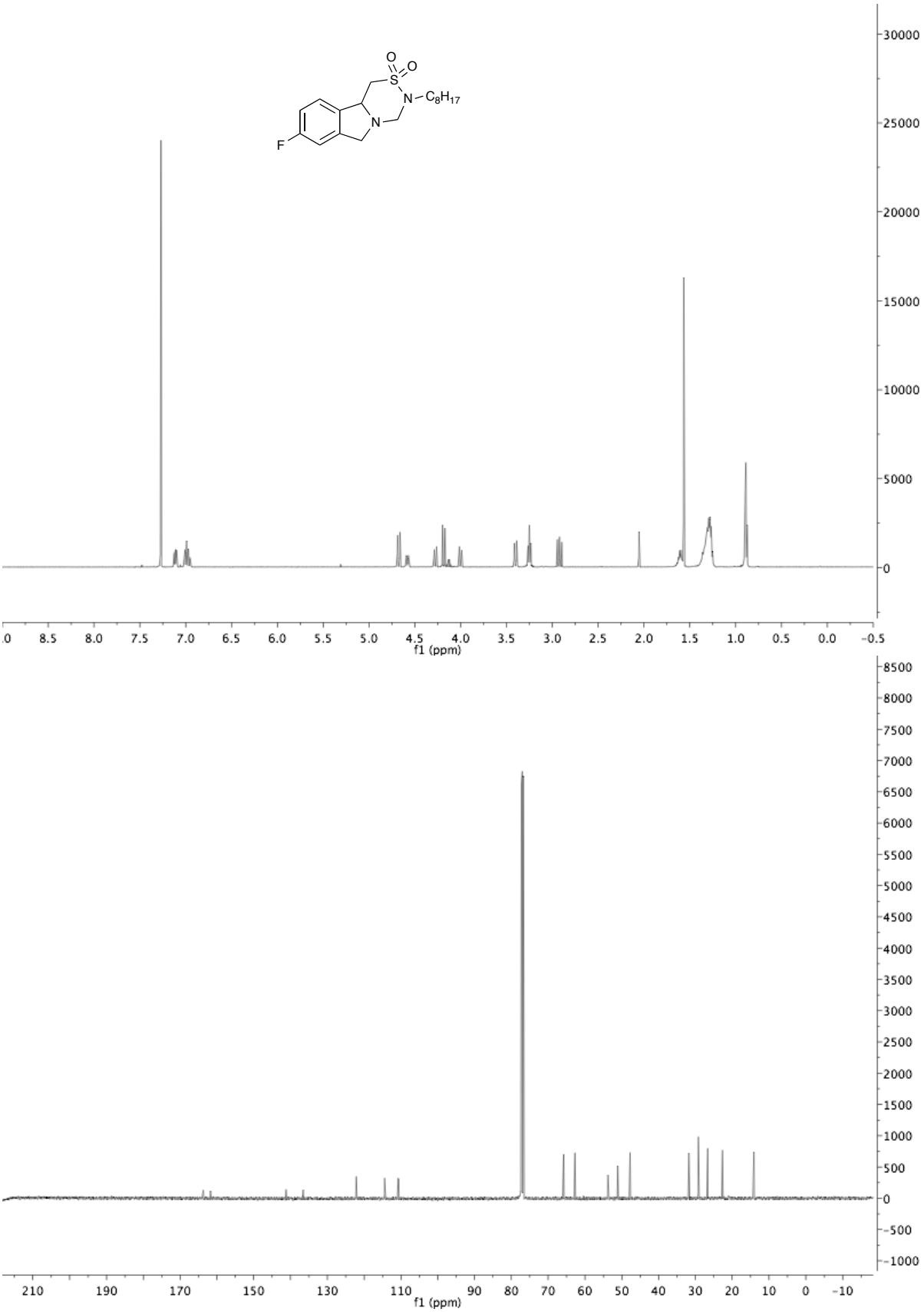


8-methoxy-3-(4-methoxybenzyl)-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*2*,*6*}.

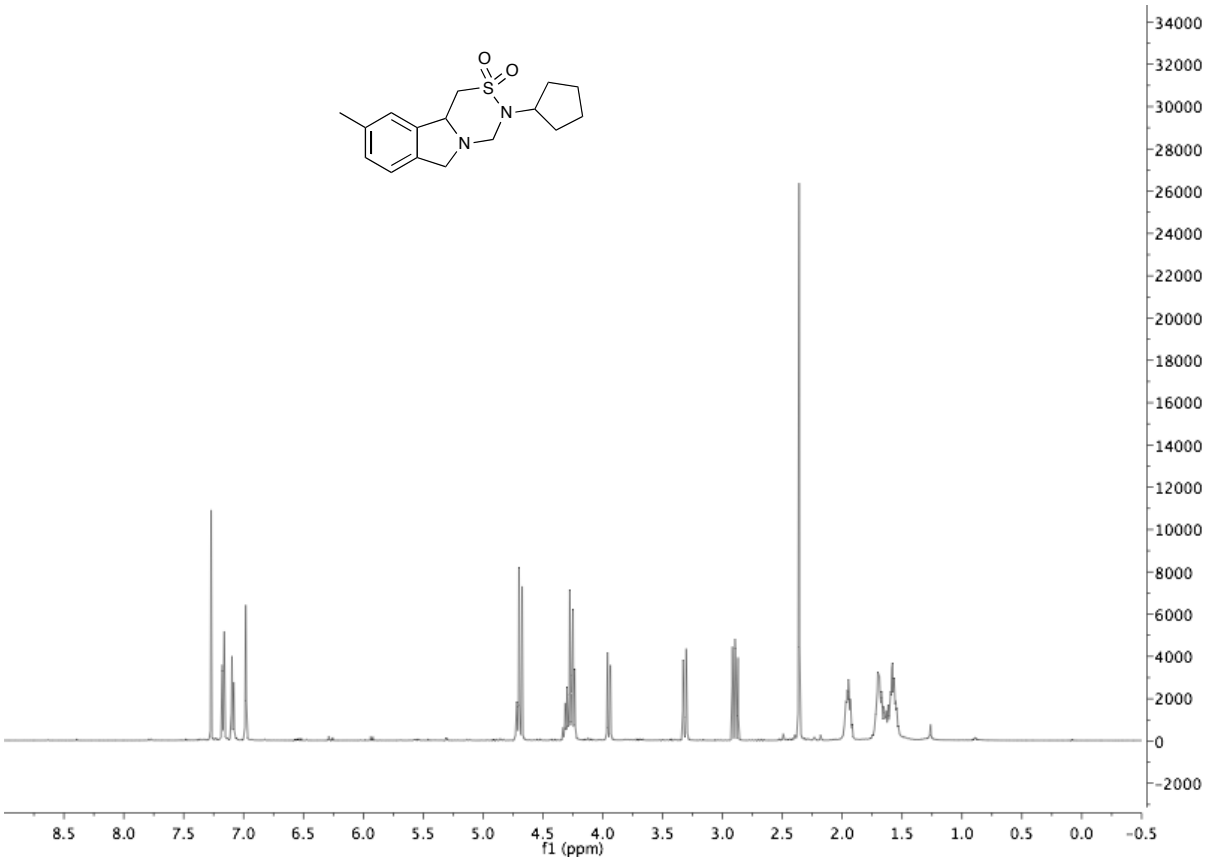


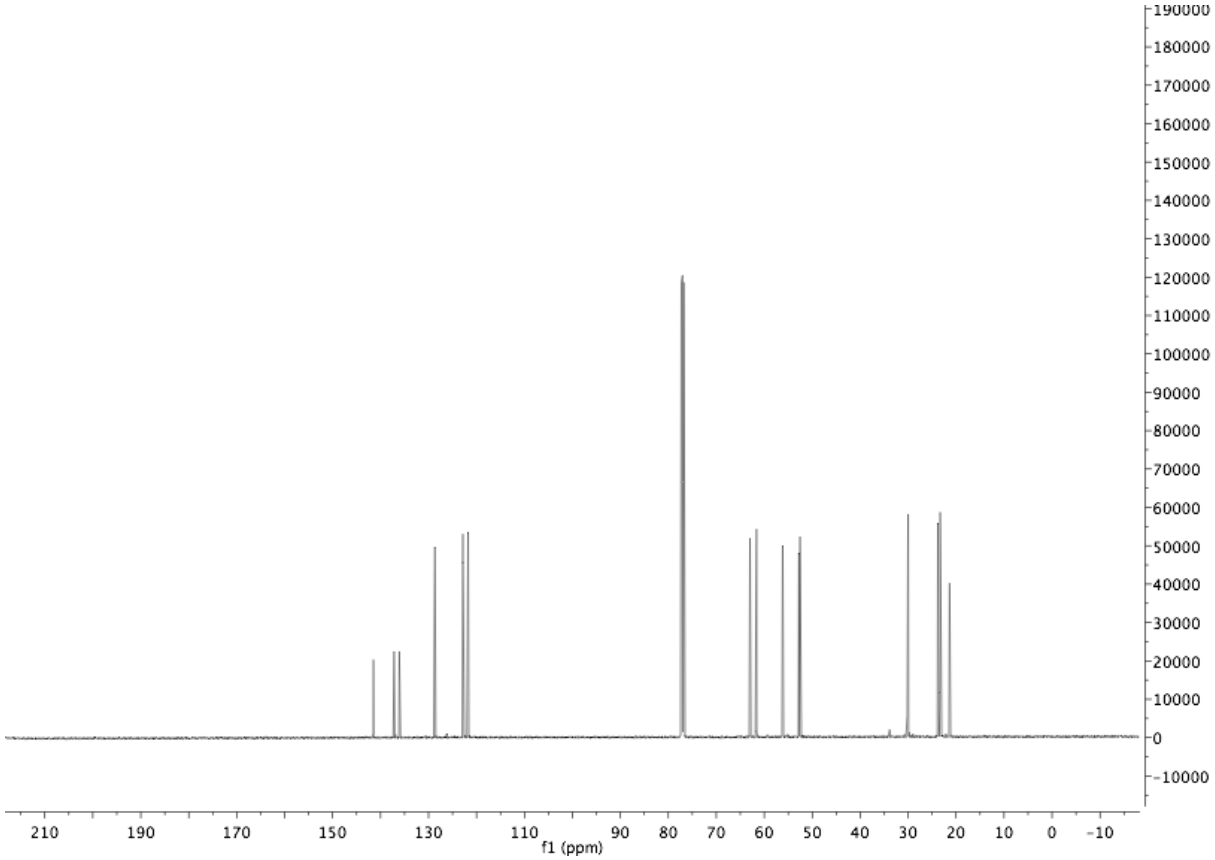


8-fluoro-3-octyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*3,4*}.

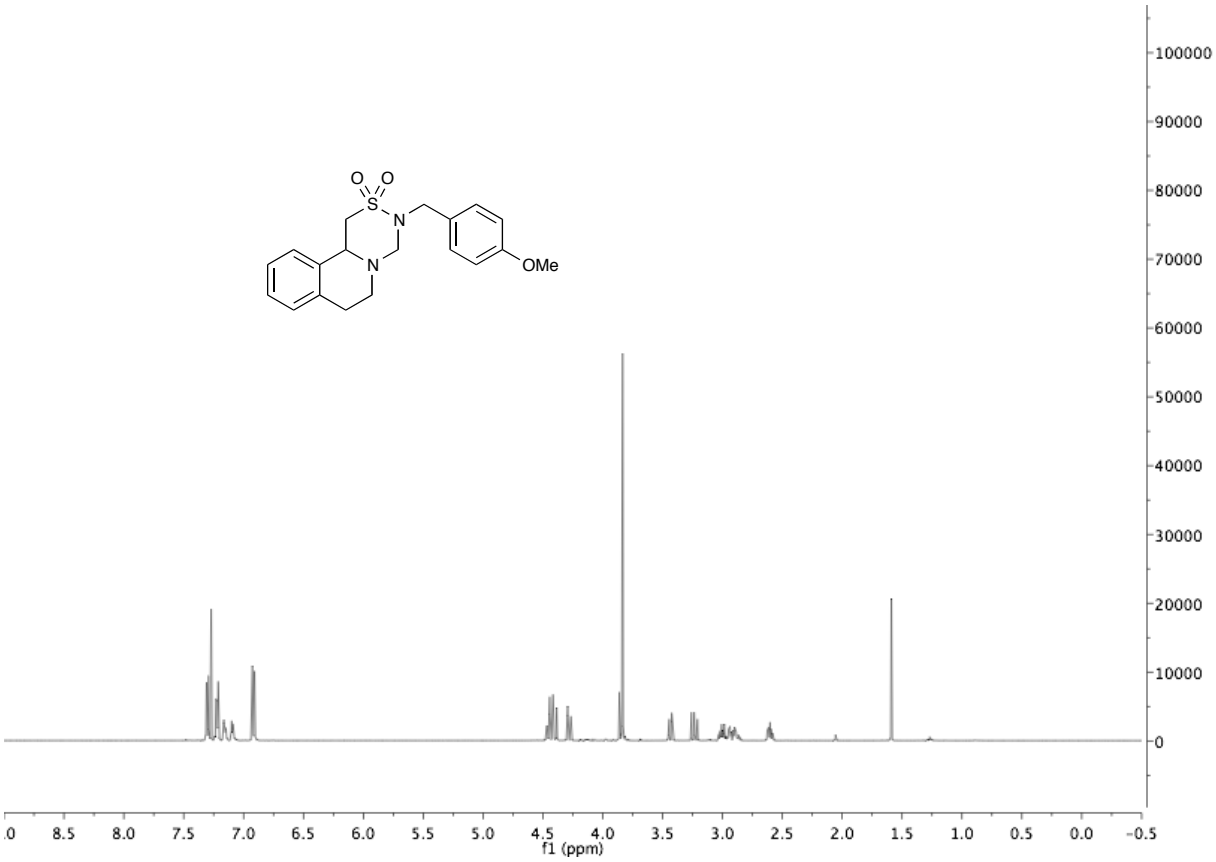


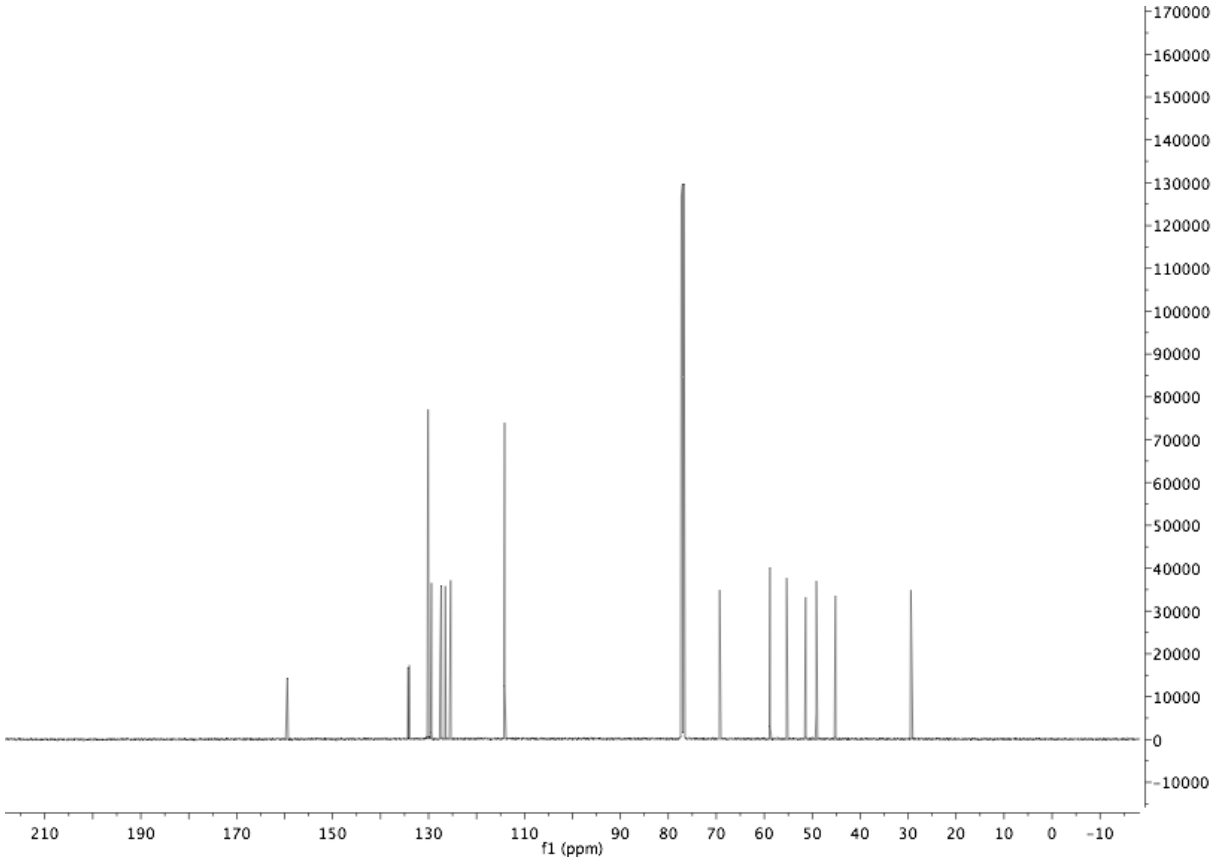
3-cyclopentyl-9-methyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*4*,*3*}.



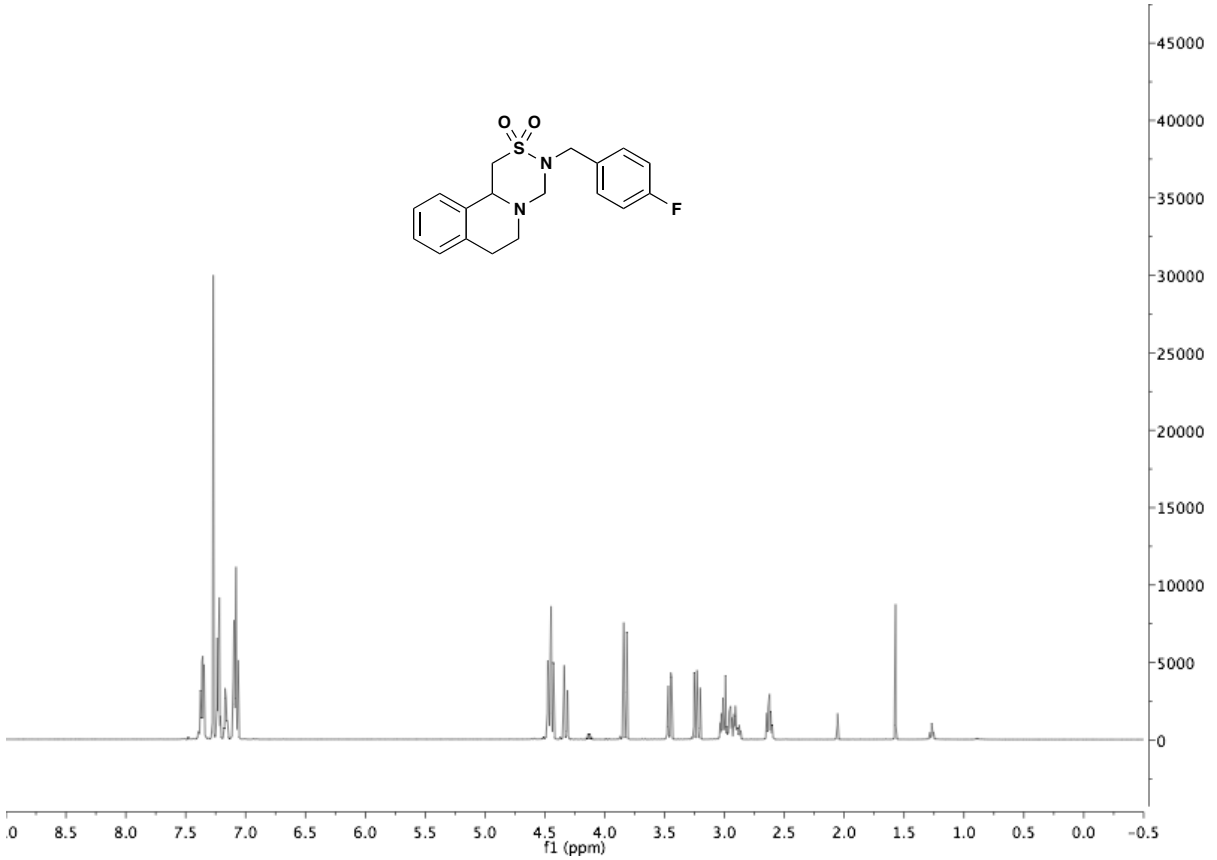


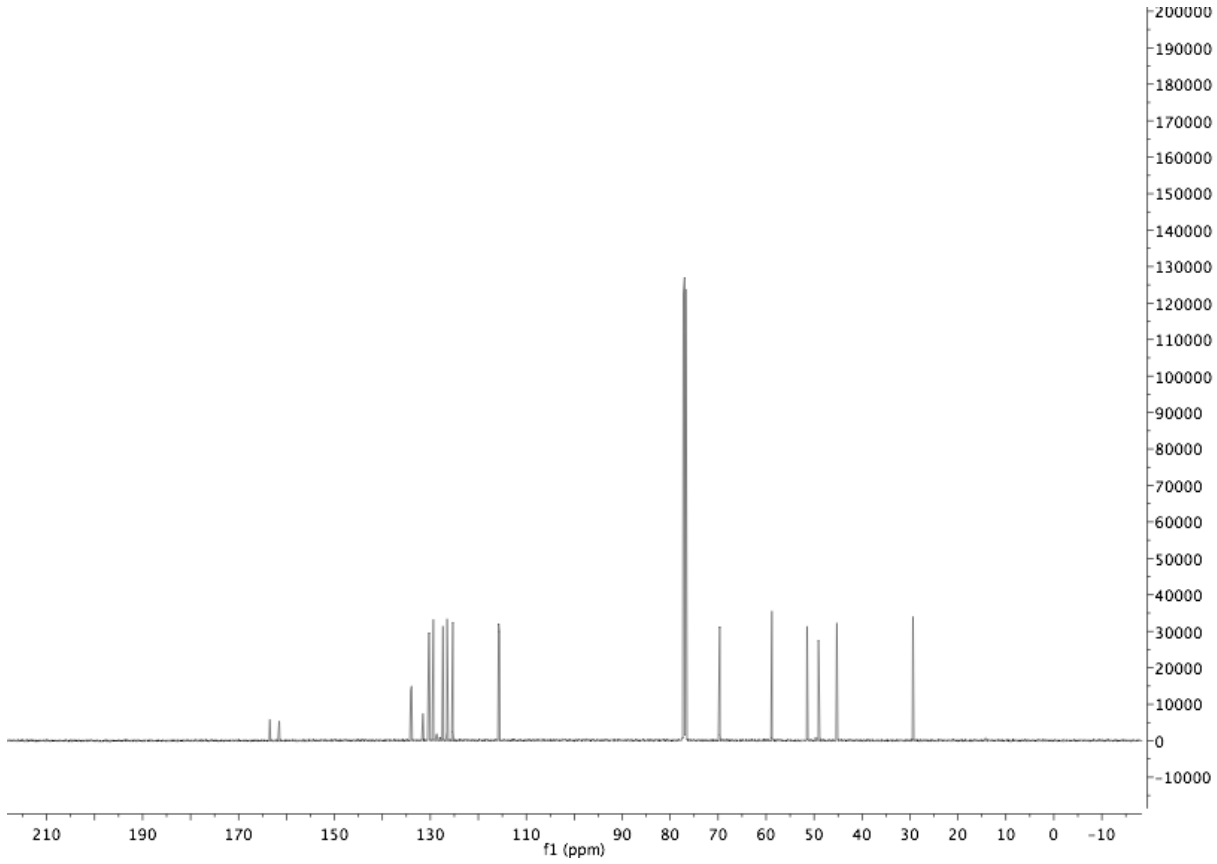
3-(4-methoxybenzyl)-1,3,4,6,7,11b-hexahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinoline 2,2-dioxide 5{*5*,*6*}.



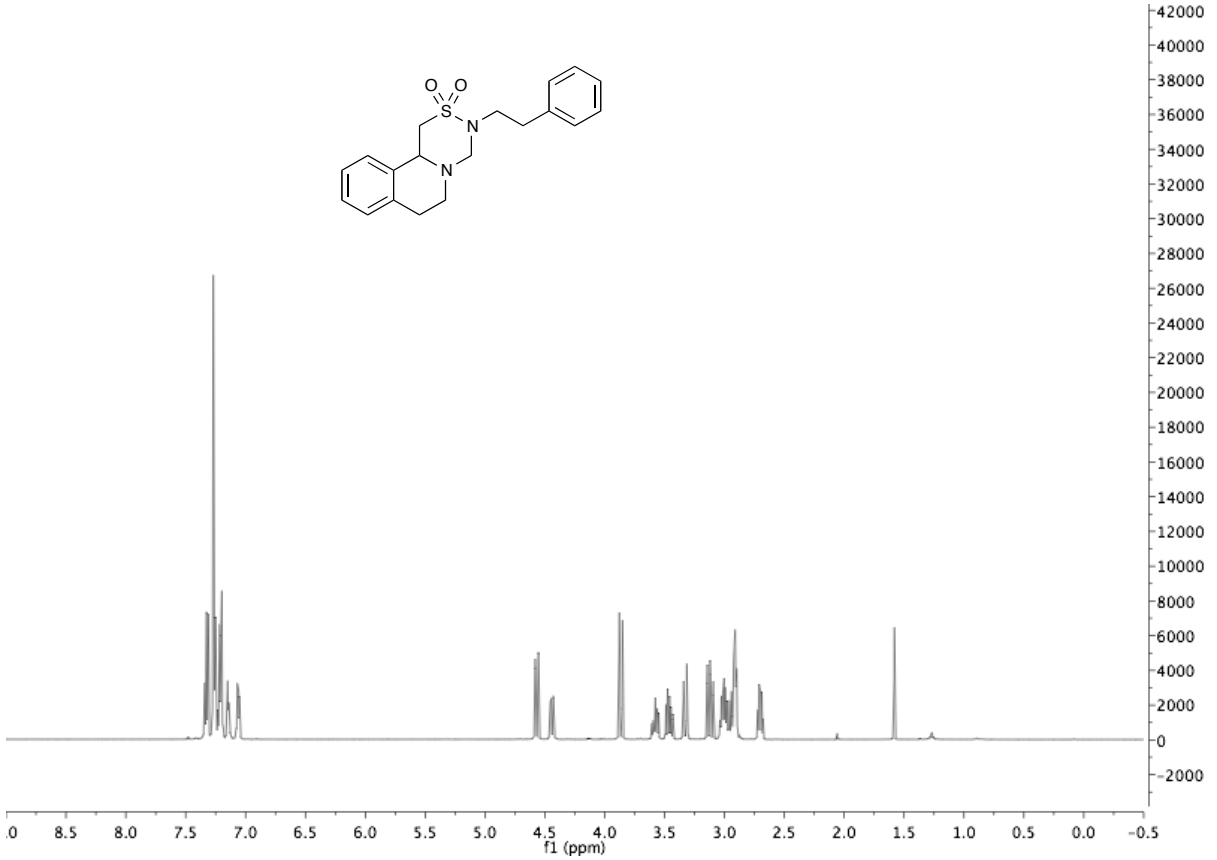


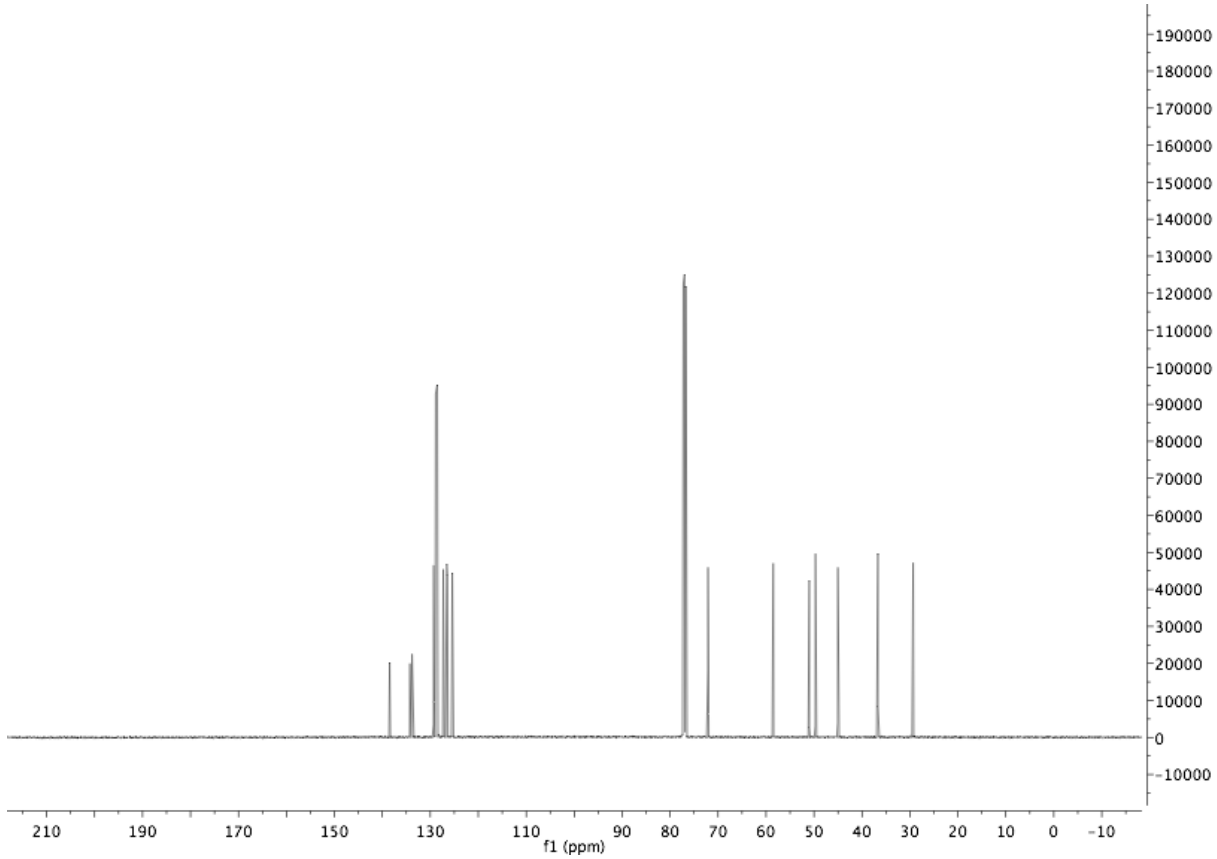
3-(4-fluorobenzyl)-1,3,4,6,7,11b-hexahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinoline 2,2-dioxide 5{*5*,*7*}.



