Electronic Supplementary Information for

Organocatalytic asymmetric desymmetrization: efficient construction of spirocyclic oxindoles bearing a unique all-carbon quaternary stereogenic center *via* sulfa-Michael addition

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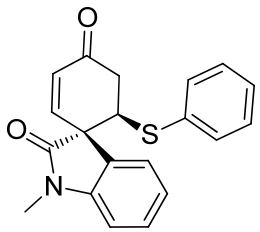
I. General Remarks

^{1}H NMR spectra were recorded on a VARIAN Mercury 300 MHz or Bruker 400 MHz spectrometer in $CDCl_3$. Chemical shifts are reported in ppm with the internal TMS signal at 0.0 ppm as a standard. The data are reported as (s = single, d = double, t = triple, q = quarte, m = multiple or unresolved, brs = broad single, coupling constant(s) in Hz, integration). ^{13}C NMR spectra were recorded on a VARIAN Mercury 75 MHz or Bruker 100 MHz spectrometer in $CDCl_3$ or in DMSO-d_6. Chemical shifts are reported in ppm with the internal chloroform signal at 77.0 ppm and with the internal hexadeuterodimethyl sulfoxide signal at 39.5 ppm as a standard. Commercially obtained reagents were used without further purification. All reactions were monitored by TLC with silica gel-coated plates. Enantiomeric ratios were determined by HPLC, using a chiralpak AS-H column and chiralpak IC column with hexane and *i*-PrOH as solvents. Catalysts **I-VI** were prepared according to our previous report[1]. The spiro cyclohexadienone oxindoles[2] were prepared according to the literature procedure. The racemic adducts were attained by using DABCO as the catalyst. The absolute configuration of **3aj** was determined unequivocally according to the X-ray diffraction analysis of the derived oximes **4E**, and those of other adducts were deduced on the basis of these results.

II. General Procedure for Asymmetric *sulfa*-Michael Addition of Thiols to Spiro Cyclohexadienone Oxindoles Catalyzed by Organocatalysts (I-d)

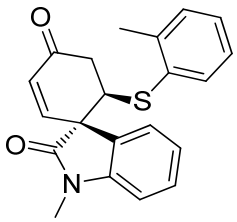
Under argon atmosphere, spiro cyclohexadienone oxindole (0.020 mmol) and the catalyst **I-d** (8.1 mg, 0.012 mmol) were dissolved in 0.5 mL $CHCl_3$. After the mixture was cooled to -20 ^{o}C, thiol (0.22 mmol) was added. The mixture was stirred at this temperature until the consumption of **1** (monitored by TLC analysis). Then, the solvent was removed and the residue was purified by flash chromatography on silica gel to give the corresponding product, which was then directly analyzed by HPLC to determine the enantiomeric excess.



(3aa)

(1*R*,6*R*)-1'-methyl-6-(phenylthio)spiro[cyclohex[2]ene-1,3'-indoline]-2',4-dione:

Yield (92%); Yellow solid; m.p. 47 °C; $[\alpha]^{25}_{D}$ = +86 (*c* 0.23, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.44 (t, *J* = 7.8 Hz, 1H), 7.29-7.21 (m, 6H), 7.11 (t, *J* = 7.5 Hz, 1H), 6.98 (d, *J* = 7.5 Hz, 1H), 6.58 (d, *J* = 10.2 Hz, 1H), 6.25 (d, *J* = 10.2 Hz, 1H), 4.22-4.15 (m, 1H), 3.28 (s, 3H), 3.02-2.98 (m, 2H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 196.6, 176.1, 146.3, 144.3, 133.3, 132.3, 130.1, 129.0, 128.1, 125.3, 125.0, 123.0, 108.9, 54.8, 49.9, 42.0, 26.7; IR (KBr) ν 3068, 3017, 1675, 1568, 1315, 1128, 819 765, 696; HRMS Calcd. For $C_{20}H_{17}NO_2S + H^+$: 336.1061, found: 336.1053. The product was analyzed by HPLC to determine the enantiomeric excess: 84% ee (Chiralpak AS-H, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 230 nm); t_r = 9.97 and 13.20 min.

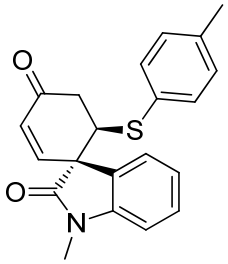


(3ab)

(1*R*,6*R*)-1'-methyl-6-(o-tolylthio)spiro[cyclohex[2]ene-1,3'-indoline]-2',4-dione:

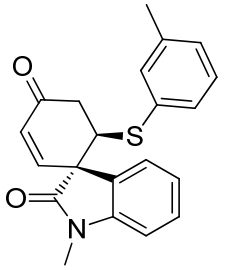
Yield (85%); Light yellow solid; m.p. 53 °C; $[\alpha]^{25}_{D}$ = +105.7 (*c* 0.49, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.44 (t, *J* = 7.5 Hz, 1H), 7.34 (d, *J* = 7.5 Hz, 1H), 7.28 (d, *J* = 7.5 Hz, 1H), 7.16-7.11 (m, 4H), 6.96 (d, *J* = 7.8 Hz, 1H), 6.55 (d, *J* = 9.9 Hz, 1H), 6.23 (d, *J* = 9.9 Hz, 1H), 4.11 (dd, J_1 = 4.8 Hz and J_2 = 13.2 Hz, 1H), 3.23 (s, 3H), 3.10-2.90 (m, 2H), 2.30 (s, 3H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 196.5, 175.9, 146.4, 144.1, 141.1, 130.4, 130.0, 128.5, 126.4, 125.3, 125.0, 123.0, 108.9, 54.6, 48.9, 41.8, 26.5, 20.8; IR (KBr) ν 3030, 2945, 1608, 1473, 1428, 1337, 1129, 818, 756, 699; HRMS Calcd. For $C_{21}H_{19}NO_2S + H^+$: 350.1218, found: 350.1209. The product was analyzed by HPLC to determine the enantiomeric excess: 83% ee

(Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 9.48 and 14.13 min.



(3ac)

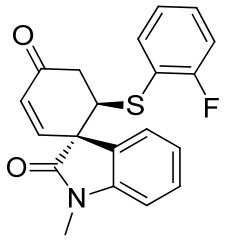
(1*R*,6*R*)-1'-methyl-6-(p-tolylthio)spiro[cyclohex[2]ene-1,3'-indoline]-2',4-dione: Yield (85%); Light yellow solid; m.p. 72 °C; $[\alpha]^{25}_D$ = +113.4 (*c* 0.52, $CHCl_3$); ^1H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.43 (t, *J* = 7.8 Hz, 1H), 7.22-7.16 (m, 3H), 7.11 (d, *J* = 7.5 Hz, 1H), 7.04 (d, *J* = 7.8 Hz, 2H), 6.97 (d, *J* = 7.8 Hz, 1H), 6.56 (d, *J* = 10.2 Hz, 1H), 6.23 (d, *J* = 10.2 Hz, 1H), 4.14-4.10 (m, 1H), 3.28 (s, 3H), 2.99-2.95 (m, 2H), 2.29 (s, 3H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 196.5, 176.0, 146.2, 144.1, 138.2, 133.7, 130.0, 129.9, 129.6, 128.4, 125.2, 124.9, 122.8, 108.8, 54.7, 50.0, 41.7, 26.5, 21.0; IR (KBr) ν 3068, 3013, 1702, 1601, 1319, 1120, 825, 778, 712; HRMS Calcd. For $C_{21}H_{19}NO_2S + H^+$: 350.1218, found: 350.1209. The product was analyzed by HPLC to determine the enantiomeric excess: 82% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 10.81 and 17.16 min.



(3ad)

(1*R*,6*R*)-1'-methyl-6-(m-tolylthio)spiro[cyclohex[2]ene-1,3'-indoline]-2',4-dione: Yield (83%); White solid; m.p. 126 °C; $[\alpha]^{25}_D$ = +109.7 (*c* 0.55, $CHCl_3$); ^1H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.43 (t, *J* = 7.2 Hz, 1H), 7.21-7.10 (m, 6H), 6.97 (d, *J* = 7.8 Hz, 1H), 6.56 (d, *J* = 9.9 Hz, 1H), 6.23 (d, *J* = 9.9 Hz, 1H), 4.17 (t, *J* = 8.1 Hz,

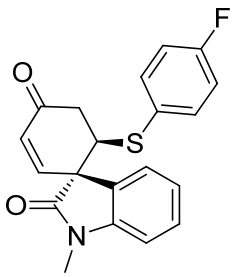
1H), 3.27 (s, 3H), 2.99-2.96 (m, 2H), 2.27 (s, 3H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 196.6, 176.0, 146.2, 144.2, 138.7, 133.8, 131.6, 130.0, 129.9, 128.9, 128.7, 125.2, 125.0, 122.9, 108.8, 107.1, 54.7, 49.5, 41.8, 26.6, 21.1; IR (KBr) ν 3072, 3031, 1698, 1574, 1332, 1173, 809, 747, 687; HRMS Calcd. For $C_{21}H_{19}NO_2S + H^+$: 350.1219, found: 350.1209. The product was analyzed by HPLC to determine the enantiomeric excess: 82% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 10.17 and 14.56 min.



(3ae)

(1*R*,6*R*)-6-((2-fluorophenyl)thio)-1'-methylspiro[cyclohex[2]ene-1,3'-indoline]-2', 4-dione:

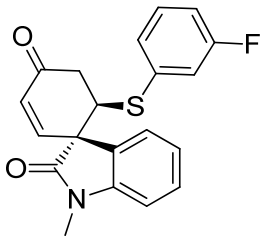
Yield (77%); White solid; m.p. 51 °C; $[\alpha]^{25}_D$ = +132.4 (*c* 0.54, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.44 (t, *J* = 7.8 Hz, 1H), 7.27-7.21 (m, 3H), 7.14-6.96 (m, 4H), 6.56 (d, *J* = 9.9 Hz, 1H), 6.24 (d, *J* = 9.9 Hz, 1H), 4.21 (t, *J* = 9.3 Hz, 1H), 3.25 (s, 3H), 3.03 (d, *J* = 9.6 Hz, 2H); ^{13}C NMR ($CDCl_3$, TMS, 100 MHz) δ 196.3, 175.7, 162.3 (d, *J* = 24.6 Hz), 146.3, 144.2, 135.8, 132.4, 130.6 (d, *J* = 8.0 Hz), 127.8, 125.0, 124.5(d, *J* = 3.9 Hz), 123.2, 123.0, 119.4, 119.2, 160.0 (d, *J* = 22.9 Hz), 108.9, 54.8, 49.1, 41.8, 26.6; IR (KBr) ν 3032, 3013, 1701, 1568, 1437, 1255, 1214, 1108, 818, 754, 699; HRMS Calcd. For $C_{20}H_{16}NO_2FS + H^+$: 354.0970, found: 354.0958. The product was analyzed by HPLC to determine the enantiomeric excess: 88% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 10.54 and 21.55 min.



(3af)

(1*R*,6*R*)-6-((4-fluorophenyl)thio)-1'-methylspiro[cyclohex[2]ene-1,3'-indoline]-2', 4-dione:

Yield (85%); White solid; m.p. 42 °C; $[\alpha]^{25}_{D}$ = +115.5 (*c* 0.54, $CHCl_3$); ^1H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.44 (t, *J* = 7.5 Hz, 1H), 7.27-7.19 (m, 3H), 7.13-7.08 (m, 1H), 7.00-6.91 (m, 3H), 6.57 (d, *J* = 9.9 Hz, 1H), 6.24 (d, *J* = 9.9 Hz, 1H), 4.09 (dd, J_1 = 6.9 Hz and J_2 = 11.7 Hz, 1H), 3.30 (m, 3H), 3.00-2.95 (m, 2H); ^{13}C NMR ($CDCl_3$, TMS, 125 MHz) δ 196.3, 176.1, 162.8 (d, *J* = 247.6 Hz), 146.2, 144.2, 136.0 (d, *J* = 8.5 Hz), 130.1, 127.2 (d, *J* = 2.6 Hz), 125.2, 125.0, 116.1 (d, *J* = 21.9 Hz), 109.0, 54.8, 50.4, 41.8, 26.6; IR (KBr) ν 3057, 3007, 1687, 1591, 1487, 1136, 1074, 827, 765, 694; HRMS Calcd. For $C_{20}H_{16}NO_2FS + H^+$: 354.0968, found: 354.0958. The product was analyzed by HPLC to determine the enantiomeric excess: 88% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 9.04 and 12.45 min.

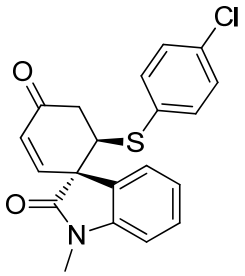


(3ag)

(1*R*,6*R*)-6-((3-fluorophenyl)thio)-1'-methylspiro[cyclohex[2]ene-1,3'-indoline]-2', 4-dione:

Yield (84%); Yellow solid; m.p. 46 °C; $[\alpha]^{25}_{D}$ = +112 (*c* 0.21, $CHCl_3$); ^1H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.45 (t, *J* = 7.8 Hz, 1H), 7.23-7.20 (m, 2H), 7.14-7.09 (m, 2H), 7.00-6.92 (m, 3H), 6.59 (d, *J* = 9.9 Hz, 1H), 6.26 (d, *J* = 10.2 Hz, 1H), 4.25-4.19 (m, 1H), 3.28 (s, 3H), 3.03-2.99 (m, 2H); ^{13}C NMR ($CDCl_3$, TMS, 125 MHz) δ 196.2, 176.0, 162.4 (d, *J* = 248.1 Hz), 146.2, 144.3, 134.5, 134.4, 130.2, 128.5, 125.1, 125.0,

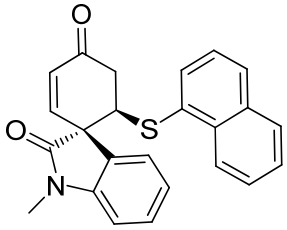
123.1, 119.7 (d, J = 21.9 Hz), 115.2 (d, J = 20.6 Hz), 109.0, 54.7, 49.7, 41.9, 26.7; IR (KBr) ν 3046, 2981, 1693, 1582, 1502, 1227, 1216, 1113, 830, 767, 685; HRMS Calcd. For $C_{20}H_{16}NO_2FS + H^+$: 354.0966, found: 354.0958. The product was analyzed by HPLC to determine the enantiomeric excess: 85% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 9.82 and 11.53 min.



(3ah)

(1*R*,6*R*)-6-((4-chlorophenyl)thio)-1'-methylspiro[cyclohex[2]ene-1,3'-indoline]-2',4-dione:

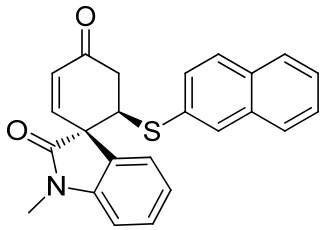
Yield (95%); White solid; m.p. 51 °C; $[\alpha]^{25}_D$ = +140.3 (*c* 0.80, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.45 (t, J = 7.8 Hz, 1H), 7.22 (m, 5H), 7.11 (t, J = 7.5 Hz, 1H), 6.98 (d, J = 8.7 Hz, 1H), 6.58 (d, J = 9.9 Hz, 1H), 6.25 (d, J = 9.9 Hz, 1H), 4.14 (dd, J_1 = 6.6 Hz and J_2 = 12.3 Hz, 1H), 3.28 (s, 3H), 3.00-2.96 (m, 2H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 196.2, 176.0, 146.2, 144.2, 134.7, 134.4, 130.7, 130.1, 129.2, 125.2, 125.1, 123.1, 109.0, 54.8, 50.0, 41.8, 26.7; IR (KBr) ν 3048, 2940, 1617, 1484, 1472, 1254, 1103, 1054, 823, 751, 695; HRMS Calcd. For $C_{20}H_{16}NO_2SCl + H^+$: 370.0670, found: 370.0670. The product was analyzed by HPLC to determine the enantiomeric excess: 86% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 10.78 and 14.50 min.



(3ai)

(1*R*,6*R*)-1'-methyl-6-(naphthalen-1-ylthio)spiro[cyclohex[2]ene-1,3'-indoline]-2',4-dione:

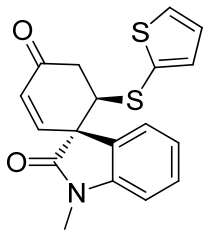
Yield (86%); White solid; m.p. 70 ^{o}C; $[\alpha]^{25}_{D}$ = +87.1 (*c* 0.77, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 8.23 (d, *J* = 8.1 Hz, 1H), 7.81-7.79 (m, 2H), 7.63 (d, *J* = 6.9 Hz, 1H), 7.55-7.25 (m, 6H), 7.18-7.13 (m, 1H), 6.93 (d, *J* = 7.8Hz, 1H), 6.55 (d, *J* = 9.9 Hz, 1H), 6.21 (d, *J* = 9.9 Hz, 1H), 4.26 (dd, J_1 = 4.8 Hz and J_2 = 13.5 Hz, 1H), 3.16 (s, 3H), 3.06-2.85 (m, 2H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 196.3, 175.8, 146.4, 144.1, 134.2 134.1, 133.9, 129.9, 129.6, 129.0, 128.4, 126.8, 126.2, 125.5, 125.4, 125.3, 125.0, 122.9, 109.0, 54.6, 49.5, 41.6, 26.4; IR (KBr) ν 3057, 3016, 1698, 1591, 1482, 1351, 1137, 817, 750, 685; HRMS Calcd. For $C_{24}H_{19}NO_2S$ + H^+: 386.1218, found: 386.1209. The product was analyzed by HPLC to determine the enantiomeric excess: 92% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 11.73 and 17.38 min.



(3aj)

(1*R*,6*R*)-1'-methyl-6-(naphthalen-2-ylthio)spiro[cyclohex[2]ene-1,3'-indoline]-2',4-dione:

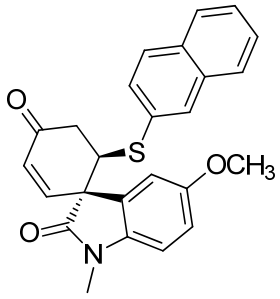
Yield (89%); White solid; m.p. 61 ^{o}C; $[\alpha]^{25}_{D}$ = +152.9 (*c* 0.77, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.79-7.72 (m, 4H), 7.49-7.47 (m, 3H), 7.38 (d, *J* = 8.4 Hz, 1H), 7.26-7.22 (m, 1H), 7.15-7.10 (m, 1H), 6.99 (d, *J* = 6.9 Hz, 1H), 6.59 (d, *J* = 9.9 Hz, 1H), 6.25 (d, *J* = 9.9 Hz, 1H), 4.32 (t, *J* = 9.6 Hz, 1H) 3.25 (s, 3H), 3.04-3.01 (m, 2H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 196.4, 176.1, 146.3, 144.2, 133.2, 132.6, 130.2, 130.1, 130.0, 129.2, 128.7, 127.6, 127.5, 126.6, 125.3, 125.1, 123.0, 109.0, 54.8, 49.3, 41.8, 26.6; IR (KBr) ν 3054, 3018, 1710, 1580, 1472, 1352, 1140, 823, 756, 691; HRMS Calcd. For $C_{24}H_{19}NO_2S$ + H^+: 386.1217, found: 386.1209. The product was analyzed by HPLC to determine the enantiomeric excess: 88% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 13.66 and 18.92 min.



(3ak)

(1*R*,6*R*)-1'-methyl-6-(thiophen-2-ylthio)spiro[cyclohex[2]ene-1,3'-indoline]-2',4-dione:

Yield (83%); Yellow solid; m.p. 53 ^{o}C; $[\alpha]^{25}_{D}$ = +99 (*c* 0.18, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.44 (t, *J* = 7.5 Hz, 1H), 7.33 (d, *J* = 4.5 Hz, 1H), 7.18-7.06 (m, 2H), 6.99 (d, *J* = 7.8 Hz, 1H), 6.90-6.86 (m, 2H), 6.56 (d, *J* = 9.9 Hz, 1H), 6.24 (d, *J* = 9.9 Hz, 1H), 4.02 (dd, J_1 = 5.7 Hz and J_2 = 12.6 Hz, 1H), 3.34 (s, 3H), 3.10-2.92 (m, 2H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 196.4, 175.9, 146.1, 144.3, 136.1, 131.1, 130.1, 129.6, 127.6, 125.2, 124.9, 123.0, 109.0, 54.6, 51.6, 41.3, 26.7; IR (KBr) ν 3034, 3087, 1614, 1527, 1432, 1325, 1134, 864, 826, 743, 690; HRMS Calcd. For $C_{18}H_{15}NO_2S_2$ + H^+: 342.0624, found: 342.0617. The product was analyzed by HPLC to determine the enantiomeric excess: 95% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 12.98 and 18.15 min.

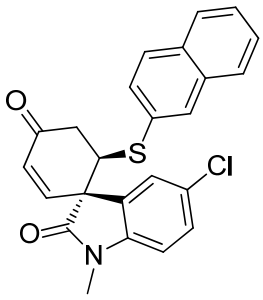


(3bj)

(1*R*,6*R*)-5'-methoxy-1'-methyl-6-(naphthalen-2-ylthio)spiro[cyclohex[2]ene-1,3'-indoline]-2',4-dione:

Yield (85%); White solid; m.p. 86 ^{o}C; $[\alpha]^{25}_{D}$ = +201.9 (*c* 0.84, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.79-7.72 (m, 4H), 7.49-7.46 (m, 2H), 7.39-7.36 (m, 1H), 6.97-6.88 (m, 2H), 6.79 (s, 1H), 6.59 (d, *J* = 9.6 Hz, 1H), 6.25 (d, *J* = 9.9 Hz, 1H), 4.30 (t, *J* = 9.3 Hz, 1H), 3.75 (s, 3H), 3.22 (s, 3H), 3.01 (d, *J* = 10.2 Hz, 2H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 196.3, 175.5, 155.9, 146.3, 137.5, 133.1, 132.5,

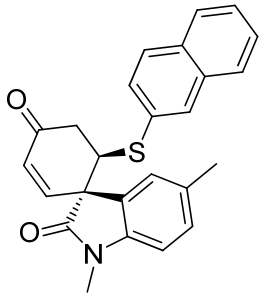
130.2, 129.9, 129.1, 128.5, 127.5, 127.4, 126.4, 113.8, 112.6, 109.1, 55.6, 55.1, 49.0, 41.6, 26.6; IR (KBr) ν 3064, 3012, 1702, 1611, 1452, 1375, 1127, 1070, 820, 743, 690; HRMS Calcd. For $C_{25}H_{21}NO_3S$ + H^+: 416.1325, found: 416.1315. The product was analyzed by HPLC to determine the enantiomeric excess: 84% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 17.12 and 25.34 min.



(3cj)

(1*R*,6*R*)-5'-chloro-1'-methyl-6-(naphthalen-2-ylthio)spiro[cyclohex[2]ene-1,3'-indoline]-2',4-dione:

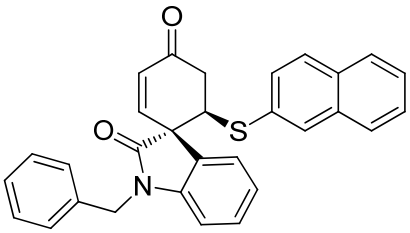
Yield (80%); White solid; m.p. 98 °C; $[\alpha]^{25}_D$ = +223.7 (*c* 0.66, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.81-7.71 (m, 4H), 7.50-7.47 (m, 2H), 7.44-7.41 (m, 1H), 7.38-7.35 (m, 1H), 7.19-7.18 (m, 1H), 6.91 (d, *J* = 8.1 Hz, 1H), 6.55 (d, *J* = 9.9 Hz, 1H), 6.27 (d, *J* = 9.9 Hz, 1H), 4.32-4.26 (m, 1H), 3.21 (s, 3H), 3.02-2.98 (m, 2H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 195.9, 175.6, 145.3, 142.8, 133.2, 132.6, 130.5, 130.1, 129.9, 128.7, 128.3, 127.6, 127.4, 127.0, 126.6, 125.5, 109.8, 54.9, 49.0, 41.6, 26.7; IR (KBr) ν 3030, 3014, 1698, 1589, 1491, 1472, 1324, 1132, 1084, 817, 745, 696; HRMS Calcd. For $C_{24}H_{18}NO_2SCl$ + Na^+: 442.0647, found: 442.0639. The product was analyzed by HPLC to determine the enantiomeric excess: 84% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 12.54 and 17.21 min.



(3dj)

(1*R*,6*R*)-1',5'-dimethyl-6-(naphthalen-2-ylthio)spiro[cyclohex[2]ene-1,3'-indoline]-2',4-dione:

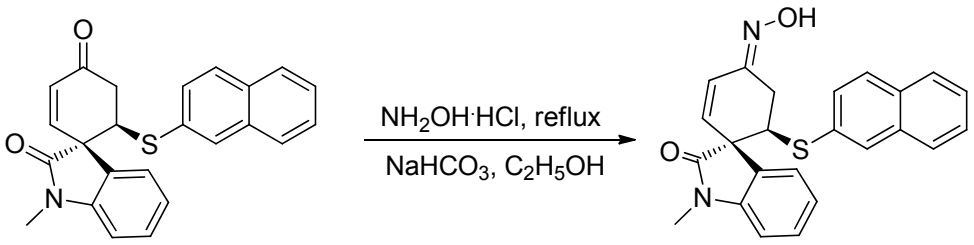
Yield (81%); White solid; m.p. 72 °C; $[\alpha]^{25}_{D}$ = +191.6 (*c* 0.43, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.79-7.71 (m, 4H), 7.48-7.47 (m, 2H), 7.37 (d, *J* = 8.1 Hz, 1H), 7.26-7.23 (m, 1H), 6.99 (s, 1H), 6.88 (d, *J* = 7.8 Hz, 1H), 6.58 (d, *J* = 9.9 Hz, 1H), 6.24 (d, *J* = 9.9 Hz, 1H), 4.33-4.27 (m, 1H), 3.24 (s, 3H), 3.05-3.01 (m, 2H), 2.30 (s, 3H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 196.6, 176.0, 146.6, 141.8, 133.2, 132.6, 130.3, 130.0, 129.1, 128.5, 127.5, 127.4, 126.5, 125.8, 125.1, 108.7, 54.9, 49.1, 41.7, 26.6, 21.0; IR (KBr) ν 3043, 1702, 1596, 1483, 1459, 1231, 1145, 821, 752, 689； HRMS Calcd. For $C_{25}H_{21}NO_2S + H^+$: 400.1373, found: 400.1366. The product was analyzed by HPLC to determine the enantiomeric excess: 82% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 14.25 and 21.62 min.