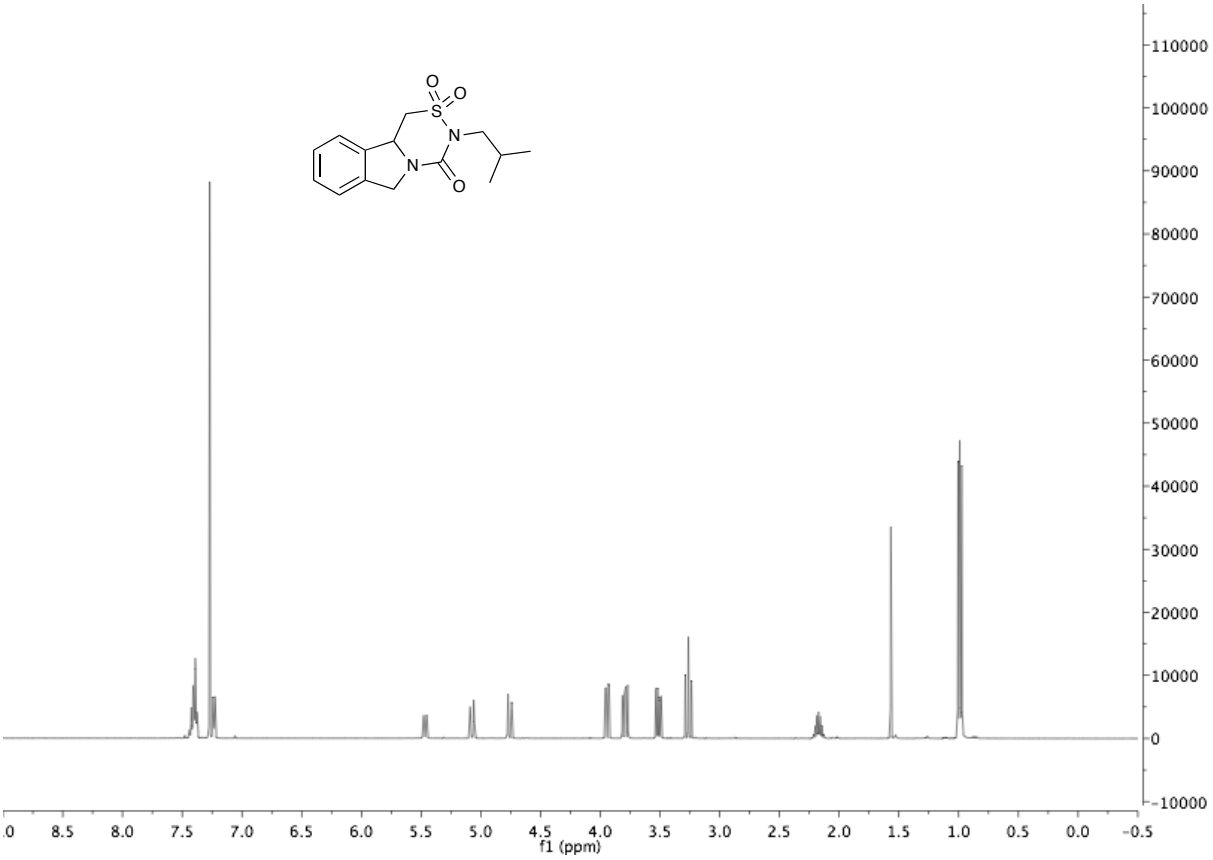


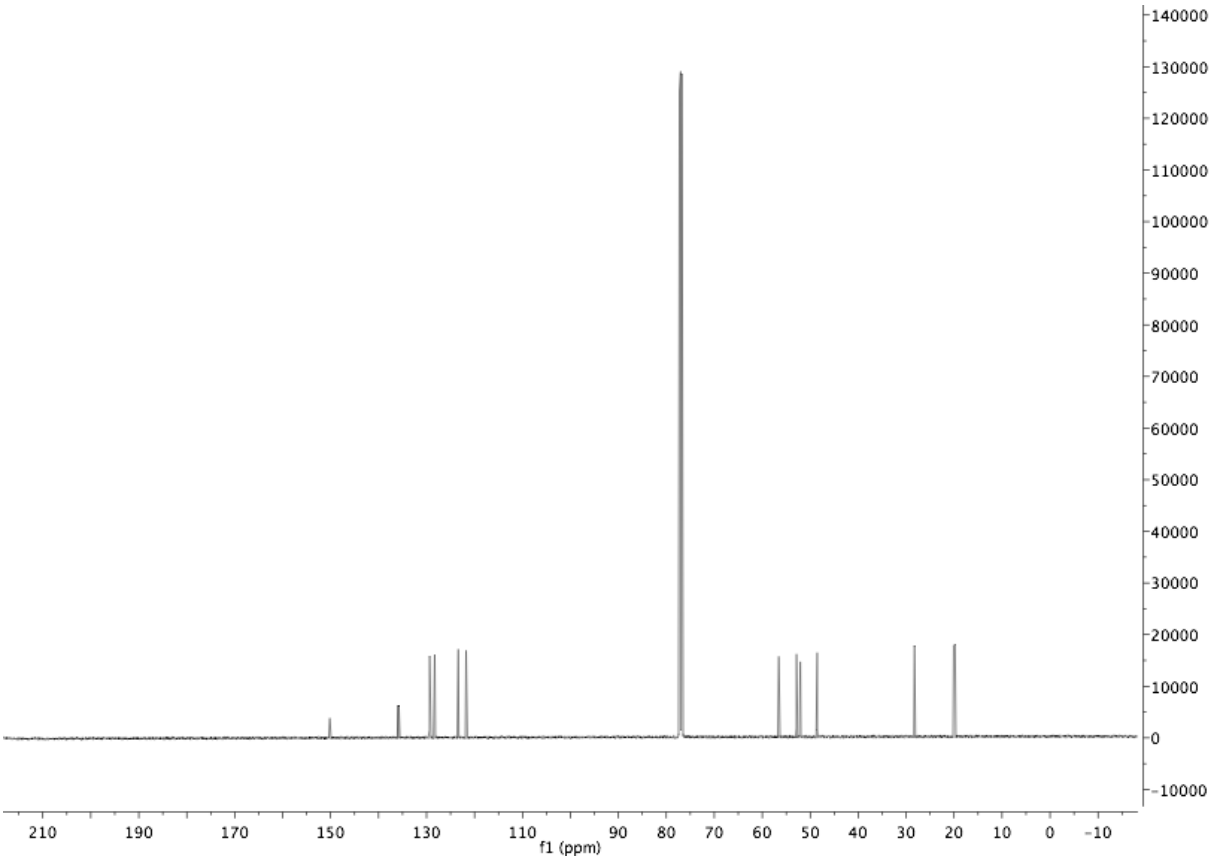
3-phenethyl-1,3,4,6,7,11b-hexahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinoline 2,2-dioxide 5{*5*,*8*}.



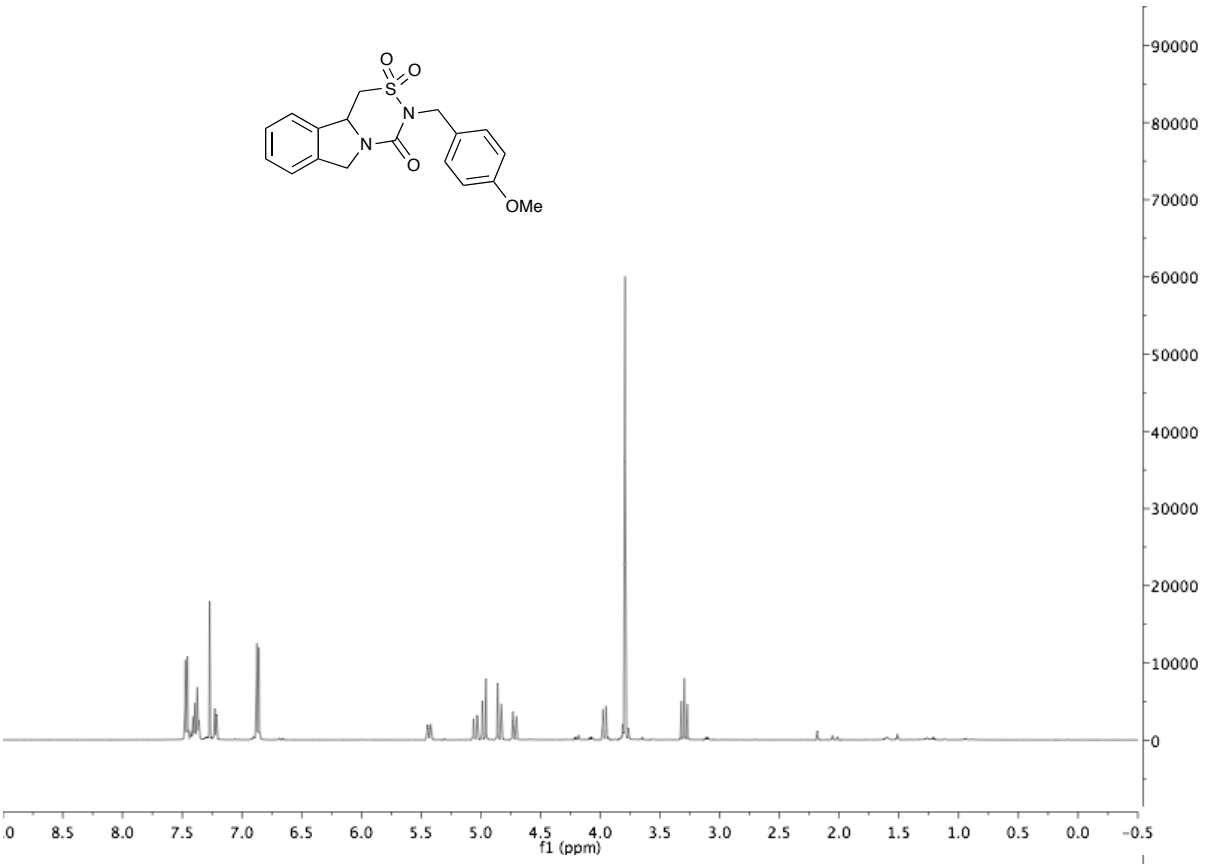


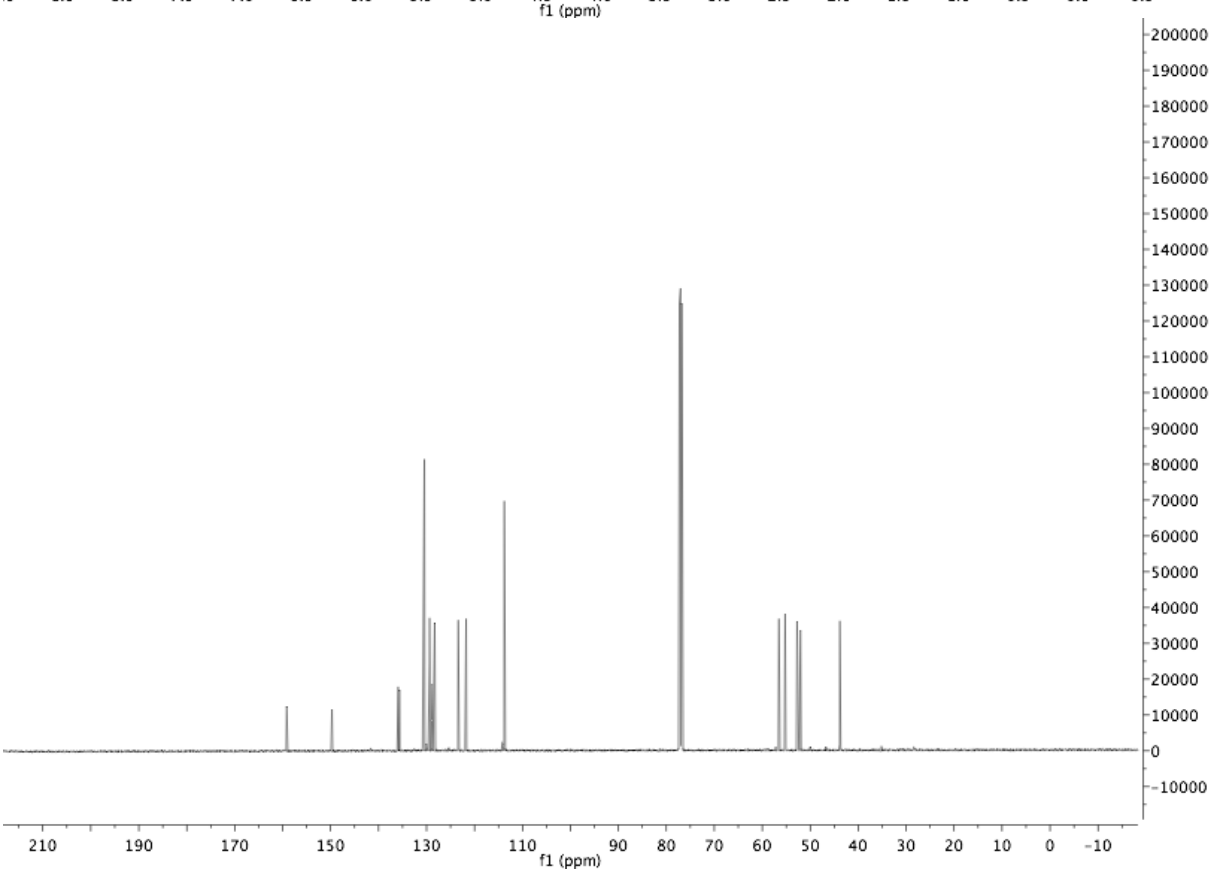
3-isobutyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3H)-one 2,2-dioxide 6{*1*,*2*}.



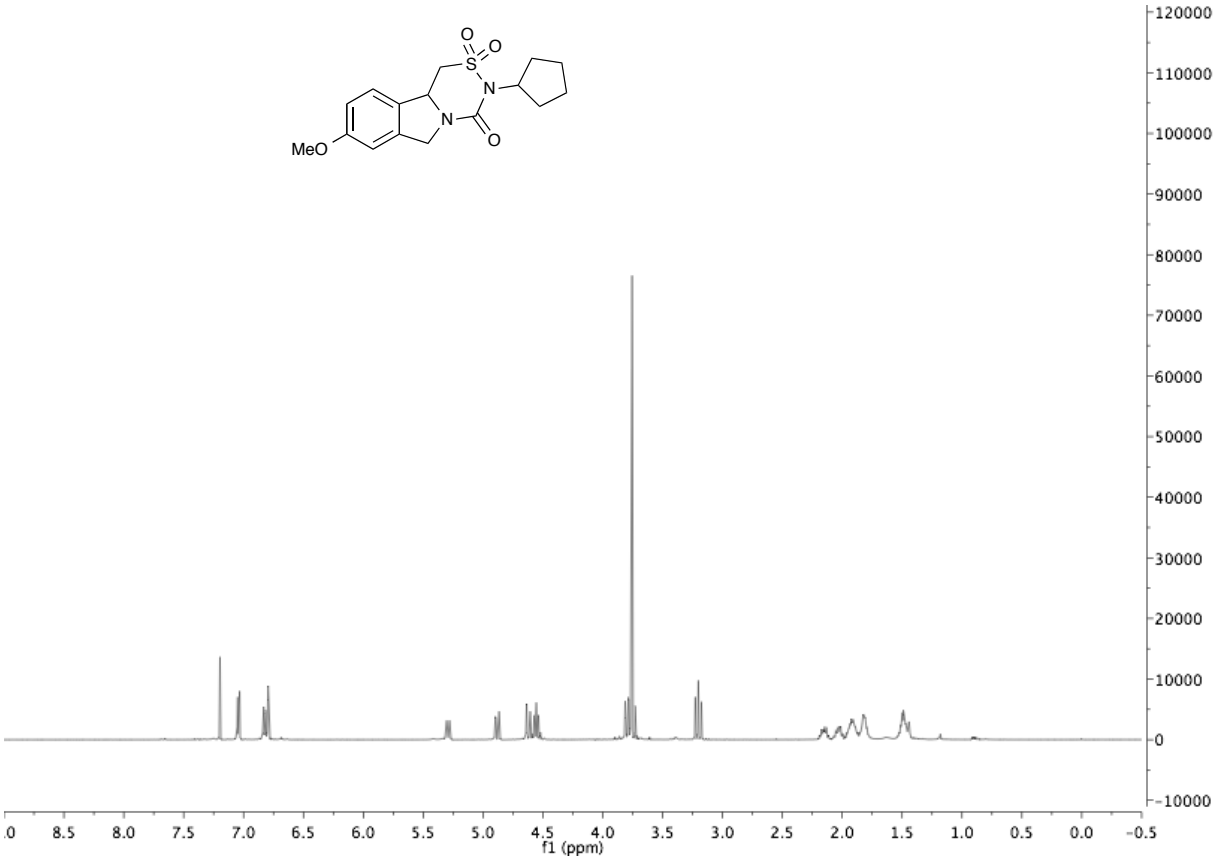


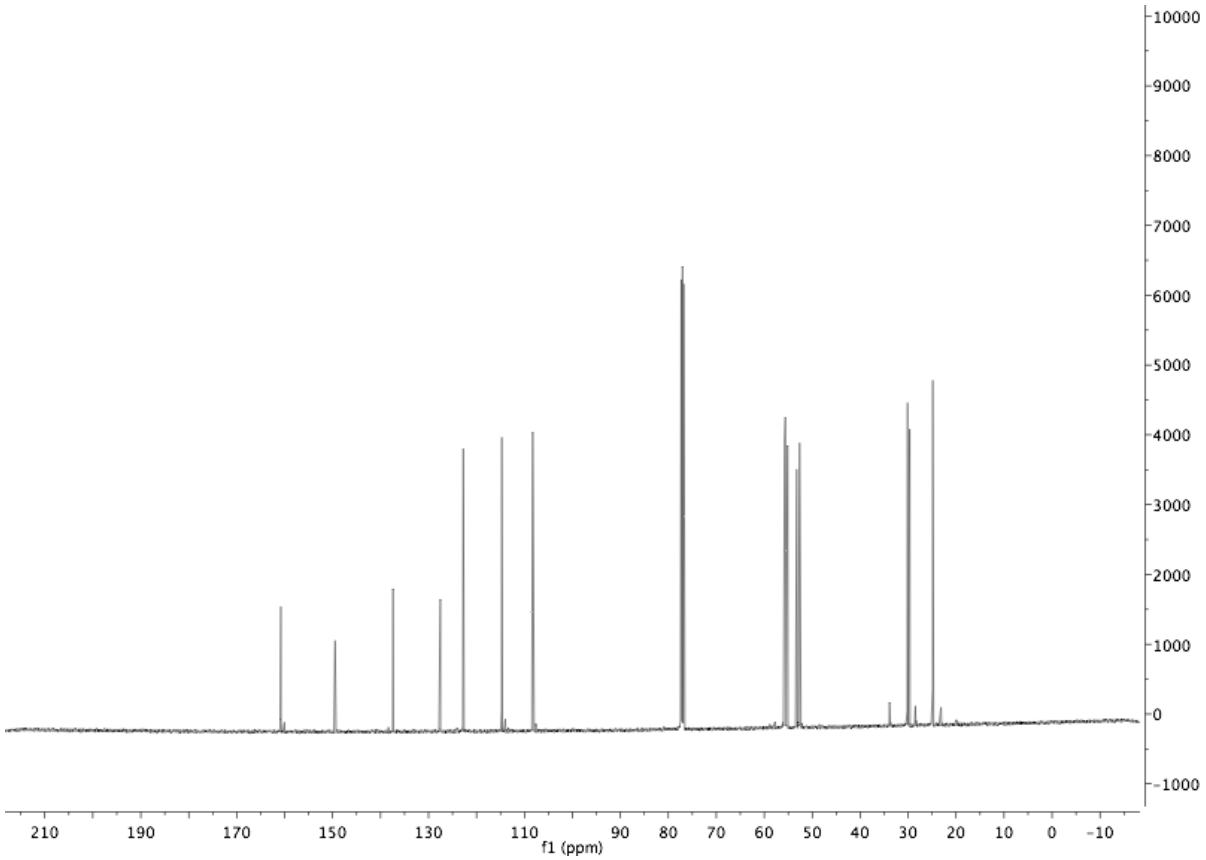
3-(4-methoxybenzyl)-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3H)-one 2,2-dioxide 6{*1*,*6*}.



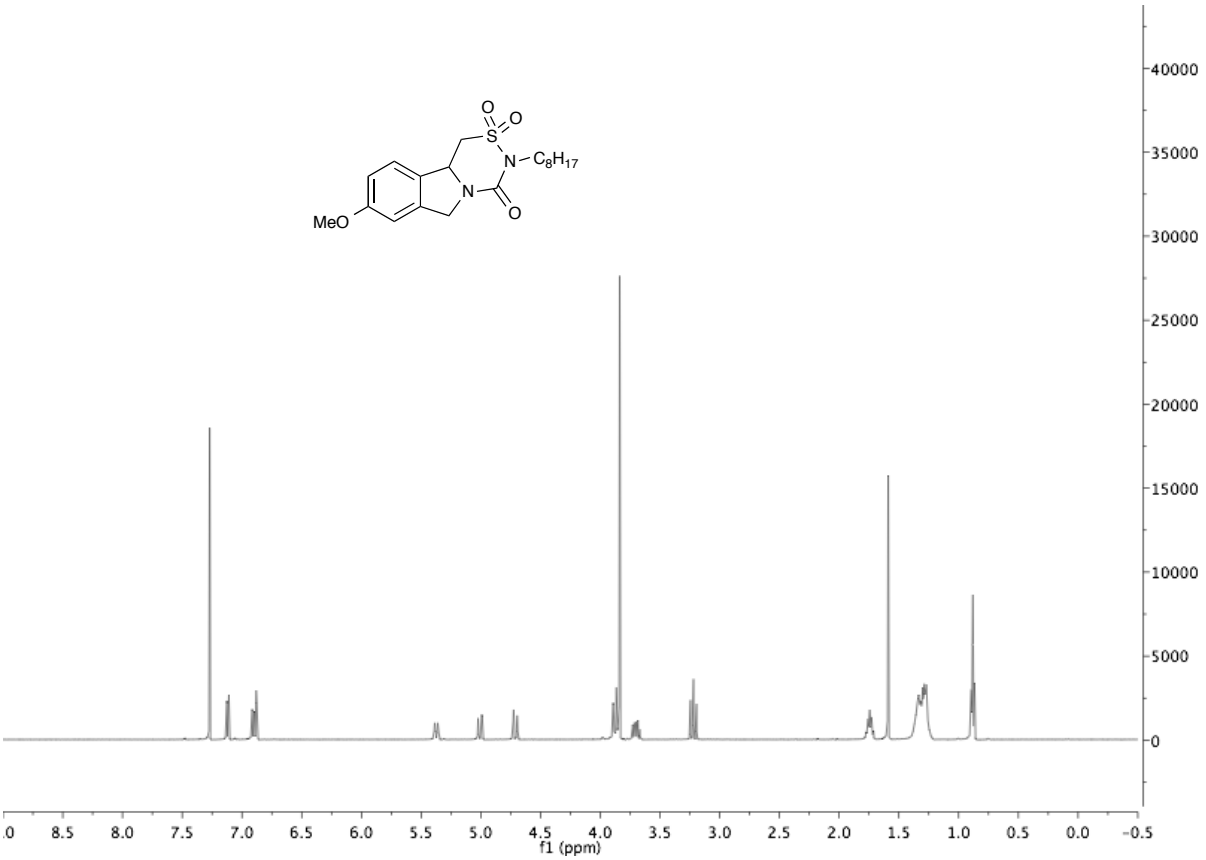


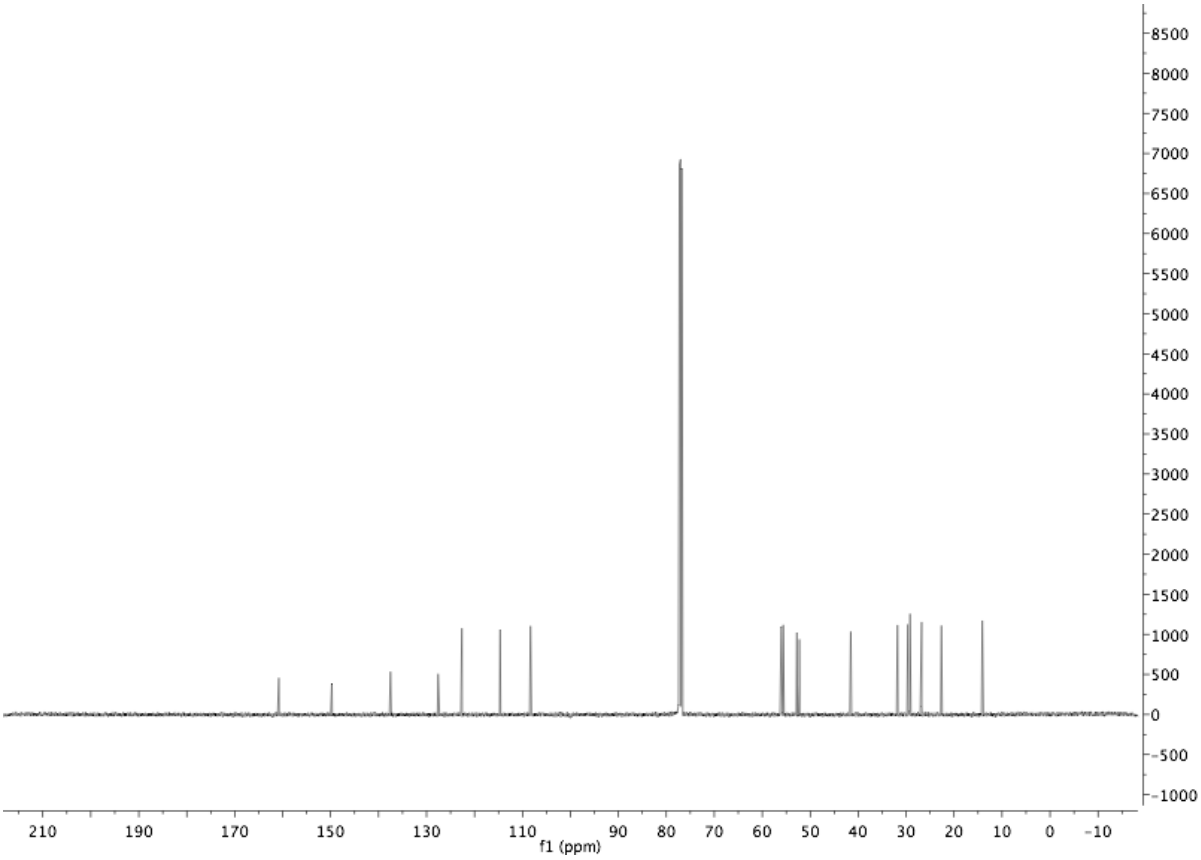
3-cyclopentyl-8-methoxy-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3H)-one 2,2-dioxide 6{*2*,*3*}.



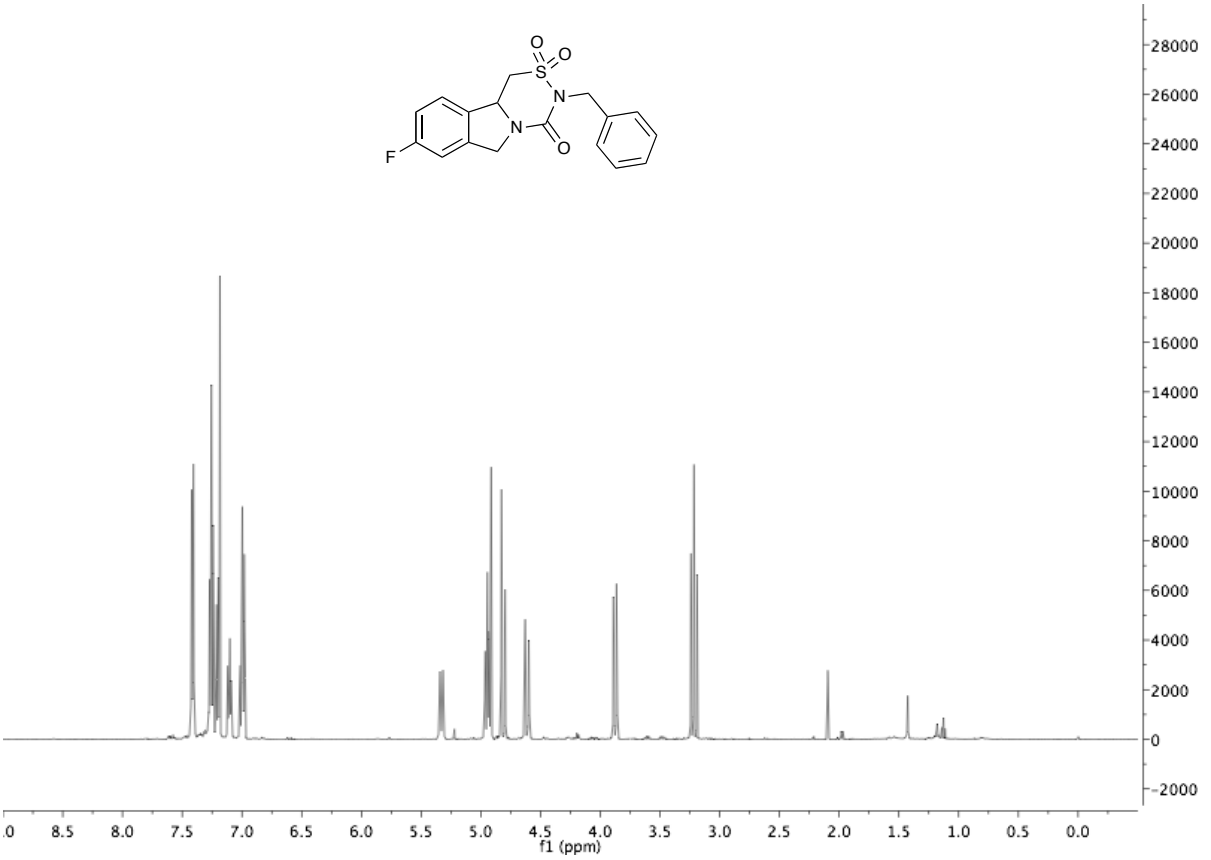


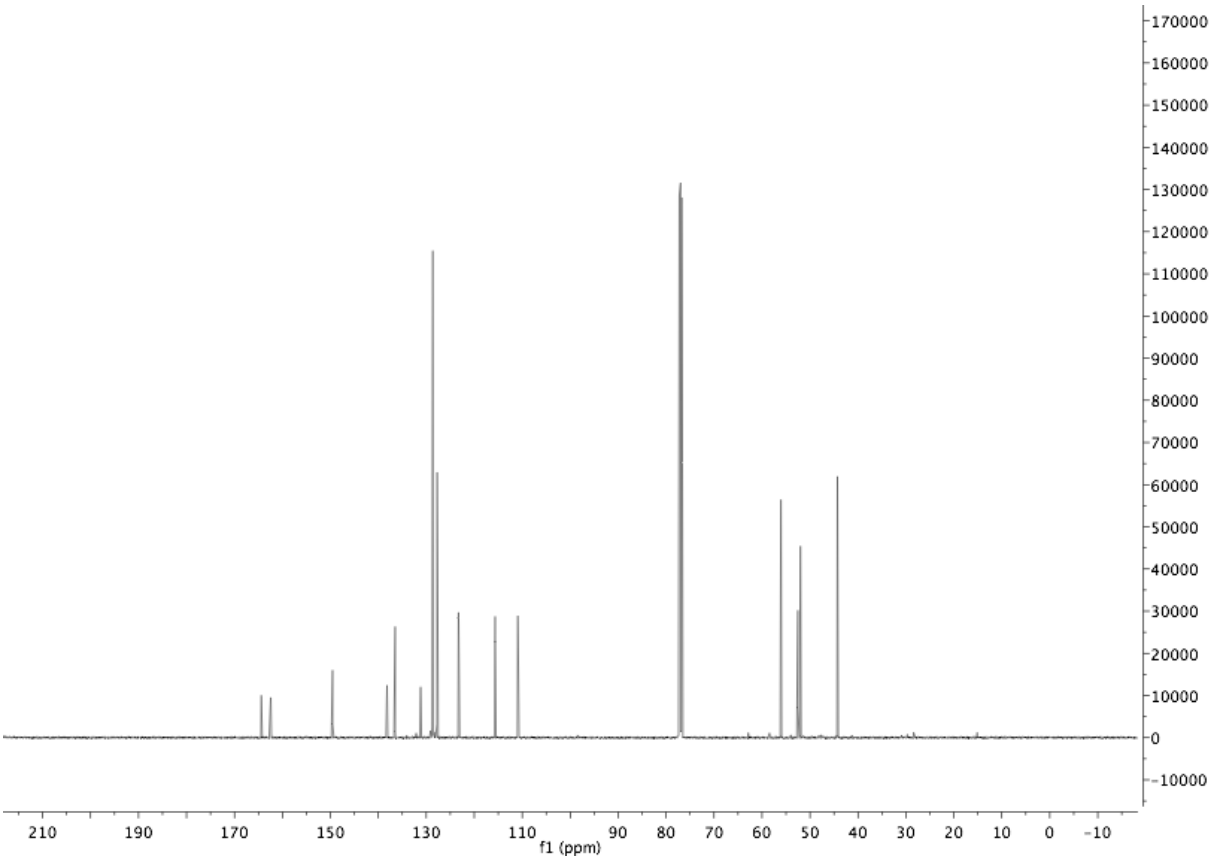
8-methoxy-3-octyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3H)-one 2,2-dioxide 6{*2,4*}.



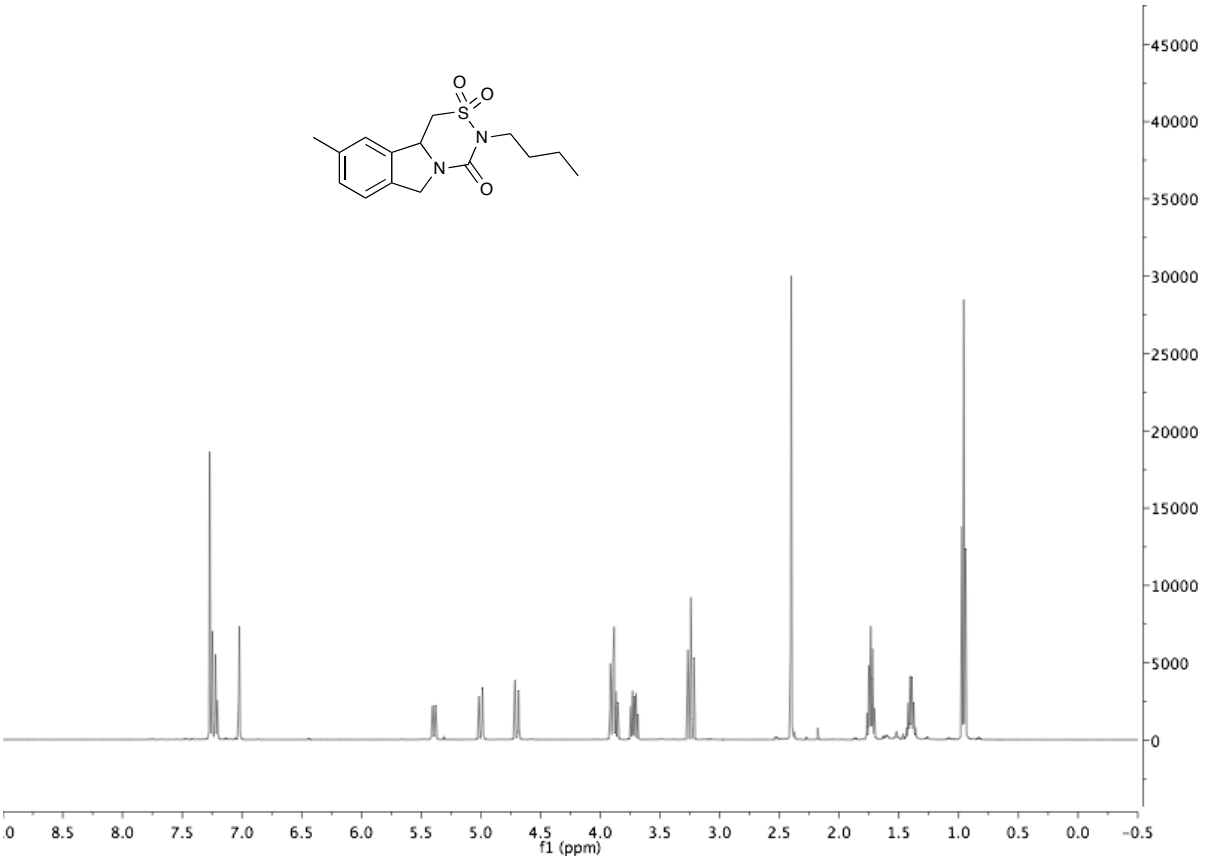


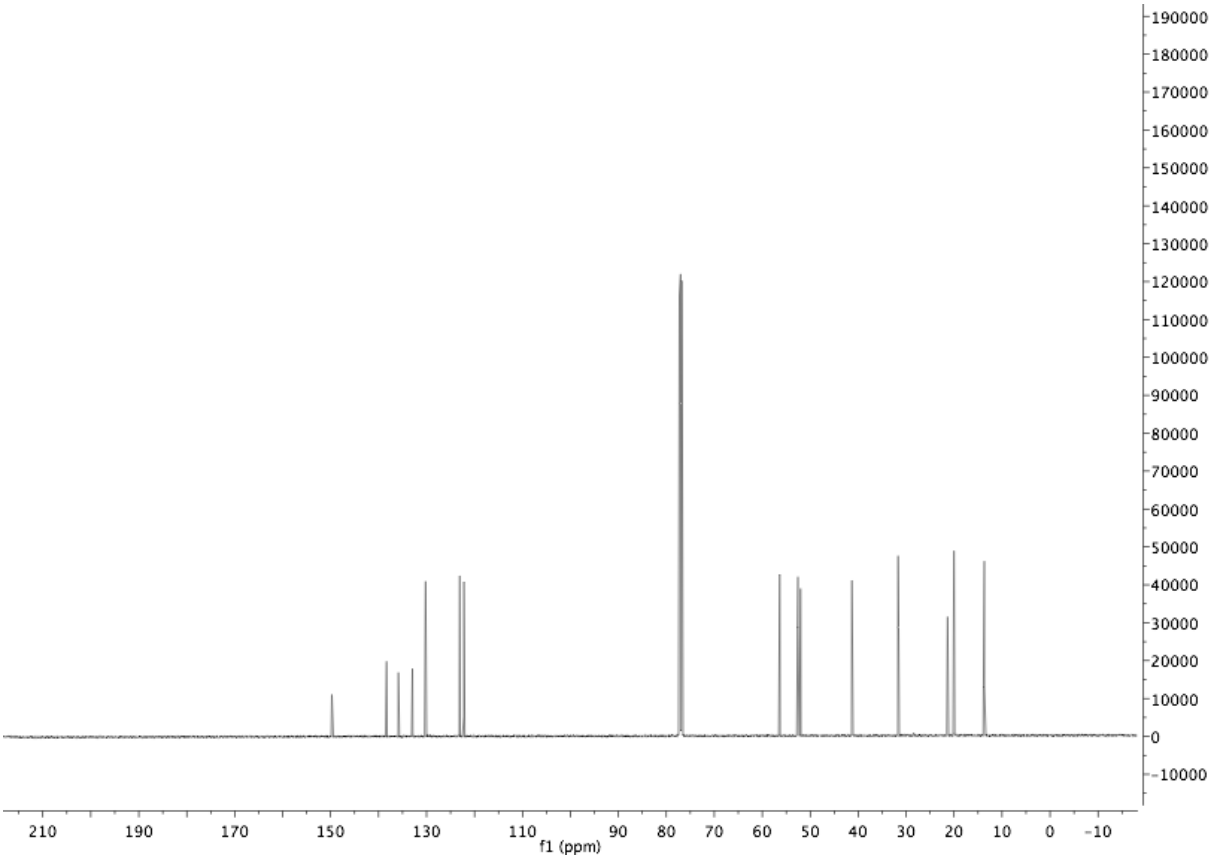
3-benzyl-8-fluoro-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*3*,*5*}.



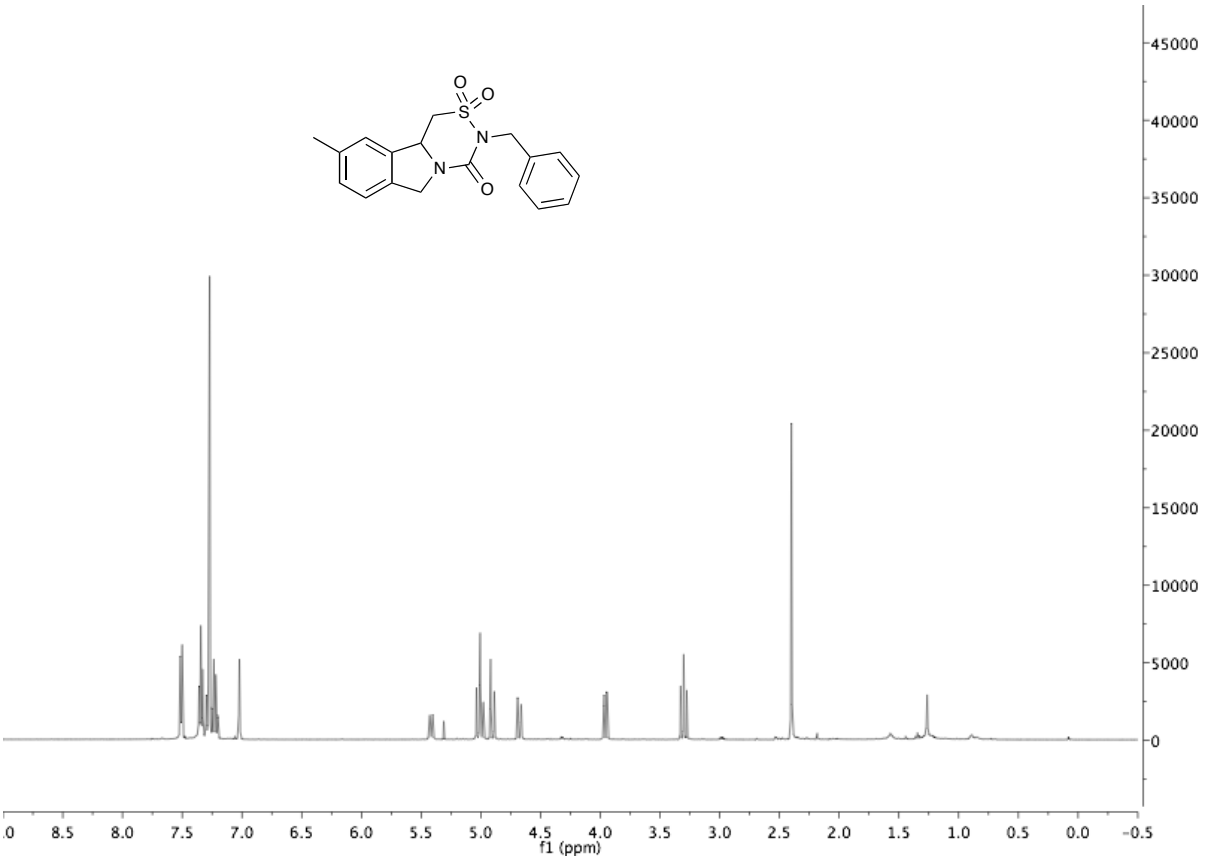


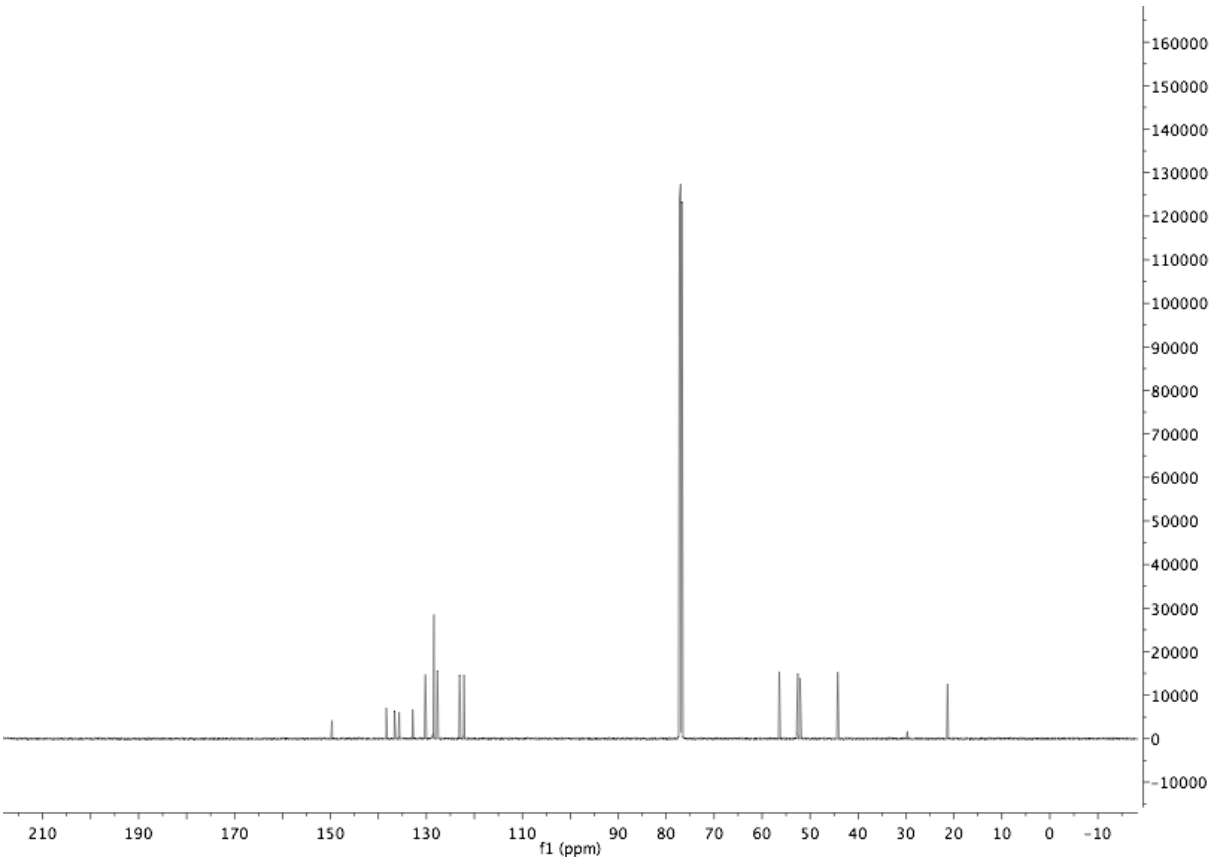
3-butyl-9-methyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*4*,*1*}.



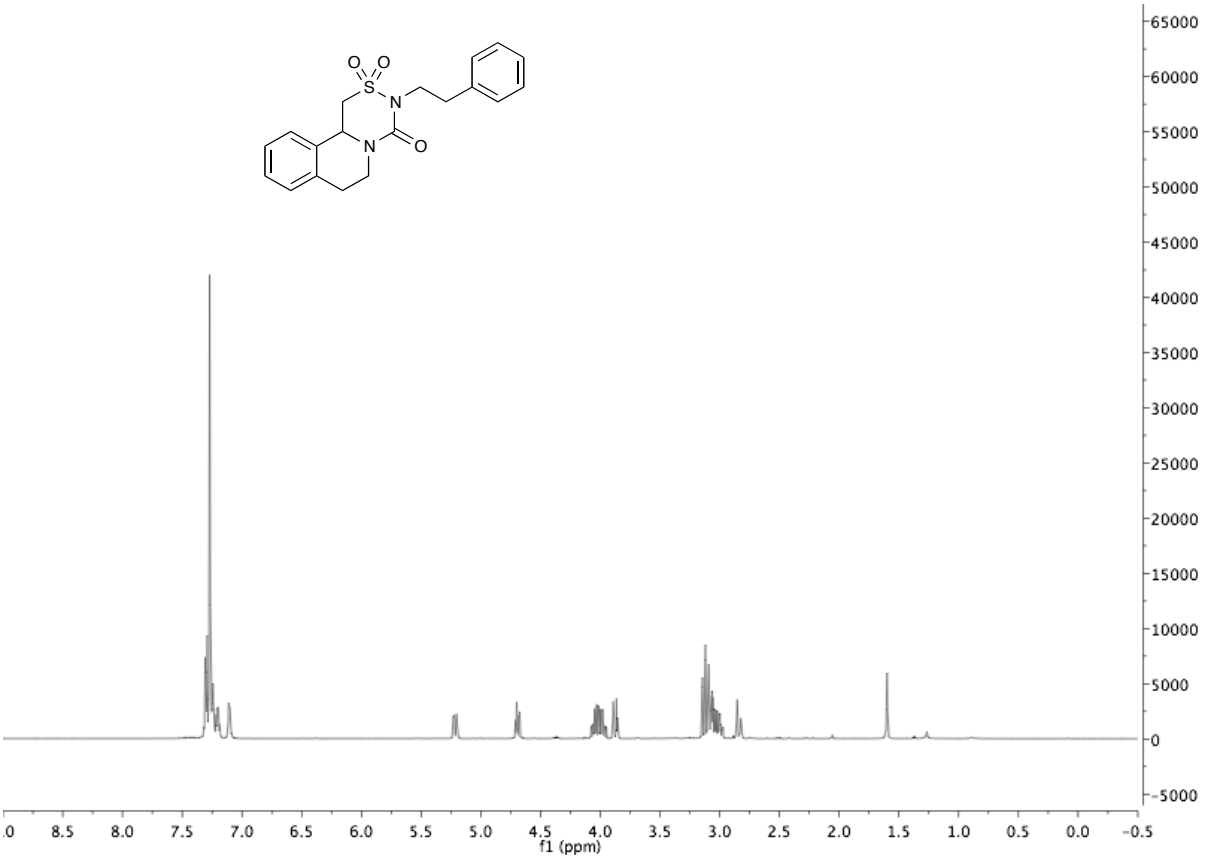


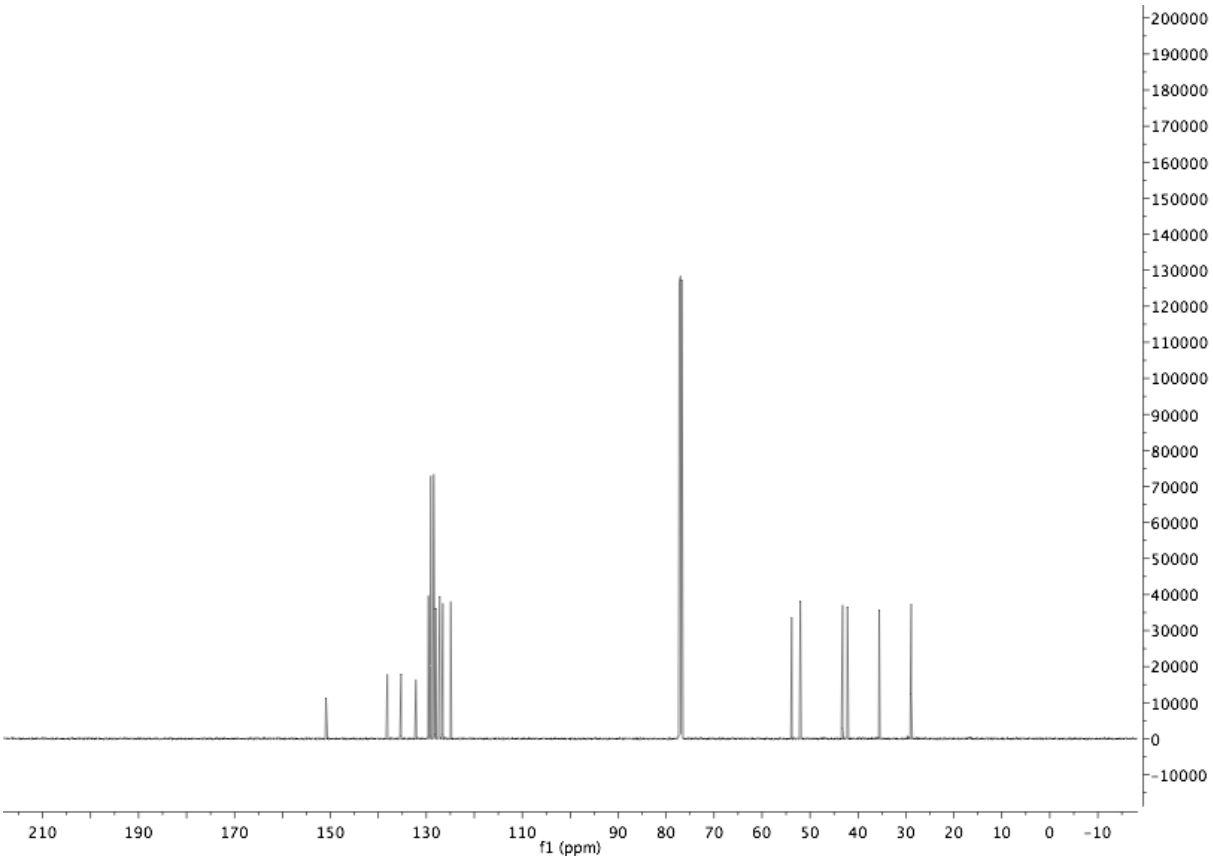
3-benzyl-9-methyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*4*,*5*}.





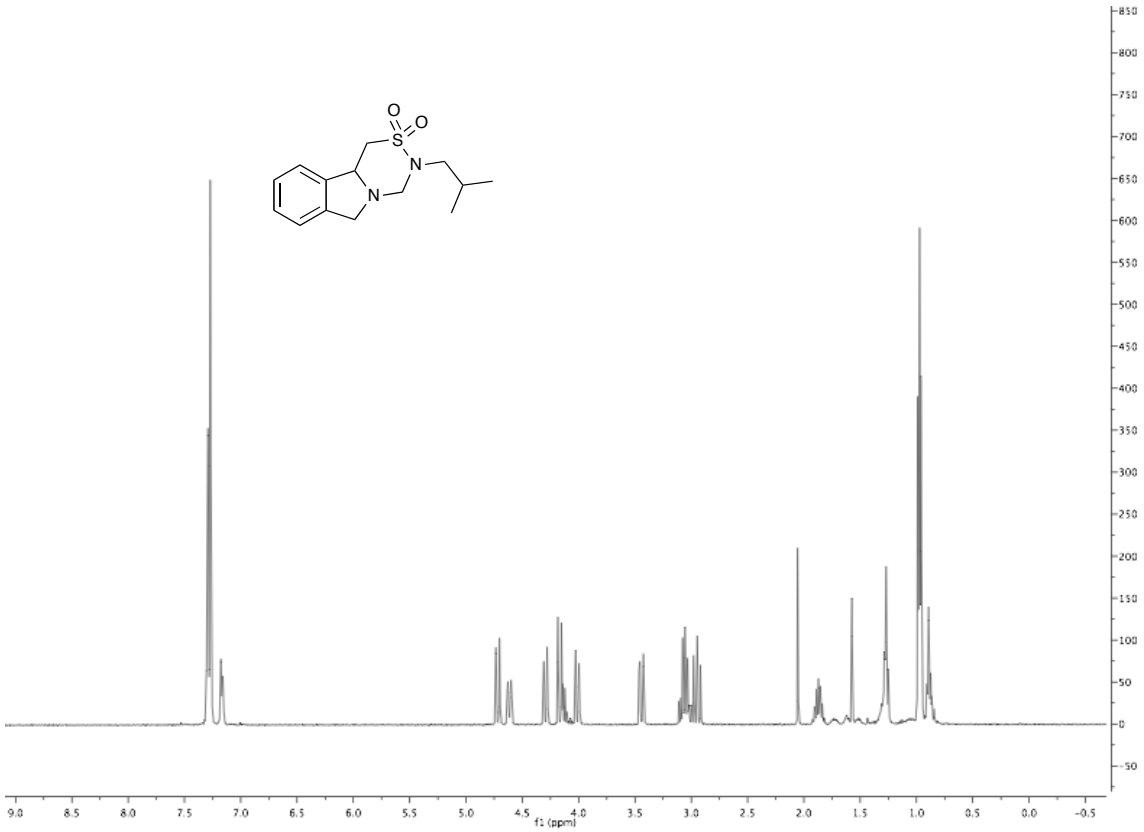
3-phenethyl-1,6,7,11b-tetrahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinolin-4(3*H*)-one 2,2-dioxide 6{*5*,*8*}.



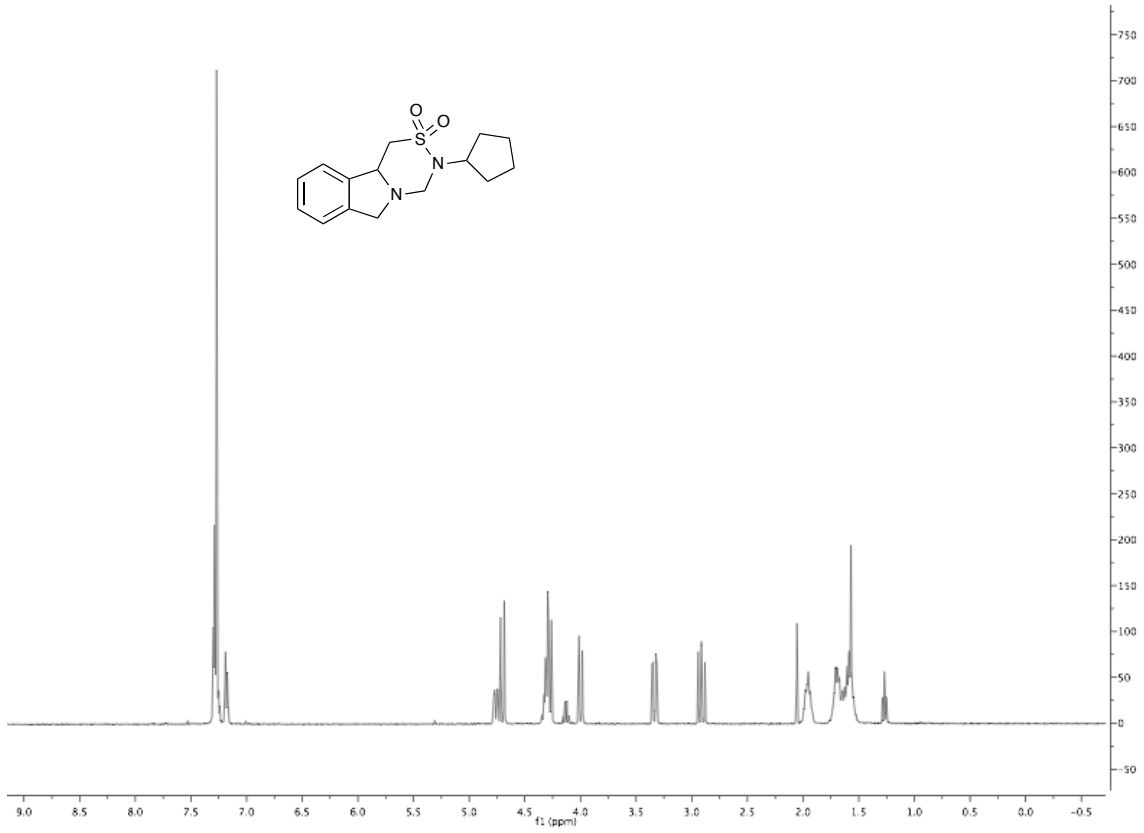


Spectral Data for Library Compounds 5 and 6

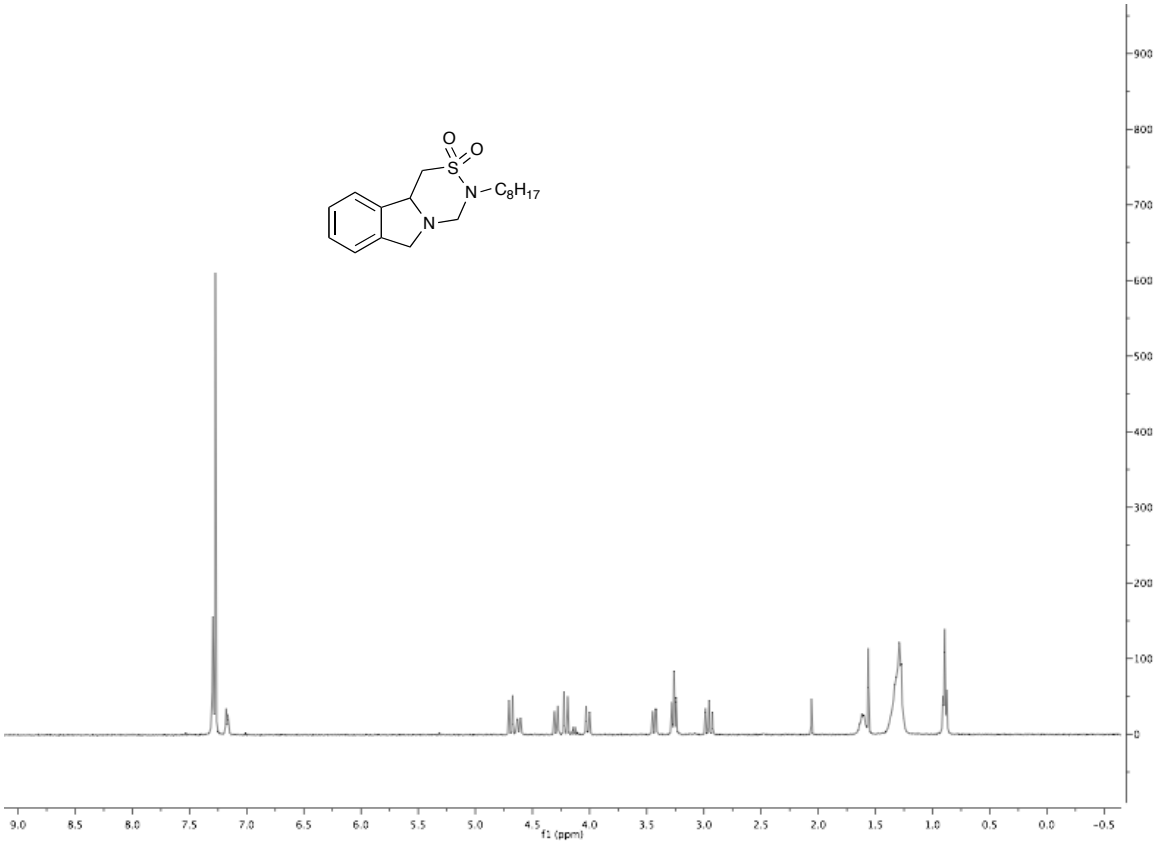
3-isobutyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*1*,*2*}.



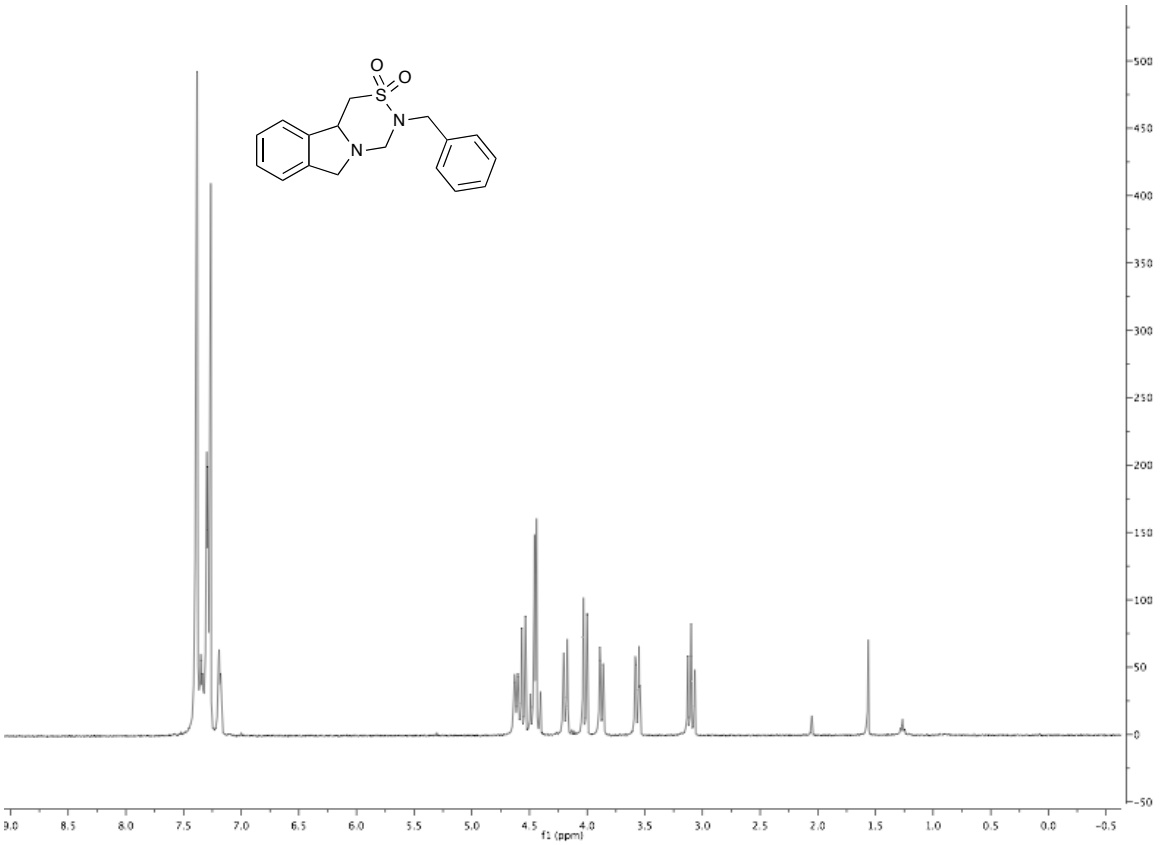
3-cyclopentyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*1*,*3*}.



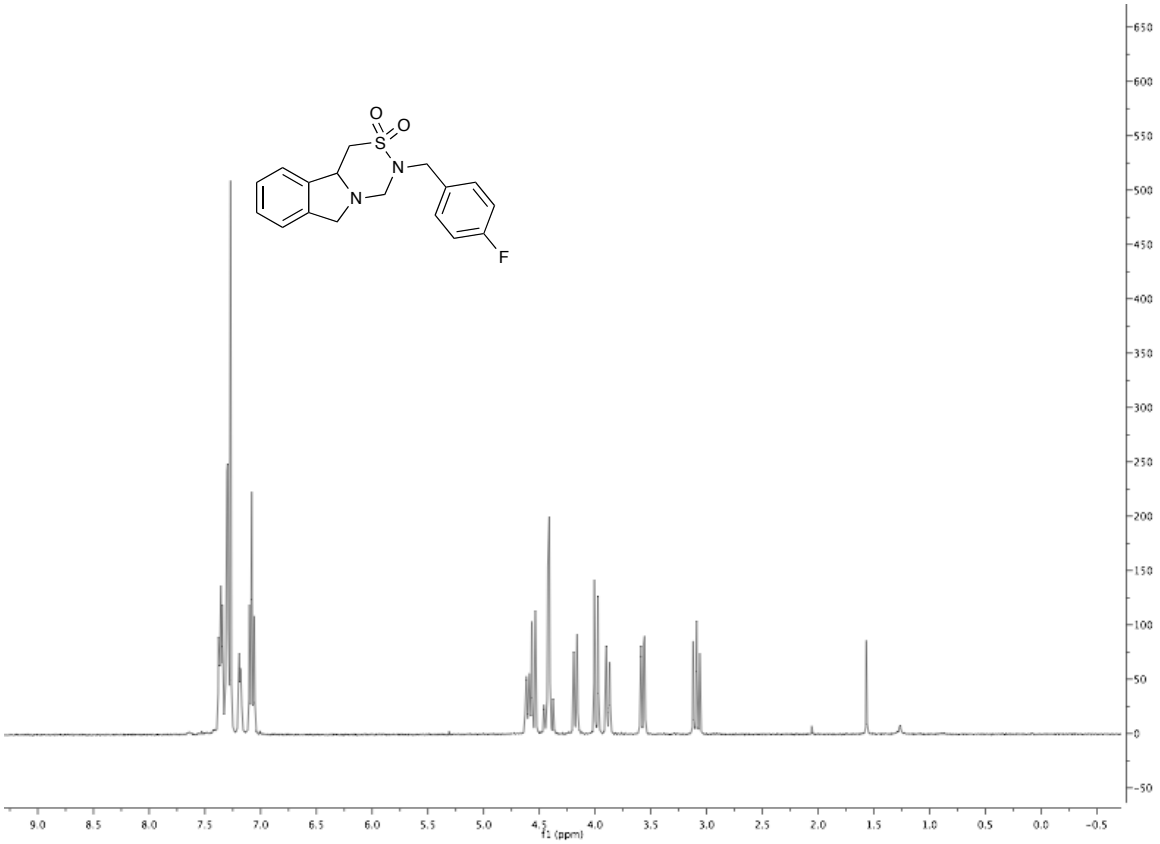
3-octyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*1*,*4*}.