(3ej)

(1*R*,6*R*)-1'-benzyl-6-(naphthalen-2-ylthio)spiro[cyclohex[2]ene-1,3'-indoline]-2',4-dione:

Yield (82%); White solid; m.p. 75 °C; $[\alpha]^{25}_{D}$ = +177.2 (*c* 0.89, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.79-7.72 (m, 4H), 7.49-7.38 (m, 5H), 7.30-7.23 (m, 3H), 7.06 (t, *J* = 7.2 Hz, 1H), 6.86 (d, *J* = 7.2 Hz, 1H), 6.64 (d, *J* = 9.9 Hz, 1H), 6.27 (d, *J* = 10.2 Hz, 1H), 5.15 (d, *J* = 15.9 Hz, 1H), 4.85 (d, *J* = 15.9 Hz, 1H), 4.36 (dd, J_1 = 5.4 Hz, J_2 = 12.6 Hz 1H), 3.16-3.07 (m, 2H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 196.4, 176.4, 146.2, 143.3, 135.0, 133.3, 132.5, 130.1, 130.0, 129.3, 128.7, 127.7, 127.6, 127.5, 127.3, 126.5, 125.3, 125.1, 123.0, 110.1, 54.8, 49.3, 44.3, 42.1; IR (KBr) ν 3074, 3021, 1715, 1587, 1485, 1457, 1252, 1234, 814, 748, 685； HRMS Calcd. For $C_{30}H_{23}NO_2S + H^+$: 462.1527, found: 462.1522. The product was analyzed by HPLC to determine the enantiomeric excess: 92% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 11.16 and 14.19 min.

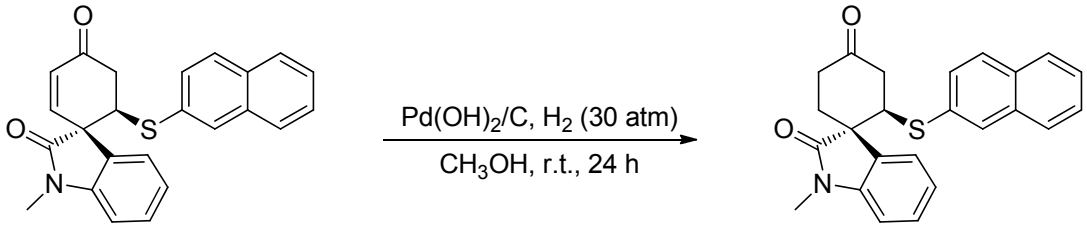


3aj, 88%ee **4E**

Under argon atmosphere, **3aj** (77 mg, 0.2 mmol, 88% ee) and $NaHCO_3$ were dissolved in 2 mL C_2H_5OH, and hydroxylammonium chloride (16.8 mg, 0.24 mmol) was added, the mixture was refluxed for 2 h. Then, the solvent was evaporated and the residue was purified by column chromatography followed by recrystallization (in CH_3OH/DCM) to give **(1*R*,6*R*)-4E** in 36% yield, which was then directly analyzed by HPLC to determine the enantiomeric excess.

(1*R*,6*R*,*E*)-4-(hydroxyimino)-1'-methyl-6-(naphthalen-2-ylthio)spiro[cyclohex[2]ene-1,3'-indolin]-2'-one: White solid; m.p. 193 °C; $[\alpha]^{25}_{D}$ = +103.1 (*c* 0.37, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.78-7.72 (m, 4H), 7.45-7.42 (m, 4H), 7.18-7.10 (m, 2H), 6.97-6.94 (m, 1H), 6.41 (d, *J* = 9.6 Hz, 1H), 5.92 (d, *J* = 9. Hz, 1H), 4.06-4.02 (m, 1H), 3.68-3.62 (m, 1H), 3.24 (s, 3H), 2.79 (t, *J* = 16.5Hz, 1H); ^{13}C NMR (DMSO-d_6, TMS, 75 MHz) δ 176.4, 151.6, 144.0, 133.1, 131.9, 131.7, 130.7, 130.0, 129.3, 129.0, 128.6, 127.6, 127.5, 127.3, 126.8, 126.4, 126.1, 124.7, 122.6, 109.0, 54.1, 48.2, 27.1, 26.4; IR (KBr) ν 3407, 3034, 2935, 1701, 1684, 1611, 1482, 1452, 1341, 1129, 813, 742, 685; The product was analyzed by HPLC to determine the enantiomeric excess: 88% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 17.50 and 25.10 min.

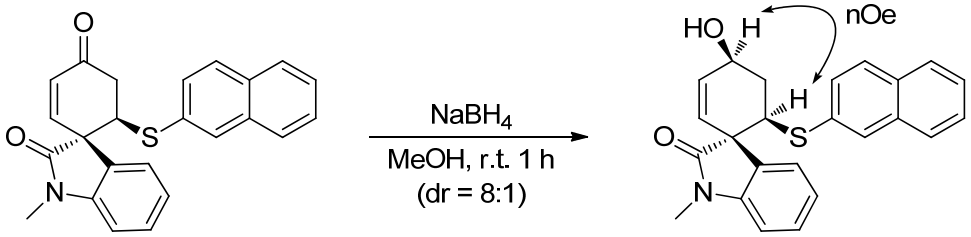
III. Synthetic Application of the Michael Adduct 3aj.



3aj, 88%ee **5**, 92% yield, >20:1 dr, 88%ee

To a solution of **3aj** (77 mg, 0.2 mmol, 88% ee) in 2 mL CH_3OH was added $Pd(OH)_2/C$ (7.7 mg, 10% w/w). The mixture was stirred under H_2 (30 atm) at room temperature for 24 h. Then, the solvent was evaporated and the residue was purified by column chromatography to give **5** in 92% yield, which was then directly analyzed by HPLC to determine the enantiomeric excess.

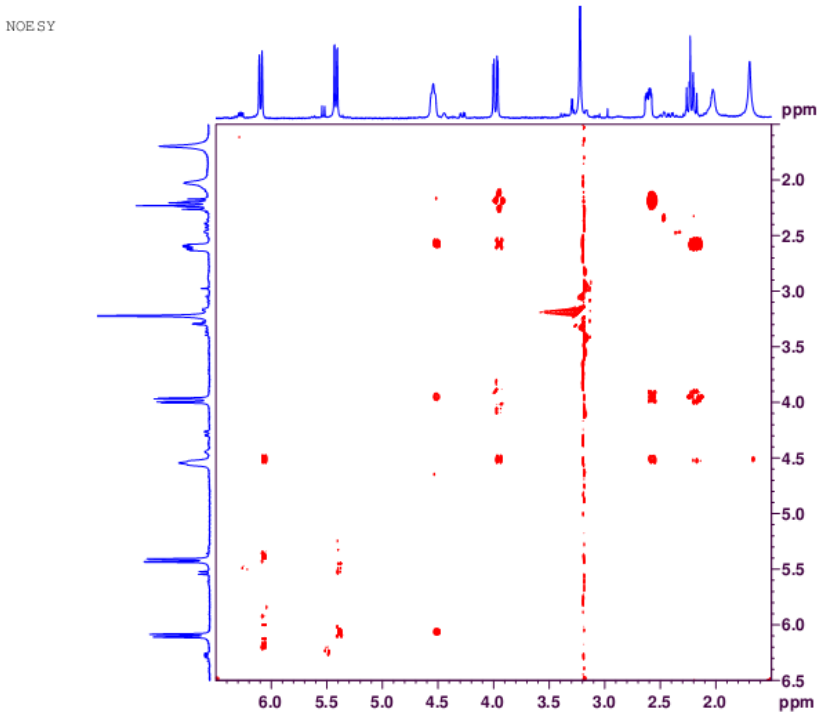
(1*R*,2*R*)-1'-methyl-2-(naphthalen-2-ylthio)spiro[cyclohexane-1,3'-indoline]-2',4-di one: White solid; m.p. 61 °C; $[\alpha]^{25}_D$ = +43.7 (*c* 0.35, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.79-7.69 (m, 4H), 7.49-7.43 (m, 4H), 7.37 (d, *J* = 8.7 Hz, 1H), 7.13 (t, *J* = 7.8 Hz, 1H), 7.02 (d, *J* = 7.8 Hz, 1H), 3.97 (dd, J_1 = 6.9 Hz, J_2 = 11.4 Hz 1H), 3.27 (s, 3H), 3.01-2.97 (m, 2H), 2.85-2.74 (m, 1H), 2.61-2.56 (m, 1H), 2.43-2.32 (m, 1H), 2.01-1.95 (m, 1H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 206.9, 177.7, 144.0, 133.3, 132.6, 130.3, 129.6, 129.2, 128.9, 128.6, 127.6, 127.5, 126.5, 124.6, 122.5, 108.9, 51.5, 51.3, 45.7, 36.8, 32.8, 26.6; IR (KBr) ν 3057, 1721, 1603, 1583, 1317, 1115, 819, 736, 678； HRMS Calcd. For $C_{24}H_{21}NO_2S + H^+$: 388.1379, found: 388.1366. The product was analyzed by HPLC to determine the enantiomeric excess: 88% ee (Chiralpak IC, *i*-propanol/hexane = 50/50, flow rate 1.0 mL/min, λ = 254 nm); t_r = 13.93 and 21.18 min.

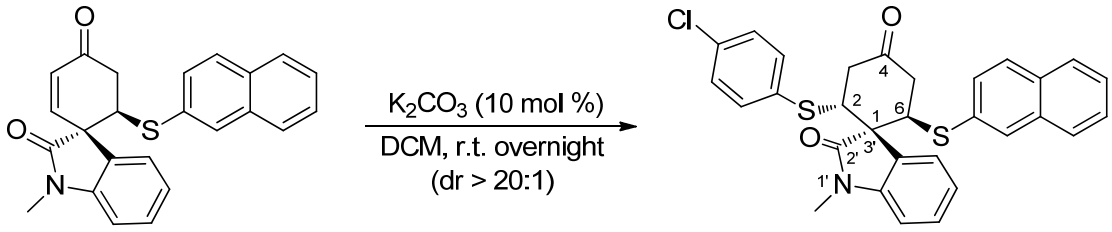


3aj, 88%ee **6**, 99% yield, 88%ee

To a solution of **3aj** (77 mg, 0.2 mmol, 88% ee) in 2 mL MeOH was added $NaBH_4$ (8.4 mg, 1.1 eq.), the mixture was stirred at this temperature for 1 h. Then, the solvent was evaporated and the residue was purified by column chromatography to give **6** in 99% yield, which was then directly analyzed by HPLC to determine the enantiomeric excess.

(1*R*,4*S*,6*R*)-4-hydroxy-1'-methyl-6-(naphthalen-2-ylthio)spiro[cyclohex[2]ene-1,3'-indolin]-2'-one: White solid; m.p. 78 °C; $[\alpha]^{25}_{D}$ = +95.1 (*c* 0.84, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.74-7.71 (m, 4H), 7.48-7.39 (m, 5H), 7.14 (t, *J* = 7.5 Hz, 1H), 6.90 (d, *J* = 7.2 Hz, 1H), 6.05 (d, *J* = 9.9 Hz, 1H), 5.37 (d, *J* = 9.9 Hz, 1H), 4.49 (s, 1H), 3.93 (d, *J* = 12.6 Hz, 1H), 3.17 (s, 3H), 2.58-2.53 (m, 1H), 2.16 (q, *J* = 13.2 Hz, 1H), 1.93 (s, 1H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 177.9, 143.5, 134.4, 133.1, 132.2, 131.4, 130.6, 129.9, 128.9, 128.8, 128.3, 127.4, 127.2, 126.3, 126.1, 125.9, 125.3, 122.6, 108.2, 66.2, 54.3, 48.8, 36.3, 26.3; IR (KBr) ν 3407, 3052, 2930, 1695, 1609, 1491, 1469, 1351, 1132, 816, 747, 695; HRMS Calcd. For $C_{24}H_{21}NO_2S + Na^+$: 410.1192, found: 410.11852. The product was analyzed by HPLC to determine the enantiomeric excess: 88% ee (Chiralpak IC, *i*-propanol/hexane = 10/90, flow rate 1.0 mL/min, λ = 254 nm); t_r = 32.63 and 42.00 min.



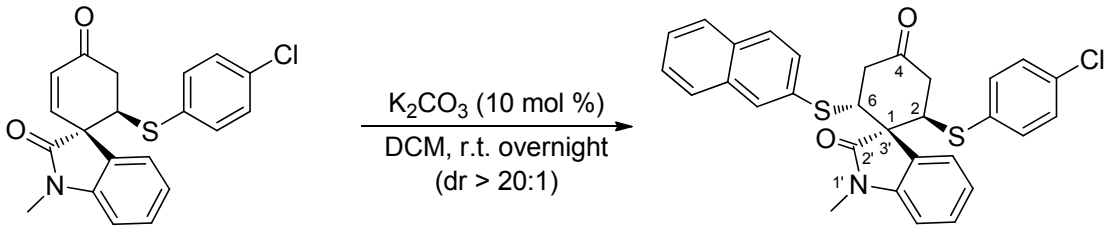


3aj, 88%ee

7, 81% yield, 88%ee

Under argon atmosphere, **3aj** (77.1 mg, 0.2 mmol, 88% ee) and K_2CO_3 (2.7 mg, 0.02 mmol) were dissolved in 2 mL DCM, and 4-Chlorothiophenol (31.8 mg, 0.22 mmol) was added, the mixture was stirred at room temperature overnight. Then, the solvent was evaporated and the residue was purified by column chromatography to give **7** in 81% yield, which was then directly analyzed by HPLC to determine the enantiomeric excess.

(1*R*,2*R*,6*R*)-2-((4-chlorophenyl)thio)-1'-methyl-6-(naphthalen-2-ylthio)spiro[cyclohexane-1,3'-indoline]-2',4-dione: White solid; m.p. 83 ^{o}C; $[\alpha]^{25}_{D}$ = +10.5 (*c* 0.44, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.76-7.69 (m, 4H), 7.48-7.34 (m, 4H), 7.26-7.24 (m, 1H), 7.11 (d, J = 8.4 Hz, 2H), 6.96-6.91 (m, 4H), 4.02 (dd, J_1 = 5.1 Hz and J_2 = 12.6 Hz, 1H), 3.85 (t, J = 5.1 Hz, 1H), 3.57 (dd, J_1 = 4.2 Hz and J_2 = 15.6 Hz, 1H), 3.46-3.36 (m, 1H), 3.28 (s, 3H), 2.88 (dd, J_1 = 4.5 Hz and J_2 = 15.9 Hz, 1H), 2.63 (dd, J_1 = 5.1 Hz and J_2 = 15.9 Hz, 1H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 205.9, 175.3, 143.9, 134.8, 134.3, 133.4, 132.8, 132.6, 131.7, 130.0, 129.2, 129.0, 128.9, 128.5, 127.6, 127.5, 126.7, 126.5, 122.2, 108.2, 54.8, 51.1, 50.5, 44.3, 42.1, 26.4; IR (KBr) ν 3046, 1711, 1618, 1482, 1347, 1123, 827, 745, 697； HRMS Calcd. For $C_{30}H_{24}NO_2S_2Cl + Na^+$: 552.0842, found: 552.0829. The product was analyzed by HPLC to determine the enantiomeric excess: 88% ee (Chiralpak IC, *i*-propanol/hexane = 30/70, flow rate 1.0 mL/min, λ = 254 nm); t_r = 17.50 and 25.10 min.



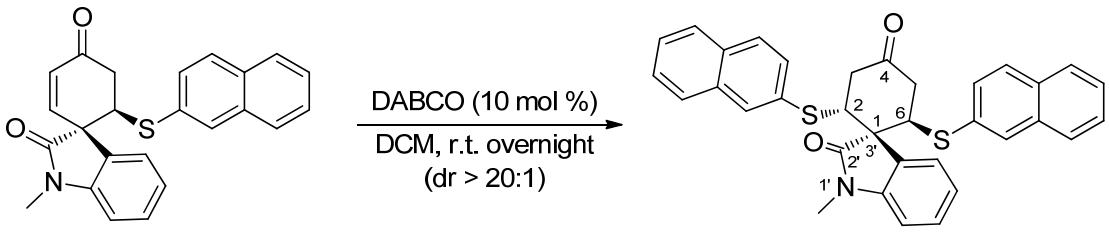
3ah, 86%ee

epi-**7**, 85% yield, 86%ee

Under argon atmosphere, **3ah** (73.8 mg, 0.2 mmol, 88% ee) and K_2CO_3 (2.7 mg, 0.02 mmol) were dissolved in 2 mL DCM, and 4-Chlorothiophenol (31.8 mg, 0.22 mmol) was added, the mixture was stirred at room temperature overnight. Then, the solvent was evaporated and the residue was purified by column chromatography to give *epi*-**7** in 85% yield, which was then directly analyzed by HPLC to determine the enantiomeric excess.

(1*S*,2*R*,6*R*)-2-((4-chlorophenyl)thio)-1'-methyl-6-(naphthalen-2-ylthio)spiro[cyclohexane-1,3'-indoline]-2',4-dione: White solid; m.p. 81 °C; $[\alpha]^{25}_D$ = +11.2 (*c* 0.37, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.77-7.75 (m, 1H), 7.65-7.62 (m, 2H), 7.48-7.43 (m, 3H), 7.32-7.26 (m, 2H), 7.20-7.14 (m, 5H), 6.94 (d, J = 7.5 Hz, 1H), 6.79-6.75 (m, 1H), 4.08-4.04 (m, 1H), 3.74 (m, 1H), 3.59-3.40 (m, 2H), 3.34 (s, 3H), 2.95- 2.90 (m, 1H), 2.60-2.54 (m, 1H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 206.1, 134.8, 133.2, 132.6, 130.3, 129.4, 128.6, 127.6, 126.6, 126.4, 122.1, 108.3, 51.5, 50.0, 44.5, 42.1, 26.5, 14.2; IR (KBr) ν 3061, 2935, 1715, 1514, 1472, 1341, 1126, 817, 750, 691； The product was analyzed by HPLC to determine the enantiomeric excess: 86% ee (Chiralpak IC, *i*-propanol/hexane = 30/70, flow rate 1.0 mL/min, λ = 254 nm); t_r = 19.78 and 32.49 min.

Scheme S1. Control experiment verifying 2,6-*trans* configuration in double SMA.



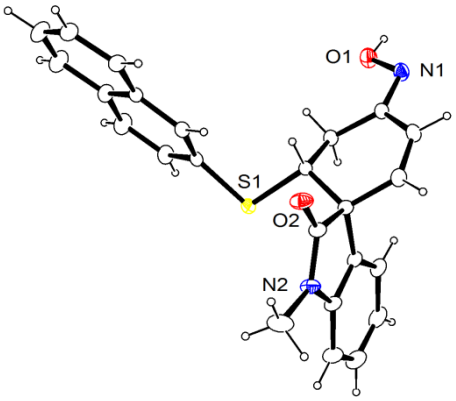
3aj, 88%ee

8, 70% yield, 88%ee

Under argon atmosphere, **3aj** (77 mg, 0.2 mmol, 88% ee) and DABCO (2.2 mg, 0.02 mmol) were dissolved in 2 mL DCM, and 2-Naphthalenethiol (35.3 mg, 0.22 mmol) was added, the mixture was stirred at room temperature overnight. Then, the solvent was evaporated and the residue was purified by column chromatography to give **8** in 70% yield, which was then directly analyzed by HPLC to determine the enantiomeric excess. This control experiment demonstrates that the two substituted groups at 2,6-position in the cyclohexanone are in *trans* configuration, otherwise *meso*-compound should be generated.

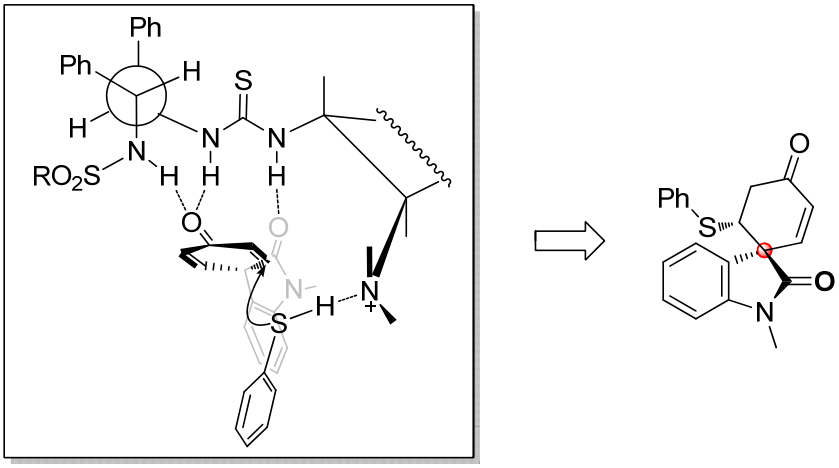
(2*R*,6*R*)-1'-methyl-2,6-bis(naphthalen-2-ylthio)spiro[cyclohexane-1,3'-indoline]-2',4-dione: White solid; mp 79 °C; $[\alpha]^{25}_{D}$ = +10 (*c* 0.27, $CHCl_3$); ^{1}H NMR ($CDCl_3$, TMS, 300 MHz) δ 7.76-7.64 (m, 6H), 7.46-7.27 (m, 9H), 7.17 (d, *J* = 8.1 Hz, 1H), 6.95 (d, *J* = 6.6 Hz, 1H), 6.80 (t, *J* = 7.2 Hz, 1H), 4.15-4.11 (m, 1H), 3.89 (m, 1H), 3.61-3.44 (m, 2H), 3.32 (s, 3H), 2.97-2.92 (m, 1H), 2.67-2.61 (m, 1H); ^{13}C NMR ($CDCl_3$, TMS, 75 MHz) δ 206.3, 175.5, 144.0, 133.1, 132.7, 132.5, 130.3, 130.0, 129.3, 129.1, 128.8, 128.5, 127.6, 126.6, 126.4, 122.1, 108.2, 54.8, 51.1, 50.0, 44.6, 42.1, 26.4; IR (KBr) ν 3057, 1696, 1607, 1484, 1312, 1023, 857, 762, 662； HRMS Calcd. For $C_{34}H_{27}NO_2S_2$ + Na^+: 568.1370, found: 568.1375. The product was analyzed by HPLC to determine the enantiomeric excess: 88% ee (Chiralpak IC, *i*-propanol/hexane = 30/70, flow rate 1.0 mL/min, λ = 254 nm); t_r = 22.00 and 38.87 min.

IV. X-ray Crystal Structures of (1*R*,6*R*)-4*E*



Crystal data for (**1*R*,6*R*)-4E**: $C_{24}H_{20}N_2O_2S$, M_r = 400.48, T = 296 K, Orthorhombic, space group $P2_12_12_1$, a = 8.8678(9), b = 9.3161(9), c = 24.972(3) Å, V = 2063.0(4) Å^3, Z = 4, 4277 reflections measured, 3493 unique (R_{int} = 0.0363) which were used in all caclculations. The final wR_2 = 0.0851 (all data), Flack χ = 0.02(7). CCDC 932106 contains the supplementary crystallographic data, which can be obtained free of charge via www.ccdc.cam.ac.uk/conts/retrieving.html (or from the Cambridge Crystallographic Data Centre, 12, Union Road, Cambridge CB21EZ, UK; fax: (+44) 1223-336-033; or deposit@ccdc.cam.ac.uk).