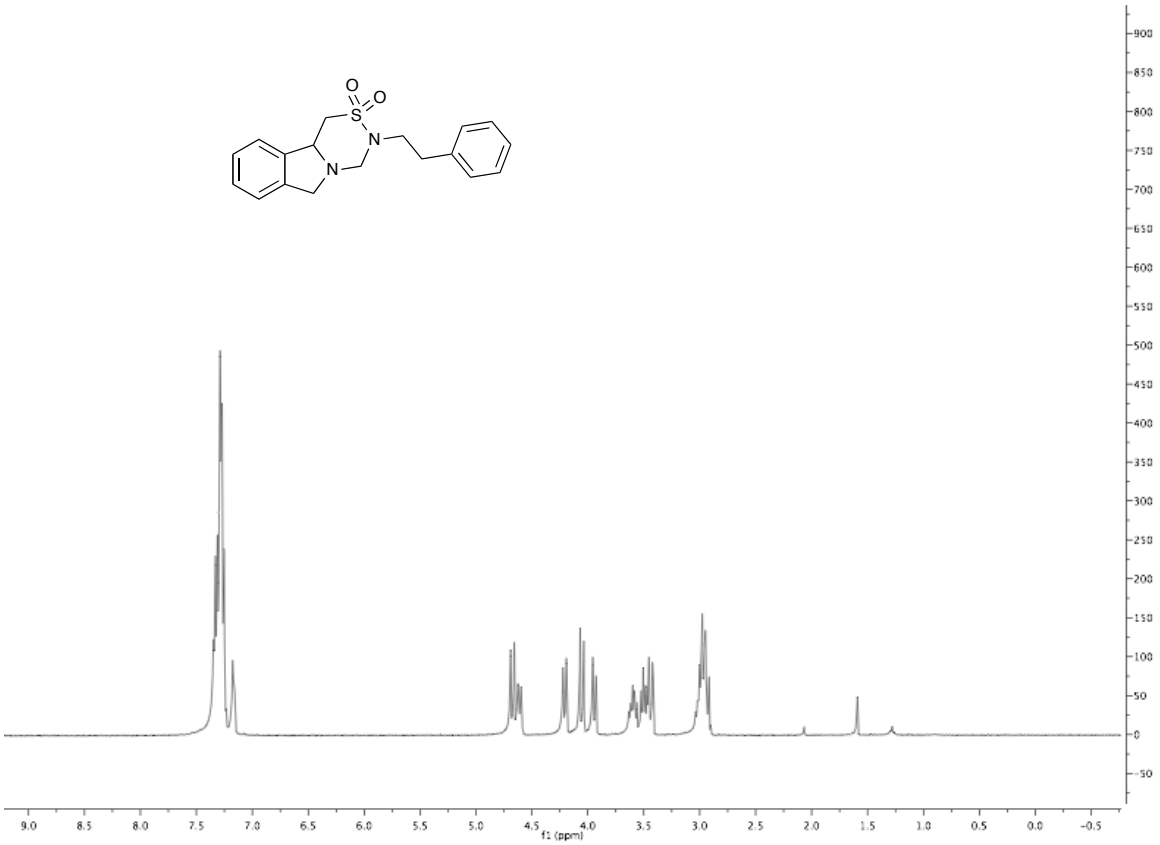
3-benzyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*1*,*5*}.



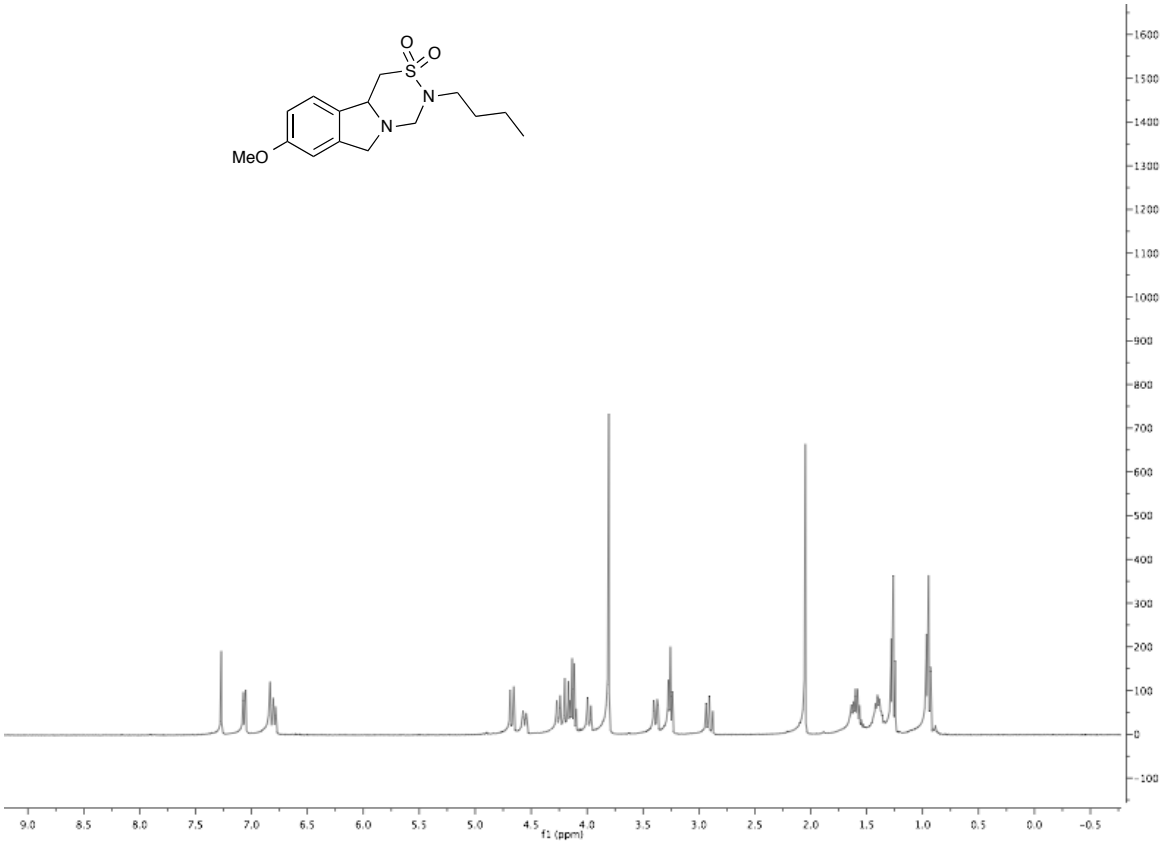
3-(4-fluorobenzyl)-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*1*,*7*}.



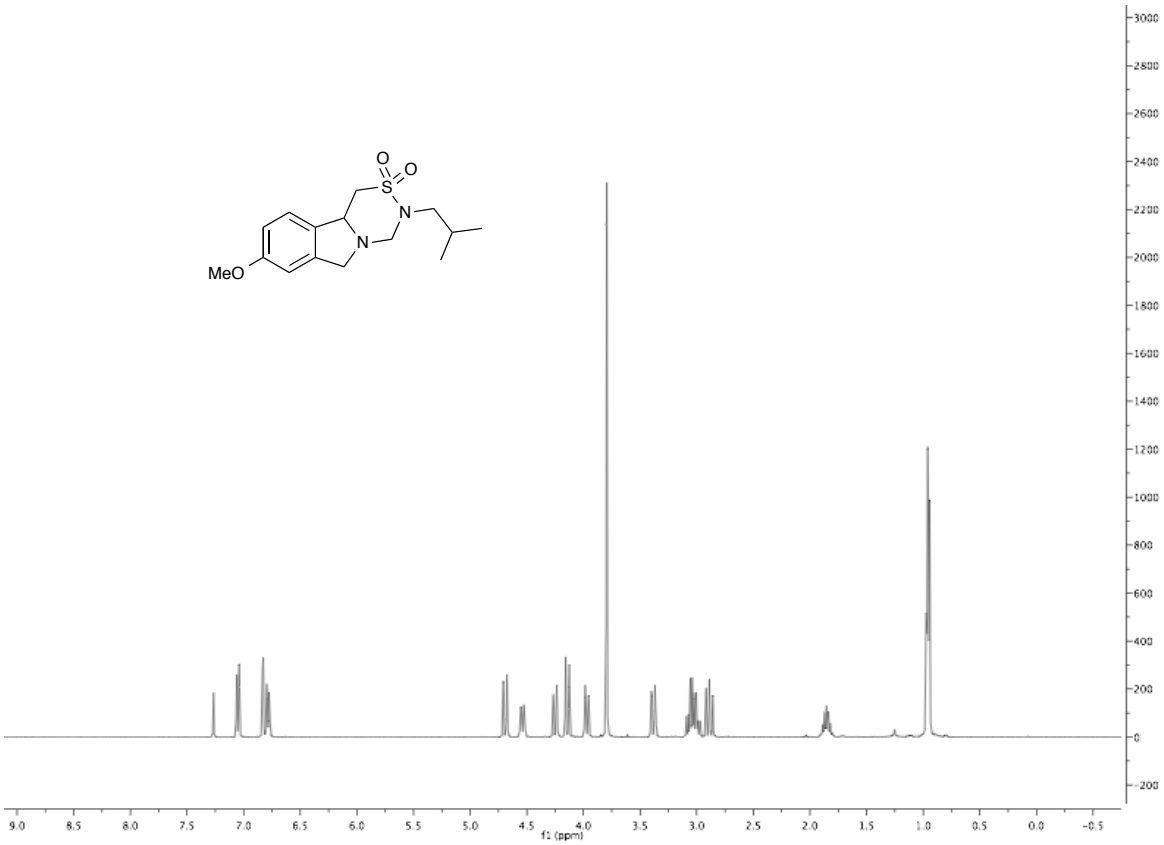
3-phenethyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*1*,*8*}.



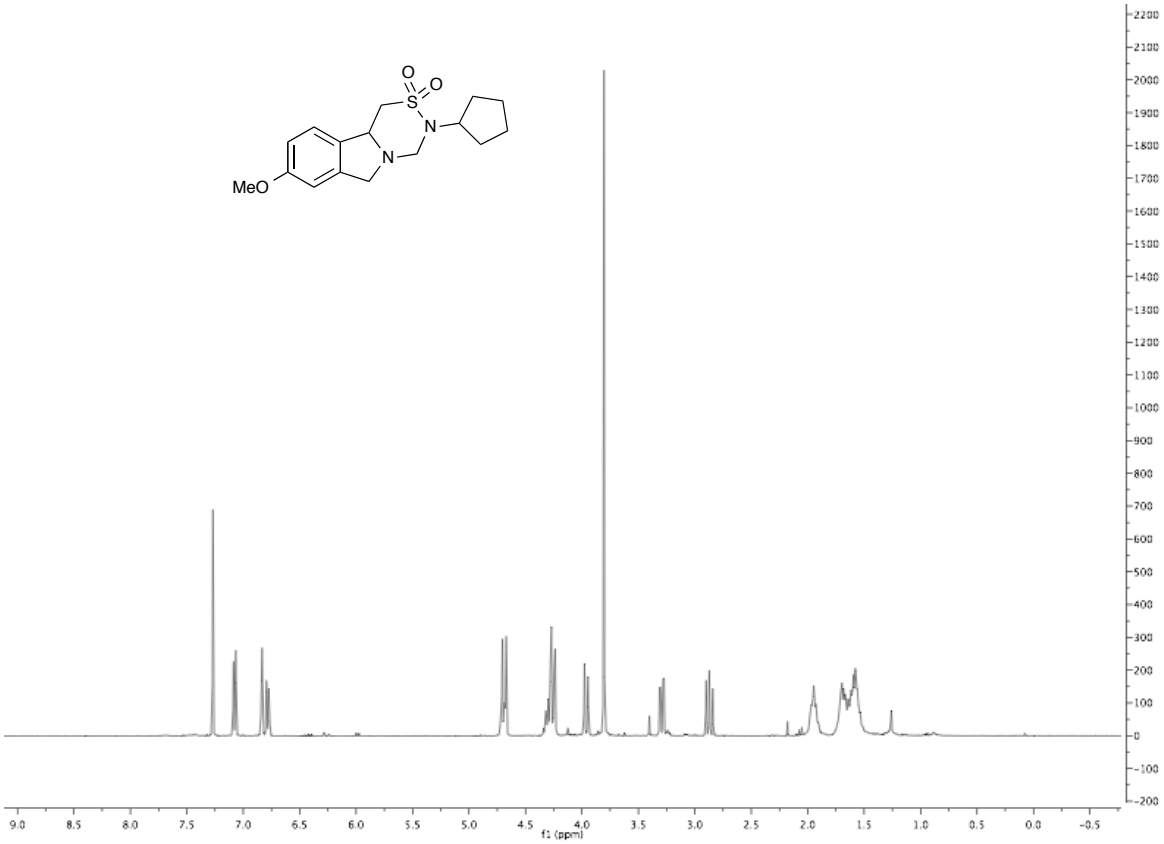
3-butyl-8-methoxy-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*2,1*}.



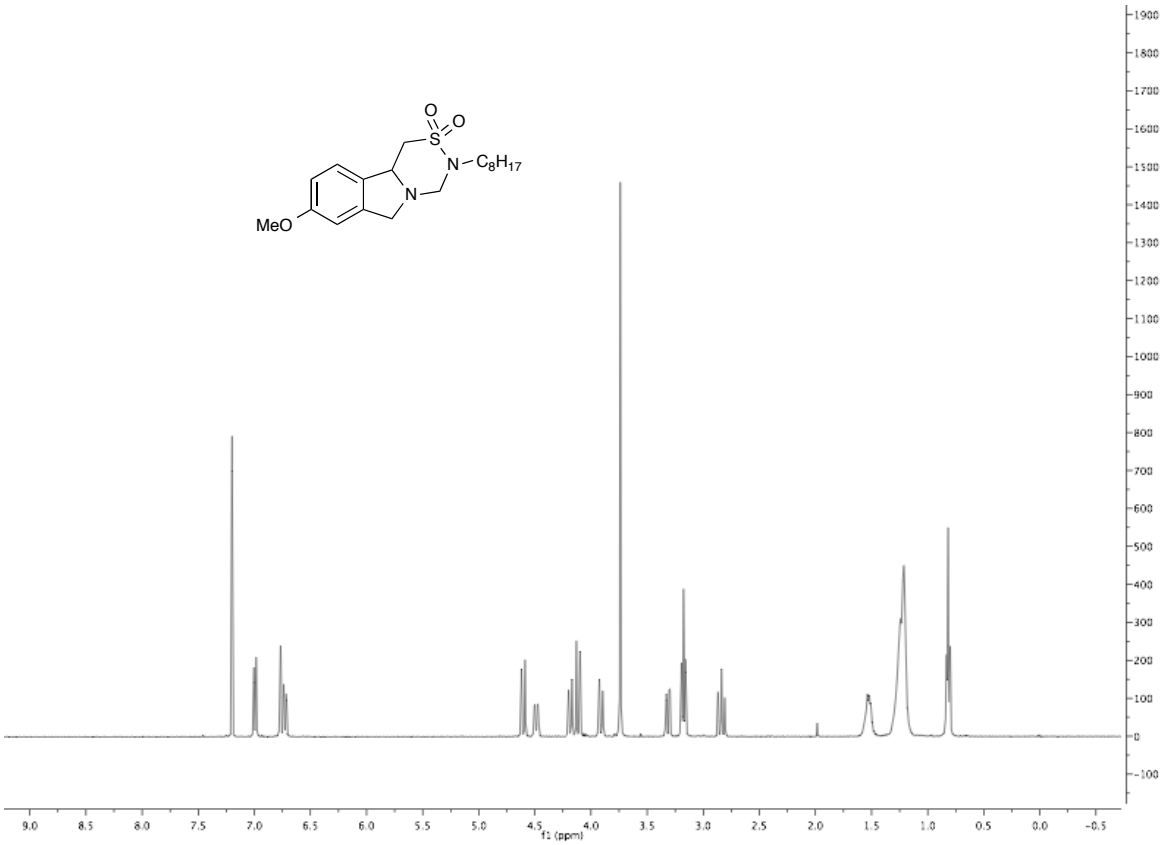
3-isobutyl-8-methoxy-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*2,2*}.



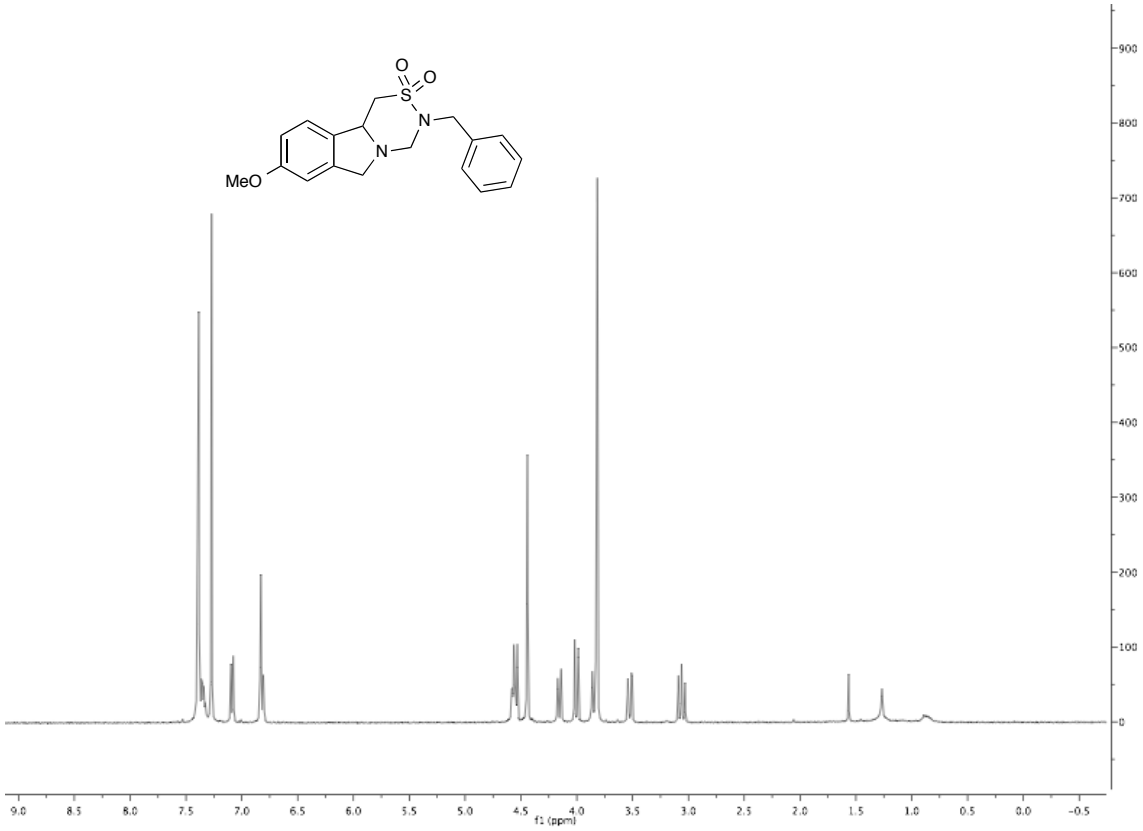
3-cyclopentyl-8-methoxy-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*2*,*3*}.



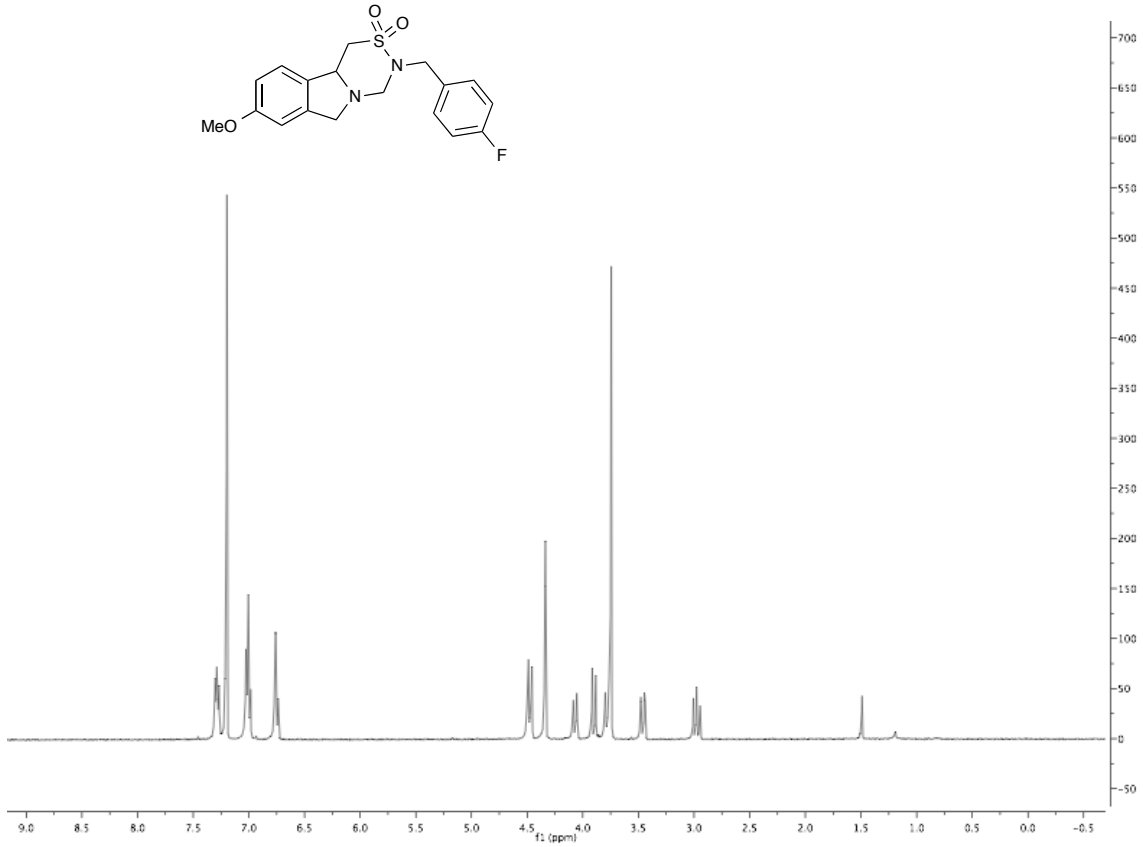
3-cyclopentyl-8-methoxy-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*2*,*4*}.



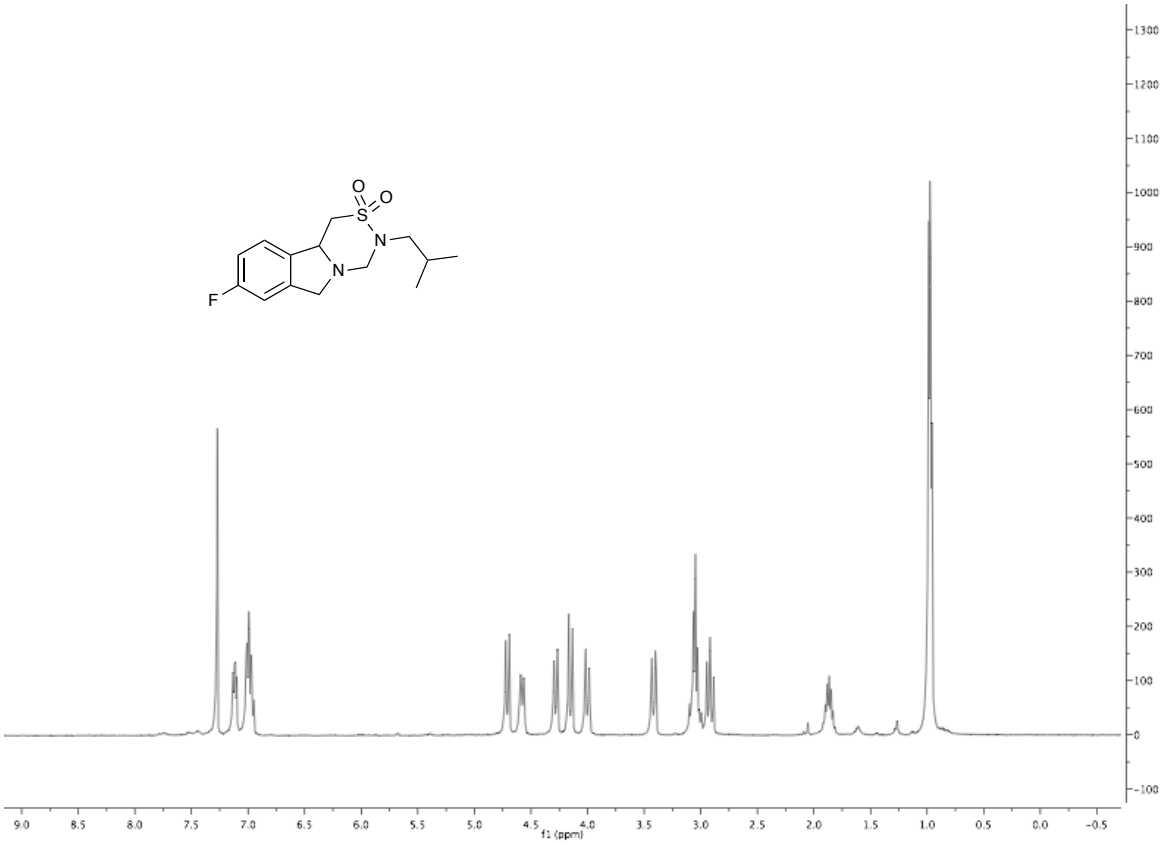
3-benzyl-8-methoxy-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*2*,*5*}.



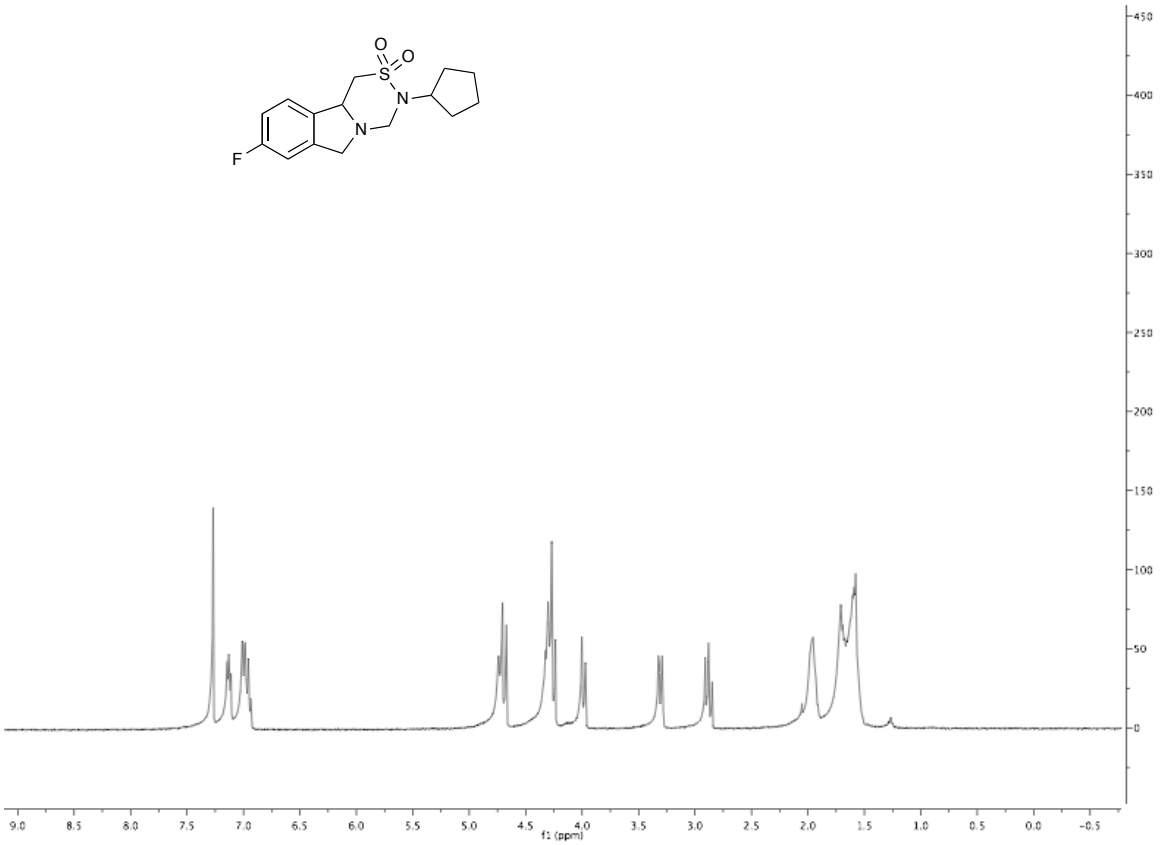
3-(4-fluorobenzyl)-8-methoxy-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*2*,*7*}.



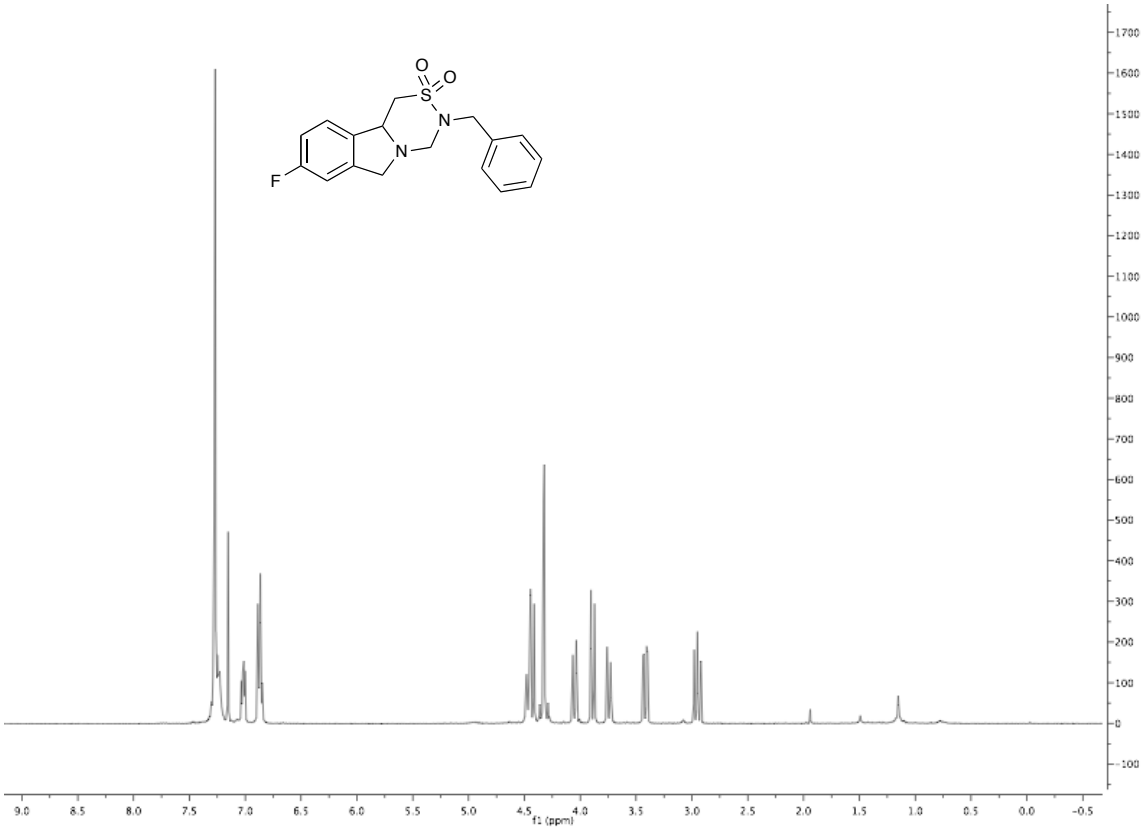
8-fluoro-3-isobutyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*3,2}*.



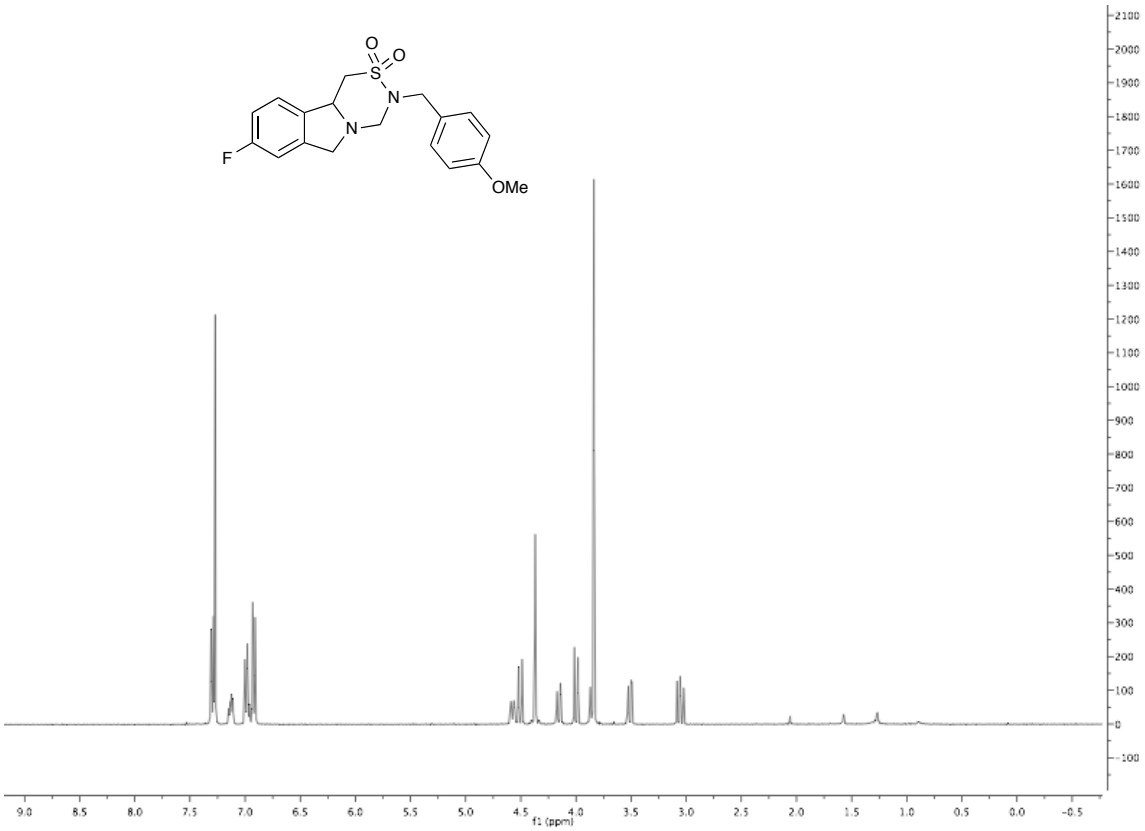
3-cyclopentyl-8-fluoro-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*3,3}*.