V. Proposed transition-state model for our catalytic system

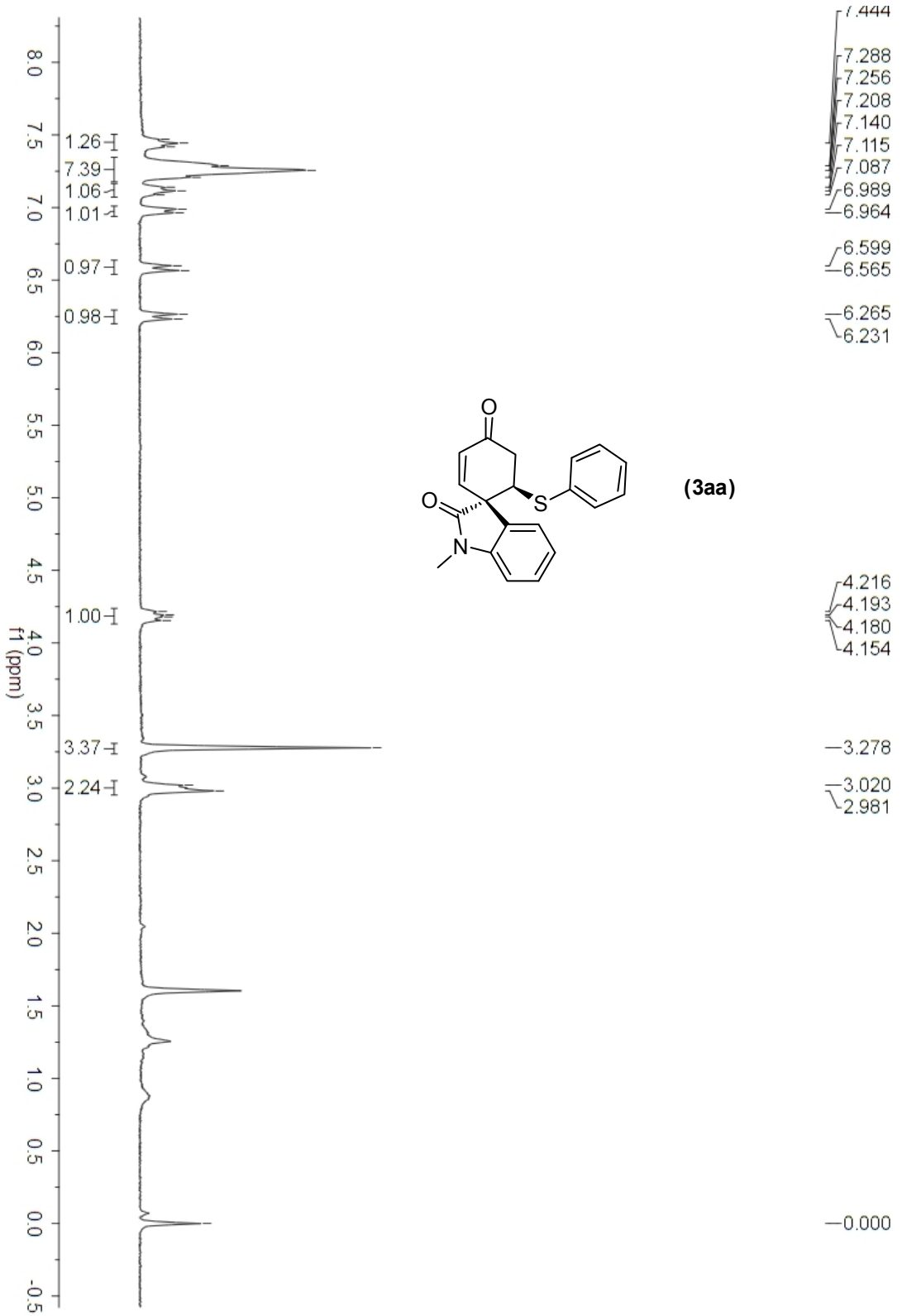


VI. Reference

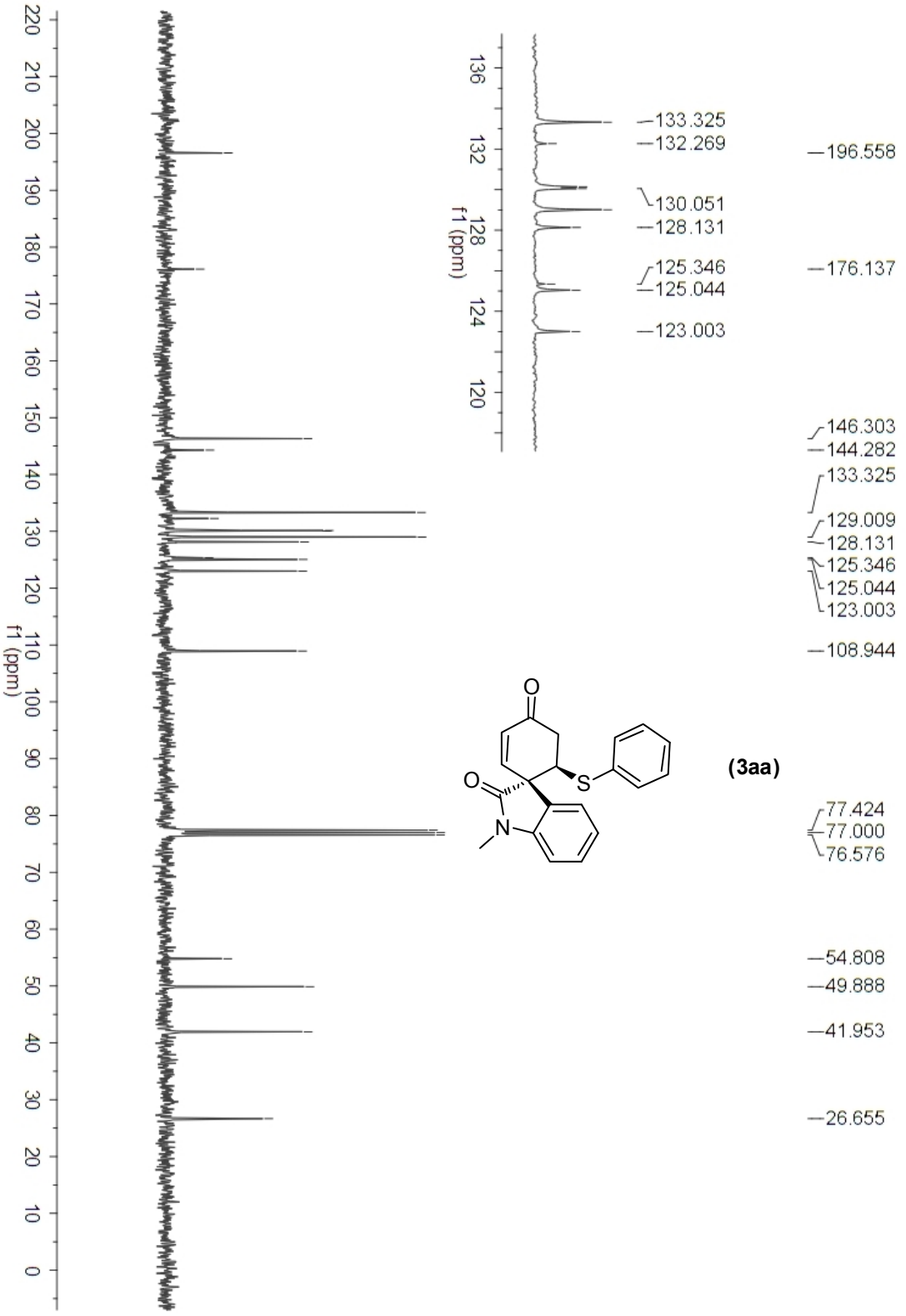
[1] a) T. Okino, Y. Hoashi, Y. Takemoto, *J. Am. Chem. Soc.* **2003**, *125*, 12672; b) B. Vakulya, S. Varga, A. Csampai, T. Soos, *Org. Lett.* **2005**, *7*, 1967; c) T. Marcelli, J. H. van Maarseveen, H. Hiemstra, *Angew. Chem. Int. Ed.* **2006**, *45*, 7496; d) S. J. Connon, *Chem. Commun.* **2008**, 2499; e) C. J. Wang, Z. H. Zhang, X. Q. Dong, X. J. Wu, *Chem. Commun.* **2008**, *0*, 1431.

[2] a) G. O'Mahony, A. K. Pitts, *Org. Lett.* **2010**, *12*, 2024; b) W. Yu, Z. Yu, X. Ju, J. Wang, *Synthesis* **2011**, *2011*, 860.

VII. ^{1}H NMR and ^{13}C NMR Spectra



(3aa)


f1 (ppm)
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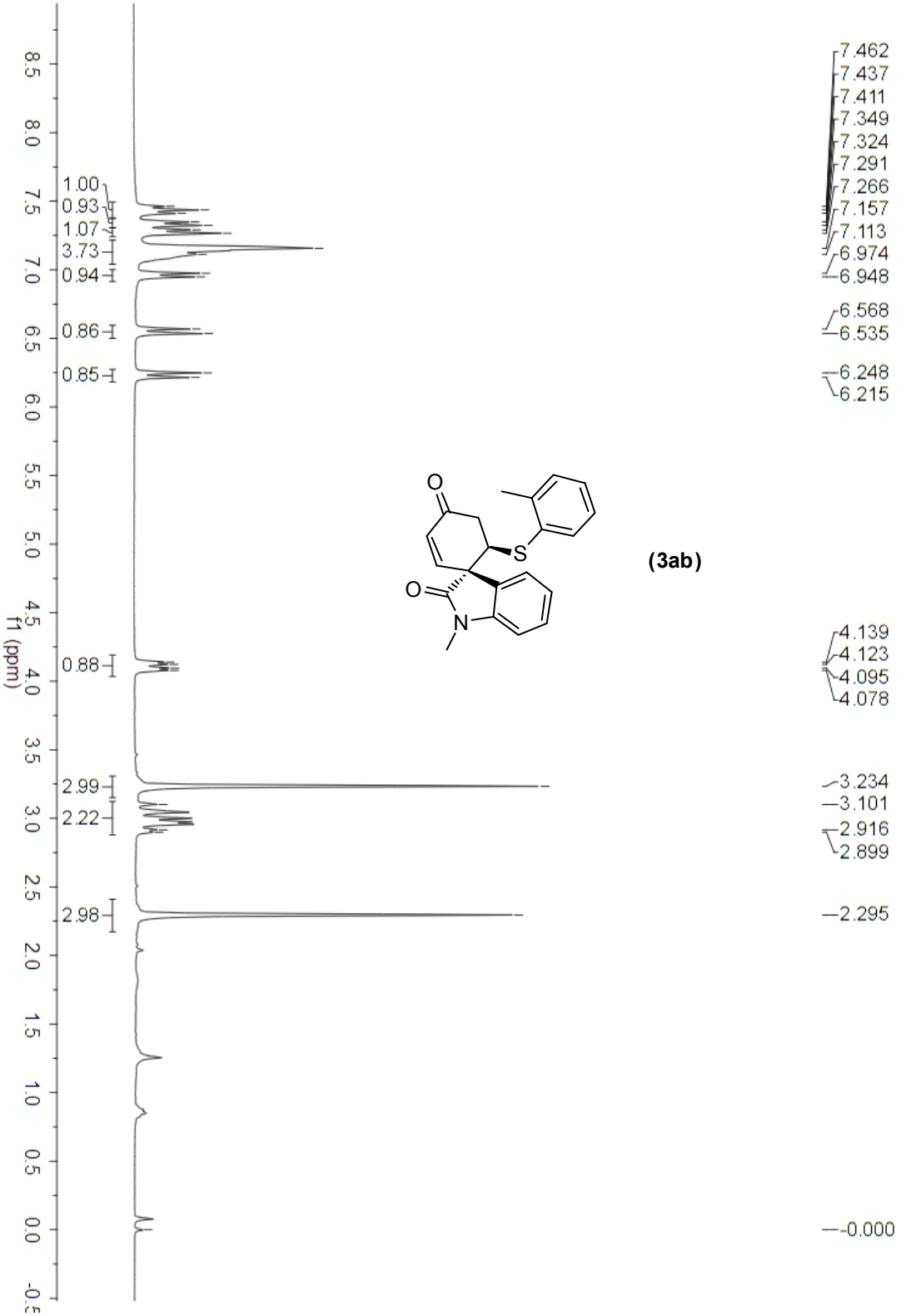
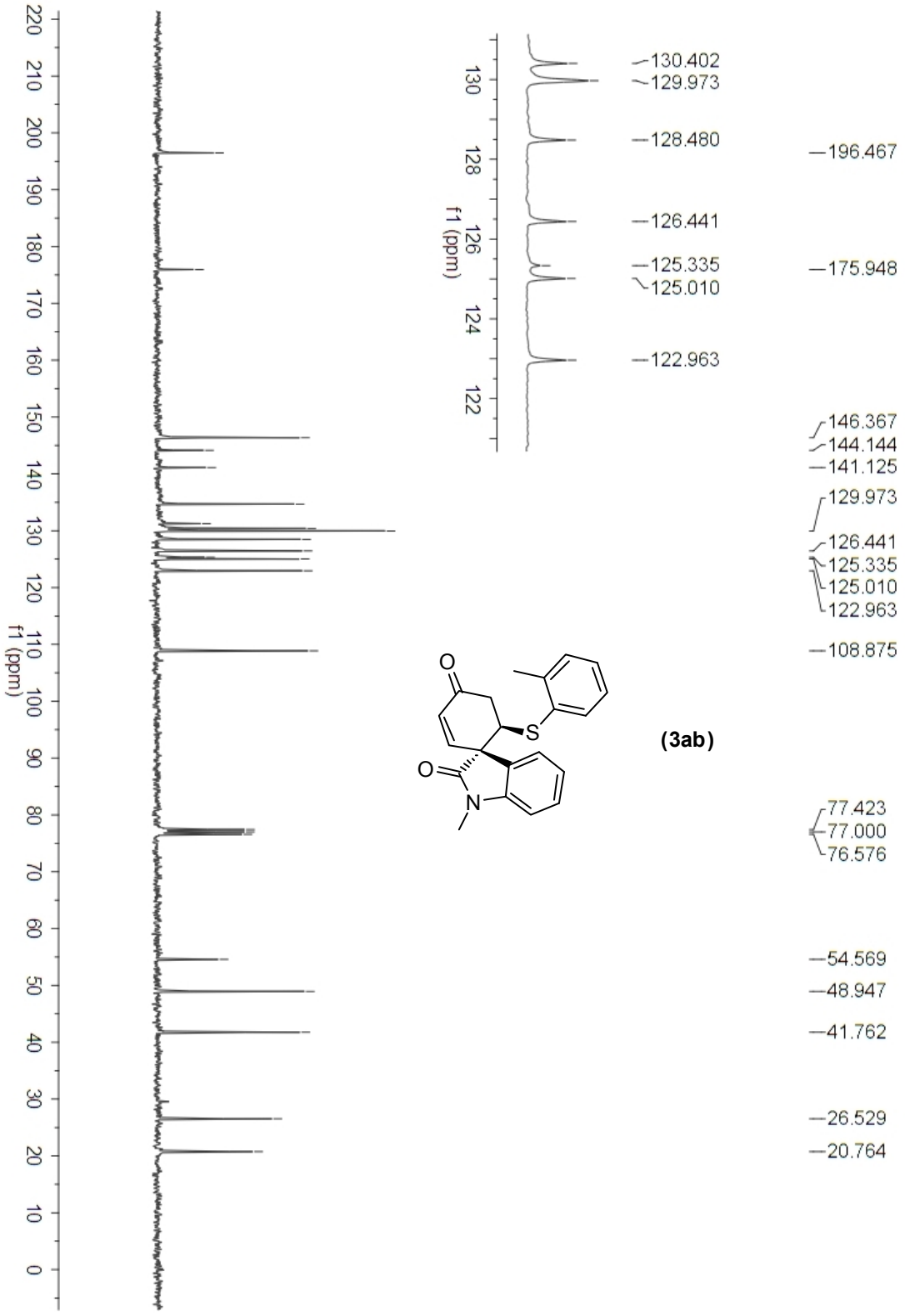
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
136
132
128
124
120
133.325
132.269
130.051
128.131
125.346
125.044
123.003
196.558
176.137
146.303
144.282
133.325
129.009
128.131
125.346
125.044
123.003
108.944
77.424
77.000
76.576
54.808
49.888
41.953
26.655
O
O
N
S
(3aa)


7.462
7.437
7.411
7.349
7.324
7.291
7.266
7.157
7.113
6.974
6.948
6.568
6.535
6.248
6.215
4.139
4.123
4.095
4.078
3.234
3.101
2.916
2.899
2.295
-0.000
1.00
0.93
1.07
3.73
0.94
0.86
0.85
0.88
2.99
2.22
2.98
f1 (ppm)
O
S
O
N

(3ab)


f1 (ppm)
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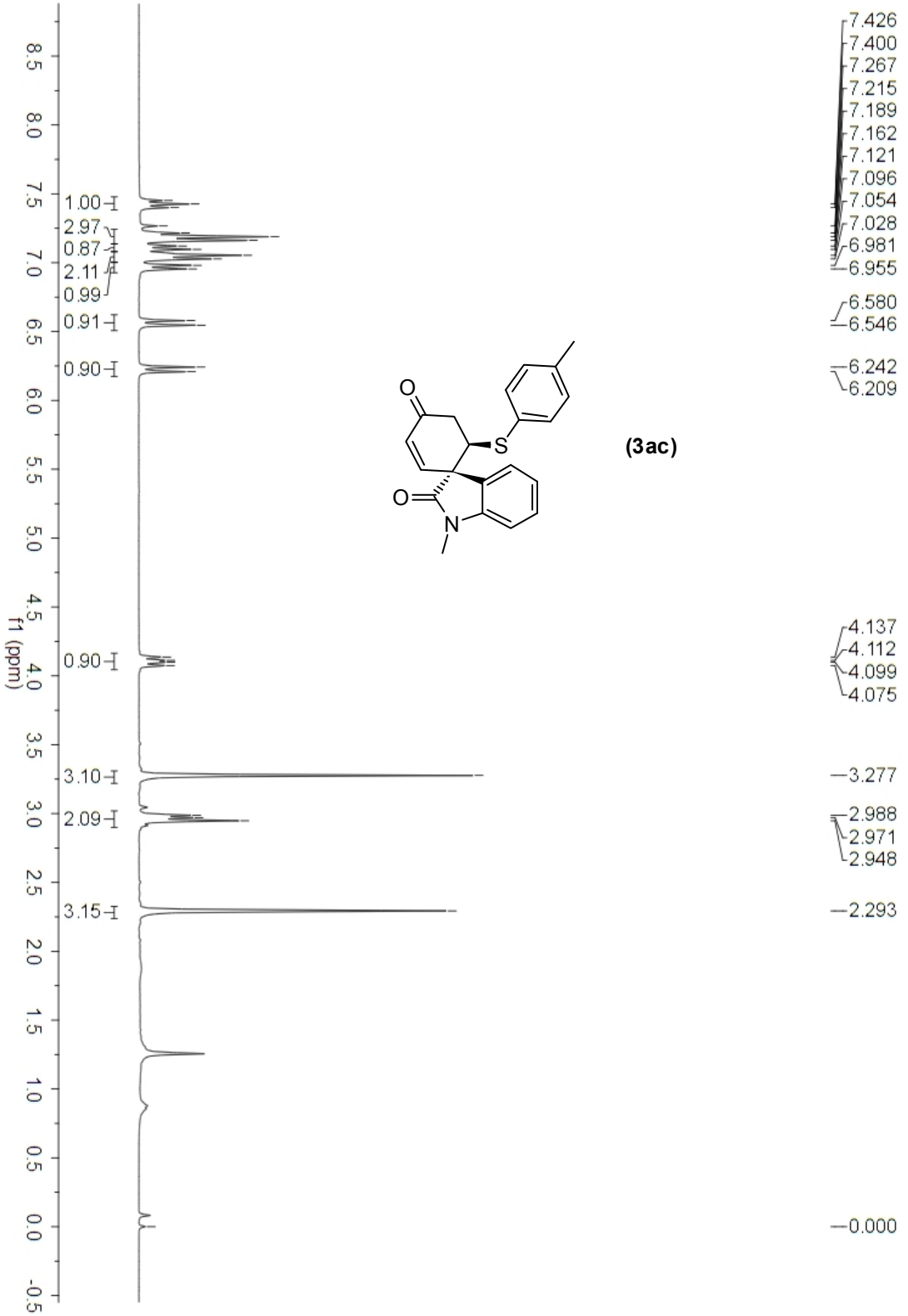
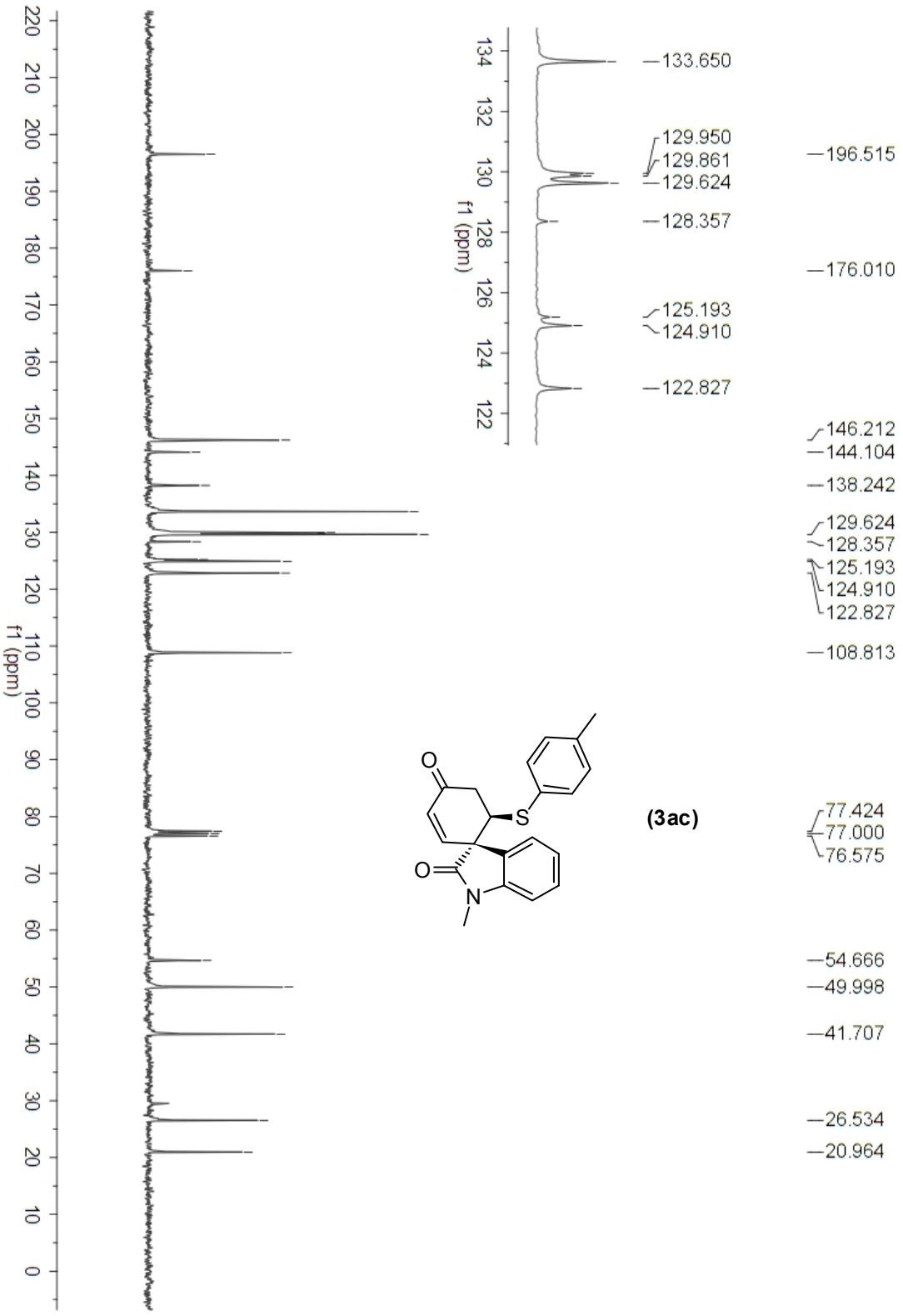
129.973
128.480
126.441
125.335
125.010
122.963
196.467
175.948
146.367
144.144
141.125
129.973
126.441
125.335
125.010
122.963
108.875
77.423
77.000
76.576
54.569
48.947
41.762
26.529
20.764
O
S
O
N

(3ab)


7.426
7.400
7.267
7.215
7.189
7.162
7.121
7.096
7.054
7.028
6.981
6.955
6.580
6.546
6.242
6.209
4.137
4.112
4.099
4.075
3.277
2.988
2.971
2.948
2.293
0.000
1.00
2.97
0.87
2.11
0.99
0.91
0.90
0.90
3.10
2.09
3.15
f1 (ppm)
O
S
O
N

(3ac)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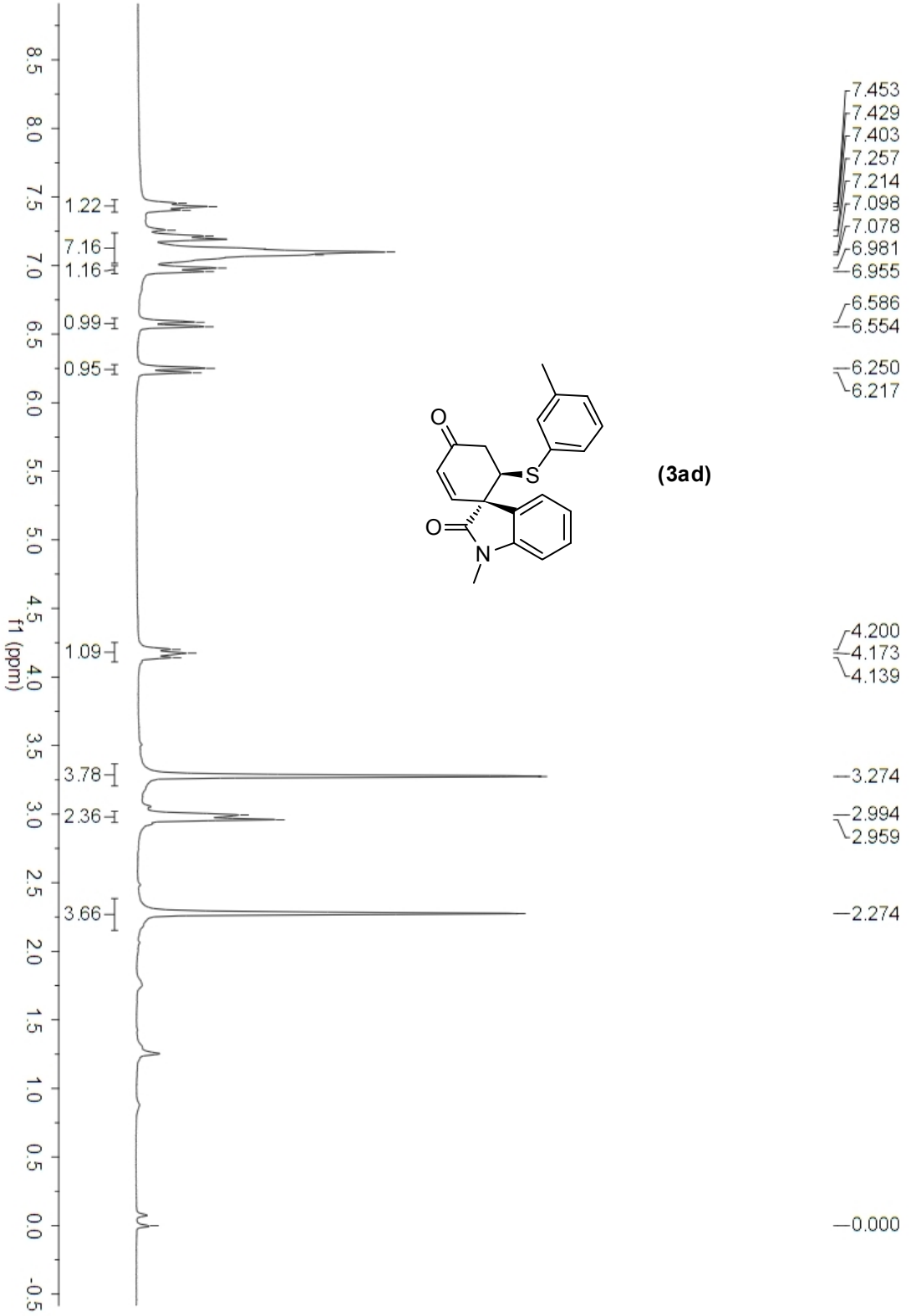
220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
134 132 130 128 126 124 122
133.650
129.950
129.861
129.624
128.357
125.193
124.910
122.827
196.515
176.010
146.212
144.104
138.242
129.624
128.357
125.193
124.910
122.827
108.813
77.424
77.000
76.575
54.666
49.998
41.707
26.534
20.964
O
S
O
N