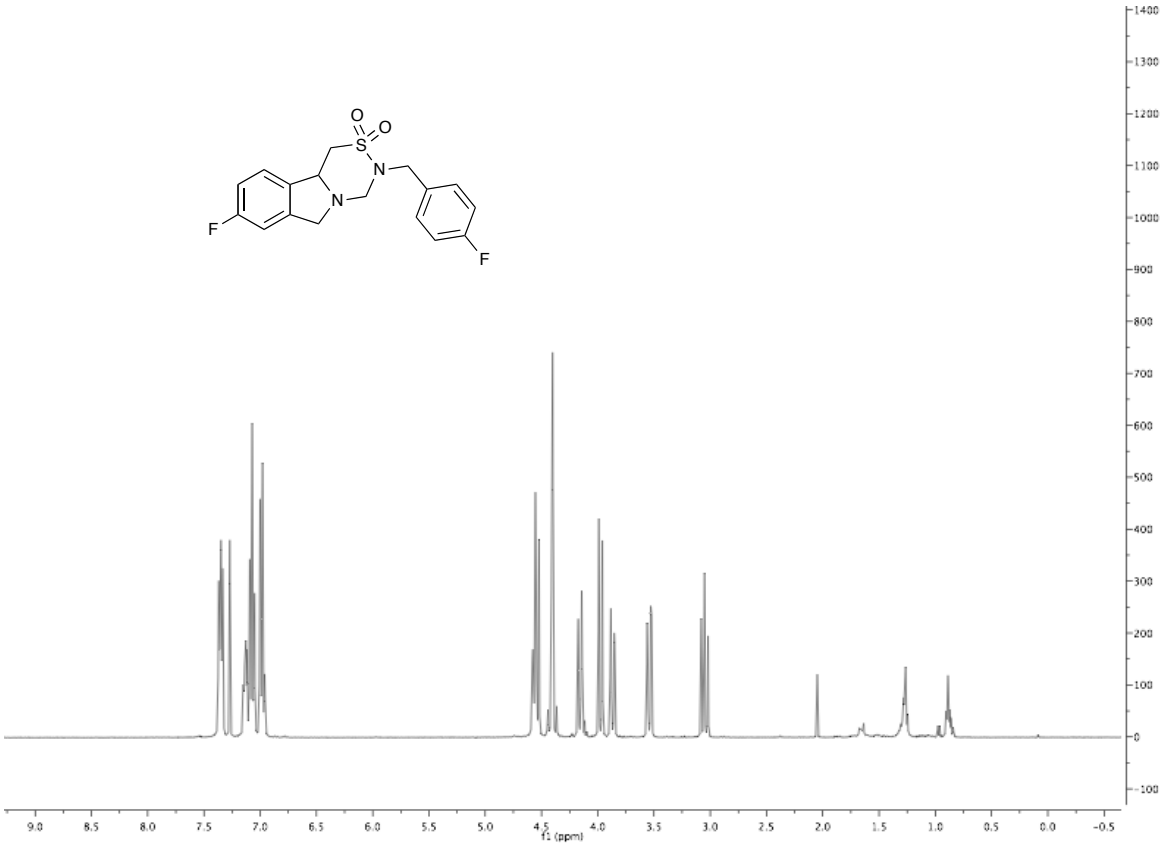
3-benzyl-8-fluoro-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*3,5*}.



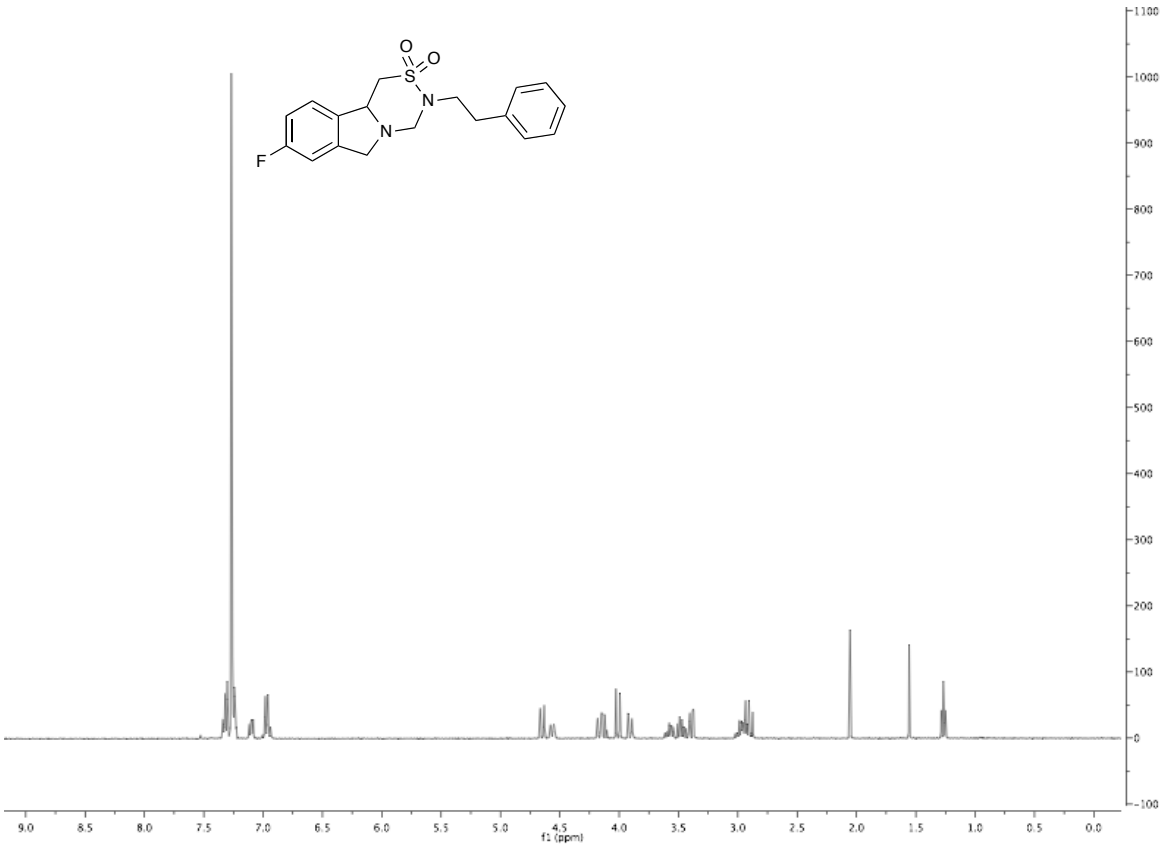
8-fluoro-3-(4-methoxybenzyl)-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*3,6*}.



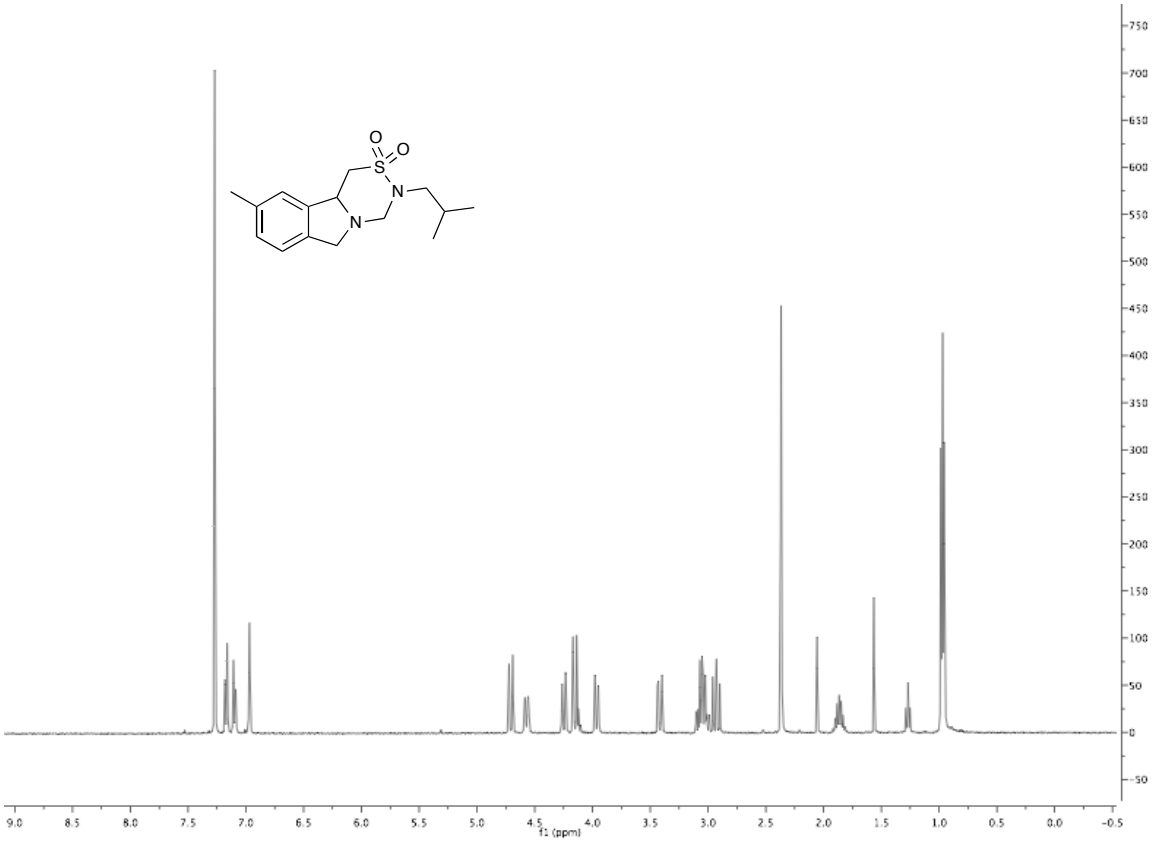
8-fluoro-3-(4-fluorobenzyl)-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*3*,*7*}.



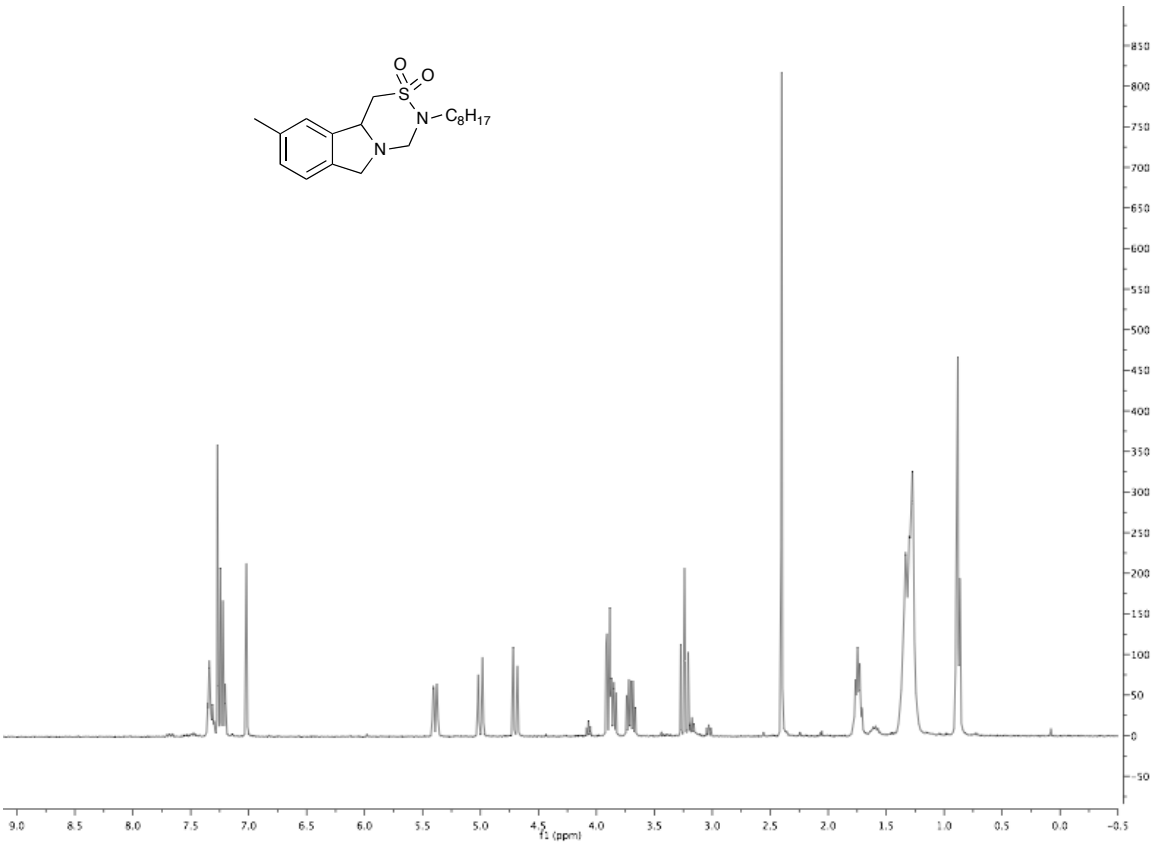
8-fluoro-3-phenethyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*3*,*8*}.



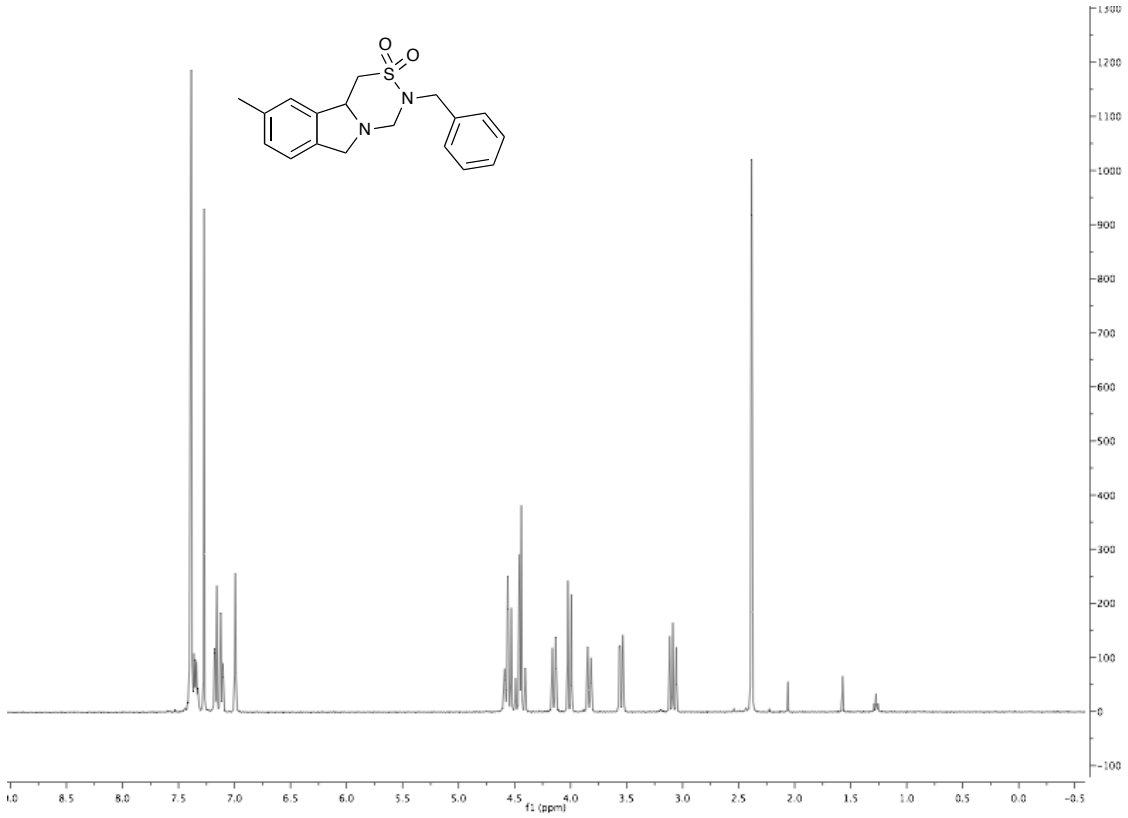
3-isobutyl-8-methyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*4,2*}.



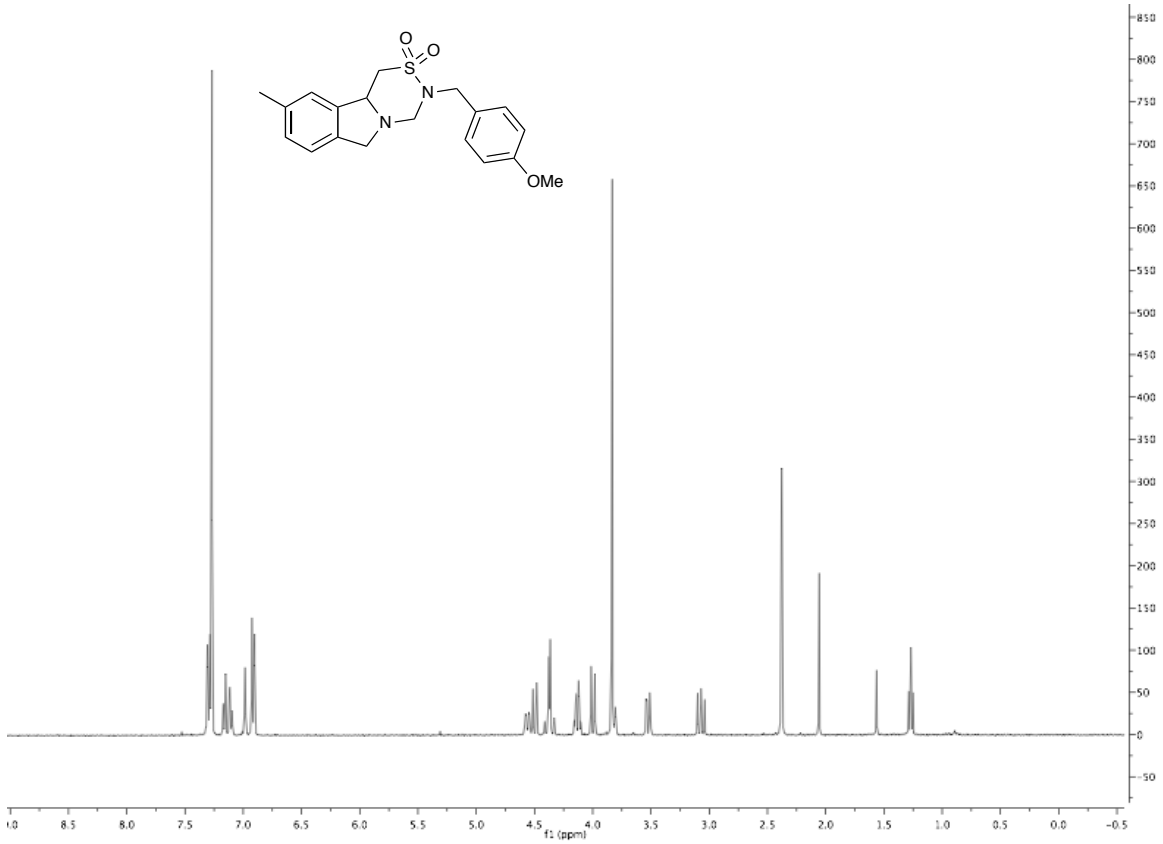
8-methyl-3-octyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*4,4*}.



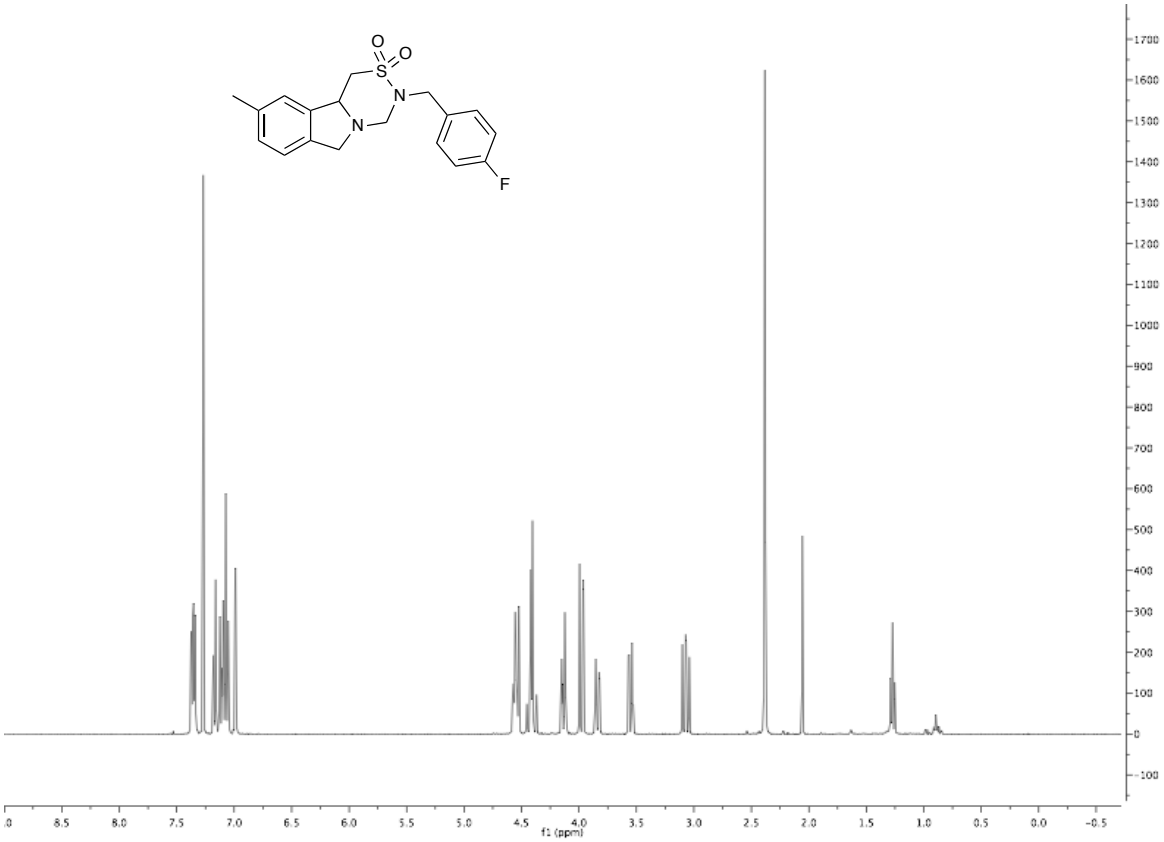
3-benzyl-8-methyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*4,5*}.



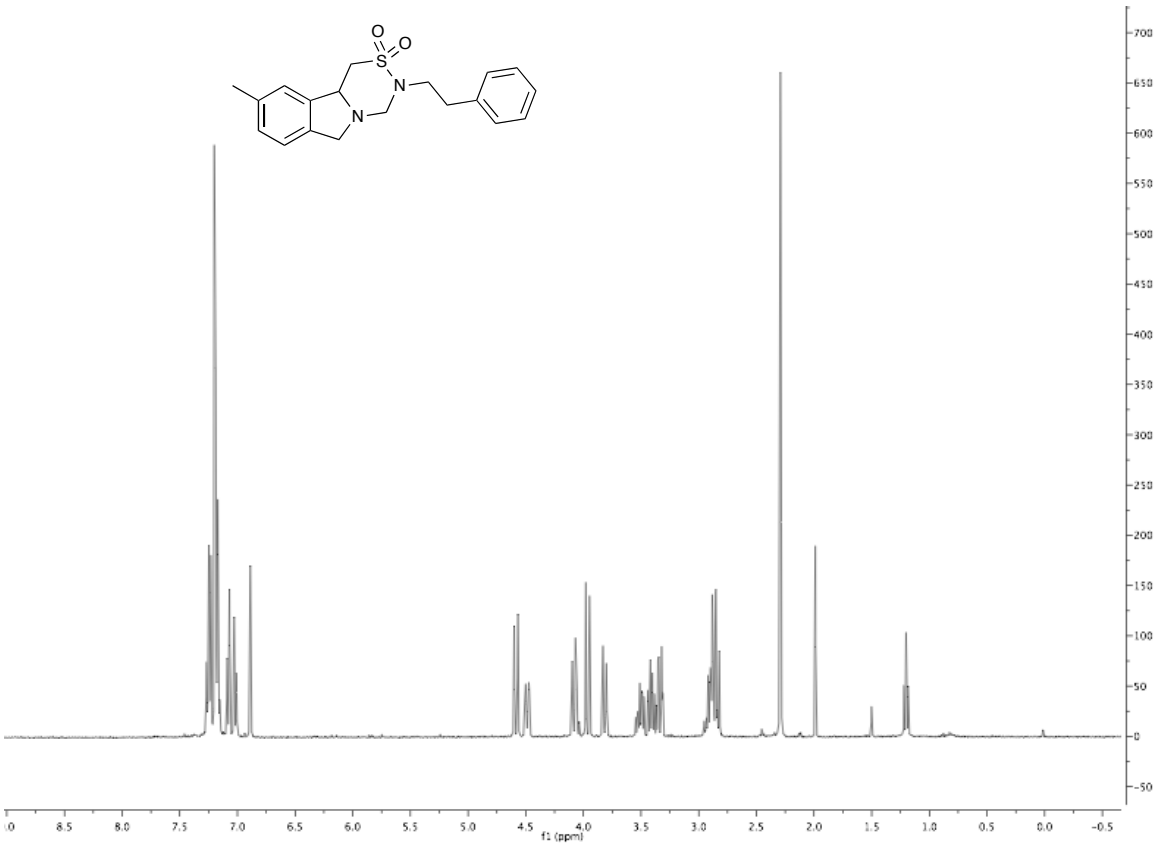
3-(4-methoxybenzyl)-8-methyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*4,6*}.



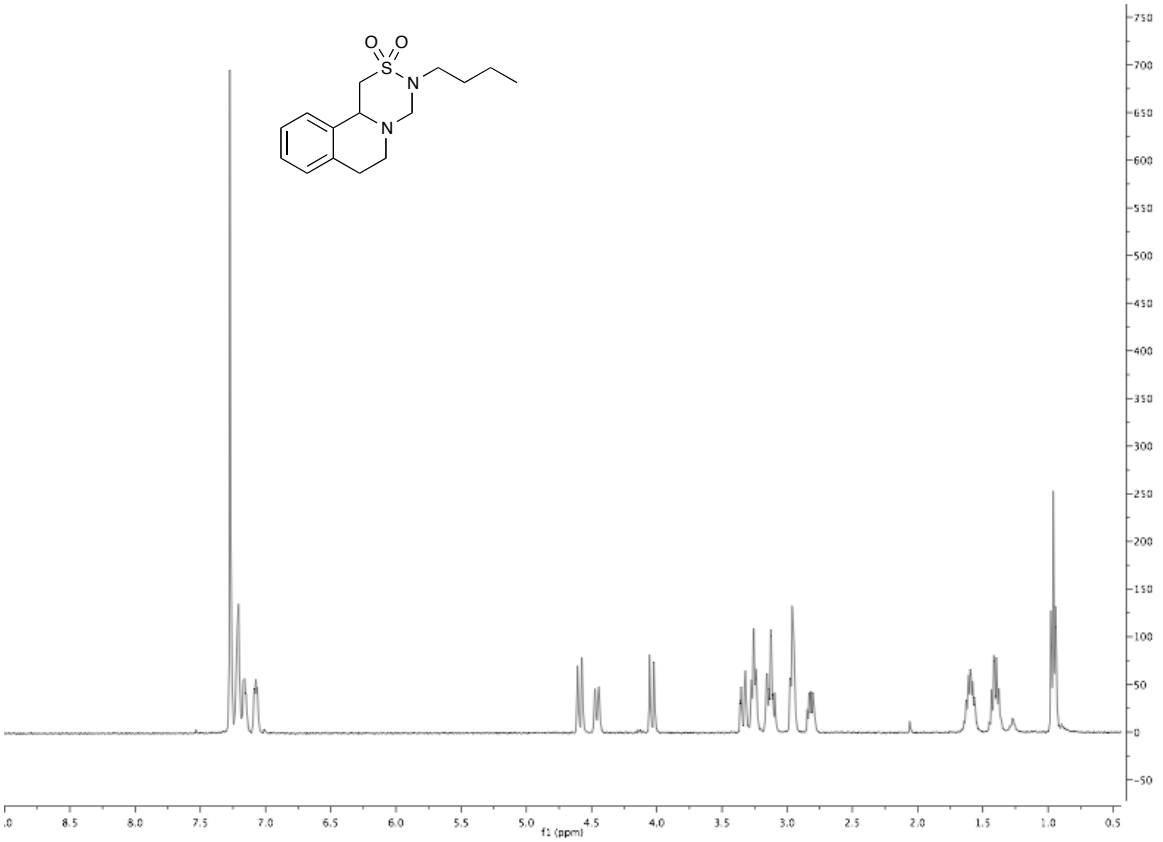
3-(4-fluorobenzyl)-8-methyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*4*,*7*}.



8-methyl-3-phenethyl-3,4,6,10b-tetrahydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindole 2,2-dioxide 5{*4*,*8*}.

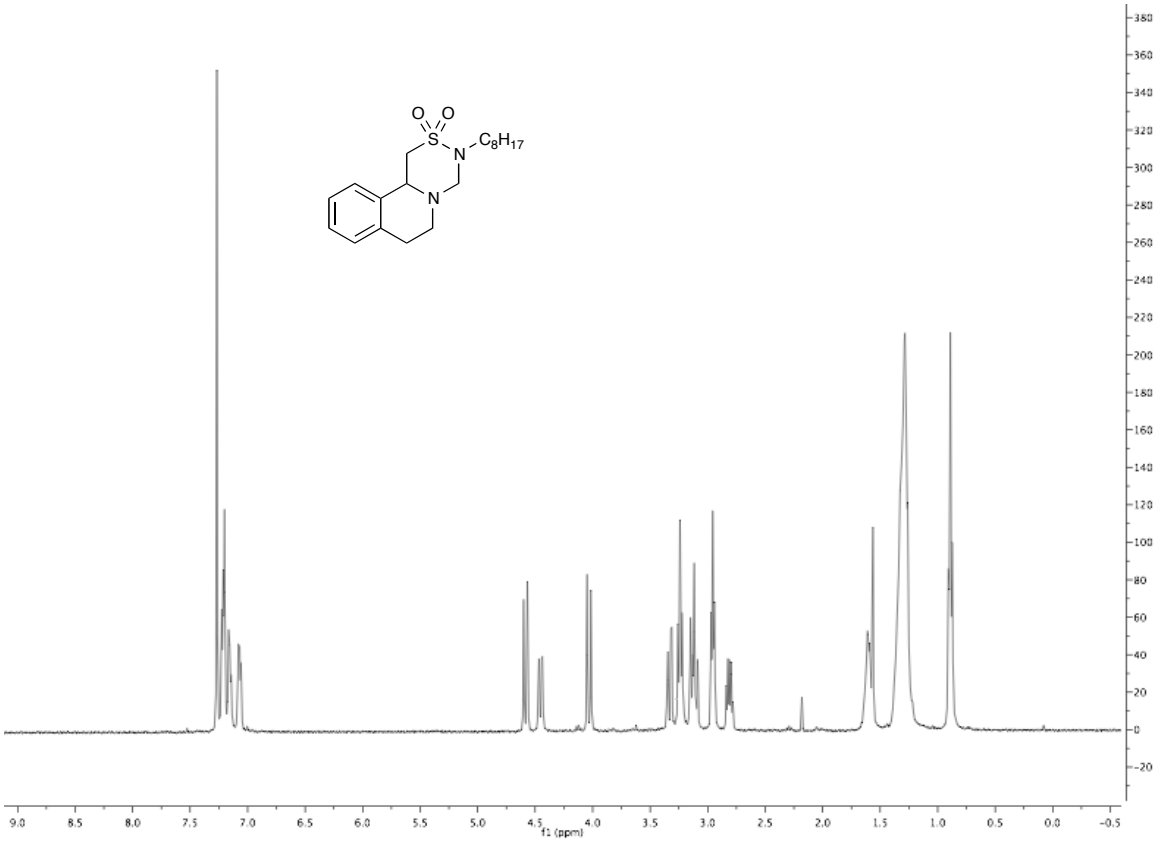


3-butyl-1,3,4,6,7,11b-hexahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinoline 2,2-dioxide 5{*5,1}*.

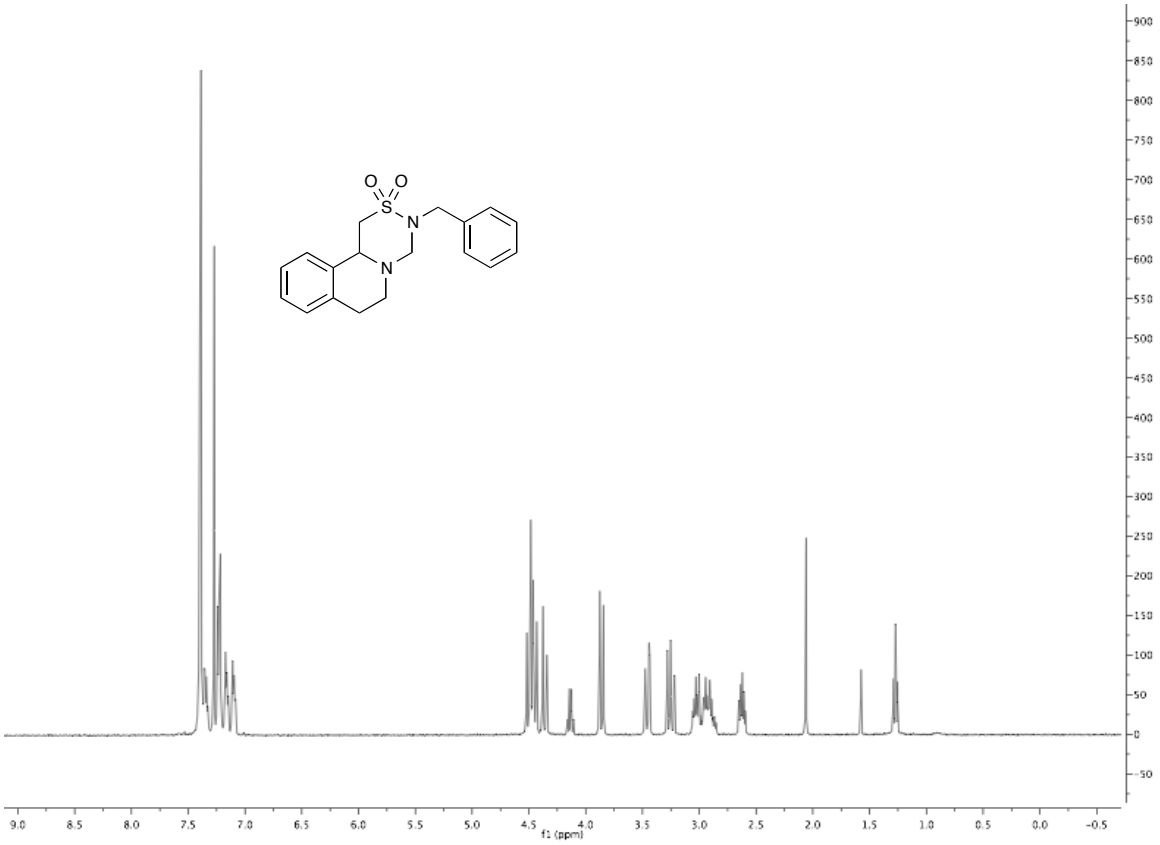


3-isobutyl-1,3,4,6,7,11b-hexahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinoline 2,2-dioxide 5{*5,2}*.