(3ac)


f1 (ppm)
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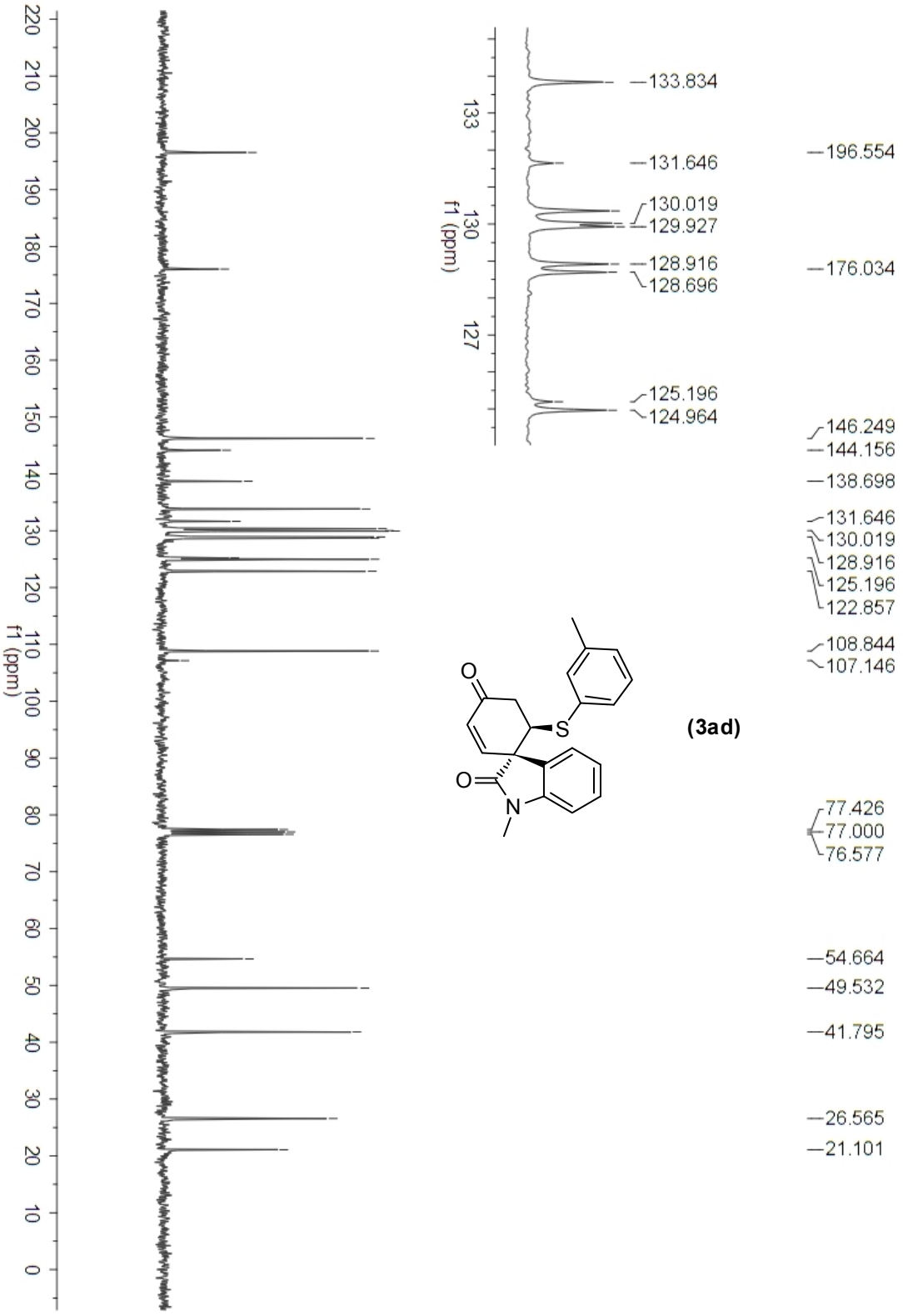
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
1.22
7.16
1.16
0.99
0.95
1.09
3.78
2.36
3.66
7.453
7.429
7.403
7.257
7.214
7.098
7.078
6.981
6.955
6.586
6.554
6.250
6.217
4.200
4.173
4.139
3.274
2.994
2.959
2.274
0.000
O
S
O
N
(3ad)


f1 (ppm)
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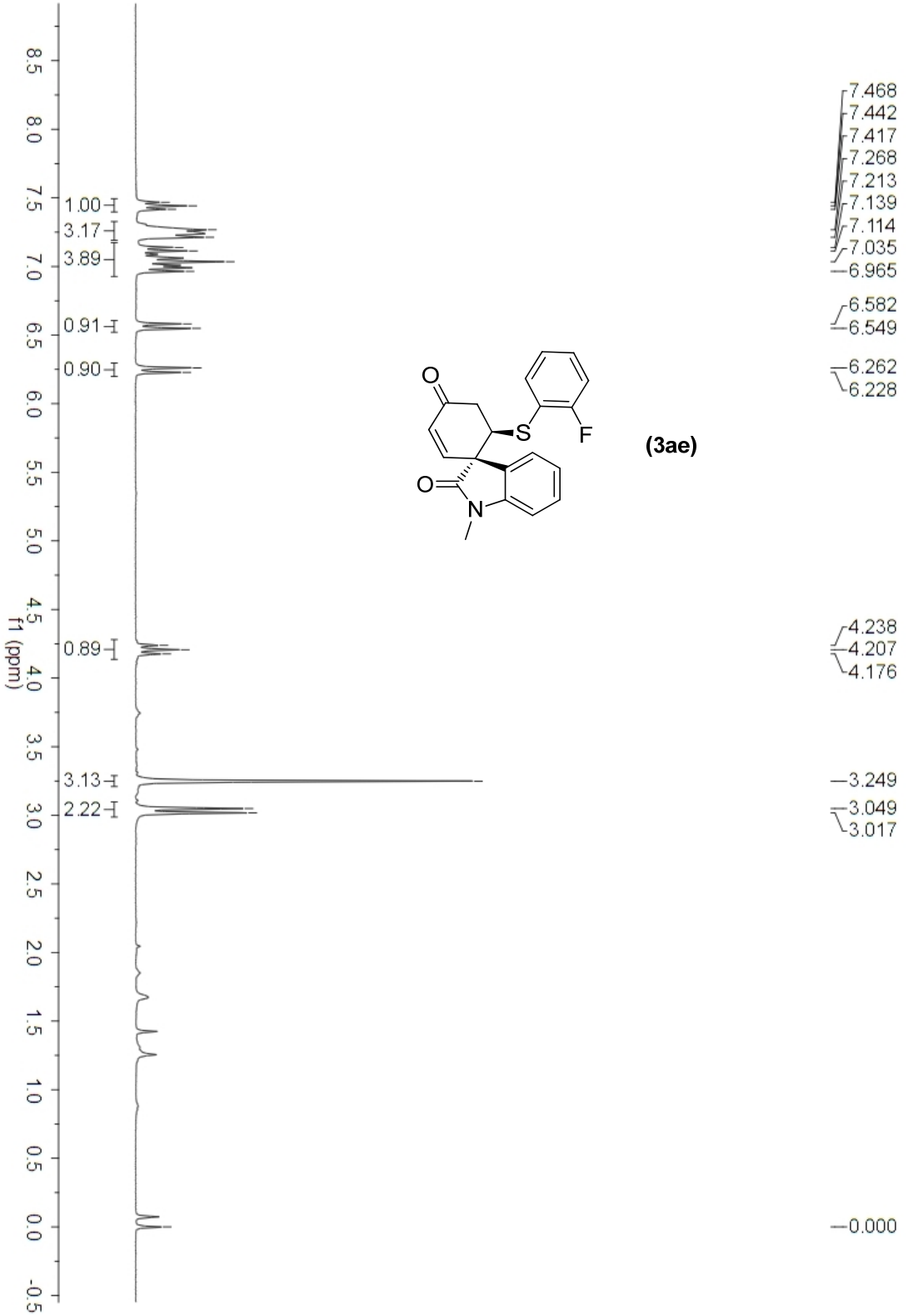
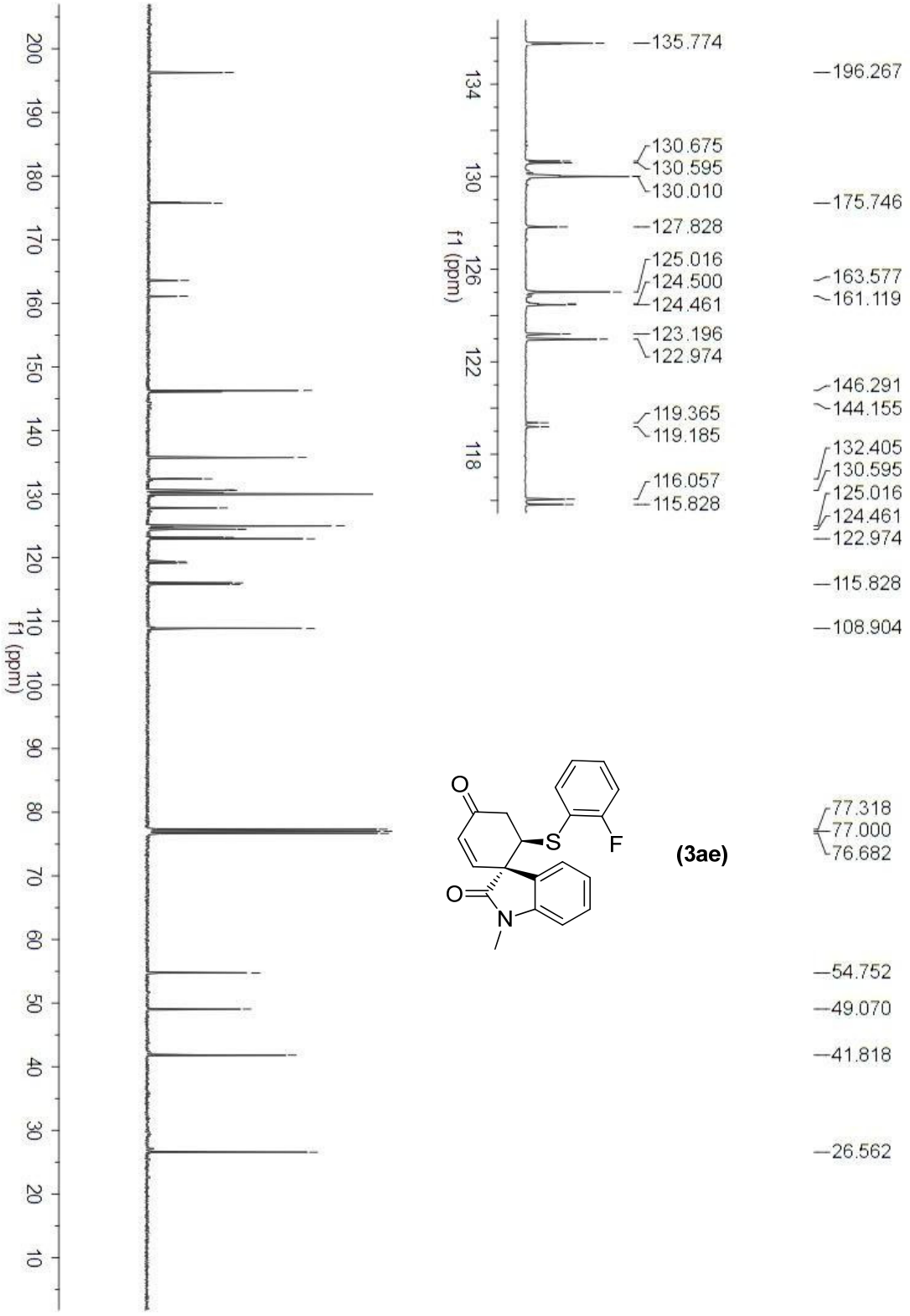
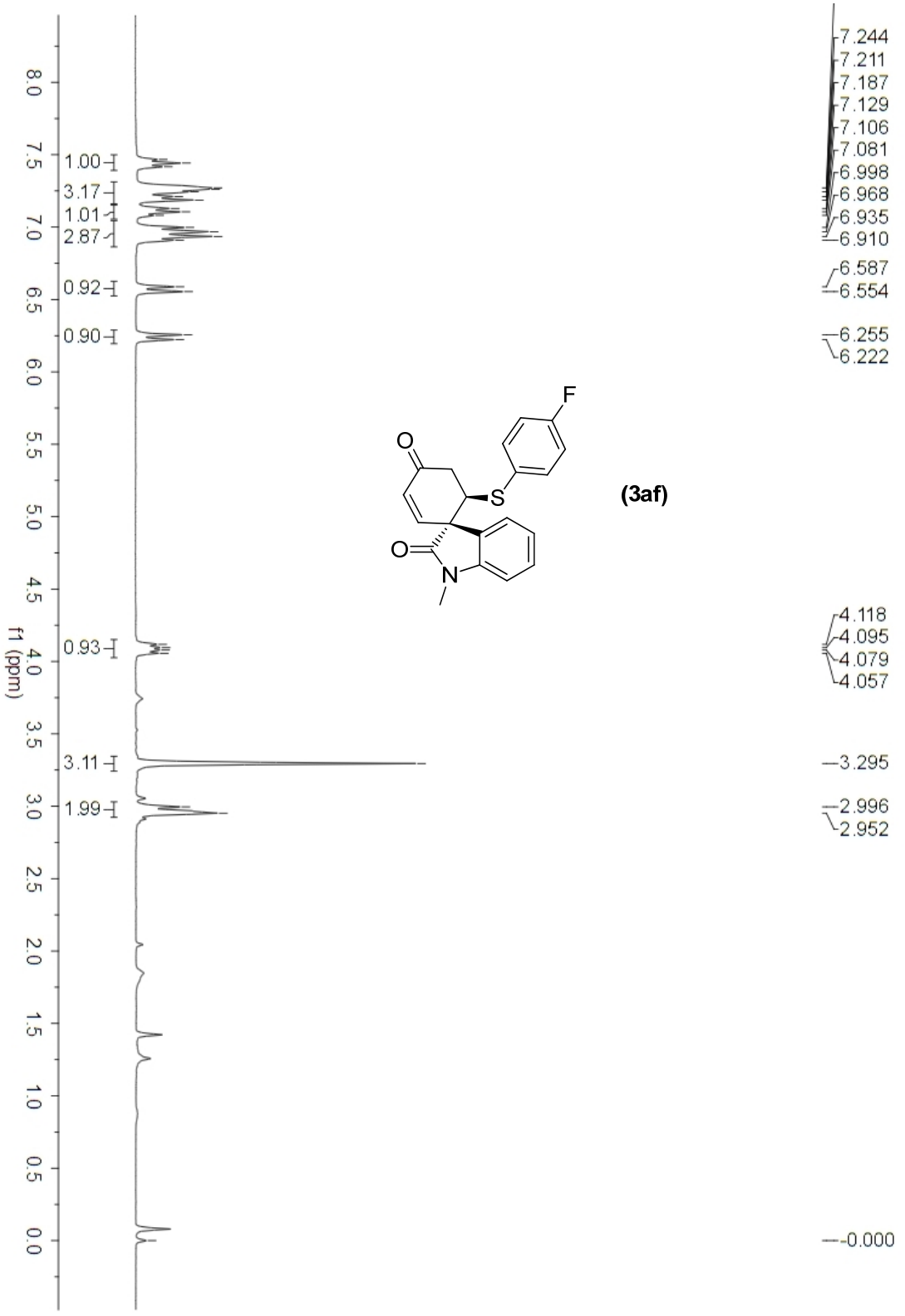
131.646
130.019
129.927
128.916
128.696
125.196
124.964
196.554
176.034
146.249
144.156
138.698
131.646
130.019
128.916
125.196
122.857
108.844
107.146
77.426
77.000
76.577
54.664
49.532
41.795
26.565
21.101
O
S
O
N

(3ad)

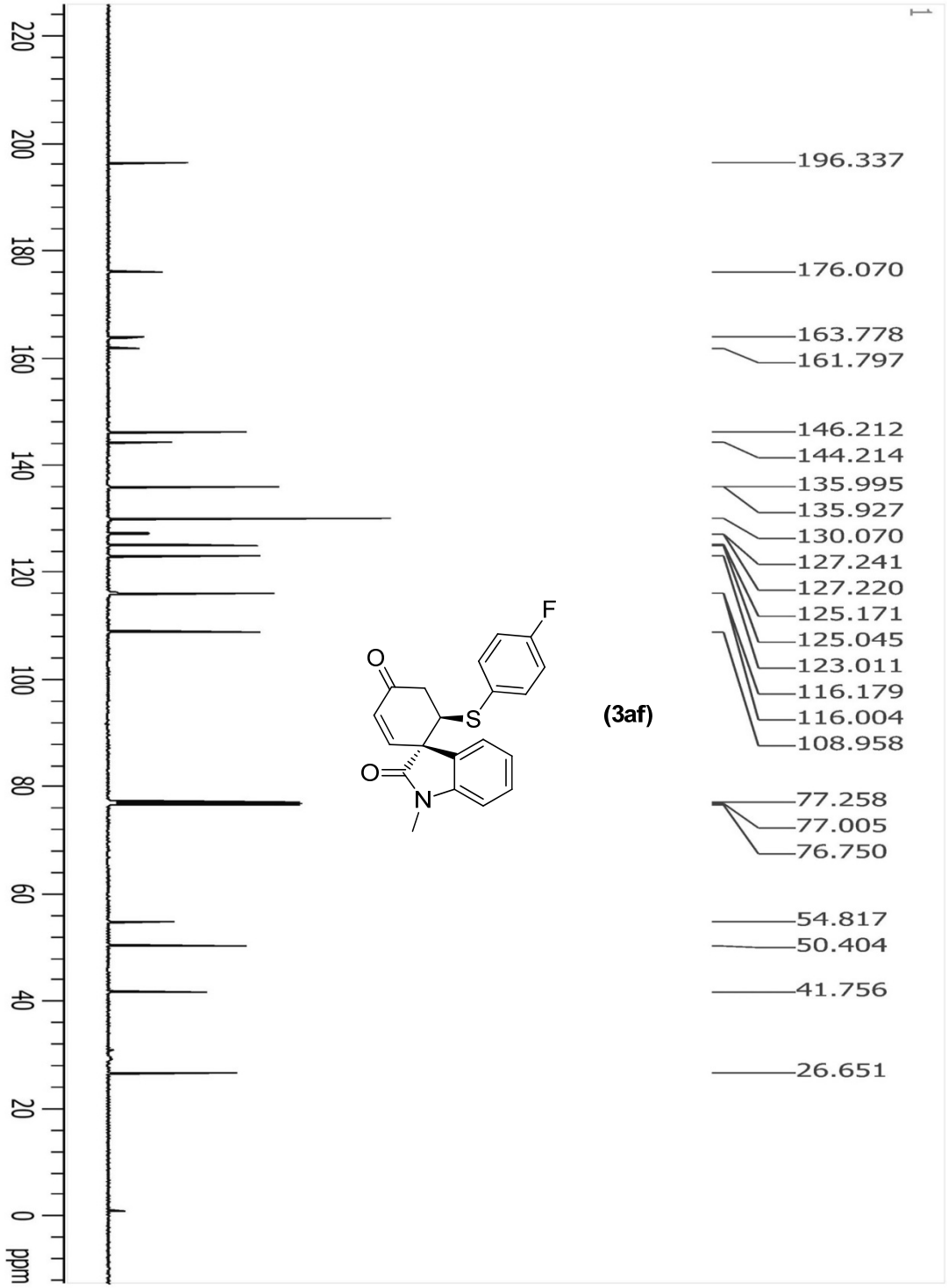


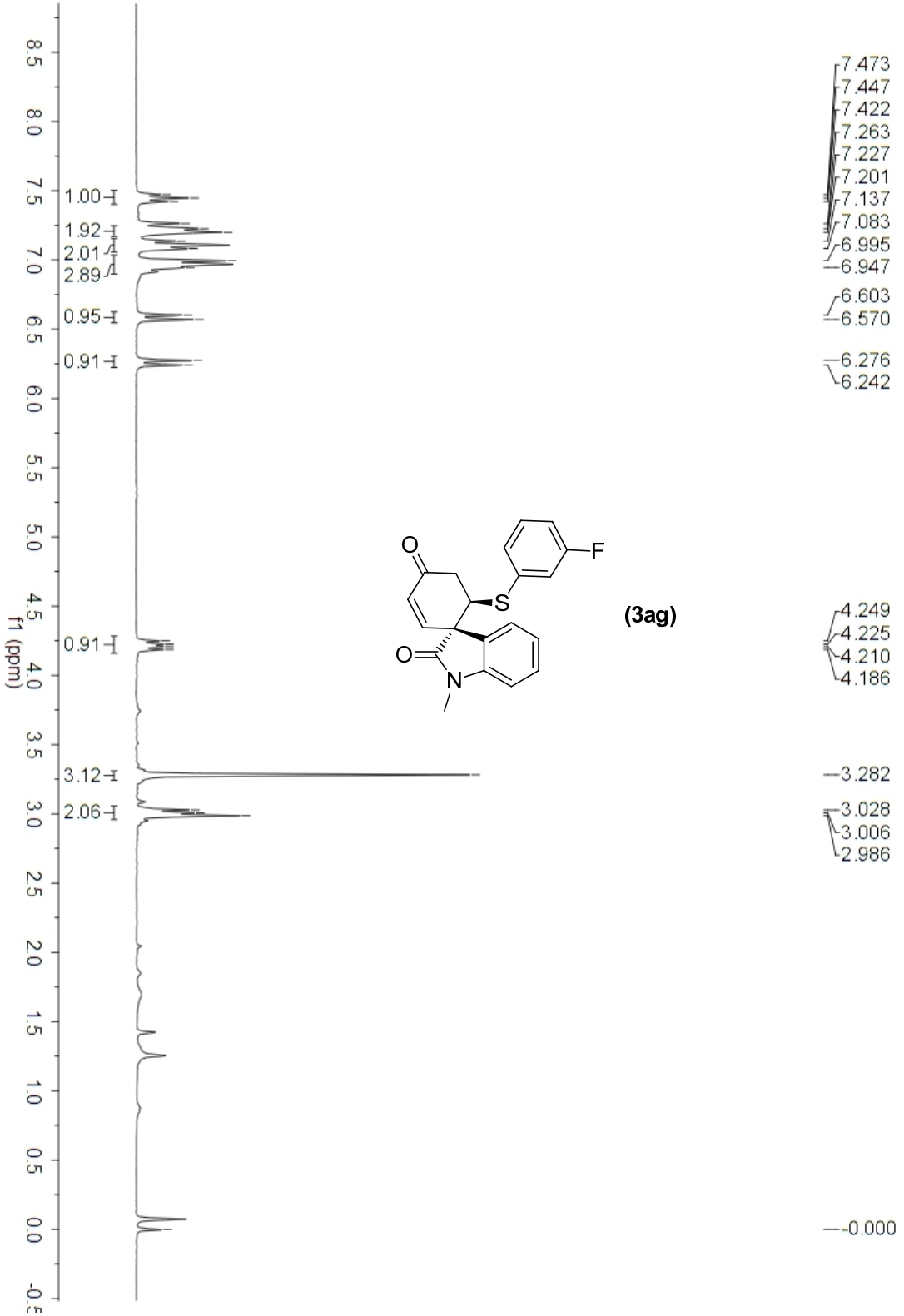
(3ae)

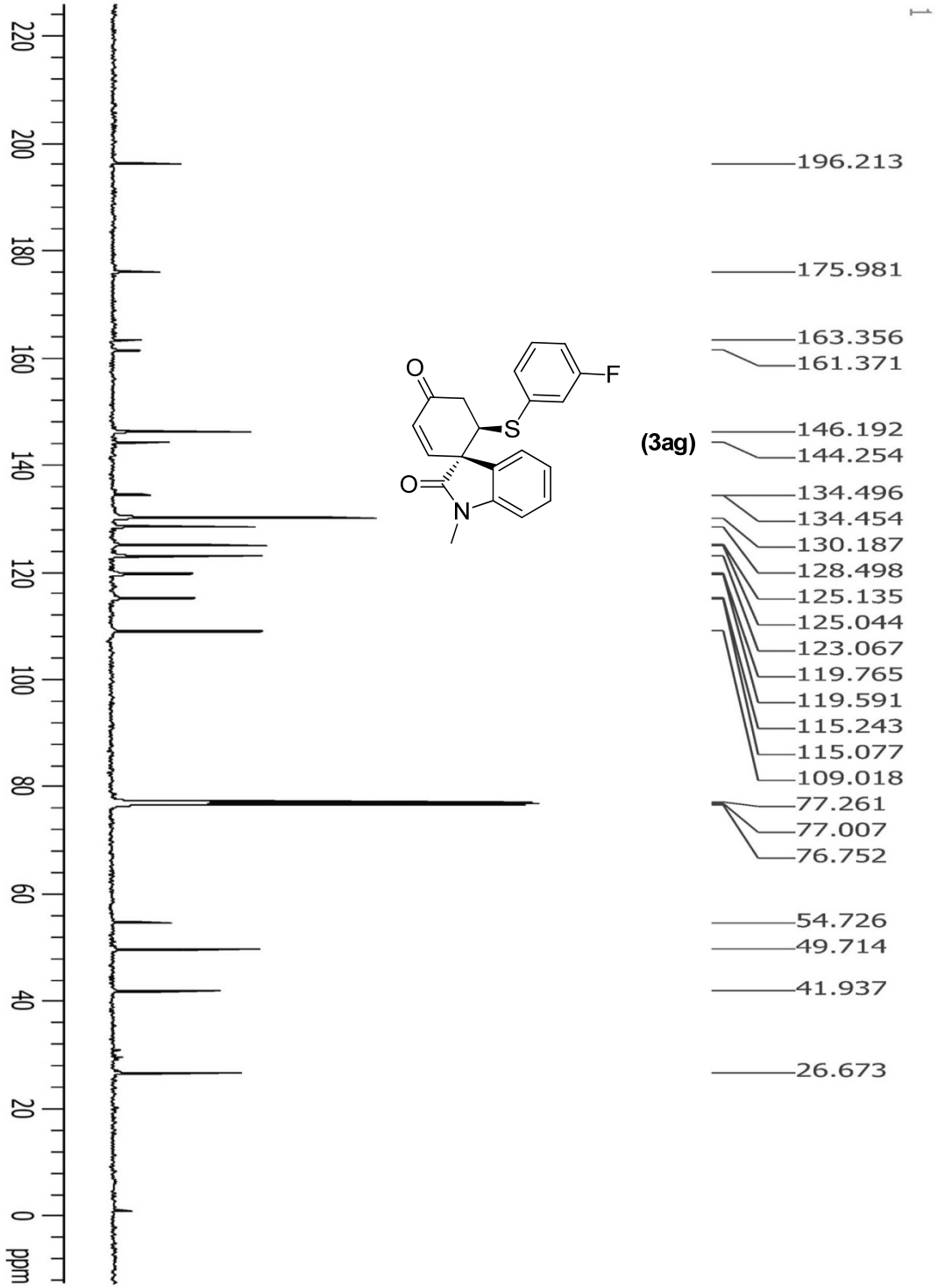

f1 (ppm)
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
f1 (ppm)
134
130
126
122
118
135.774
130.675
130.595
130.010
127.828
125.016
124.500
124.461
123.196
122.974
119.365
119.185
116.057
115.828
196.267
175.746
163.577
161.119
146.291
144.155
132.405
130.595
125.016
124.461
122.974
115.828
108.904
77.318
77.000
76.682
54.752
49.070
41.818
26.562
O
S
F
O
N
(3ae)

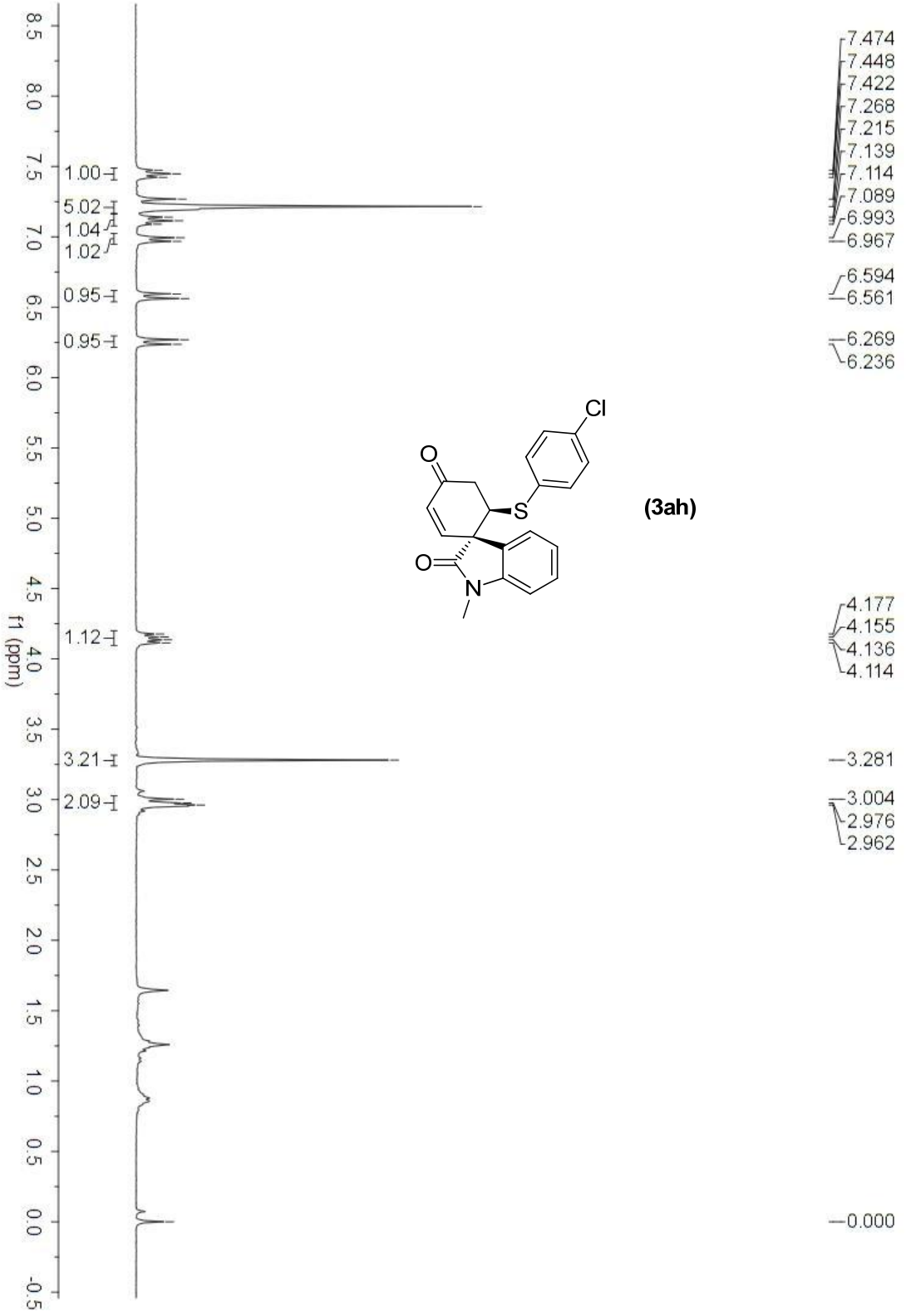

7.244
7.211
7.187
7.129
7.106
7.081
6.998
6.968
6.935
6.910
6.587
6.554
6.255
6.222
4.118
4.095
4.079
4.057
3.295
2.996
2.952
0.000
1.00
3.17
1.01
2.87
0.92
0.90
0.93
3.11
1.99
f1 (ppm)
F
O
S
O
N

(3af)

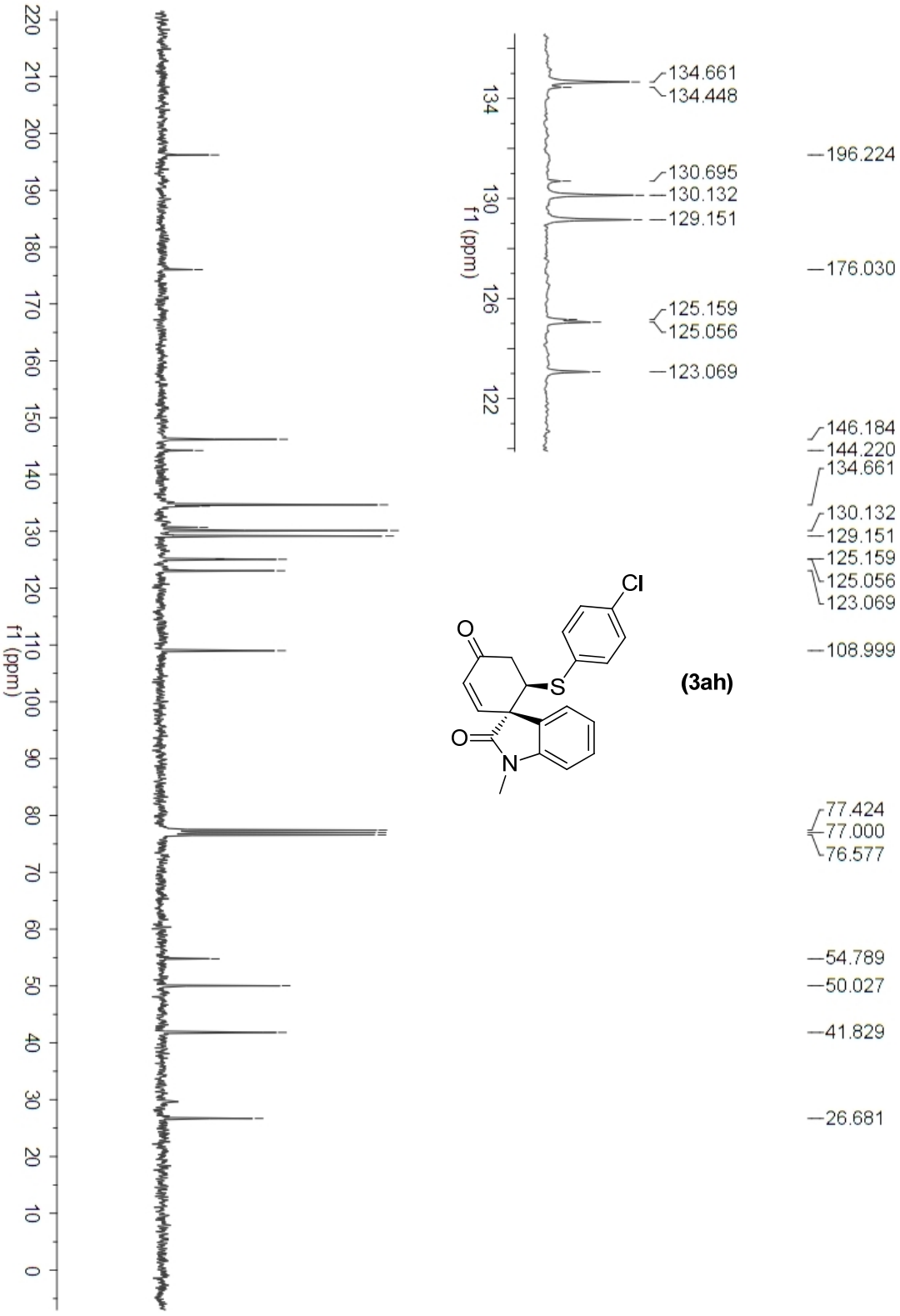

196.337
176.070
163.778
161.797
146.212
144.214
135.995
135.927
130.070
127.241
127.220
125.171
125.045
123.011
116.179
116.004
108.958
77.258
77.005
76.750
54.817
50.404
41.756
26.651
220
200
180
160
140
120
100
80
60
40
20
0
ppm
O
S
F
O
N
(3af)


7.473
7.447
7.422
7.263
7.227
7.201
7.137
7.083
6.995
6.947
6.603
6.570
6.276
6.242
4.249
4.225
4.210
4.186
3.282
3.028
3.006
2.986
0.000
1.00
1.92
2.01
2.89
0.95
0.91
0.91
3.12
2.06
f1 (ppm)
O
F
S
O
N
(3ag)


220
200
180
160
140
120
100
80
60
40
20
0
ppm
O
F
S
O
N
(3ag)
196.213
175.981
163.356
161.371
146.192
144.254
134.496
134.454
130.187
128.498
125.135
125.044
123.067
119.765
119.591
115.243
115.077
109.018
77.261
77.007
76.752
54.726
49.714
41.937
26.673


7.474
7.448
7.422
7.268
7.215
7.139
7.114
7.089
6.993
6.967
6.594
6.561
6.269
6.236
4.177
4.155
4.136
4.114
3.281
3.004
2.976
2.962
0.000
1.00
5.02
1.04
1.02
0.95
0.95
1.12
3.21
2.09
f1 (ppm)
Cl
O
S
O
N

(3ah)


f1 (ppm)
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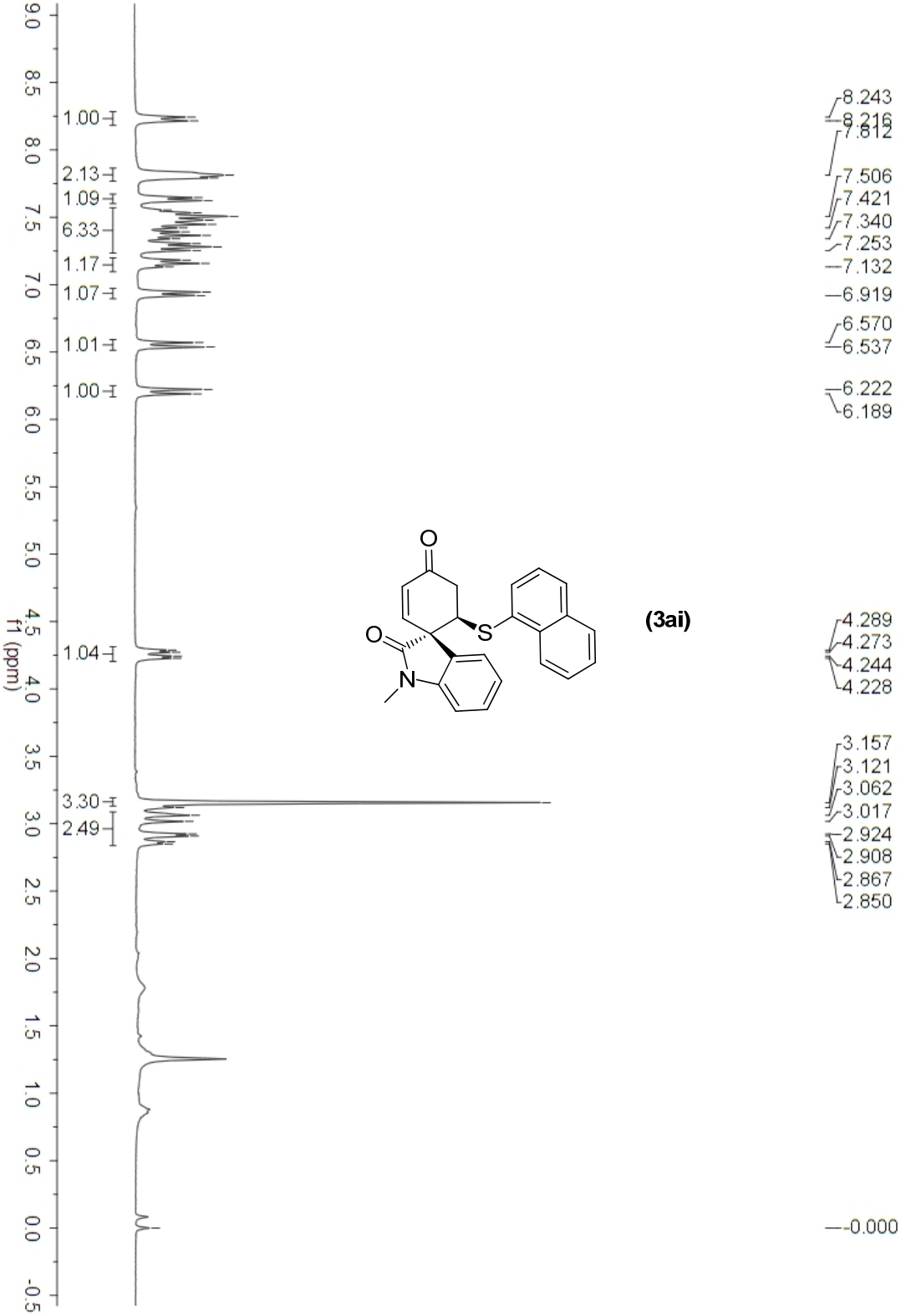
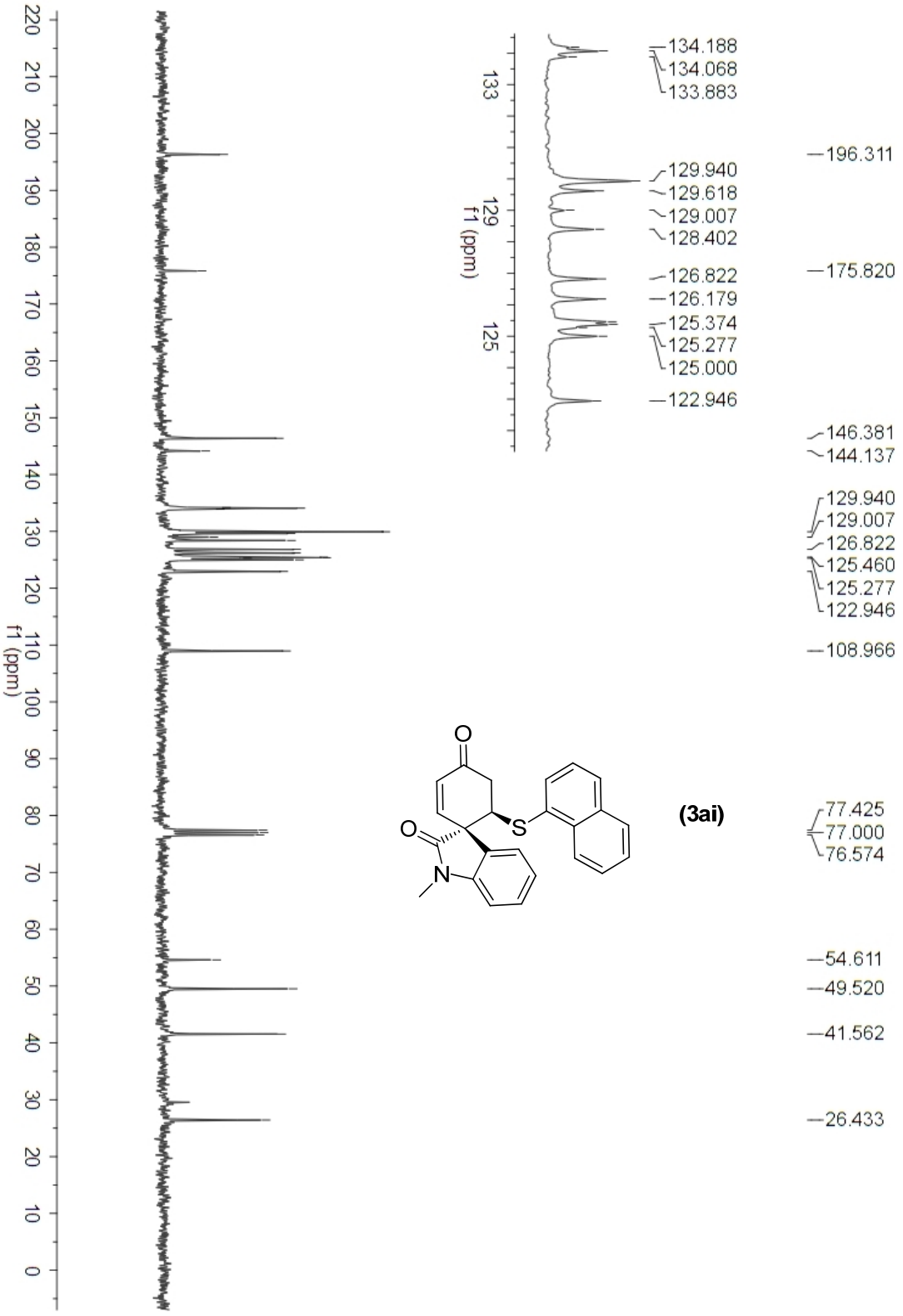
134.448
130.695
130.132
129.151
125.159
125.056
123.069
196.224
176.030
146.184
144.220
134.661
130.132
129.151
125.159
125.056
123.069
108.999
77.424
77.000
76.577
54.789
50.027
41.829
26.681
Cl
O
S
O
N
(3ah)


8.243
8.216
7.812
7.506
7.421
7.340
7.253
7.132
6.919
6.570
6.537
6.222
6.189
4.289
4.273
4.244
4.228
3.157
3.121
3.062
3.017
2.924
2.908
2.867
2.850
-0.000
1.00
2.13
1.09
6.33
1.17
1.07
1.01
1.00
1.04
3.30
2.49
f1 (ppm)
O
O
N
S
(3ai)