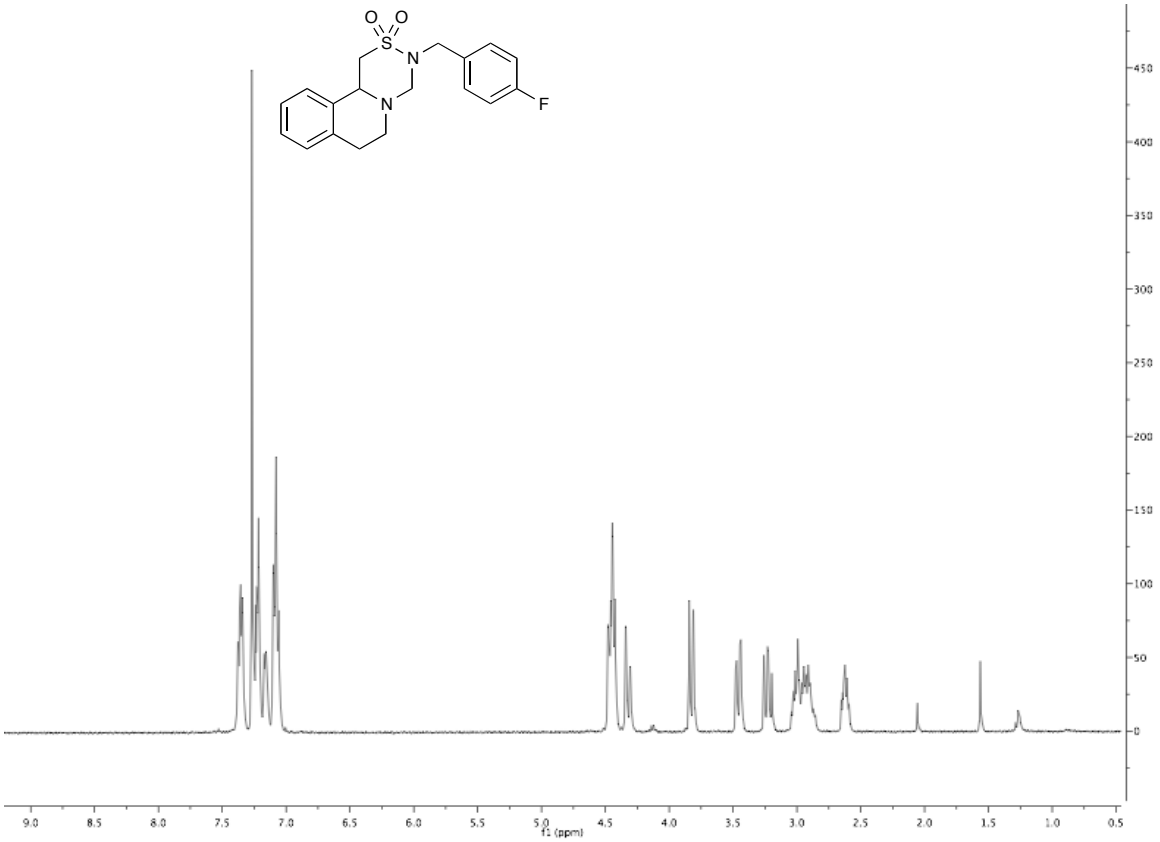
3-octyl-1,3,4,6,7,11b-hexahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinoline 2,2-dioxide 5{*5,4}*.



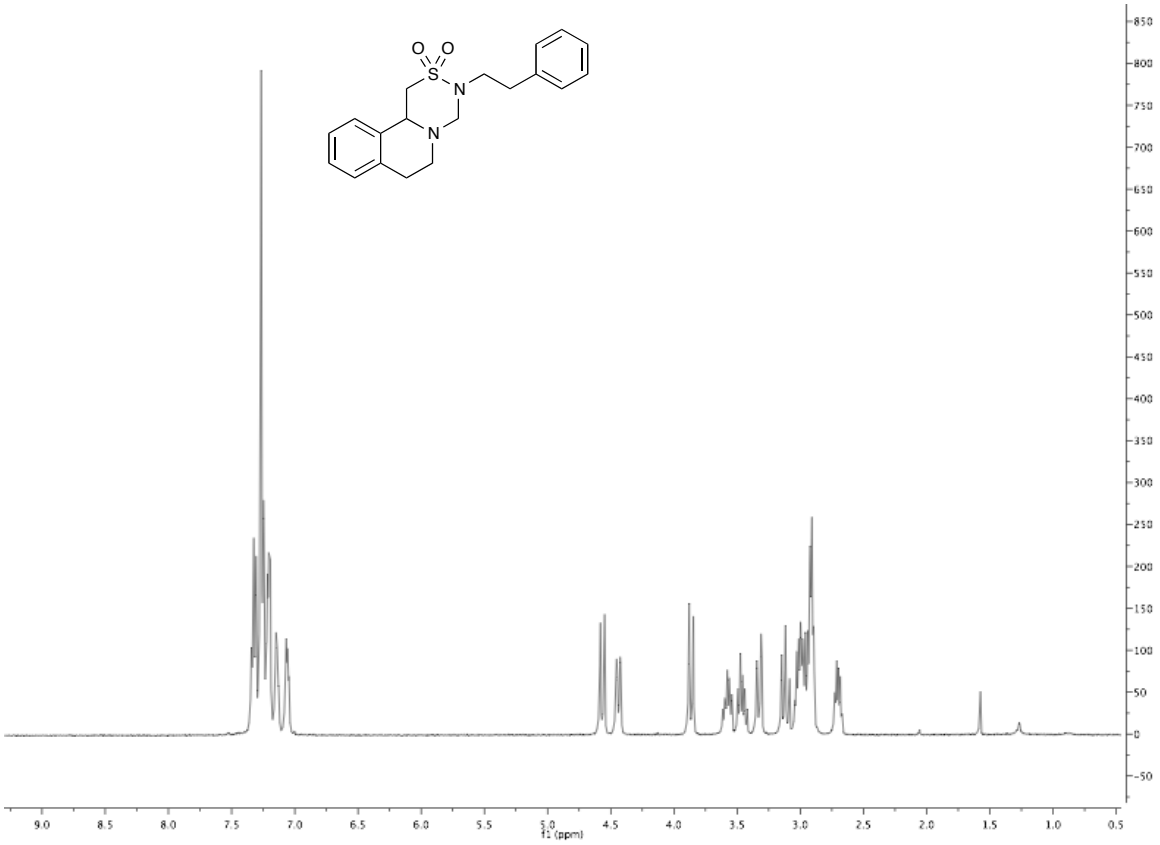
3-benzyl-1,3,4,6,7,11b-hexahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinoline 2,2-dioxide 5{*5,5}*.



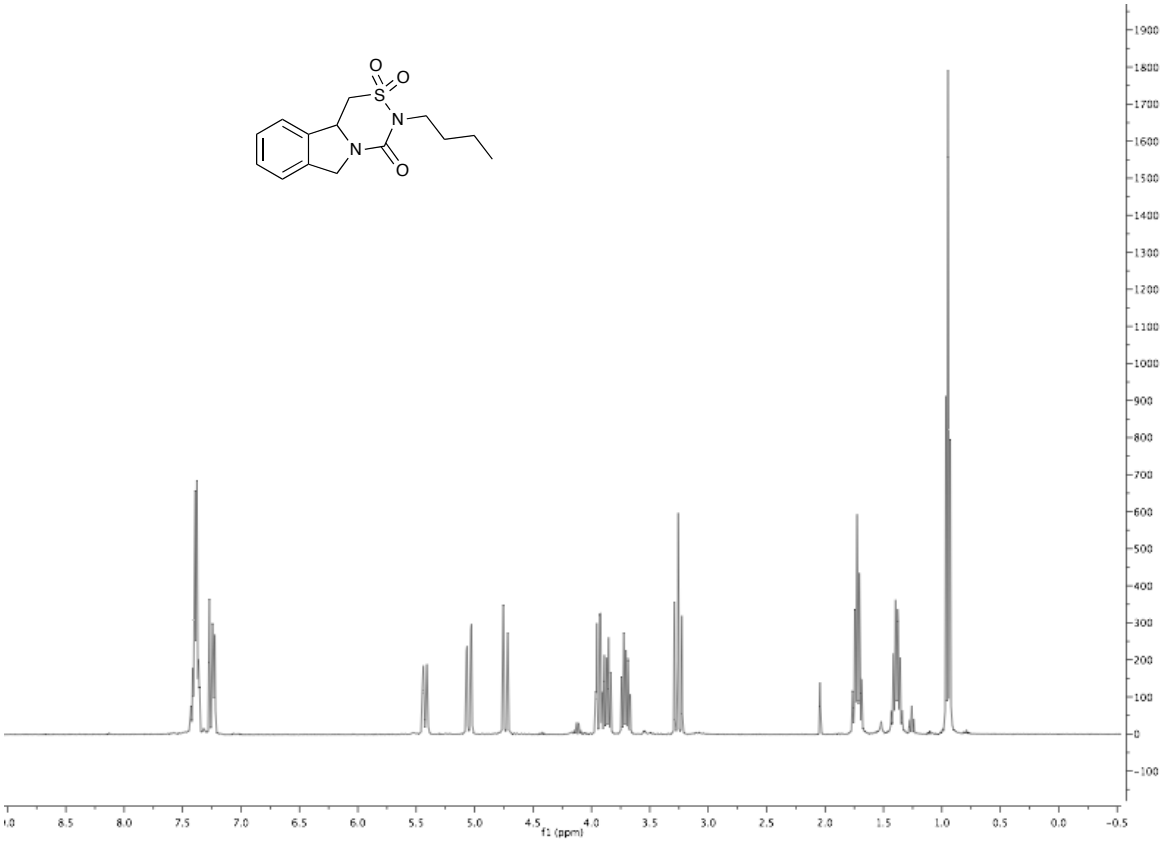
3-(4-fluorobenzyl)-1,3,4,6,7,11b-hexahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinoline 2,2-dioxide 5{*5,6}*.



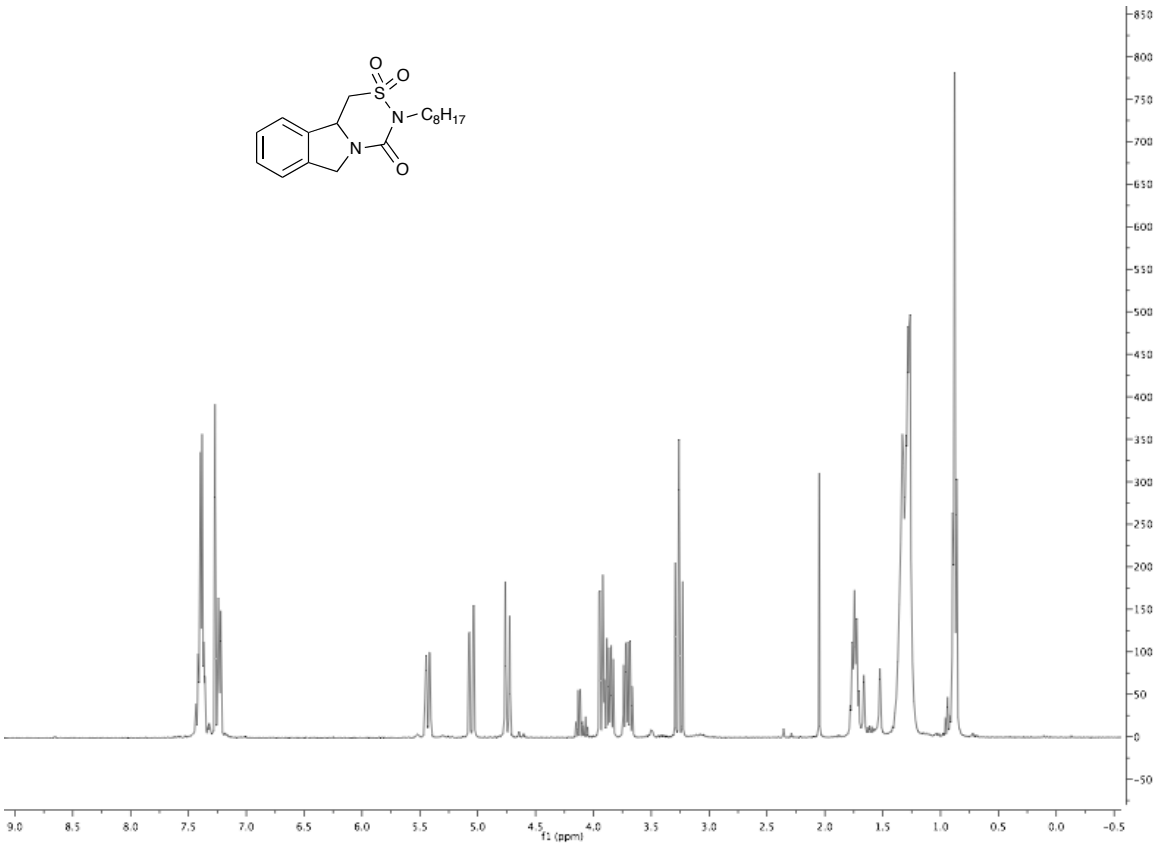
3-phenethyl-1,3,4,6,7,11b-hexahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinoline 2,2-dioxide 5{*5,8}*.



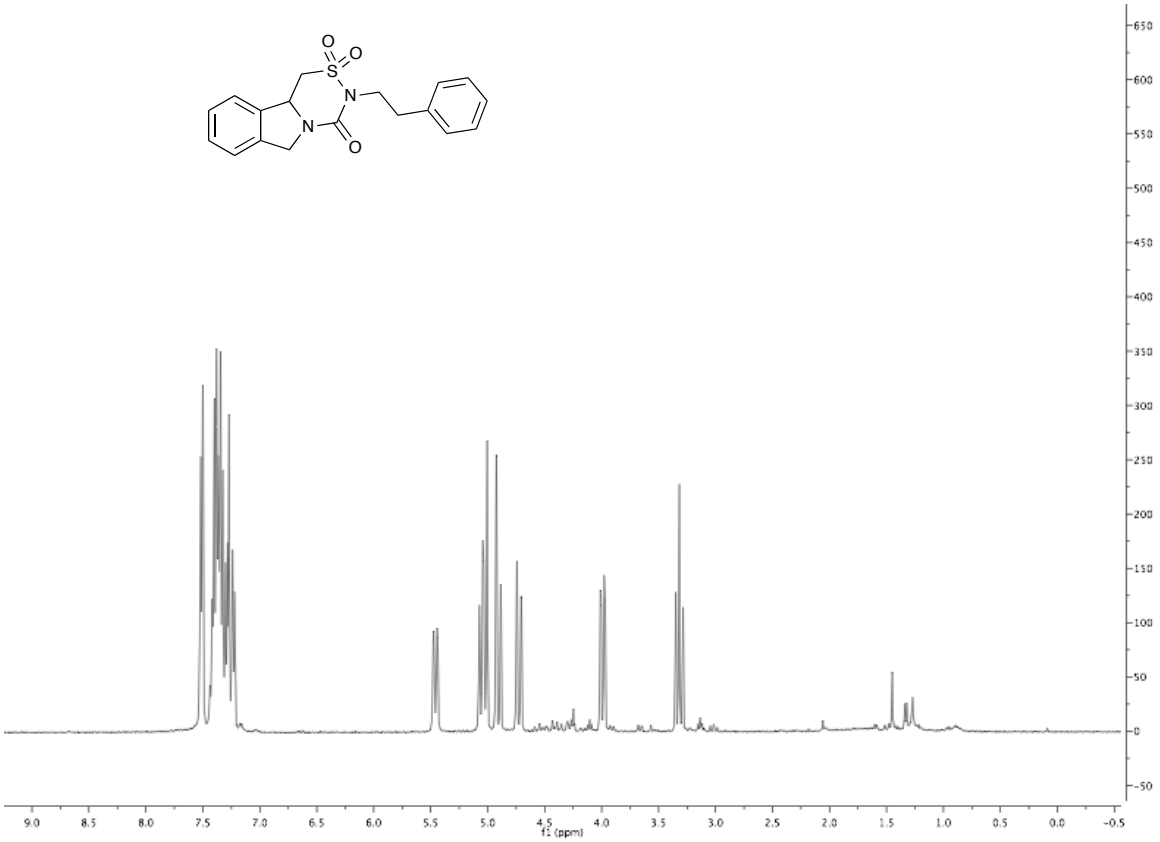
3-butyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*1,1*}.



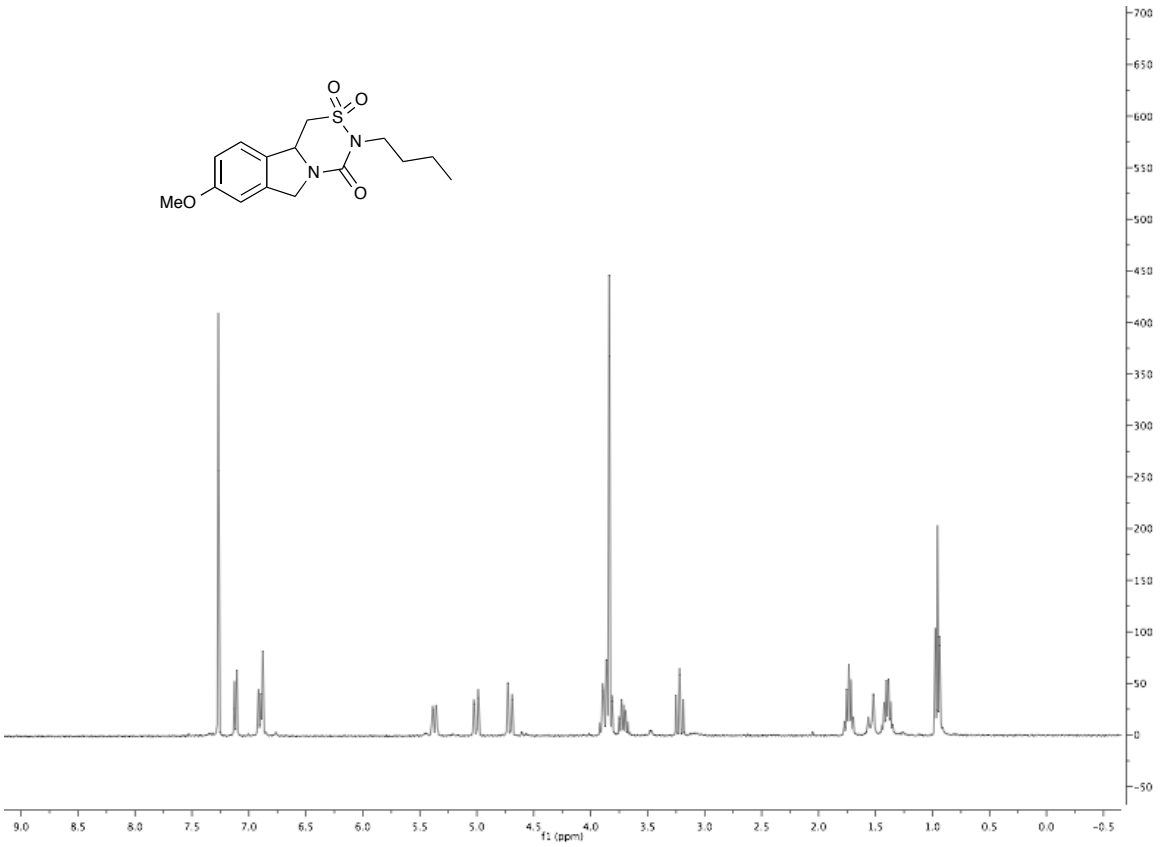
3-octyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*1,4*}.



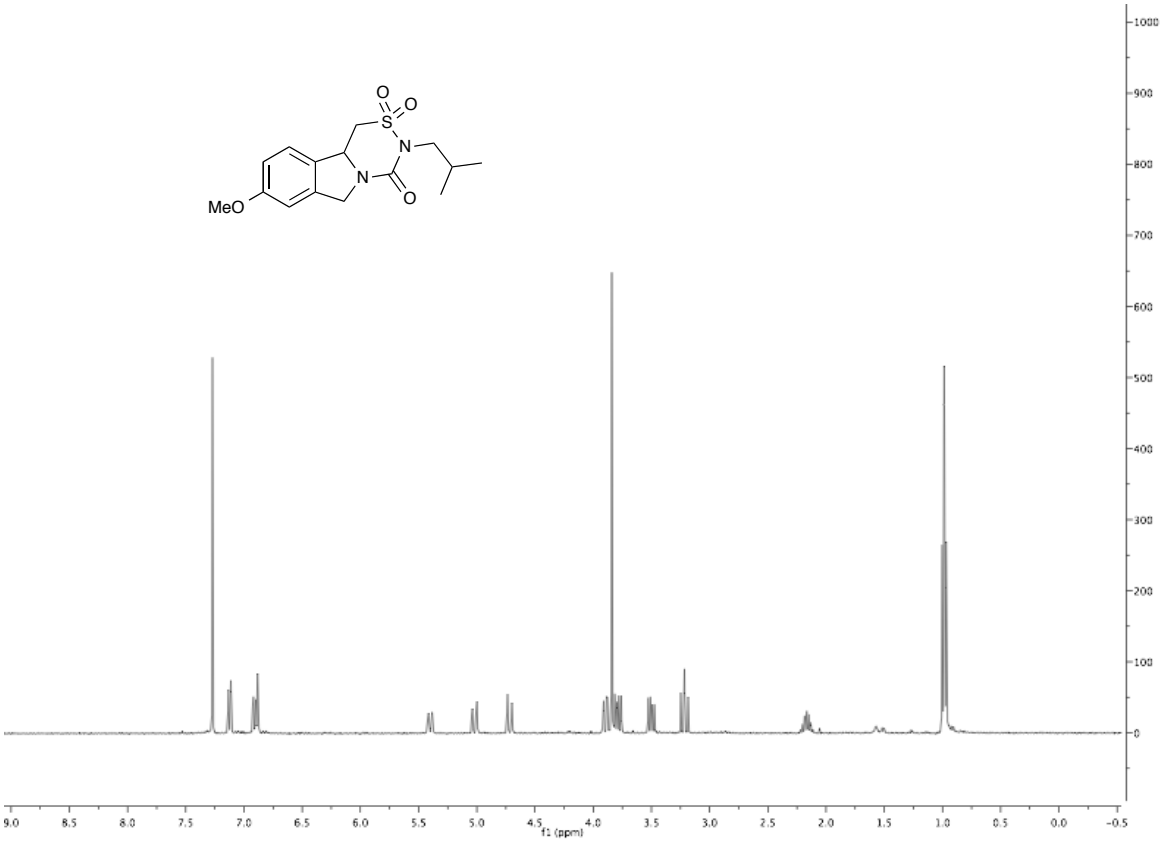
3-phenethyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*1,8*}.



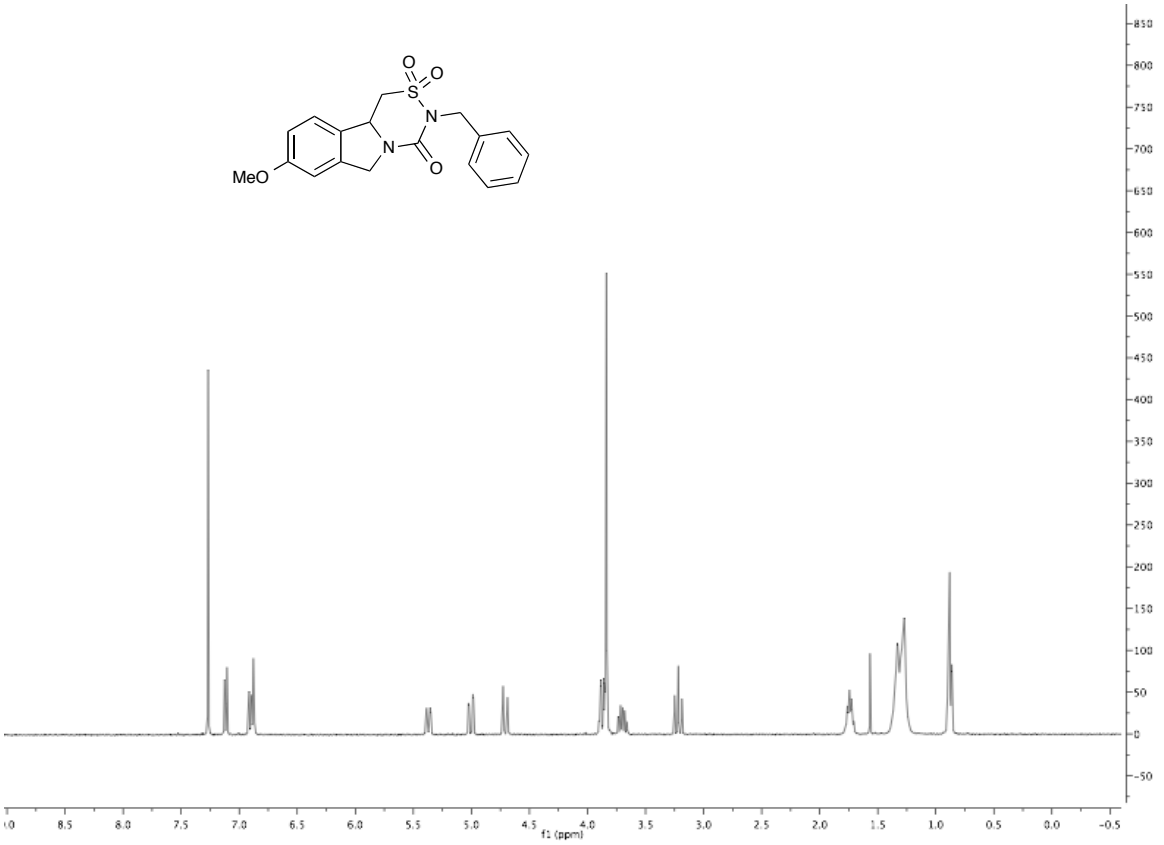
3-butyl-8-methoxy-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*2,1*}.



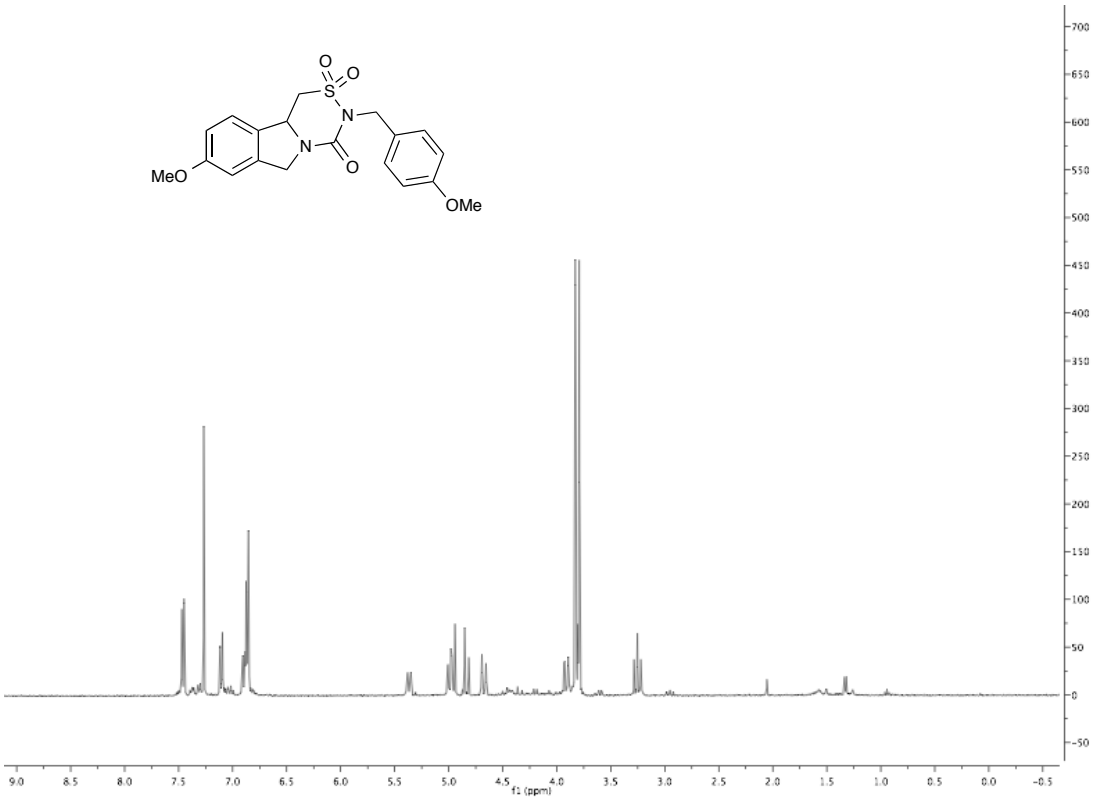
3-isobutyl-8-methoxy-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*2,2*}.



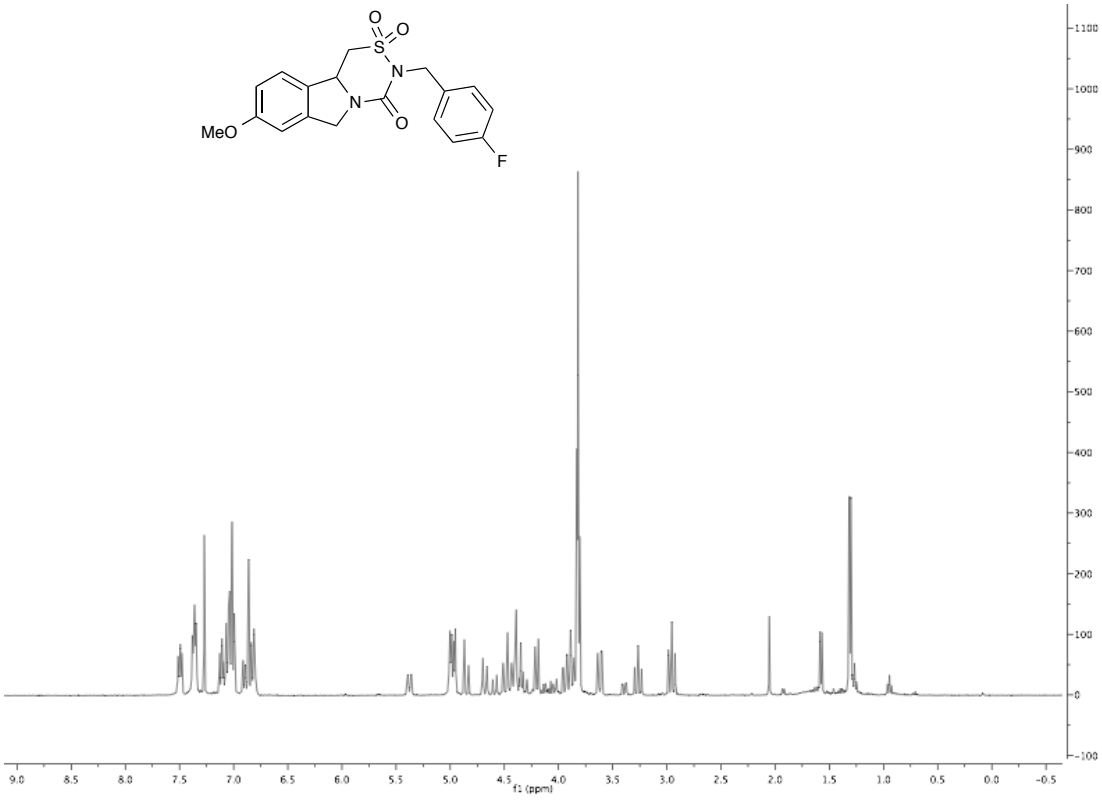
3-benzyl-8-methoxy-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*2,5*}.