f1 (ppm)
220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
133 129 125
134.188
134.068
133.883
129.940
129.618
129.007
128.402
126.822
126.179
125.374
125.277
125.000
122.946
196.311
175.820
146.381
144.137
129.940
129.007
126.822
125.460
125.277
122.946
108.966
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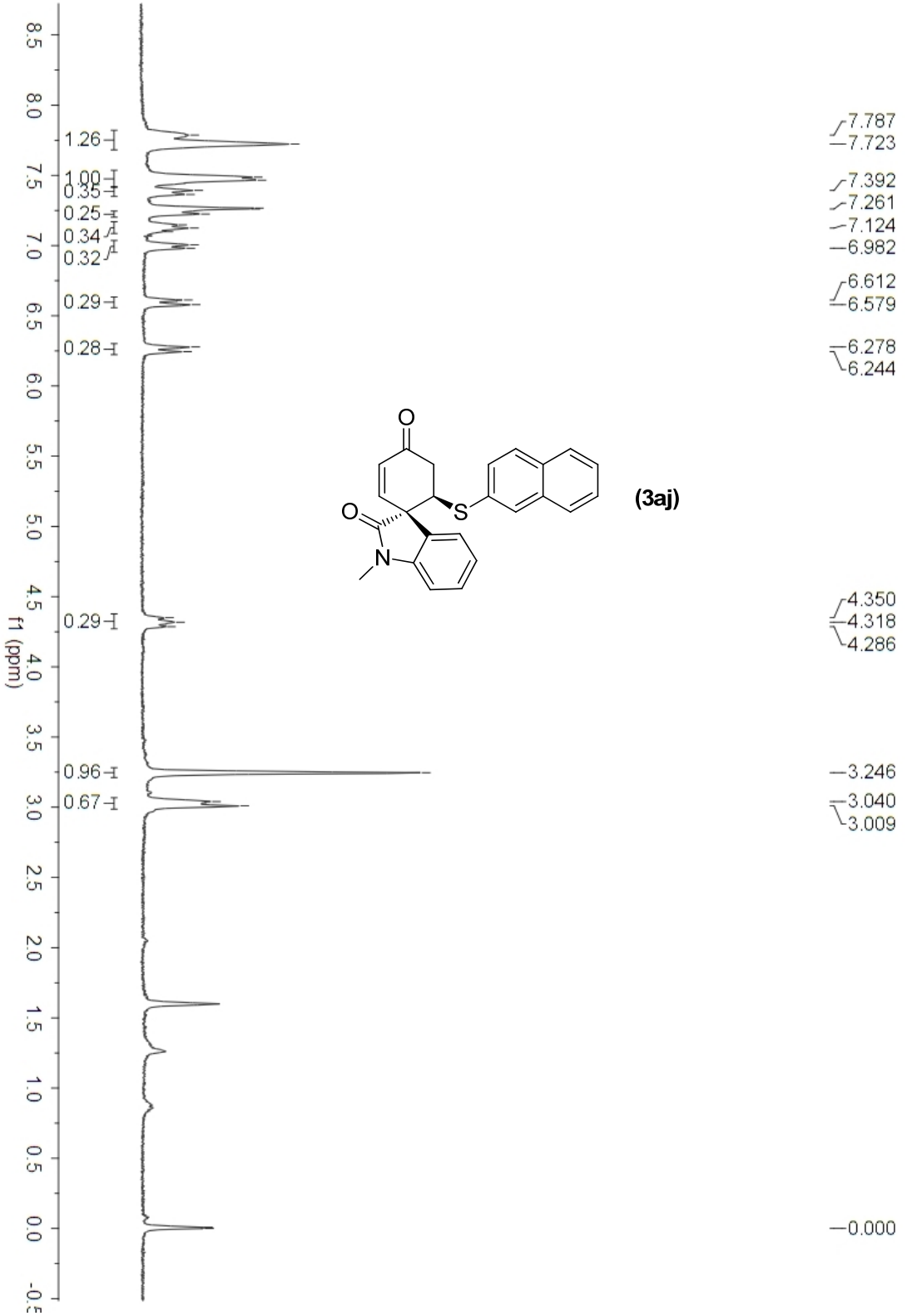
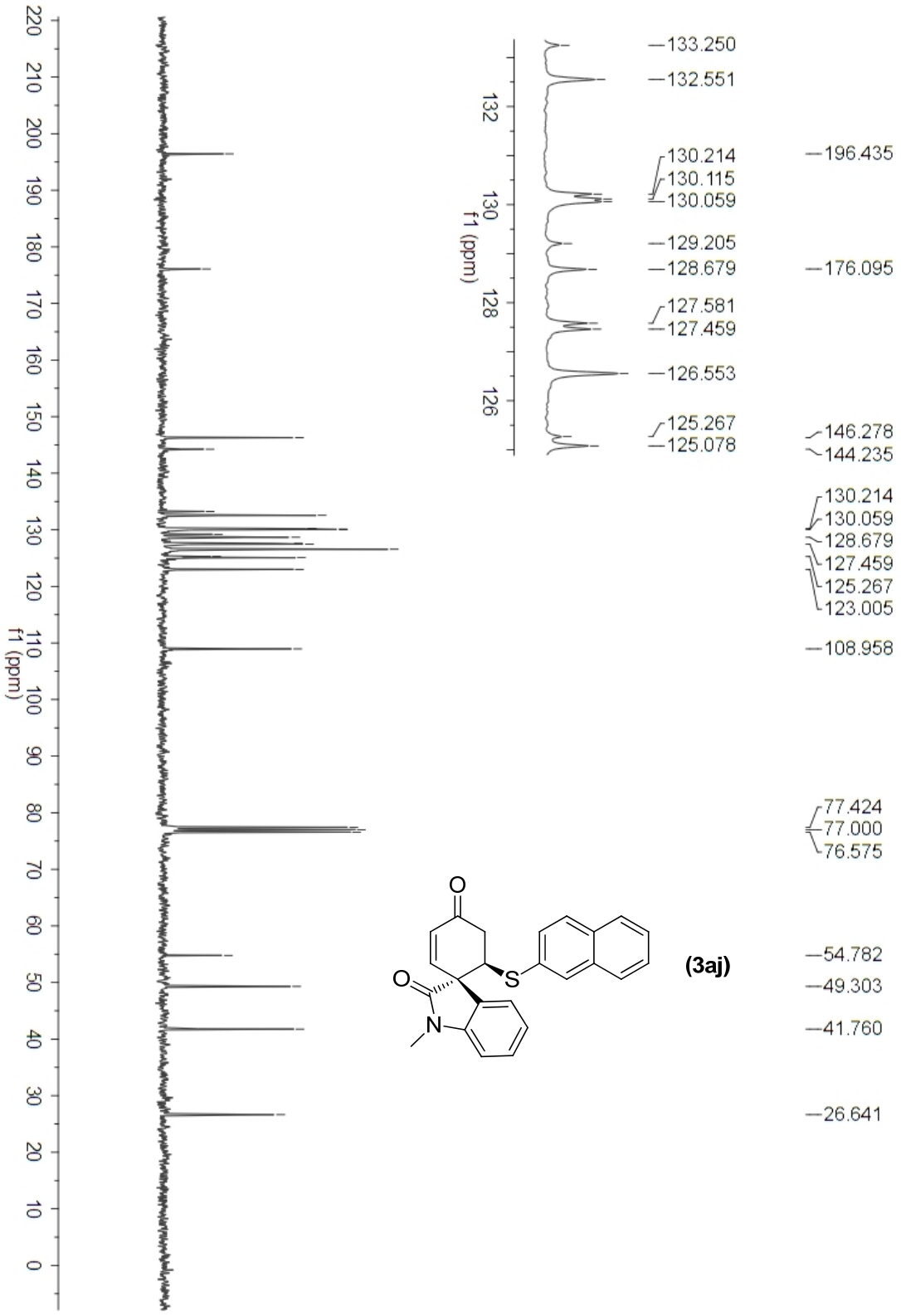
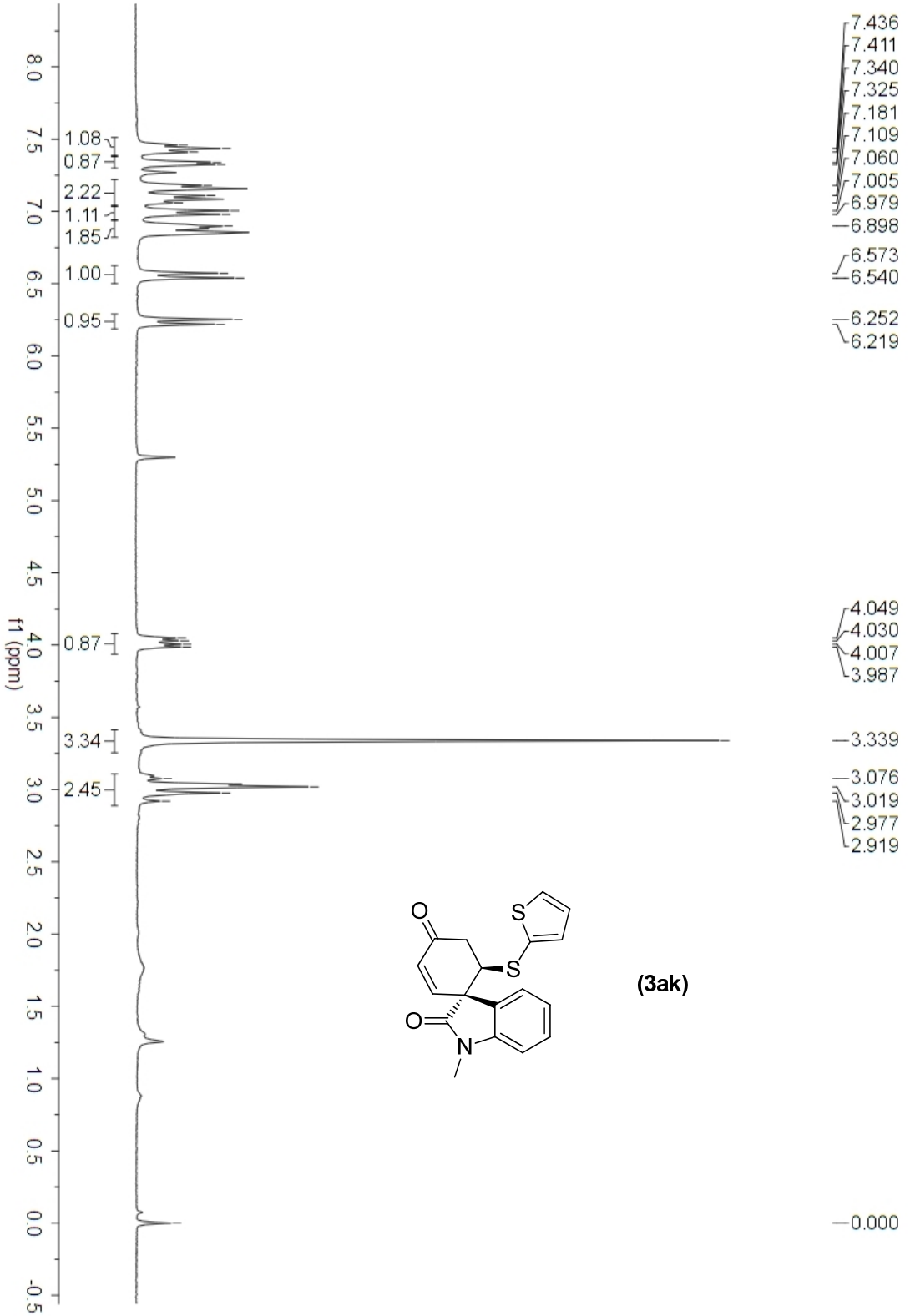
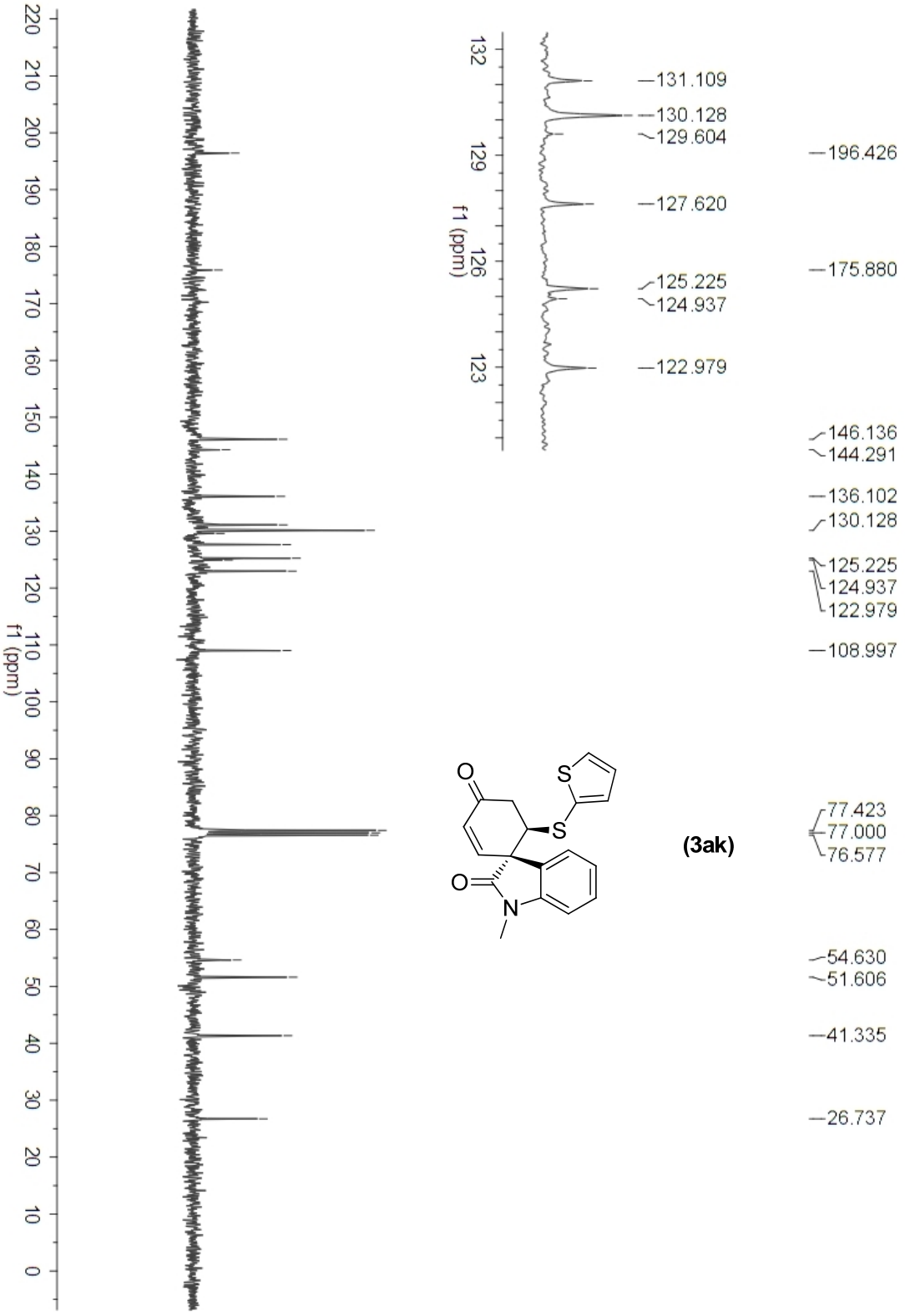
77.000
76.574
54.611
49.520
41.562
26.433
O
O
S
N
(3ai)

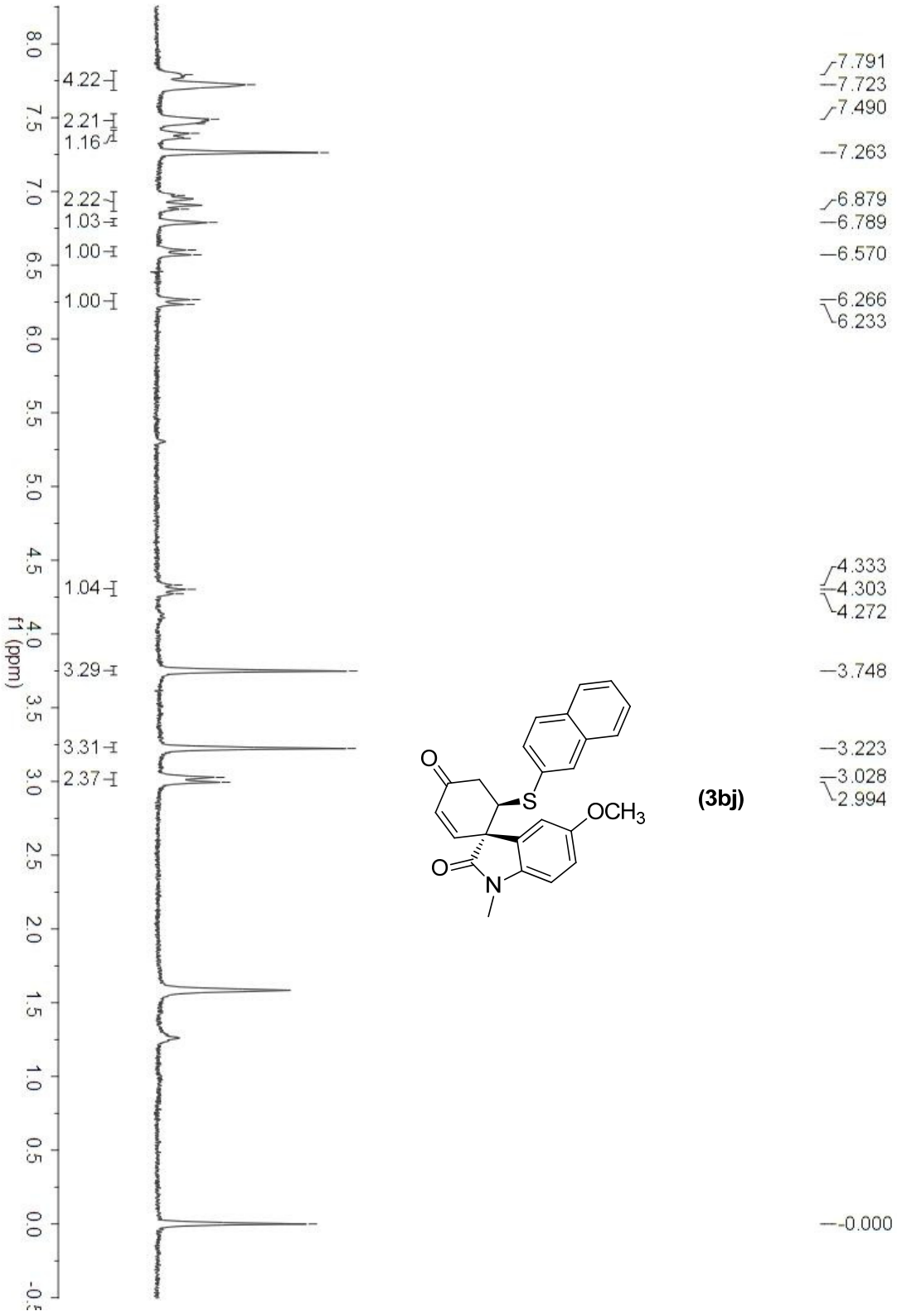

7.787
7.723
7.392
7.261
7.124
6.982
6.612
6.579
6.278
6.244
4.350
4.318
4.286
3.246
3.040
3.009
0.000
1.26
1.00
0.35
0.25
0.34
0.32
0.29
0.28
0.29
0.96
0.67
f1 (ppm)
O
O
N
S
(3aj)


f1 (ppm)
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)
132
130
128
126
133.250
132.551
130.214
130.115
130.059
129.205
128.679
127.581
127.459
126.553
125.267
125.078
196.435
176.095
146.278
144.235
130.214
130.059
128.679
127.459
125.267
123.005
108.958
77.424
77.000
76.575
54.782
49.303
41.760
26.641
O
O
N
S
(3aj)

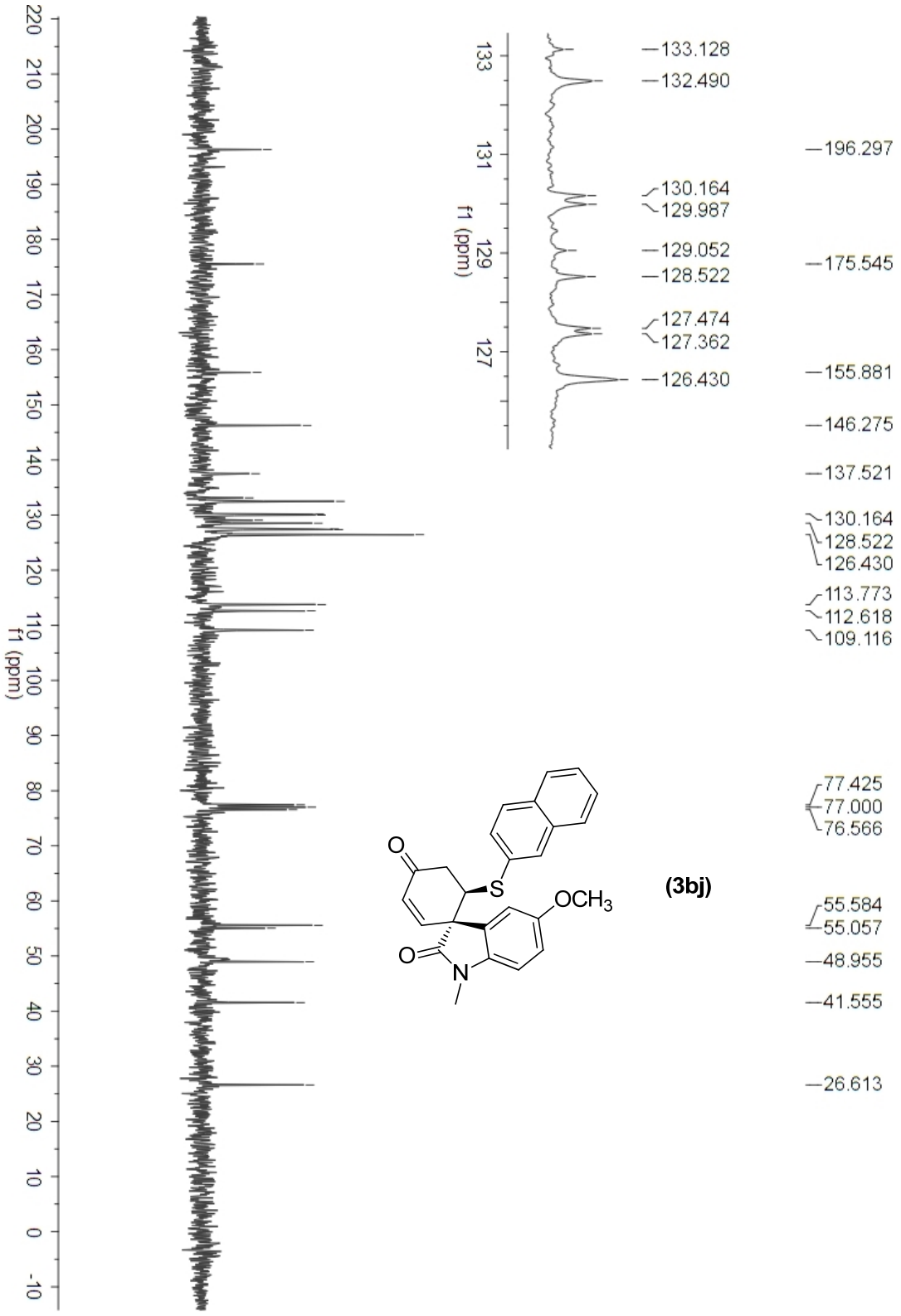


(3ak)

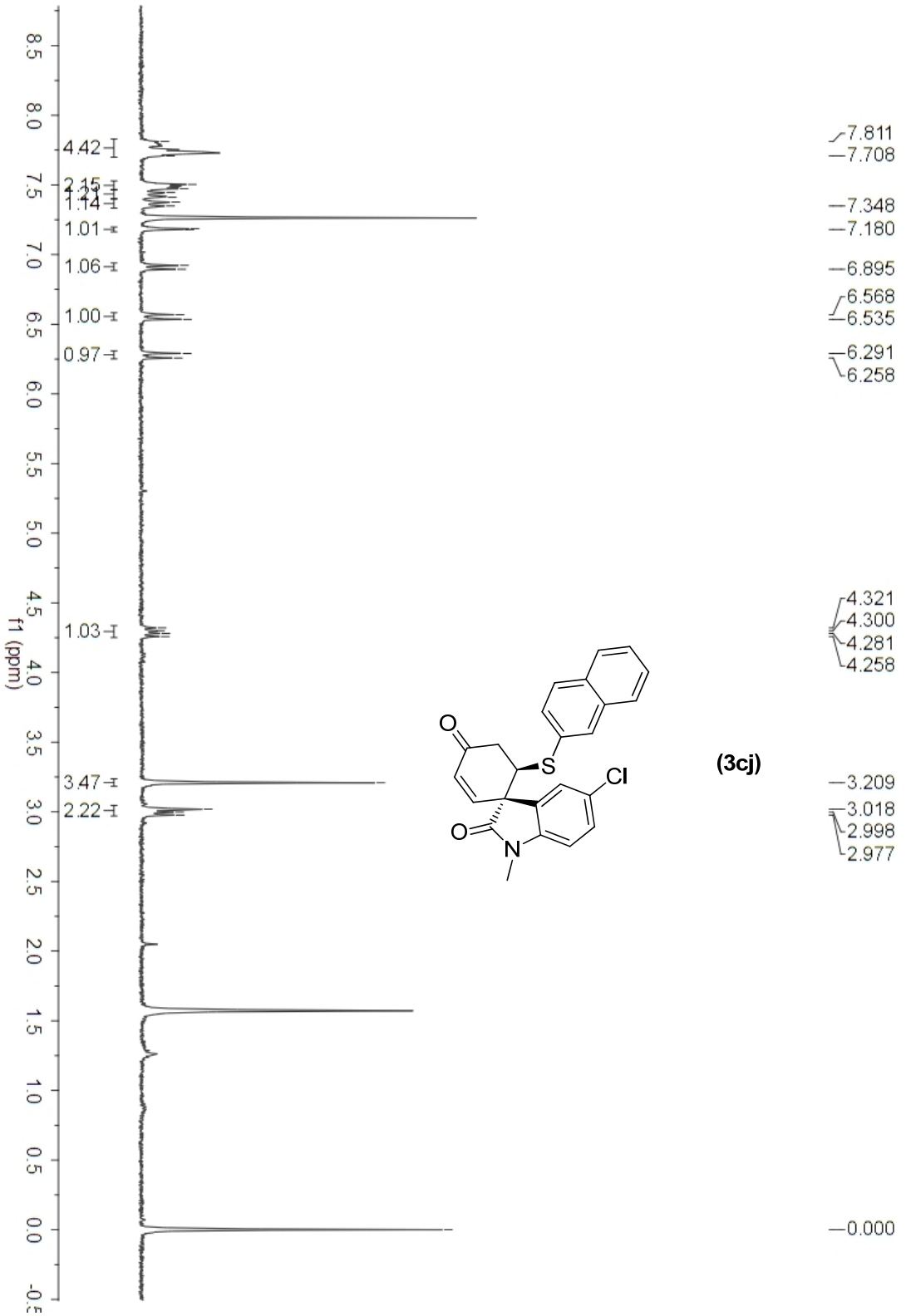

f1 (ppm)
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
132
129
126
123
131.109
130.128
129.604
127.620
125.225
124.937
122.979
196.426
175.880
146.136
144.291
136.102
130.128
125.225
124.937
122.979
108.997
77.423
77.000
76.577
54.630
51.606
41.335
26.737
O
S
S
O
N
(3ak)


8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
f1 (ppm)
4.22
2.21
1.16
2.22
1.03
1.00
1.00
1.04
3.29
3.31
2.37
7.791
7.723
7.490
7.263
6.879
6.789
6.570
6.266
6.233
4.333
4.303
4.272
3.748
3.223
3.028
2.994
-0.000
O
S
OCH3
O
N

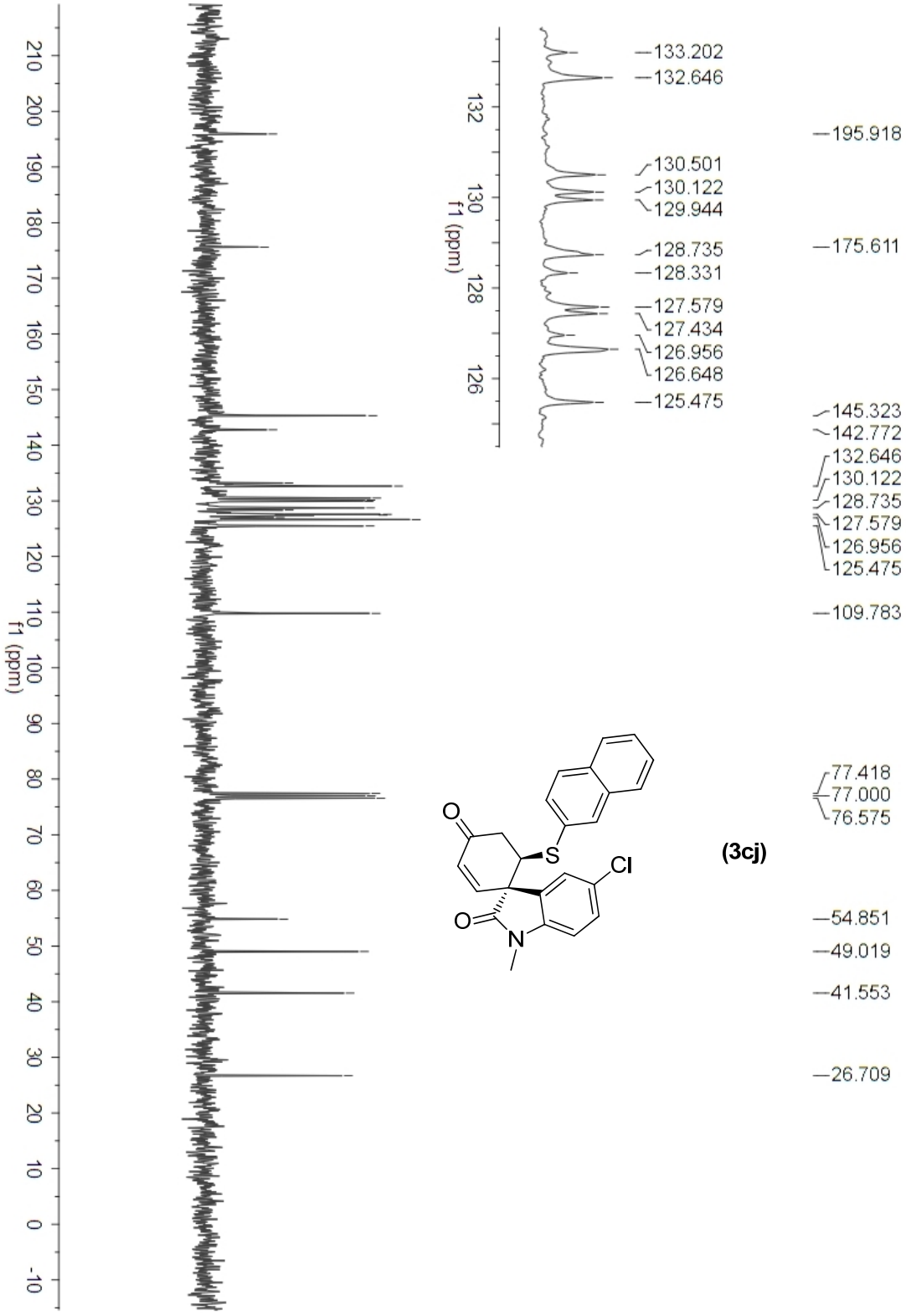
(3bj)


f1 (ppm)
133.128
132.490
196.297
130.164
129.987
129.052
128.522
175.545
127.474
127.362
126.430
155.881
146.275
137.521
130.164
128.522
126.430
113.773
112.618
109.116
77.425
77.000
76.566
55.584
55.057
48.955
41.555
26.613
O
S
OCH3
O
N

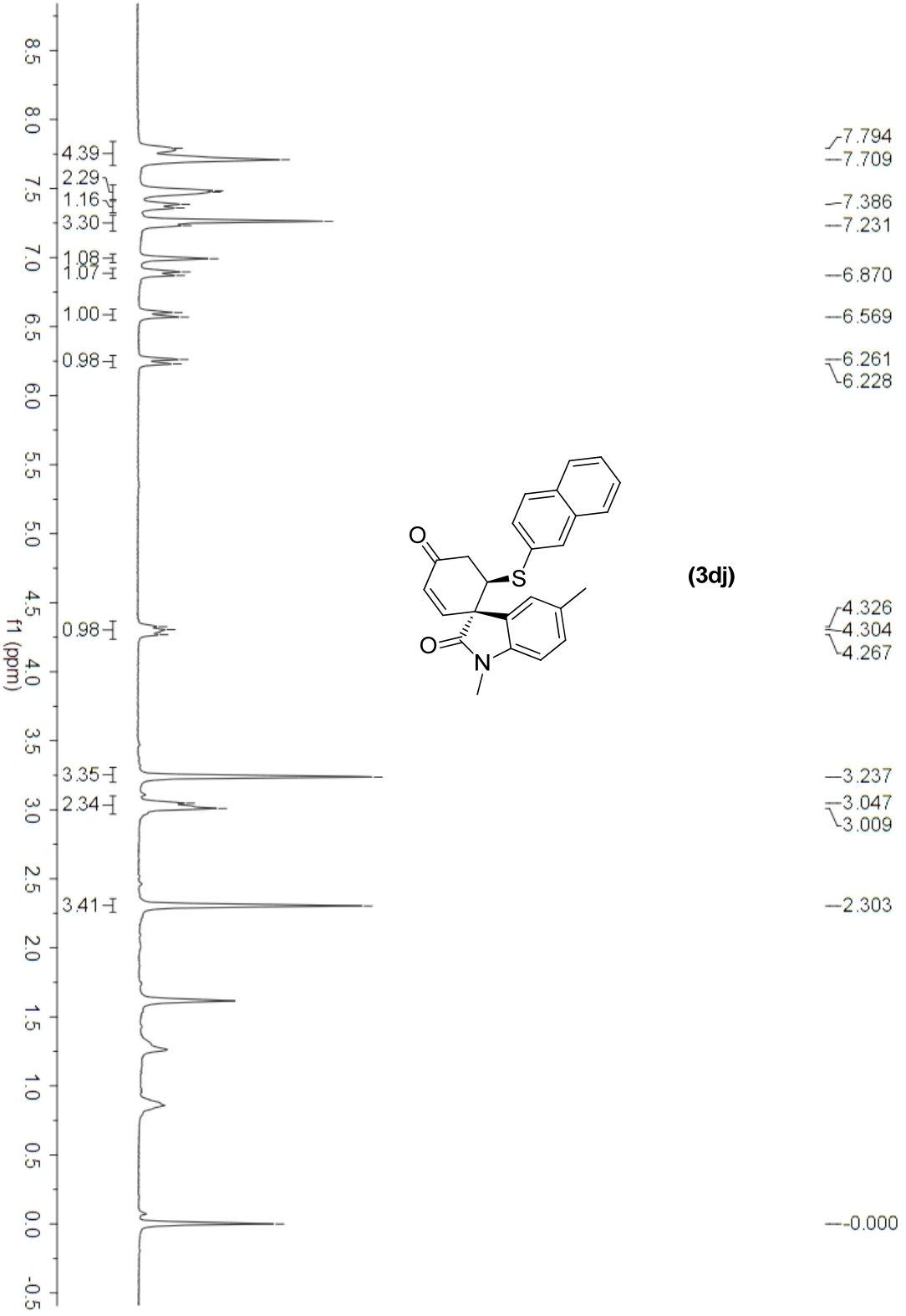
(3bj)


f1 (ppm)
4.42
2.45
1.14
1.01
1.06
1.00
0.97
1.03
3.47
2.22
7.811
7.708
7.348
7.180
6.895
6.568
6.535
6.291
6.258
4.321
4.300
4.281
4.258
3.209
3.018
2.998
2.977
0.000
O
S
Cl
O
N

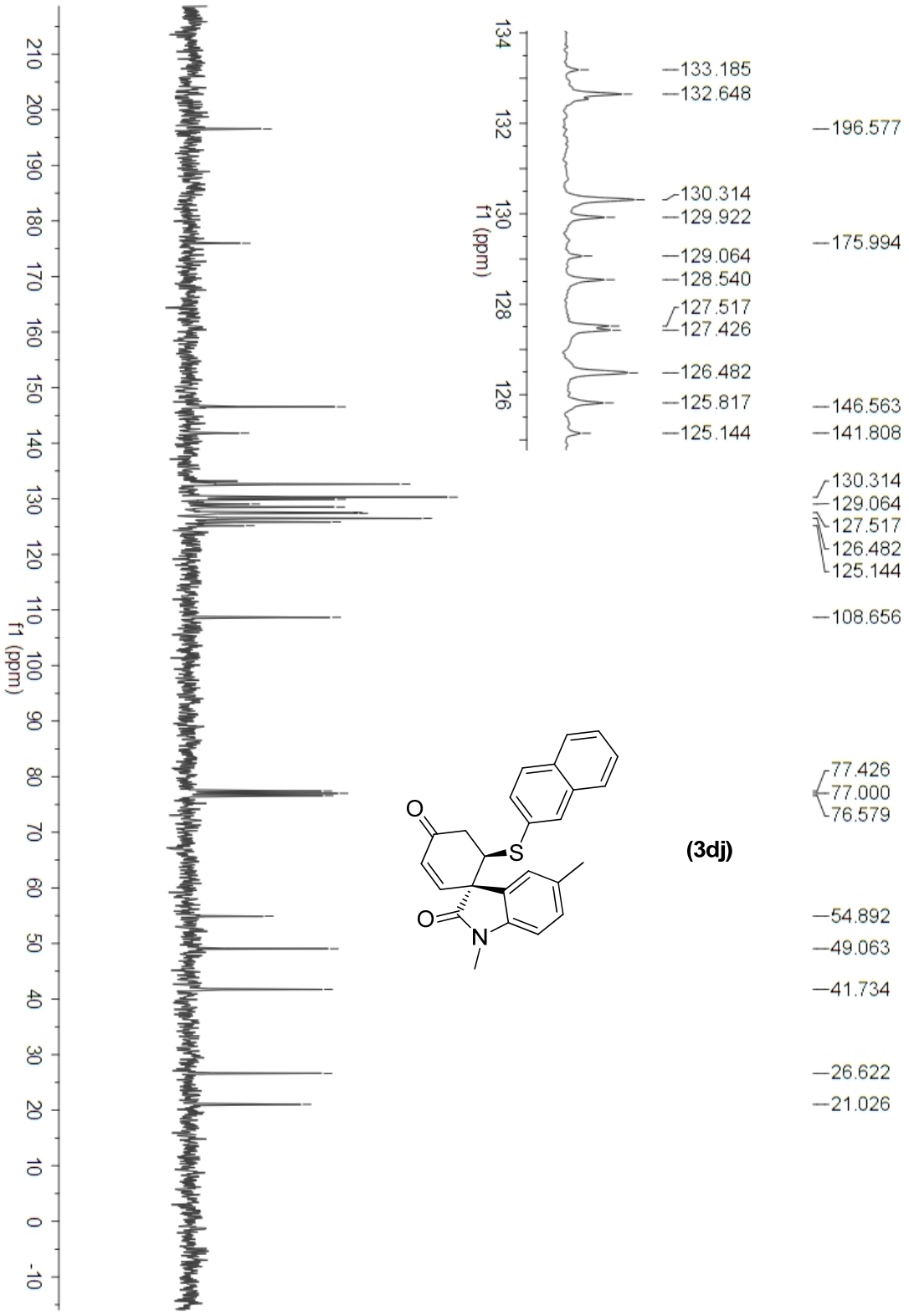
(3cj)

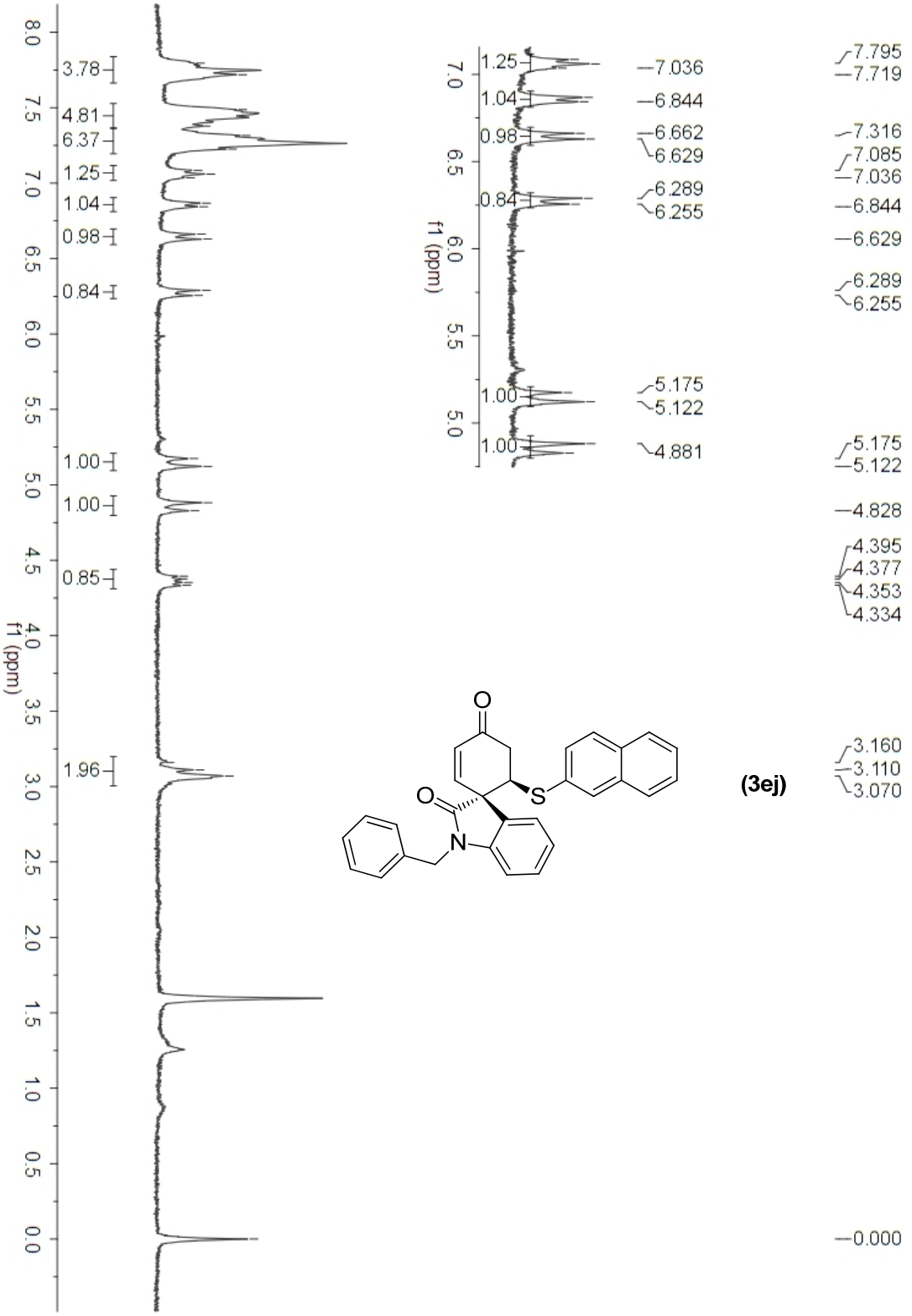

f1 (ppm)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)
132 130 128 126
133.202
132.646
130.501
130.122
129.944
128.735
128.331
127.579
127.434
126.956
126.648
125.475
195.918
175.611
145.323
142.772
132.646
130.122
128.735
127.579
126.956
125.475
109.783
77.418
77.000
76.575
54.851
49.019
41.553
26.709
O
S
Cl
O
N

(3cj)

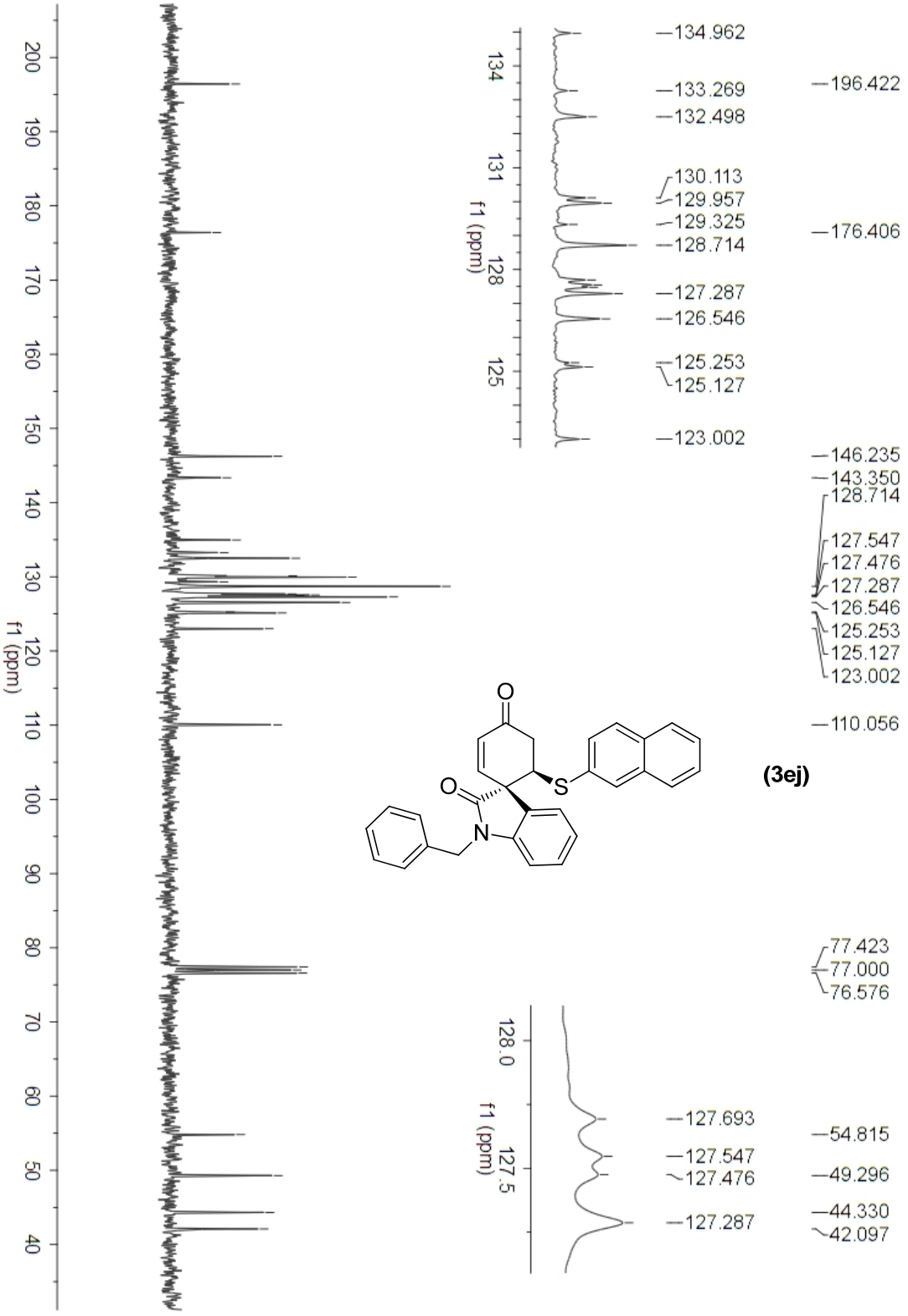


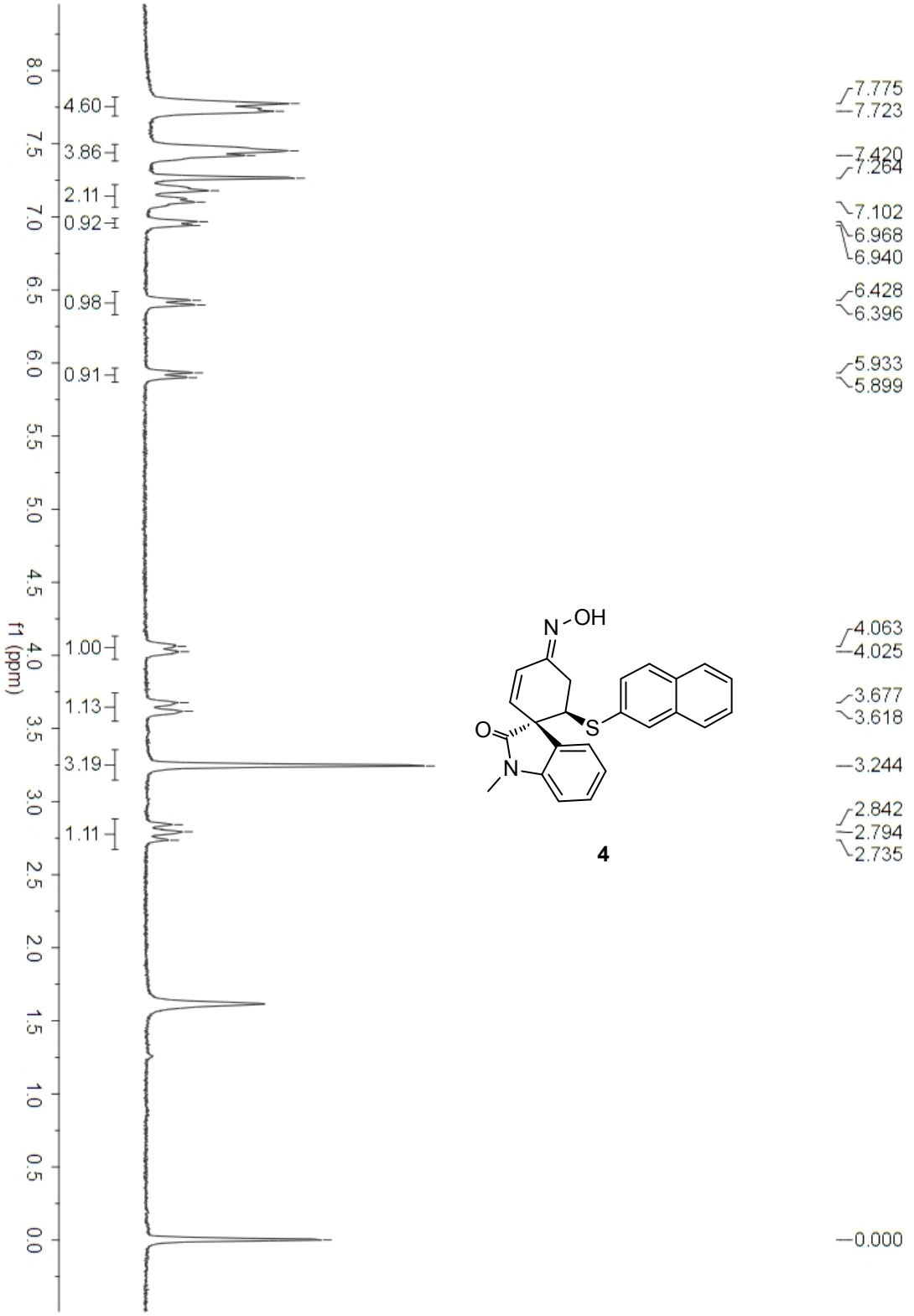
(3dj)


f1 (ppm)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
134 132 130 128 126
f1 (ppm)
133.185
132.648
130.314
129.922
129.064
128.540
127.517
127.426
126.482
125.817
125.144
196.577
175.994
146.563
141.808
130.314
129.064
127.517
126.482
125.144
108.656
77.426
77.000
76.579
54.892
49.063
41.734
26.622
21.026
O
S
O
N
(3dj)

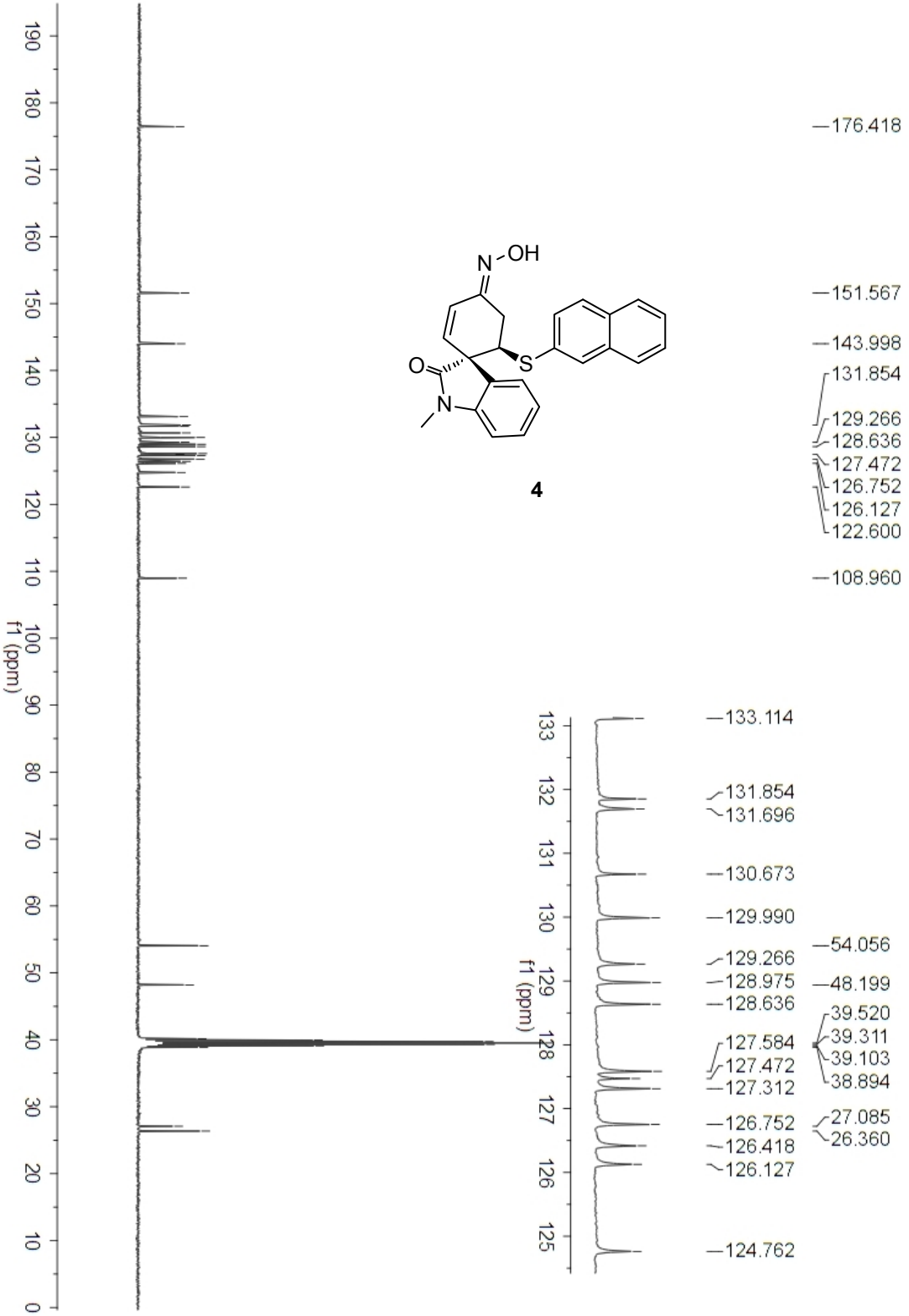

3.78
4.81
6.37
1.25
1.04
0.98
0.84
1.00
1.00
0.85
1.96
f1 (ppm)
1.25
1.04
0.98
0.84
1.00
1.00
7.036
6.844
6.662
6.629
6.289
6.255
5.175
5.122
4.881
7.795
7.719
7.316
7.085
7.036
6.844
6.629
6.289
6.255
5.175
5.122
4.828
4.395
4.377
4.353
4.334
3.160
3.110
3.070
0.000
O
O
N
S