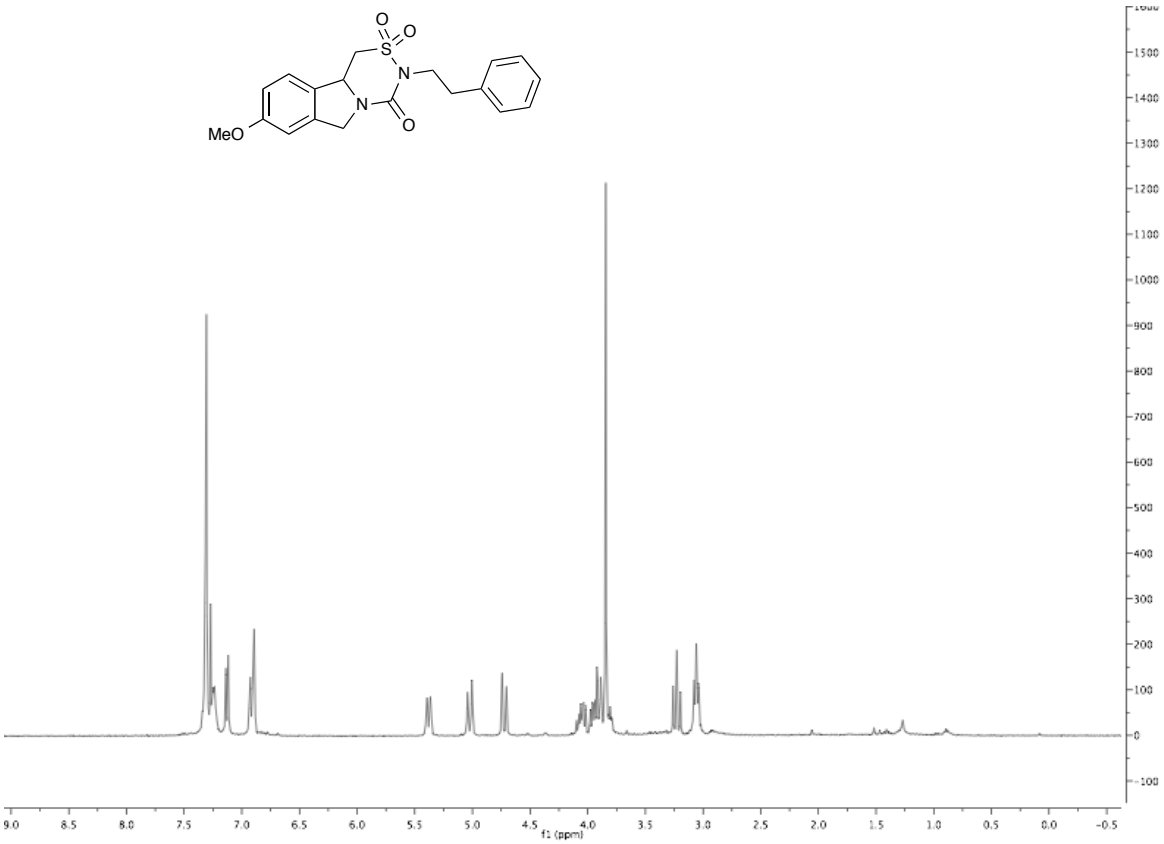
8-methoxy-3-(4-methoxybenzyl)-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*2*,*6*}.



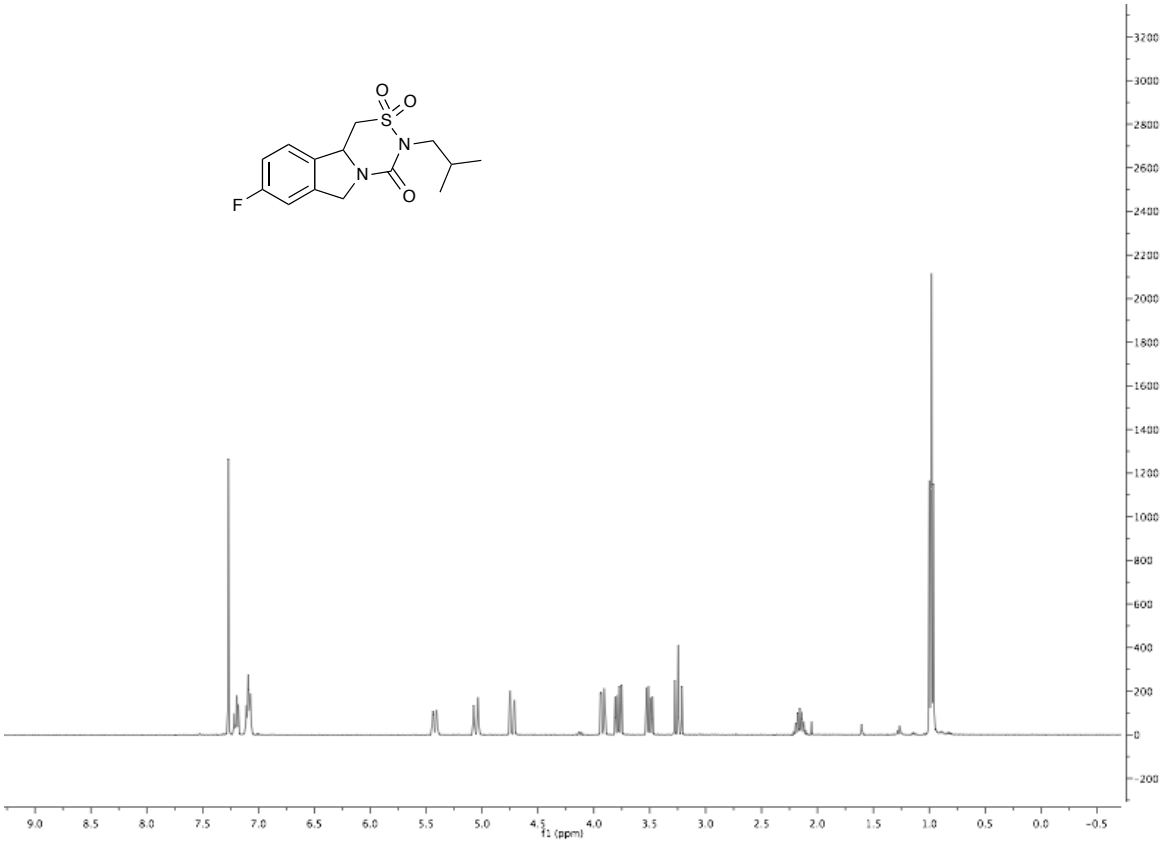
3-(4-fluorobenzyl)-8-methoxy-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*2*,*7*}.



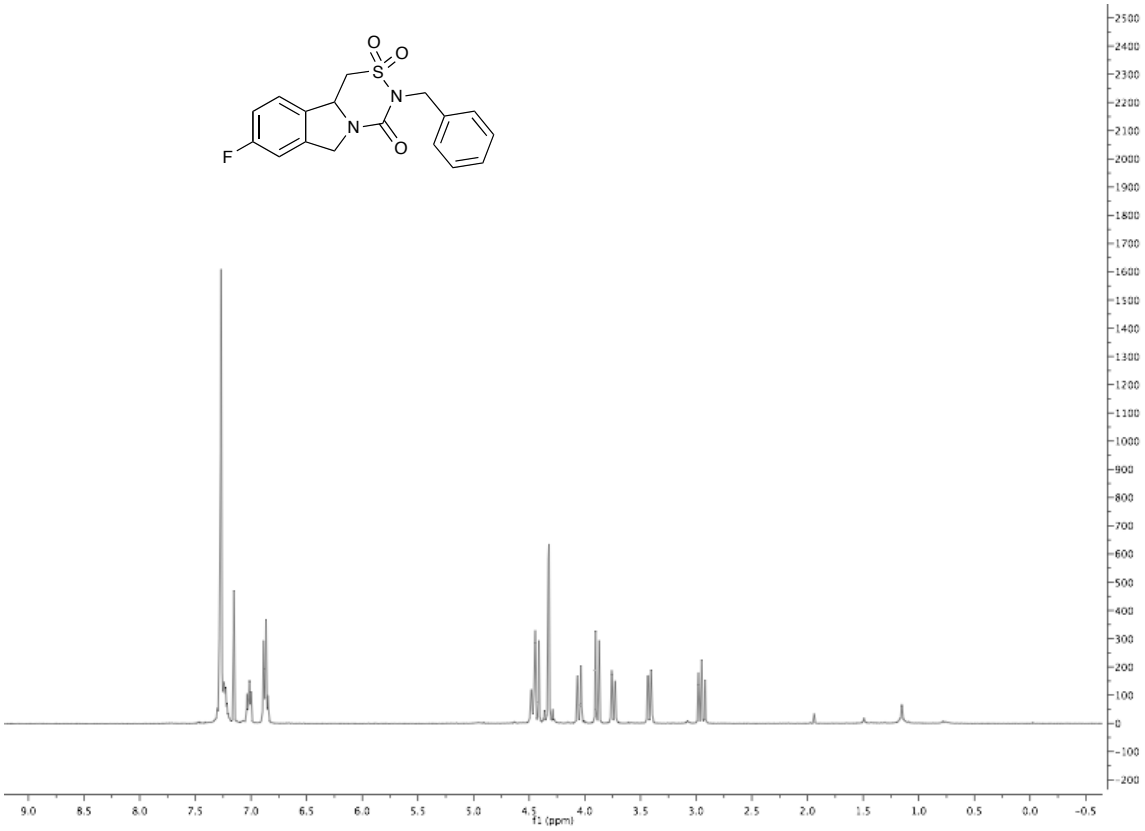
8-methoxy-3-phenethyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*2,8}*.



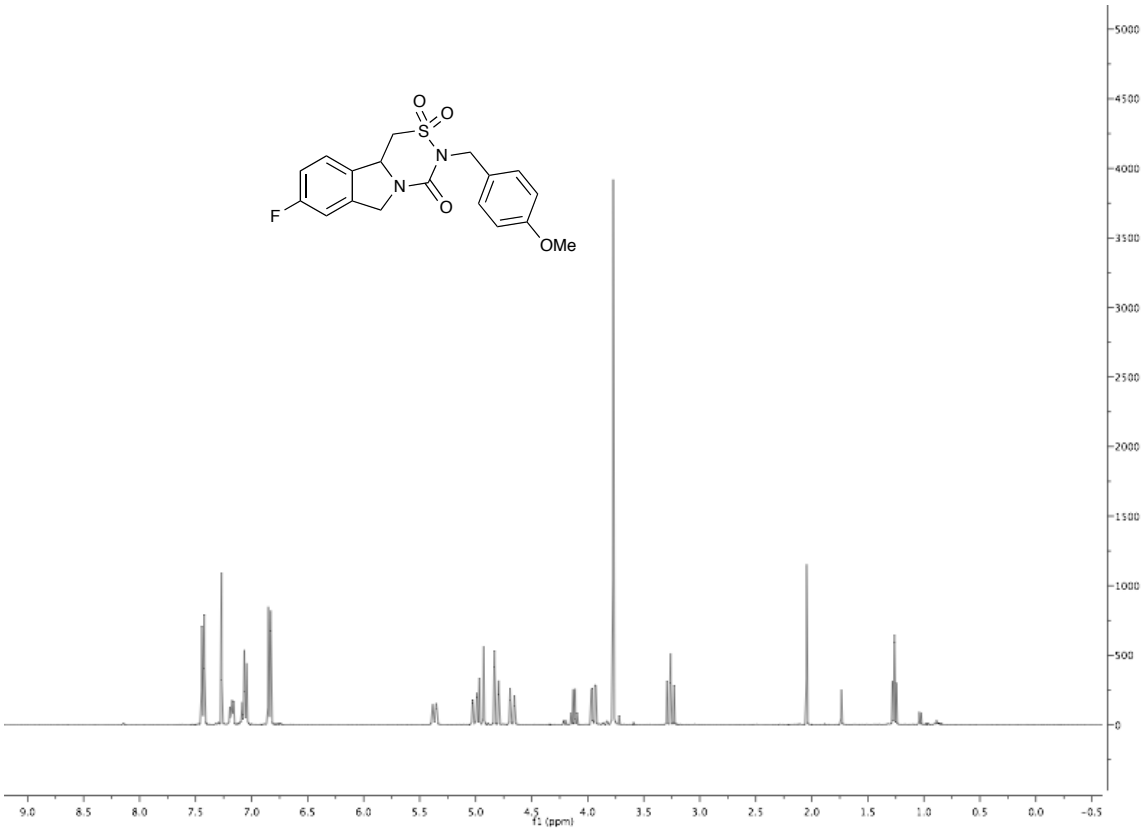
8-fluoro-3-isobutyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*3,2}*.



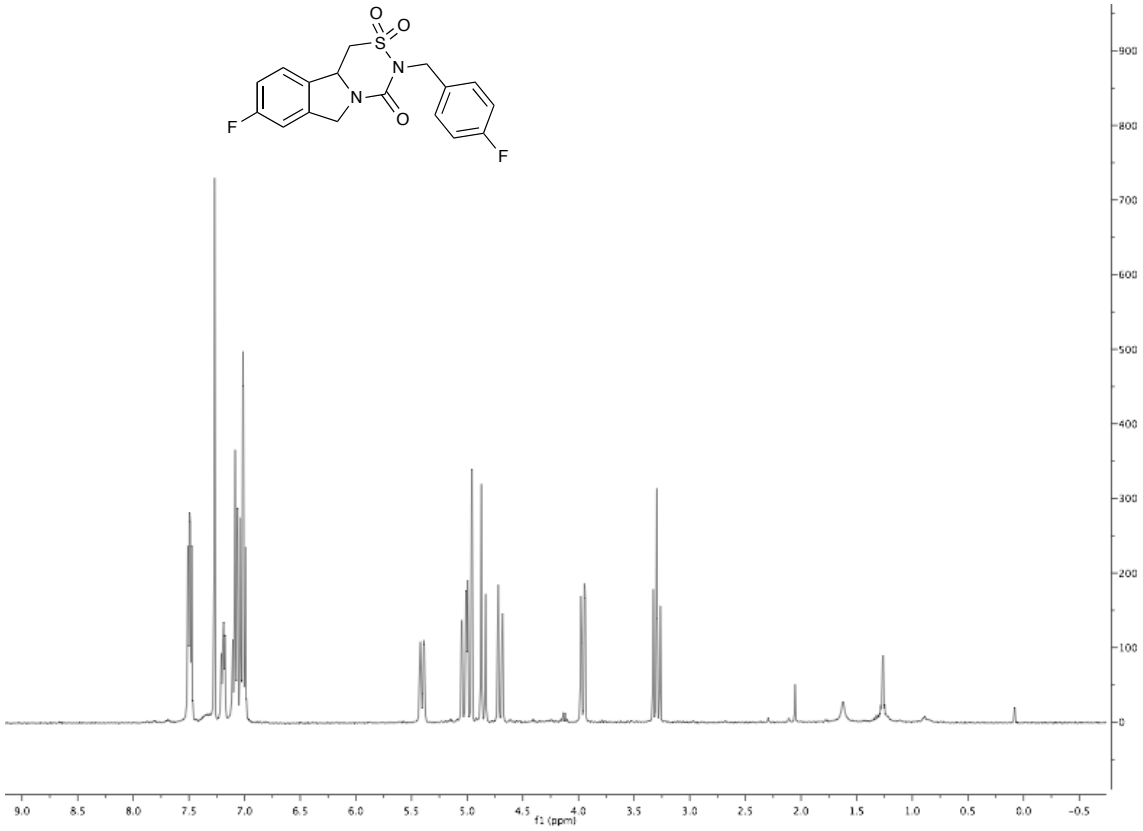
3-benzyl-8-fluoro-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*3*,*5*}.



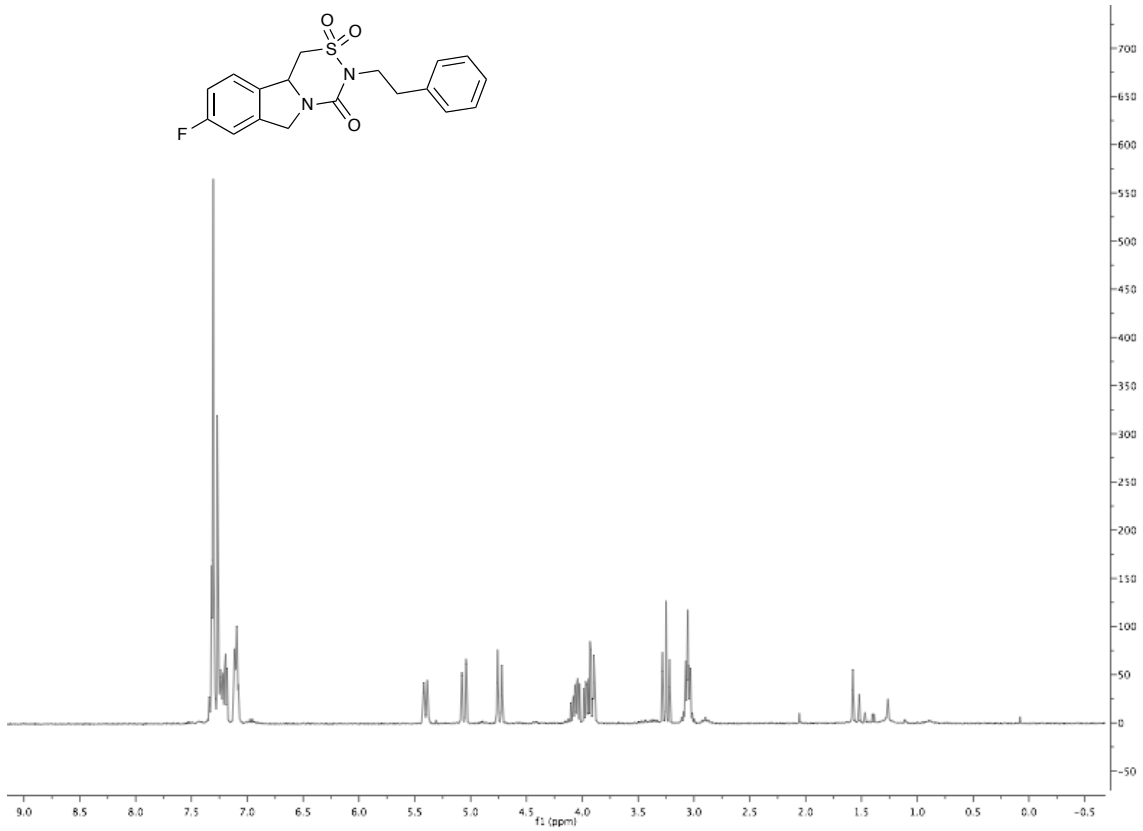
8-fluoro-3-(4-methoxybenzyl)-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*3*,*6*}.



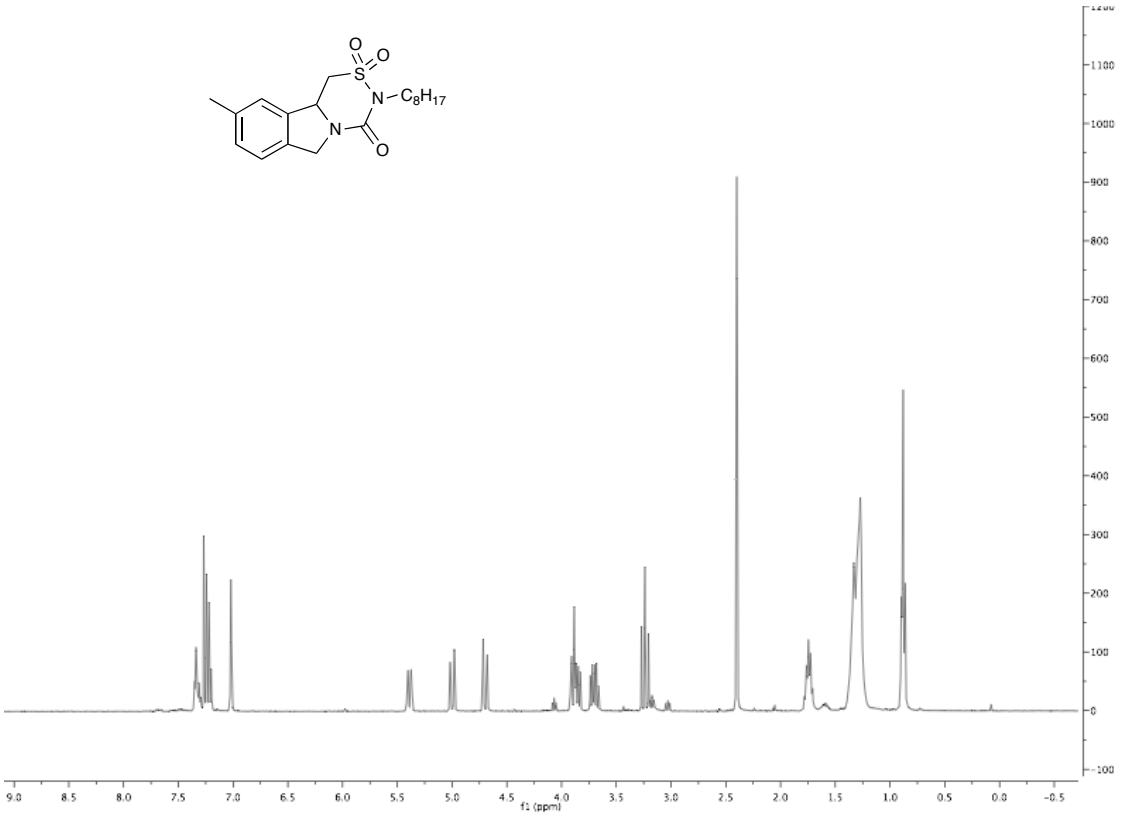
8-fluoro-3-(4-fluorobenzyl)-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*3*,*7*}.



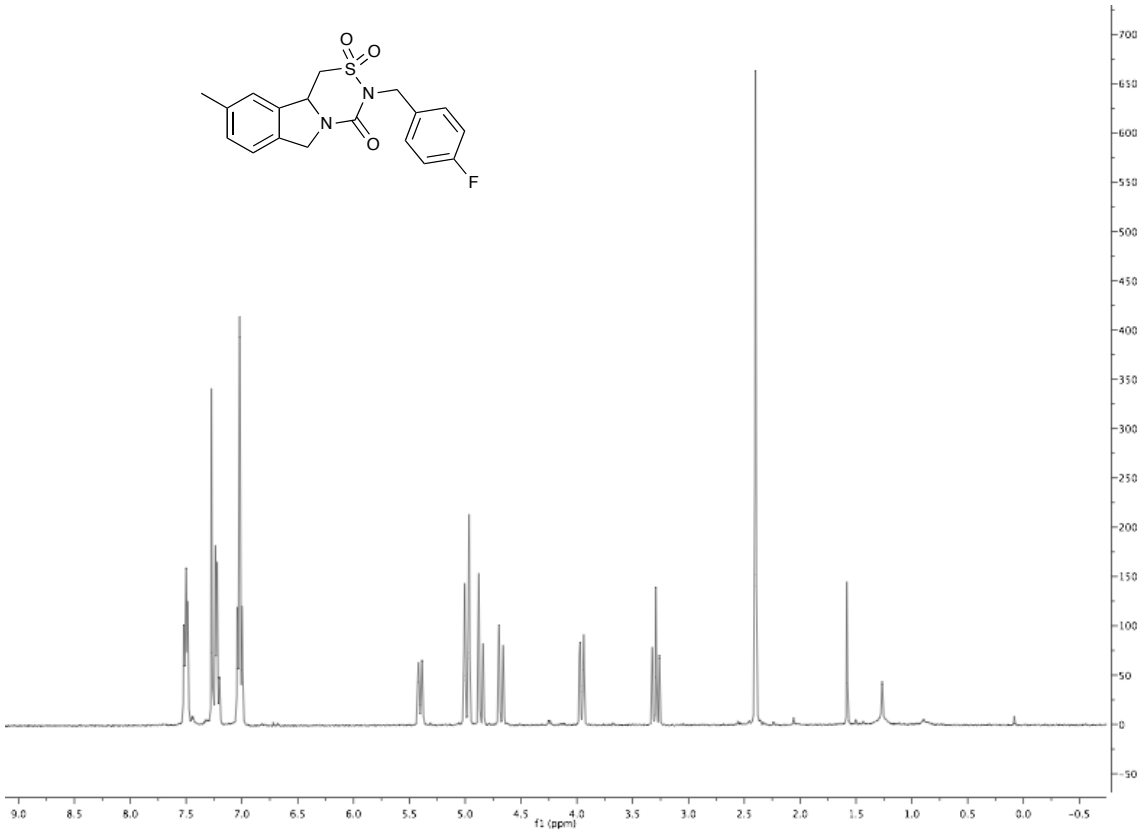
8-fluoro-3-phenethyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*3*,*8*}.



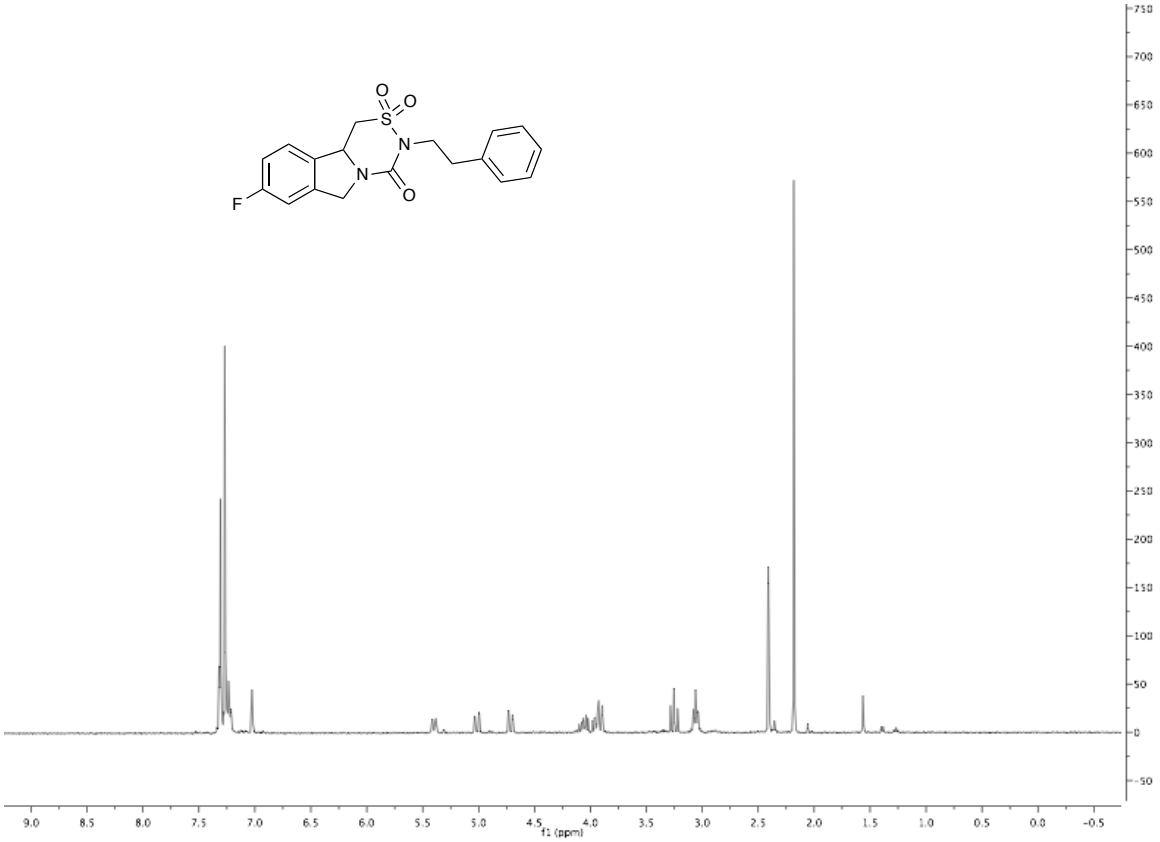
9-methyl-3-octyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*4,4*}.



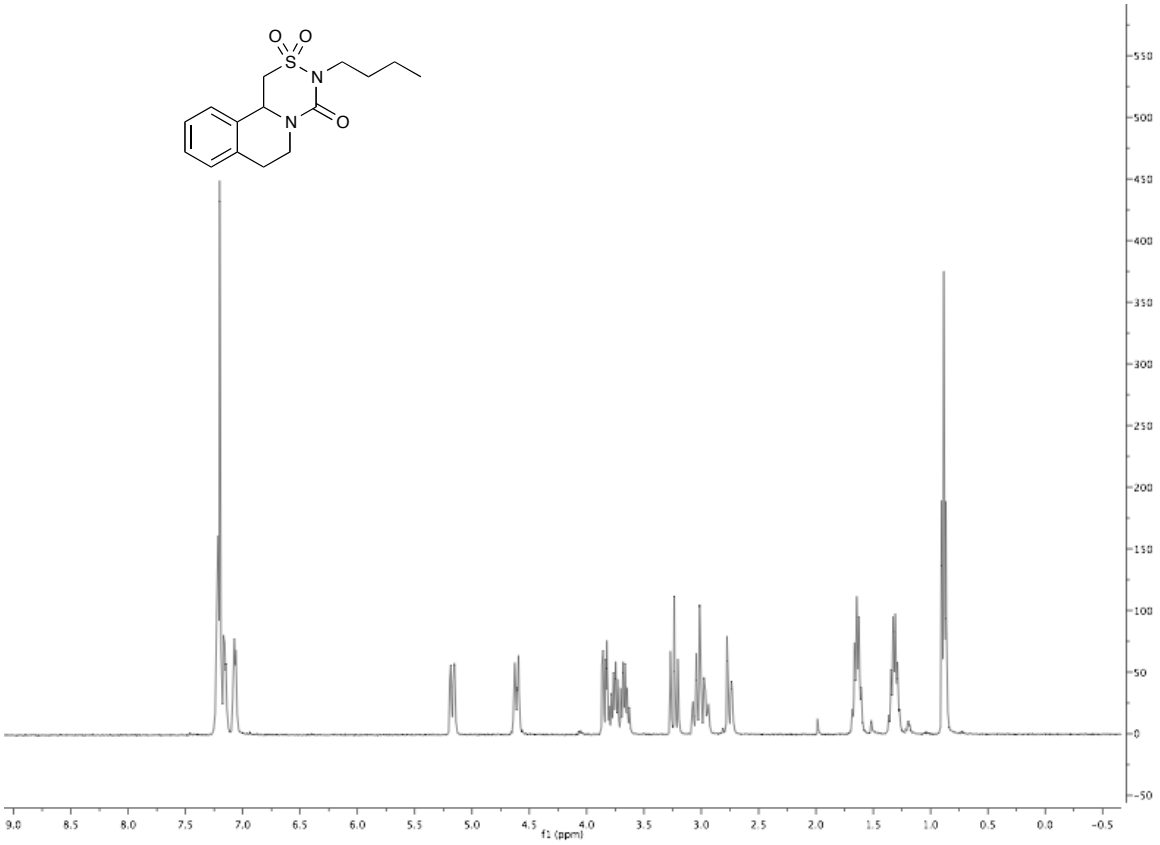
3-(4-fluorobenzyl)-9-methyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*4,7*}.



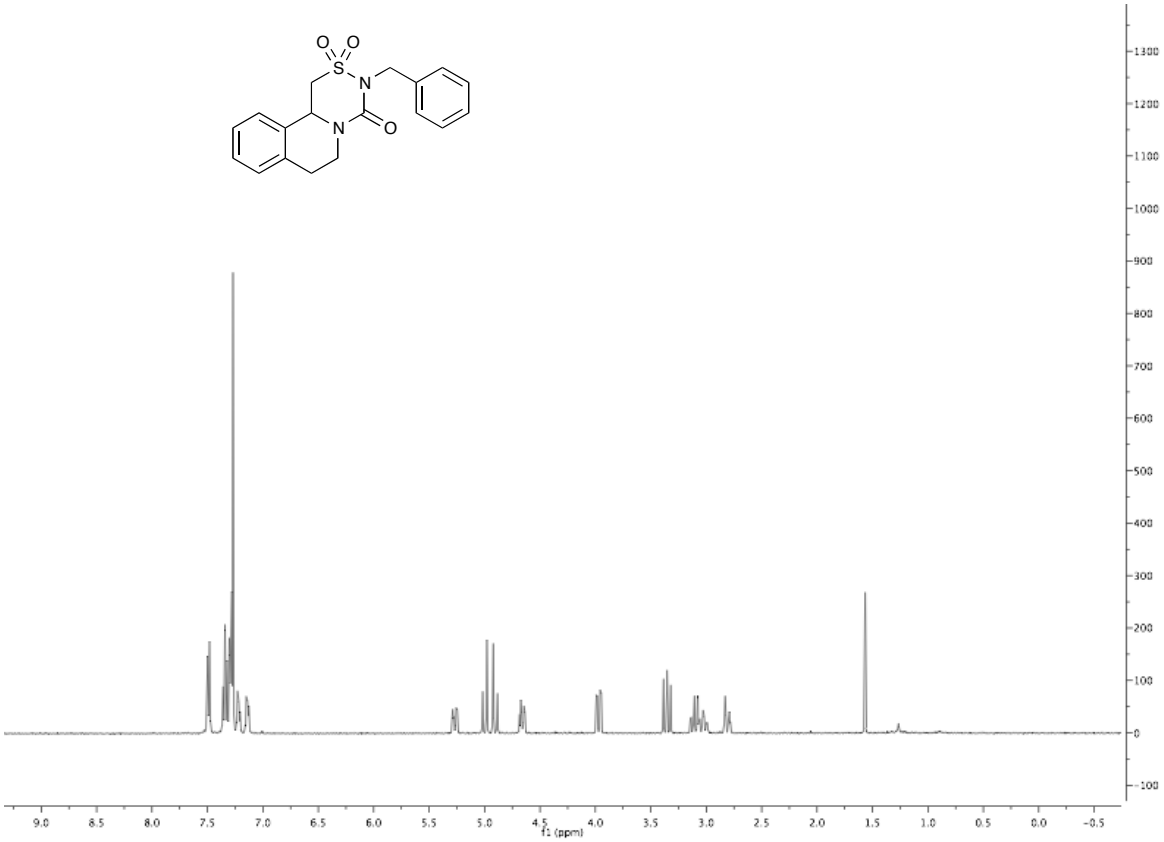
9-methyl-3-phenethyl-6,10b-dihydro-1*H*-[1,2,4]thiadiazino[5,4-*a*]isoindol-4(3*H*)-one 2,2-dioxide 6{*4*,*8*}.



3-butyl-1,6,7,11b-tetrahydro-[1,2,4]thiadiazino[5,4-*a*]isoquinolin-4(3*H*)-one 2,2-dioxide 6{*5*,*1*}.



3-benzyl-1,6,7,11b-tetrahydro-[1,2,4]thiadiazino[5,4-a]isoquinolin-4(3*H*)-one 2,2-dioxide 6{*5,5*}.



3-(4-fluorobenzyl)-1,6,7,11b-tetrahydro-[1,2,4]thiadiazino[5,4-a]isoquinolin-4(3*H*)-one 2,2-dioxide 6{*5,7*}.

In Silico Analysis

Sketched electronic versions of the library compounds were imported into the Tripos Molecular Spreadsheet[3] wherein standard Lipinski Rule of 5 parameters[4] (molecular weight, ClogP, number of H-acceptors, and number of H-donors) plus the number of rotatable bonds and polar surface area were computed. Lipinski violations were specified according to molecular weight > 500, ClogP > 5.0, number of acceptors > 10, number of donors > 5, and number of rotatable bonds > 5. The structures were then exported into SDF format and coverted into three-dimensional protonated structures via Concord[5]. Absorption, distribution, metabolism and excretion (ADME) profiles of these compounds was then generated via Volsurf[6]. Descriptors were generated using three probes (water, hydrophobic and carbonyl oxygen) with a grid space distribution of 1.0 Å. Predictions were then projected onto internal ADME models at the 5-component level. Finally diversity analysis was carried out using DiverseSolutions[7] using standard H-aware 3D BCUT descriptors. The library was then projected onto a chemical space defined by the following descriptors: gastchrg_invdist2_000.550_K_L, gastchrg_invdist6_000.500_K_H, haccept_invdist2_001.000_K_H, tabpolar_invdist_000.250_
K_H, tabpolar_invdist_000.500_K_L and populated (for comparison) by a recent version of the MLSMR screening set (ca. 7/2010; ~330,000 unique chemical structures). Diversity scores (*div(A)*) for our library were then generated for each of our compounds (*A*) according to the expression:

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[3] SYBYL 8.0, The Tripos Associates, St. Louis MO, 2008.

4 Lipinski, C.A., Lombardo, F., Dominy, B.W., Feeney, P.J. Experimental and computational approaches to estimate solubility and permeability in drug discovery and development settings. *Adv. Drug Delivery Rev*. **1997**, *23*, 3-25.

5 Concord 8.0, The Tripos Associates, St. Louis MO, 2008.

6 Cruciani, G., Meniconi, M., Carosati, E., Zamora, I., Mannhold, R. VOLSURF: A Tool for Drug ADME-Properties Prediction. In: *Methods and Principles in Medicinal Chemistry*. Eds. van de Waterbeemd, H., Lennernäs, H., Artursson, P. (Wiley-VCH Verlag GmbH & Co., Weinheim, 2003).

7 Pearlman, R.S.; Smith, K.M. Metric Validation and the Receptor-Relevant Subspace Concept. *J. Chem. Inf. Comput. Sci*. **1999**, *39*, 28-35.

$$div(A) = \frac{pop[Cell(A)]}{\sum_{i \in Occ} pop(i) / N_{occ}}$$

where N_{occ} is the number of cells occupied by PubChem compounds in an evenly distributed 10×10×10×10×10 grid decomposition of the chemistry space, and *pop(i)* is the population of cell *i*.

Molecule	CLOGP	Mol Wt	Acceptor	Donor	Rot Bond	LIP VIOLS	PSA	DIVS	BBB	SOLY	CACO2	SP_S	SP_P	PB	VOLD	HERG	Sol DMSO	METSTAB
3{*1,1*}	3.70	368.49	4	2	8	1	8.00	0.37	-0.05	-5.25	0.50	-0.01	0.51	86.00	-0.55	0.24	1.32	-0.34
3{*1,2*}	3.57	368.49	4	2	7	1	7.00	0.37	0.07	-5.27	0.56	0.01	0.50	85.70	-0.49	0.31	1.29	-0.33
3{*1,3*}	3.58	380.50	4	2	6	1	6.00	0.37	-0.06	-5.71	0.57	0.00	0.50	90.57	-0.49	0.24	1.39	-0.39
3{*1,4*}	5.81	424.60	4	2	12	2	12.00	0.37	-0.33	-6.14	0.49	-0.32	0.66	99.65	-0.70	-0.27	1.25	-0.80
3{*1,5*}	3.76	402.51	4	2	7	1	7.00	0.37	-0.17	-6.00	0.59	-0.31	0.59	99.98	-0.71	-0.28	0.98	-0.51
3{*1,6*}	3.68	432.53	5	2	8	1	8.00	0.37	-0.11	-5.73	0.42	-0.37	0.50	94.32	-0.72	-0.12	0.84	-0.42
3{*1,7*}	3.91	420.50	4	2	7	1	7.00	0.37	-0.34	-6.01	0.25	-0.23	0.39	95.04	-0.69	-0.06	0.86	-0.58
3{*1,8*}	4.21	416.53	4	2	8	1	8.00	0.37	-0.14	-5.77	0.58	-0.44	0.69	102.00	-0.81	-0.04	0.83	-0.48
3{*2,1*}	3.62	398.52	5	2	9	1	9.00	0.37	-0.23	-5.35	0.33	-0.09	0.45	85.44	-0.62	0.41	1.14	-0.41
3{*2,2*}	3.49	398.52	5	2	8	1	8.00	0.37	-0.10	-5.37	0.38	-0.07	0.43	84.44	-0.55	0.50	1.09	-0.41
3{*2,3*}	3.50	410.53	5	2	7	1	7.00	0.37	-0.09	-5.58	0.34	-0.09	0.44	88.25	-0.55	0.45	1.03	-0.46
3{*2,4*}	5.73	454.62	5	2	13	2	13.00	0.37	-0.56	-6.24	0.32	-0.39	0.59	99.57	-0.76	-0.10	1.19	-0.85
3{*2,5*}	3.68	432.53	5	2	8	1	8.00	0.37	-0.20	-5.89	0.42	-0.40	0.53	99.31	-0.73	-0.16	0.85	-0.52
3{*2,6*}	3.60	462.56	6	2	9	1	9.00	0.37	-0.28	-5.98	0.28	-0.48	0.42	94.34	-0.78	-0.08	0.68	-0.62
3{*2,7*}	3.83	450.52	5	2	8	1	8.00	0.37	-0.54	-5.86	0.04	-0.30	0.31	90.71	-0.74	0.13	0.72	-0.63
3{*2,8*}	4.13	446.56	5	2	9	1	9.00	0.37	-0.36	-5.86	0.44	-0.52	0.60	101.34	-0.86	-0.04	0.79	-0.57
3{*3,1*}	3.84	386.48	4	2	8	1	8.00	0.37	-0.18	-5.33	0.16	0.04	0.33	86.89	-0.58	0.37	1.19	-0.36
3{*3,2*}	3.71	386.48	4	2	7	1	7.00	0.37	-0.04	-5.35	0.21	0.06	0.31	86.21	-0.51	0.47	1.13	-0.38
3{*3,3*}	3.73	398.49	4	2	6	1	6.00	0.37	-0.07	-5.56	0.17	0.04	0.32	89.48	-0.52	0.42	1.09	-0.41
3{*3,4*}	5.96	442.59	4	2	12	2	12.00	0.37	-0.51	-6.30	0.17	-0.25	0.51	102.58	-0.69	-0.04	1.26	-0.77
3{*3,5*}	3.91	420.50	4	2	7	1	7.00	0.37	-0.17	-5.95	0.27	-0.25	0.45	102.13	-0.69	-0.07	0.87	-0.37
3{*3,6*}	3.83	450.52	5	2	8	1	8.00	0.37	-0.27	-6.05	0.12	-0.32	0.35	96.50	-0.72	0.09	0.67	-0.41
3{*3,7*}	4.05	438.49	4	2	7	1	7.00	0.37	-0.47	-5.84	-0.12	-0.17	0.21	92.75	-0.73	0.14	0.74	-0.49
3{*3,8*}	4.35	434.52	4	2	8	1	8.00	0.37	-0.33	-5.93	0.28	-0.38	0.54	104.53	-0.82	0.13	0.77	-0.37
3{*4,1*}	4.20	382.52	4	2	8	1	8.00	0.37	-0.14	-5.48	0.55	-0.11	0.55	88.58	-0.57	0.28	1.13	-0.43
3{*4,2*}	4.07	382.52	4	2	7	1	7.00	0.37	-0.01	-5.50	0.60	-0.10	0.54	88.29	-0.52	0.36	1.08	-0.41
3{*4,3*}	4.08	394.53	4	2	6	1	6.00	0.37	-0.19	-5.90	0.64	-0.10	0.53	92.25	-0.52	0.31	1.18	-0.44
3{*4,4*}	6.31	438.62	4	2	12	2	12.00	0.37	-0.43	-6.30	0.53	-0.43	0.67	101.34	-0.75	-0.28	1.06	-0.91
3{*4,5*}	4.26	416.53	4	2	7	1	7.00	0.37	-0.08	-5.72	0.61	-0.42	0.62	99.82	-0.71	-0.27	0.87	-0.51
3{*4,6*}	4.18	446.56	5	2	8	1	8.00	0.37	-0.19	-5.83	0.47	-0.49	0.52	95.70	-0.76	-0.22	0.74	-0.59
3{*4,7*}	4.41	434.52	4	2	7	1	7.00	0.37	-0.43	-6.23	0.30	-0.34	0.42	97.11	-0.72	-0.06	0.71	-0.68
3{*4,8*}	4.71	430.56	4	2	8	1	8.00	0.37	-0.22	-5.89	0.63	-0.57	0.70	102.98	-0.86	-0.16	0.72	-0.66
3{*5,1*}	3.88	382.52	4	2	9	1	9.00	0.37	-0.42	-5.53	0.47	-0.16	0.59	92.91	-0.82	0.21	1.20	-0.73
3{*5,2*}	3.75	382.52	4	2	8	1	8.00	0.52	-0.32	-5.55	0.52	-0.15	0.57	92.10	-0.76	0.31	1.15	-0.71
3{*5,3*}	3.76	394.53	4	2	7	1	7.00	0.16	-0.32	-5.78	0.49	-0.16	0.58	95.81	-0.75	0.25	1.10	-0.78
3{*5,4*}	5.99	438.62	4	2	13	2	13.00	0.16	-0.71	-6.30	0.44	-0.48	0.72	105.26	-1.01	-0.34	1.17	-1.19
3{*5,5*}	3.94	416.53	4	2	8	1	8.00	0.16	-0.29	-5.88	0.66	-0.51	0.68	106.45	-1.05	-0.38	0.77	-0.79
3{*5,6*}	3.86	446.56	5	2	9	1	9.00	0.21	-0.41	-6.03	0.51	-0.57	0.57	102.44	-1.09	-0.28	0.60	-0.84
3{*5,7*}	4.09	434.52	4	2	8	1	8.00	0.30	-0.73	-5.94	0.26	-0.39	0.49	100.87	-1.02	-0.04	0.81	-0.85
3{*5,8*}	4.39	430.56	4	2	9	1	9.00	0.30	-0.47	-5.77	0.57	-0.60	0.75	105.42	-1.09	-0.24	0.73	-0.85
4{*1,1*}	2.03	268.38	2	2	6	1	6.00	0.30	-0.16	-3.76	0.63	0.33	0.47	71.56	-0.28	0.42	1.83	0.12
4{*1,2*}	1.90	268.38	2	2	5	0	5.00	0.30	0.30	-3.89	0.77	0.38	0.51	69.13	-0.27	0.47	1.41	0.10
4{*1,3*}	1.92	280.39	2	2	4	0	4.00	0.30	0.35	-4.16	0.77	0.34	0.47	77.58	-0.20	0.44	1.30	0.10
4{*1,4*}	4.15	324.48	2	2	10	1	10.00	0.22	0.13	-5.10	0.76	-0.02	0.61	86.05	-0.33	-0.09	1.20	-0.40
4{*1,5*}	2.10	302.39	2	2	5	0	5.00	0.22	-0.03	-4.54	0.74	0.10	0.53	86.99	-0.38	0.16	1.61	-0.12
4{*1,6*}	2.02	332.42	3	2	6	1	6.00	0.22	0.35	-5.07	0.72	-0.02	0.42	87.48	-0.42	-0.01	0.71	-0.18
4{*1,7*}	2.24	320.38	2	2	5	0	5.00	0.22	0.23	-5.00	0.49	0.14	0.31	92.45	-0.35	0.12	0.89	-0.14
4{*1,8*}	2.54	316.42	2	2	6	1	6.00	0.22	0.16	-5.07	0.82	-0.09	0.58	91.31	-0.45	-0.06	0.76	-0.31
4{*2,1*}	1.95	298.40	3	2	7	1	7.00	0.22	0.07	-4.09	0.55	0.23	0.41	69.98	-0.33	0.41	1.18	0.04
4{*2,2*}	1.82	298.40	3	2	6	1	6.00	0.22	-0.18	-3.71	0.46	0.29	0.44	66.01	-0.40	0.61	1.47	0.10
4{*2,3*}	1.84	310.41	3	2	5	0	5.00	0.22	0.17	-4.26	0.58	0.26	0.40	74.04	-0.28	0.53	1.11	0.06
4{*2,4*}	4.07	354.51	3	2	11	1	11.00	0.11	-0.12	-5.20	0.61	-0.10	0.56	86.67	-0.43	-0.03	1.09	-0.41
4{*2,5*}	2.02	332.42	3	2	6	1	6.00	0.11	0.22	-5.03	0.67	0.00	0.45	91.34	-0.40	0.08	0.88	-0.22
4{*2,6*}	1.94	362.44	4	2	7	1	7.00	0.01	0.12	-5.17	0.53	-0.11	0.34	85.91	-0.45	0.05	0.68	-0.36
4{*2,7*}	2.16	350.41	3	2	6	1	6.00	0.09	0.07	-5.09	0.32	0.04	0.23	88.01	-0.42	0.21	0.73	-0.25
4{*2,8*}	2.46	346.44	3	2	7	1	7.00	0.09	-0.13	-5.16	0.68	-0.17	0.51	90.22	-0.48	-0.12	0.74	-0.37
4{*3,1*}	2.18	286.37	2	2	6	1	6.00	0.09	0.00	-4.20	0.32	0.40	0.26	75.96	-0.20	0.50	1.43	0.03
4{*3,2*}	2.05	286.37	2	2	5	0	5.00	0.09	0.20	-4.13	0.35	0.44	0.28	74.87	-0.30	0.71	1.31	-0.08
4{*3,3*}	2.06	298.38	2	2	4	0	4.00	0.09	0.15	-4.36	0.34	0.43	0.23	79.95	-0.16	0.54	1.33	-0.01
4{*3,4*}	4.29	342.47	2	2	10	1	10.00	0.09	-0.22	-5.34	0.41	0.09	0.48	93.99	-0.27	0.23	1.32	-0.37
4{*3,5*}	2.24	320.38	2	2	5	0	5.00	0.09	0.21	-5.11	0.51	0.16	0.37	98.14	-0.36	0.23	1.06	-0.03
4{*3,6*}	2.16	350.41	3	2	6	1	6.00	0.09	0.08	-5.27	0.37	0.08	0.30	92.72	-0.39	0.31	0.79	-0.09
4{*3,7*}	2.38	338.37	2	2	5	0	5.00	0.09	0.12	-5.25	0.13	0.20	0.10	94.27	-0.40	0.20	0.83	-0.02
4{*3,8*}	2.69	334.41	2	2	6	1	6.00	0.09	-0.30	-4.94	0.43	0.03	0.47	94.96	-0.43	0.26	1.13	-0.05
4{*4,1*}	2.53	282.40	2	2	6	1	6.00	0.09	0.12	-4.04	0.76	0.22	0.52	74.26	-0.32	0.41	1.34	0.05
4{*4,2*}	2.40	282.40	2	2	5	0	5.00	0.09	0.30	-4.01	0.78	0.27	0.56	72.85	-0.33	0.52	1.22	0.04
4{*4,3*}	2.42	294.41	2	2	4	0	4.00	0.09	0.25	-4.23	0.80	0.25	0.52	78.95	-0.26	0.51	1.28	0.08
4{*4,4*}	4.65	338.51	2	2	10	1	10.00	0.73	-0.12	-5.14	0.76	-0.13	0.64	86.76	-0.45	-0.10	1.32	-0.42
4{*4,5*}	2.60	316.42	2	2	5	0	5.00	0.73	-0.09	-4.67	0.78	0.01	0.56	87.95	-0.43	0.16	1.47	-0.21
4{*4,6*}	2.52	346.44	3	2	6	1	6.00	0.73	0.29	-5.18	0.77	-0.12	0.44	88.74	-0.48	-0.05	0.61	-0.35
4{*4,7*}	2.74	334.41	2	2	5	0	5.00	0.73	0.17	-5.13	0.55	0.04	0.36	93.80	-0.40	0.16	0.76	-0.24
4{*4,8*}	3.04	330.44	2	2	6	1	6.00	0.73	0.11	-5.21	0.87	-0.20	0.59	91.77	-0.50	-0.14	0.66	-0.47
4{*5,1*}	2.59	282.40	2	2	6	1	6.00	0.73	0.33	-4.02	0.80	0.32	0.65	79.15	-0.38	0.44	1.44	0.09
4{*5,2*}	2.46	282.40	2	2	5	0	5.00	0.73	0.53	-4.14	0.85	0.38	0.65	74.89	-0.32	0.63	1.36	0.00
4{*5,3*}	2.48	294.41	2	2	4	0	4.00	0.73	0.40	-4.21	0.86	0.32	0.62	80.14	-0.31	0.48	1.37	0.02
4{*5,4*}	4.71	338.51	2	2	10	1	10.00	0.73	0.06	-5.01	0.77	0.02	0.76	90.25	-0.49	0.00	1.47	-0.41
4{*5,5*}	2.66	316.42	2	2	5	0	5.00	0.73	-0.13	-4.77	0.77	0.03	0.64	95.50	-0.49	-0.07	1.52	-0.10
4{*5,6*}	2.58	346.44	3	2	6	1	6.00	0.73	-0.06	-5.39	0.55	0.02	0.54	99.43	-0.43	-0.04	1.42	-0.33

4{*5,7*}	2.80	334.41	2	2	5	0	5.00	0.73	-0.19	-5.13	0.39	0.14	0.46	97.13	-0.43	0.11	1.50	-0.22
4{*5,8*}	3.10	330.44	2	2	6	1	6.00	0.73	0.04	-5.14	0.84	-0.15	0.76	104.06	-0.55	0.09	1.28	-0.27
5{*1,1*}	3.77	281.39	2	1	3	0	3.00	0.99	-0.34	-3.57	0.36	0.45	0.24	77.87	-0.58	-0.18	3.56	0.91
5{*1,2*}	3.64	281.39	2	1	2	0	2.00	0.16	-0.29	-3.49	0.52	0.50	0.16	89.65	-0.62	-0.03	3.47	0.97
5{*1,3*}	3.57	293.40	2	1	1	0	1.00	0.70	-0.21	-3.89	0.32	0.43	0.16	85.61	-0.47	-0.30	3.44	0.77
5{*1,4*}	5.89	337.50	2	1	7	2	7.00	0.23	-0.54	-4.52	0.37	0.08	0.33	91.52	-0.80	-0.76	3.41	0.30
5{*1,5*}	3.71	315.41	2	1	2	0	2.00	0.17	-0.17	-3.58	0.83	0.20	0.14	100.13	-0.72	-0.47	2.62	0.46
5{*1,6*}	3.63	345.44	3	1	3	0	3.00	0.07	-0.30	-3.38	0.80	0.13	-0.05	100.19	-0.66	-0.71	2.53	0.46
5{*1,7*}	3.86	333.40	2	1	2	0	2.00	0.07	-0.53	-3.45	0.66	0.28	-0.18	99.65	-0.70	-0.42	2.60	0.46
5{*1,8*}	4.28	329.44	2	1	3	0	3.00	0.07	-0.08	-4.59	0.36	0.01	0.25	99.63	-0.70	-0.70	2.79	0.28
5{*2,1*}	3.69	311.42	3	1	4	0	4.00	0.07	-0.30	-3.57	0.38	0.35	0.10	75.47	-0.72	0.02	3.01	0.64
5{*2,2*}	3.56	311.42	3	1	3	0	3.00	0.33	-0.34	-3.55	0.47	0.39	0.00	80.38	-0.72	-0.11	3.15	0.83
5{*2,3*}	3.49	323.43	3	1	2	0	2.00	0.33	-0.17	-3.92	0.35	0.33	0.02	82.54	-0.63	-0.12	2.88	0.54
5{*2,4*}	5.81	367.53	3	1	8	2	8.00	0.33	-0.49	-4.90	0.29	-0.03	0.26	90.90	-0.93	-0.62	3.07	0.05
5{*2,5*}	3.63	345.44	3	1	3	0	3.00	0.33	0.06	-3.51	0.81	0.11	-0.08	105.04	-0.64	-0.64	2.10	0.20
5{*2,6*}	3.55	375.46	4	1	4	0	4.00	0.33	-0.10	-3.03	0.86	0.05	-0.22	109.44	-0.68	-0.55	1.80	0.10
5{*2,7*}	3.78	363.43	3	1	3	0	3.00	0.33	-0.37	-2.84	0.80	0.17	-0.32	112.47	-0.52	-0.29	1.88	0.13
5{*2,8*}	4.20	359.46	3	1	4	0	4.00	0.33	-0.13	-5.02	0.28	-0.11	0.15	99.82	-0.77	-0.73	2.59	-0.01
5{*3,1*}	3.92	299.38	2	1	3	0	3.00	0.33	-0.66	-2.88	0.18	0.56	-0.17	73.64	-0.56	0.02	3.26	0.73
5{*3,2*}	3.79	299.38	2	1	2	0	2.00	0.03	-0.54	-3.17	0.28	0.61	-0.26	82.83	-0.63	0.11	3.21	0.80
5{*3,3*}	3.71	311.39	2	1	1	0	1.00	0.06	-0.55	-3.27	0.09	0.55	-0.25	82.28	-0.43	-0.13	3.26	0.59
5{*3,4*}	6.03	355.49	2	1	7	2	7.00	0.06	-0.92	-4.74	-0.04	0.17	0.11	89.10	-0.71	-0.47	3.52	0.15
5{*3,5*}	3.86	333.40	2	1	2	0	2.00	0.06	-0.55	-3.22	0.55	0.26	-0.16	100.66	-0.80	-0.36	2.43	0.48
5{*3,6*}	3.78	363.43	3	1	3	0	3.00	0.16	-1.11	-2.20	0.69	0.23	-0.26	105.50	-0.65	-0.25	2.83	0.65
5{*3,7*}	4.00	351.39	2	1	2	0	2.00	0.16	-1.09	-2.28	0.38	0.35	-0.45	104.96	-0.75	-0.13	2.51	0.48
5{*3,8*}	4.43	347.43	2	1	3	0	3.00	0.16	-0.50	-4.42	0.14	0.10	0.02	102.02	-0.66	-0.49	2.86	0.34
5{*4,1*}	4.27	295.42	2	1	3	0	3.00	0.16	-0.37	-3.83	0.40	0.32	0.28	81.02	-0.63	-0.19	3.28	0.77
5{*4,2*}	4.14	295.42	2	1	2	0	2.00	0.16	0.00	-3.93	0.65	0.35	0.21	92.86	-0.67	-0.09	2.75	0.76
5{*4,3*}	4.07	307.43	2	1	1	0	1.00	0.16	-0.27	-4.08	0.40	0.31	0.22	87.51	-0.55	-0.28	3.28	0.70
5{*4,4*}	6.39	351.53	2	1	7	2	7.00	0.16	-0.56	-4.71	0.41	-0.06	0.36	94.36	-0.90	-0.84	3.07	0.17
5{*4,5*}	4.21	329.44	2	1	2	0	2.00	0.16	-0.12	-4.14	0.76	0.08	0.10	102.66	-0.61	-0.85	2.62	0.33
5{*4,6*}	4.13	359.46	3	1	3	0	3.00	0.16	-0.34	-3.67	0.80	0.00	-0.04	103.16	-0.65	-0.82	2.36	0.18
5{*4,7*}	4.36	347.43	2	1	2	0	2.00	0.02	-0.62	-3.32	0.74	0.20	-0.20	106.84	-0.47	-0.57	2.53	0.28
5{*4,8*}	4.78	343.46	2	1	3	0	3.00	0.02	-0.36	-4.86	0.36	-0.12	0.26	101.11	-0.75	-0.85	2.78	0.02
5{*5,1*}	4.23	295.42	2	1	3	0	3.00	0.02	-0.07	-2.87	0.67	0.47	0.16	85.12	-0.55	-0.13	2.84	0.78
5{*5,2*}	4.10	295.42	2	1	2	0	2.00	0.02	-0.07	-2.67	0.74	0.47	0.17	82.00	-0.52	-0.09	2.86	0.78
5{*5,3*}	4.02	307.43	2	1	1	0	1.00	0.04	-0.01	-3.09	0.71	0.42	0.12	89.69	-0.50	-0.25	2.94	0.75
5{*5,4*}	6.34	351.53	2	1	7	2	7.00	0.14	-0.16	-4.22	0.75	0.06	0.21	105.53	-0.71	-0.90	2.69	0.10
5{*5,5*}	4.17	329.44	2	1	2	0	2.00	0.14	-0.24	-2.98	0.82	0.22	0.11	100.64	-0.46	-0.59	3.00	0.42
5{*5,6*}	4.09	359.46	3	1	3	0	3.00	0.14	-0.29	-3.03	0.58	0.16	0.01	99.40	-0.48	-0.44	2.87	0.26
5{*5,7*}	4.31	347.43	2	1	2	0	2.00	0.14	-0.56	-3.40	0.51	0.27	-0.15	100.64	-0.39	-0.48	3.05	0.38
5{*5,8*}	4.74	343.46	2	1	3	0	3.00	0.14	-0.36	-3.55	0.50	0.03	0.16	105.64	-0.67	-0.62	2.97	0.18
6{*1,1*}	1.75	295.38	3	1	2	0	2.00	0.14	-0.57	-2.92	0.19	0.60	-0.22	75.51	-0.38	0.27	3.50	1.05
6{*1,2*}	1.62	295.38	3	1	1	0	1.00	0.14	-0.22	-3.58	0.18	0.61	-0.21	78.53	-0.36	0.09	3.28	1.07
6{*1,3*}	1.55	307.39	3	1	0	0	0.00	0.14	-0.23	-3.32	0.28	0.54	-0.21	82.01	-0.47	0.08	3.06	0.84
6{*1,4*}	3.87	351.48	3	1	6	1	6.00	0.14	-0.47	-4.47	0.12	0.12	-0.13	83.55	-0.62	-0.43	2.92	0.17
6{*1,5*}	2.40	329.39	3	1	1	0	1.00	0.14	-0.54	-3.74	0.08	0.31	-0.24	84.80	-0.55	-0.12	3.51	0.59
6{*1,6*}	2.32	359.42	4	1	2	0	2.00	0.14	-0.32	-4.11	0.10	0.21	-0.37	93.58	-0.54	-0.38	2.65	0.38
6{*1,7*}	2.54	347.38	3	1	1	0	1.00	0.14	-0.96	-3.62	-0.18	0.41	-0.40	92.44	-0.46	0.04	3.65	0.68
6{*1,8*}	2.26	343.42	3	1	2	0	2.00	0.14	-0.36	-4.10	0.06	0.09	-0.23	89.72	-0.73	-0.32	2.64	0.23
6{*2,1*}	1.67	325.40	4	1	3	0	3.00	0.14	-0.59	-3.18	0.14	0.38	-0.21	74.14	-0.45	0.26	3.16	1.06
6{*2,2*}	1.54	325.40	4	1	2	0	2.00	0.14	-0.49	-3.72	0.04	0.43	-0.22	80.55	-0.49	0.30	3.25	1.08
6{*2,3*}	1.47	337.41	4	1	1	0	1.00	0.14	-0.47	-3.20	0.15	0.35	-0.20	76.68	-0.59	0.12	2.89	0.92
6{*2,4*}	3.79	381.51	4	1	7	1	7.00	0.14	-0.57	-4.24	0.05	0.04	-0.18	79.99	-0.59	-0.44	3.01	0.29
6{*2,5*}	2.32	359.42	4	1	2	0	2.00	0.14	-0.27	-4.07	0.18	0.13	-0.33	90.14	-0.55	-0.29	2.61	0.52
6{*2,6*}	2.23	389.45	5	1	3	0	3.00	0.01	-0.40	-4.41	0.04	0.03	-0.39	93.87	-0.55	-0.36	2.42	0.30
6{*2,7*}	2.46	377.41	4	1	2	0	2.00	0.69	-0.62	-4.30	-0.16	0.25	-0.45	96.78	-0.47	-0.02	2.77	0.62
6{*2,8*}	2.18	373.45	4	1	3	0	3.00	0.69	-0.54	-4.04	0.02	-0.05	-0.32	86.83	-0.63	-0.43	2.56	0.13
6{*3,1*}	1.89	313.37	3	1	2	0	2.00	0.69	-0.87	-2.26	-0.11	0.65	-0.53	70.42	-0.41	0.29	3.39	1.16
6{*3,2*}	1.76	313.37	3	1	1	0	1.00	0.69	-0.74	-2.66	-0.18	0.68	-0.53	72.79	-0.42	0.16	3.56	1.21
6{*3,3*}	1.69	325.38	3	1	0	0	0.00	0.14	-0.80	-2.56	-0.05	0.62	-0.50	79.29	-0.47	0.09	3.37	1.06
6{*3,4*}	4.01	369.47	3	1	6	1	6.00	0.14	-0.96	-4.05	-0.10	0.23	-0.27	89.64	-0.52	-0.27	3.19	0.41
6{*3,5*}	2.54	347.38	3	1	1	0	1.00	0.14	-0.41	-3.57	-0.04	0.31	-0.43	92.89	-0.64	-0.41	2.64	0.85
6{*3,6*}	2.46	377.41	4	1	2	0	2.00	0.29	-0.40	-4.24	-0.15	0.27	-0.55	93.78	-0.57	-0.38	2.52	0.54
6{*3,7*}	2.68	365.37	3	1	1	0	1.00	0.29	-0.61	-3.07	-0.15	0.40	-0.69	97.29	-0.56	-0.22	2.51	0.88
6{*3,8*}	2.40	361.41	3	1	2	0	2.00	0.29	-0.77	-3.71	-0.14	0.18	-0.34	95.69	-0.66	-0.23	2.80	0.62
6{*4,1*}	2.25	309.40	3	1	2	0	2.00	0.29	-0.59	-3.30	0.25	0.46	-0.15	82.32	-0.38	0.31	3.40	0.97
6{*4,2*}	2.12	309.40	3	1	1	0	1.00	0.29	-0.49	-3.67	0.15	0.49	-0.13	82.41	-0.37	0.22	3.48	1.06
6{*4,3*}	2.05	321.41	3	1	0	0	0.00	0.29	-0.52	-3.29	0.25	0.43	-0.14	85.13	-0.52	0.21	3.25	0.84
6{*4,4*}	4.37	365.51	3	1	6	1	6.00	0.23	-0.74	-4.50	0.12	-0.02	-0.06	86.90	-0.73	-0.44	2.98	0.20
6{*4,5*}	2.90	343.42	3	1	1	0	1.00	0.23	-0.47	-4.48	0.20	0.16	-0.20	93.41	-0.51	-0.24	3.06	0.32
6{*4,6*}	2.81	373.45	4	1	2	0	2.00	0.26	-0.86	-4.32	0.03	0.11	-0.32	96.45	-0.54	-0.27	2.99	0.23
6{*4,7*}	3.04	361.41	3	1	1	0	1.00	0.26	-0.89	-4.22	-0.13	0.26	-0.35	100.79	-0.44	0.01	3.17	0.42
6{*4,8*}	2.76	357.45	3	1	2	0	2.00	0.26	-0.65	-4.54	0.05	-0.05	-0.19	93.64	-0.71	-0.36	2.82	0.00
6{*5,1*}	2.11	309.40	3	1	2	0	2.00	0.26	-0.49	-2.65	0.41	0.50	-0.14	73.32	-0.42	-0.03	3.11	0.97
6{*5,2*}	1.98	309.40	3	1	1	0	1.00	0.26	-0.45	-2.78	0.45	0.54	-0.17	79.91	-0.39	-0.03	3.26	1.00
6{*5,3*}	1.91	321.41	3	1	0	0	0.00	0.26	-0.29	-2.73	0.39	0.52	-0.11	78.26	-0.42	0.08	2.99	0.88
6{*5,4*}	4.23	365.51	3	1	6	1	6.00	0.26	-0.64	-3.62	0.44	0.07	-0.12	87.04	-0.61	-0.62	2.83	0.15
6{*5,5*}	2.76	343.42	3	1	1	0	1.00	0.26	-0.50	-3.14	0.40	0.26	-0.27	92.73	-0.44	-0.39	2.63	0.30
6{*5,6*}	2.67	373.45	4	1	2	0	2.00	0.00	-0.82	-2.83	0.17	0.16	-0.28	94.52	-0.44	-0.14	3.10	0.44
6{*5,7*}	2.90	361.41	3	1	1	0	1.00	0.00	-1.00	-2.57	0.23	0.38	-0.43	101.72	-0.31	-0.12	2.77	0.39
6{*5,8*}	2.62	357.45	3	1	2	0	2.00	0.00	-0.56	-3.78	0.36	0.01	-0.19	92.67	-0.59	-0.62	2.49	0.14
average	3.37	351.90	3.08	1.50	4.88	0.52	4.88	0.28	-0.28	-4.43	0.41	0.10	0.19	90.57	-0.56	-0.06	2.00	0.09