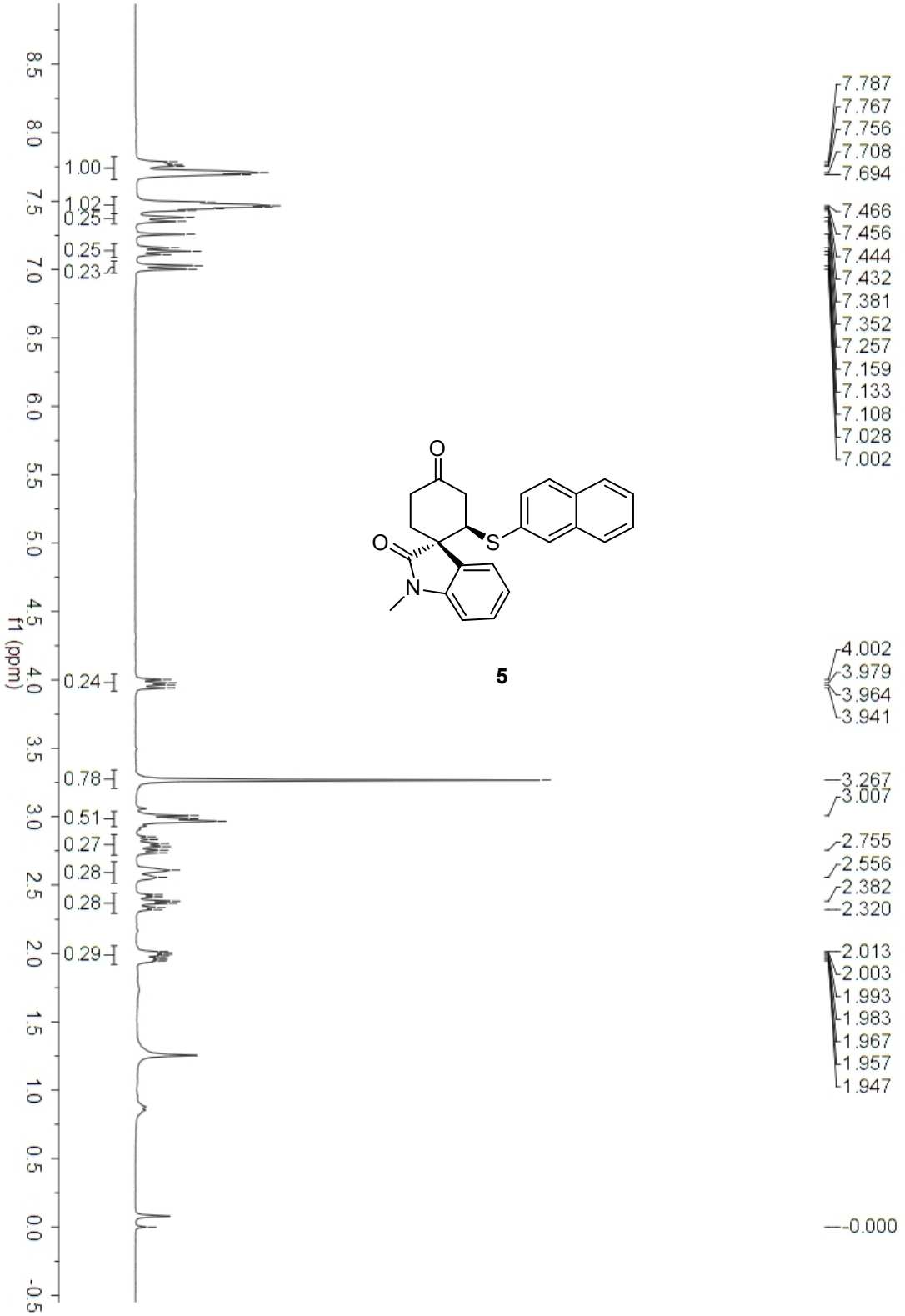
(3ej)


f1 (ppm)
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
134.962
133.269
132.498
130.113
129.957
129.325
128.714
127.287
126.546
125.253
125.127
123.002
196.422
176.406
146.235
143.350
128.714
127.547
127.476
127.287
126.546
125.253
125.127
123.002
110.056
O
O
S
N
(3ej)
77.423
77.000
76.576
127.693
127.547
127.476
127.287
54.815
49.296
44.330
42.097

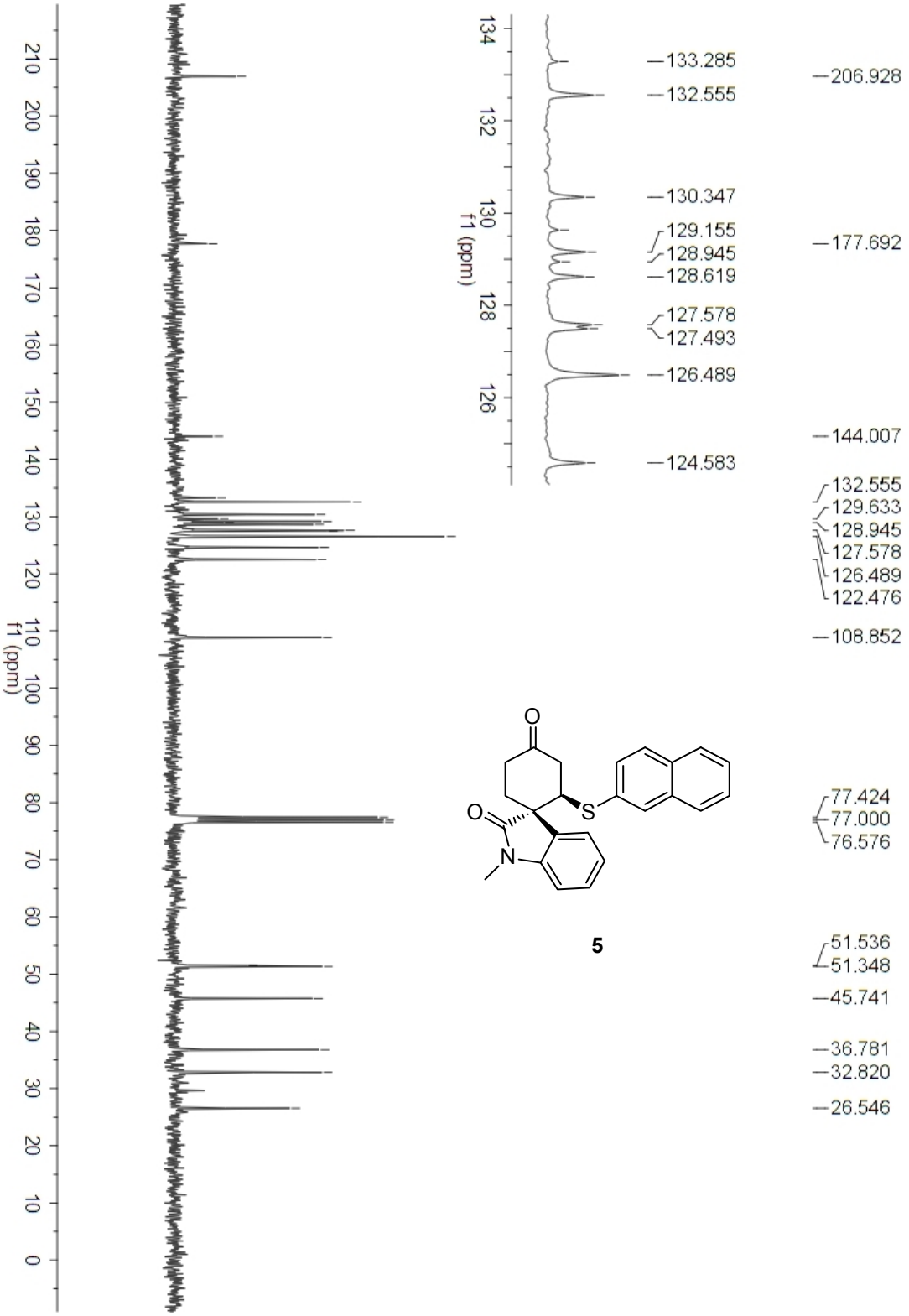

f1 (ppm)
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
4.60
3.86
2.11
0.92
0.98
0.91
1.00
1.13
3.19
1.11
7.775
7.723
7.420
7.264
7.102
6.968
6.940
6.428
6.396
5.933
5.899
4.063
4.025
3.677
3.618
3.244
2.842
2.794
2.735
0.000
N
OH
O
N
S

4

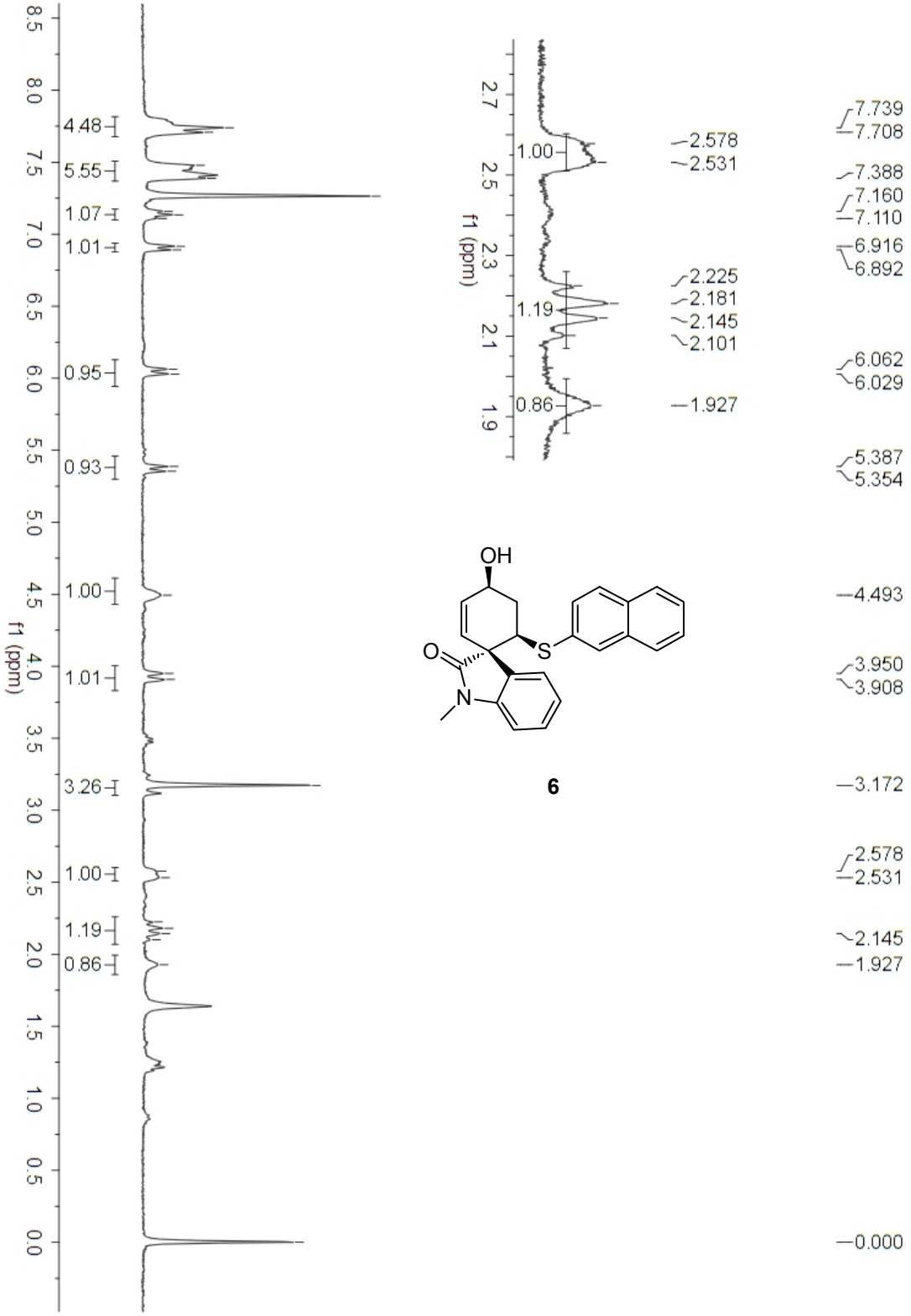

N
OH
O
S
N
4
176.418
151.567
143.998
131.854
129.266
128.636
127.472
126.752
126.127
122.600
108.960
133.114
131.854
131.696
130.673
129.990
129.266
128.975
128.636
127.584
127.472
127.312
126.752
126.418
126.127
124.762
54.056
48.199
39.520
39.311
39.103
38.894
27.085
26.360
f1 (ppm)
f1 (ppm)


f1 (ppm)
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
1.00
1.02
0.25
0.25
0.23
0.24
0.78
0.51
0.27
0.28
0.28
0.29
7.787
7.767
7.756
7.708
7.694
7.466
7.456
7.444
7.432
7.381
7.352
7.257
7.159
7.133
7.108
7.028
7.002
4.002
3.979
3.964
3.941
3.267
3.007
2.755
2.556
2.382
2.320
2.013
2.003
1.993
1.983
1.967
1.957
1.947
0.000
O
O
S
N

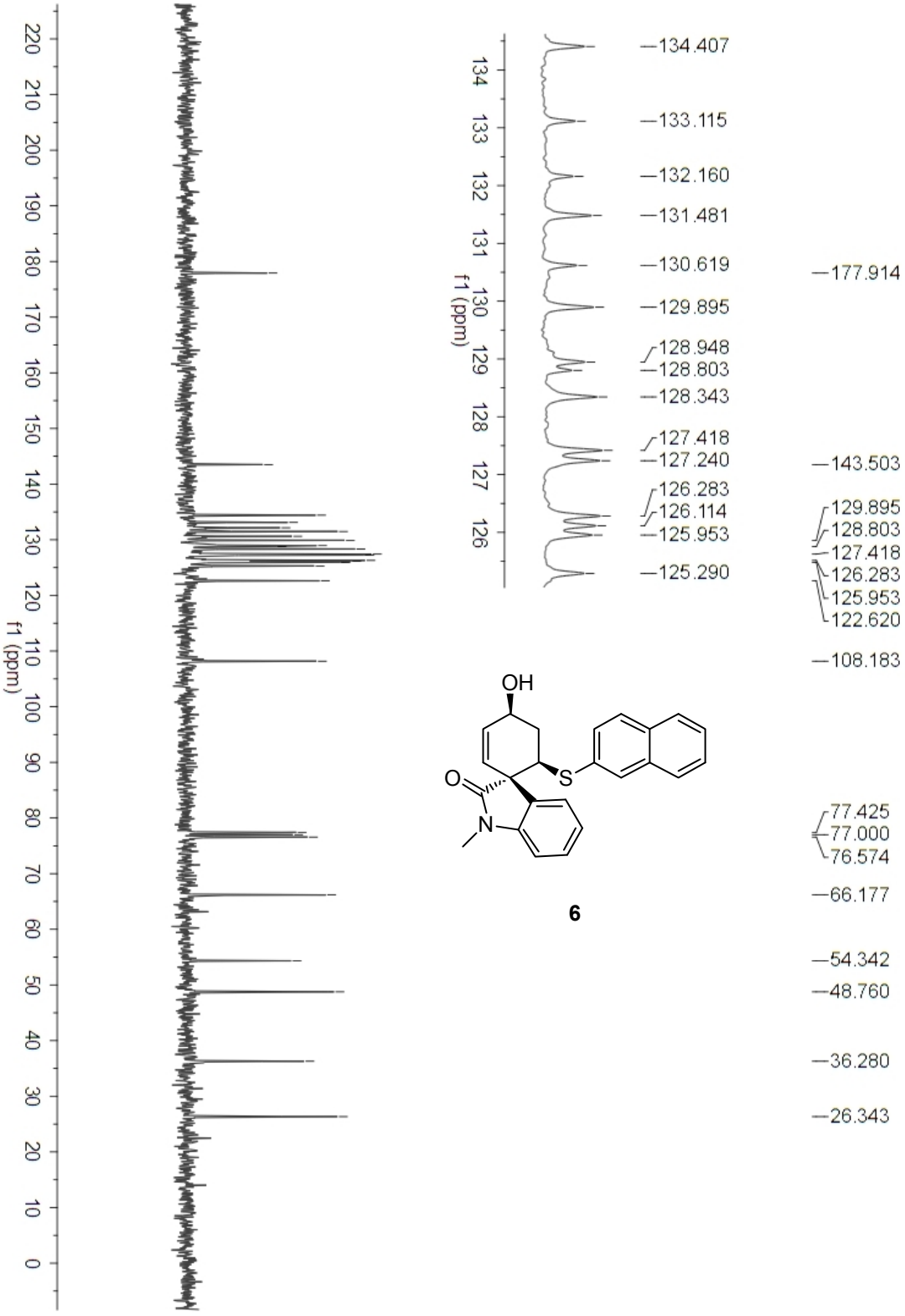
5


f1 (ppm)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
134 132 130 128 126
f1 (ppm)
133.285
132.555
130.347
129.155
128.945
128.619
127.578
127.493
126.489
124.583
206.928
177.692
144.007
132.555
129.633
128.945
127.578
126.489
122.476
108.852
77.424
77.000
76.576
51.536
51.348
45.741
36.781
32.820
26.546
O
O
S
N

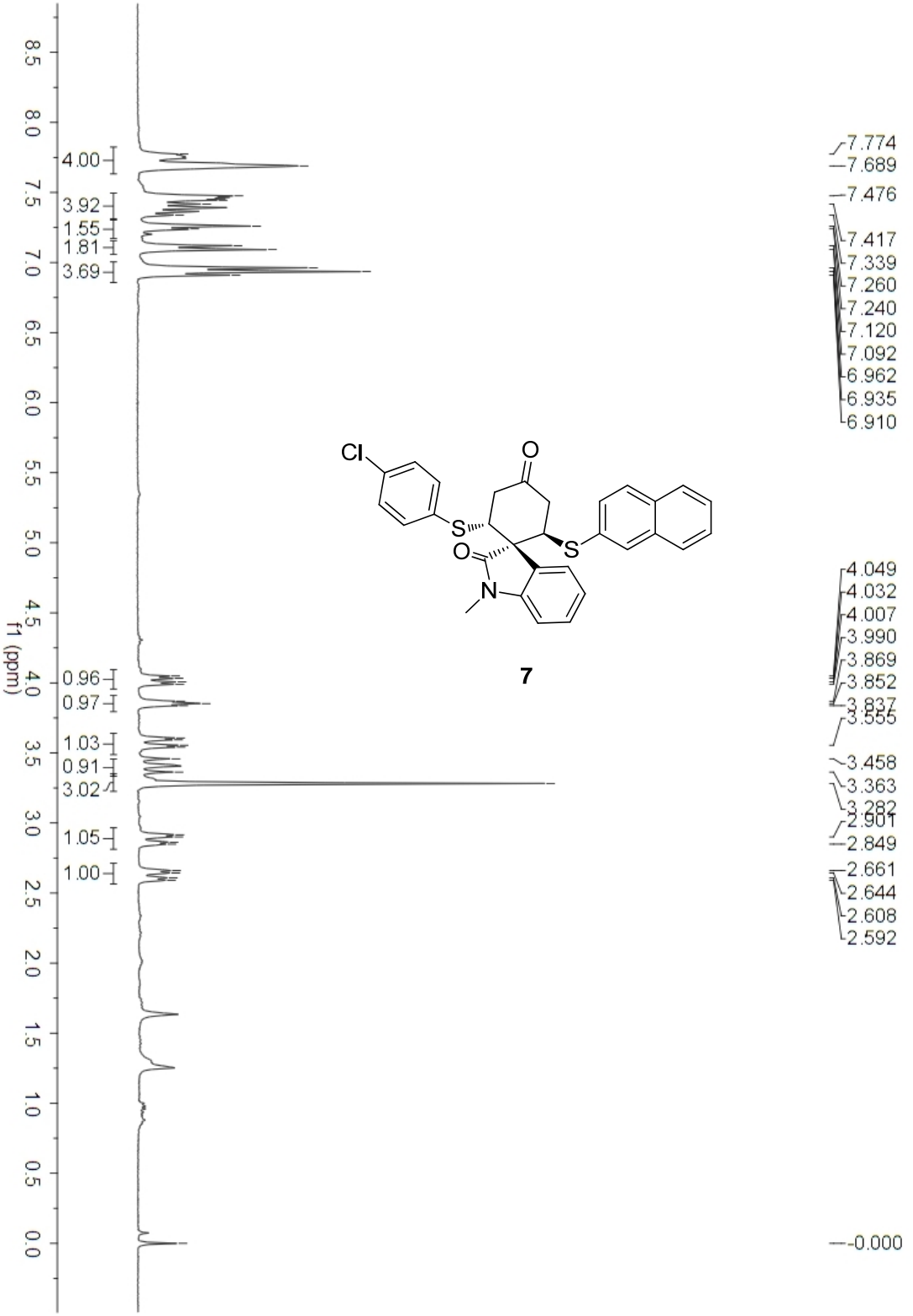
5


4.48
5.55
1.07
1.01
0.95
0.93
1.00
1.01
3.26
1.00
1.19
0.86
f1 (ppm)
1.00
1.19
0.86
f1 (ppm)
7.739
7.708
7.388
7.160
7.110
6.916
6.892
6.062
6.029
5.387
5.354
4.493
3.950
3.908
3.172
2.578
2.531
2.225
2.181
2.145
2.101
1.927
0.000
OH
O
S
N

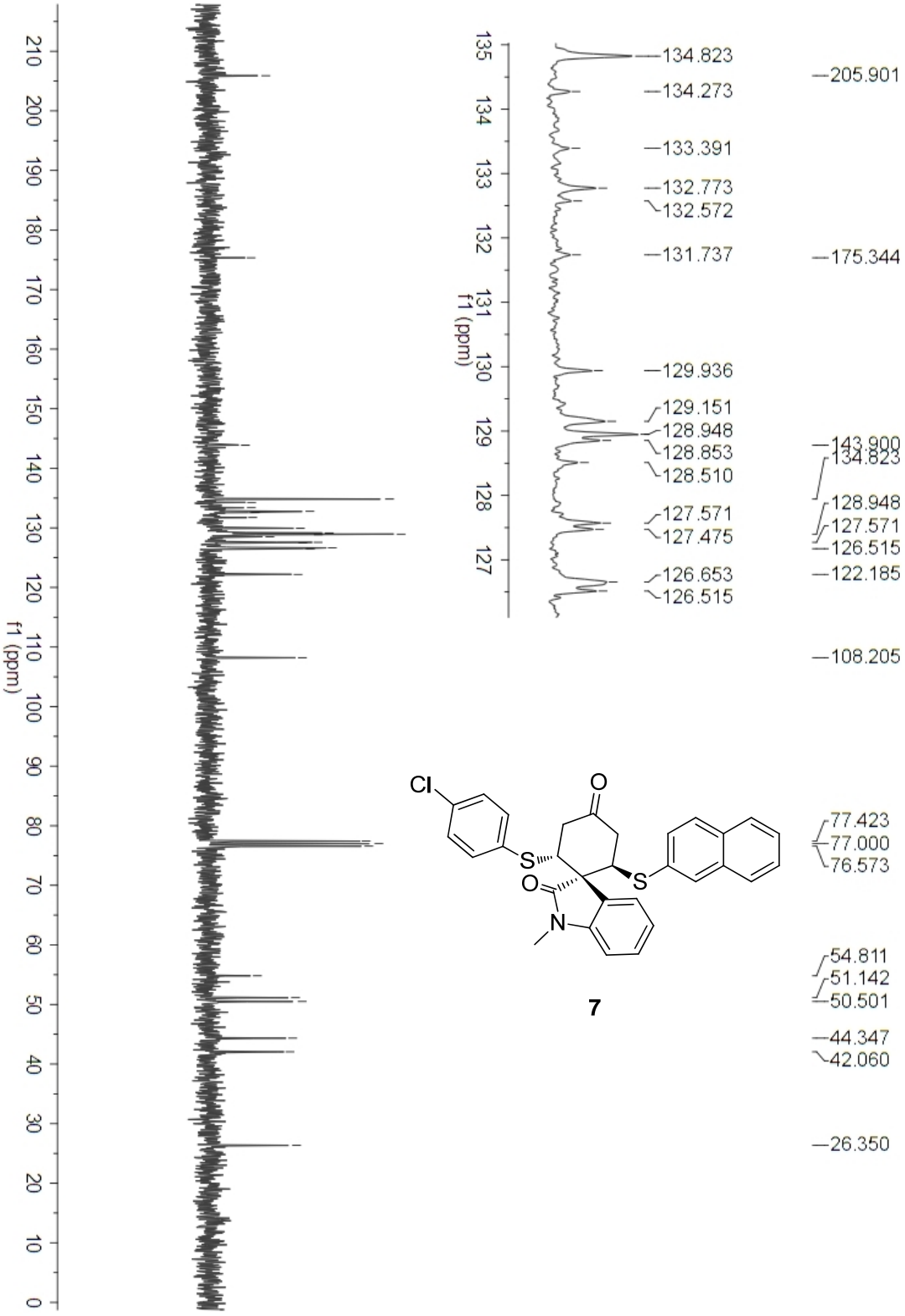
6


f1 (ppm)
134.407
133.115
132.160
131.481
130.619
129.895
128.948
128.803
128.343
127.418
127.240
126.283
126.114
125.953
125.290
177.914
143.503
129.895
128.803
127.418
126.283
125.953
122.620
108.183
77.425
77.000
76.574
66.177
54.342
48.760
36.280
26.343
OH
O
S
N

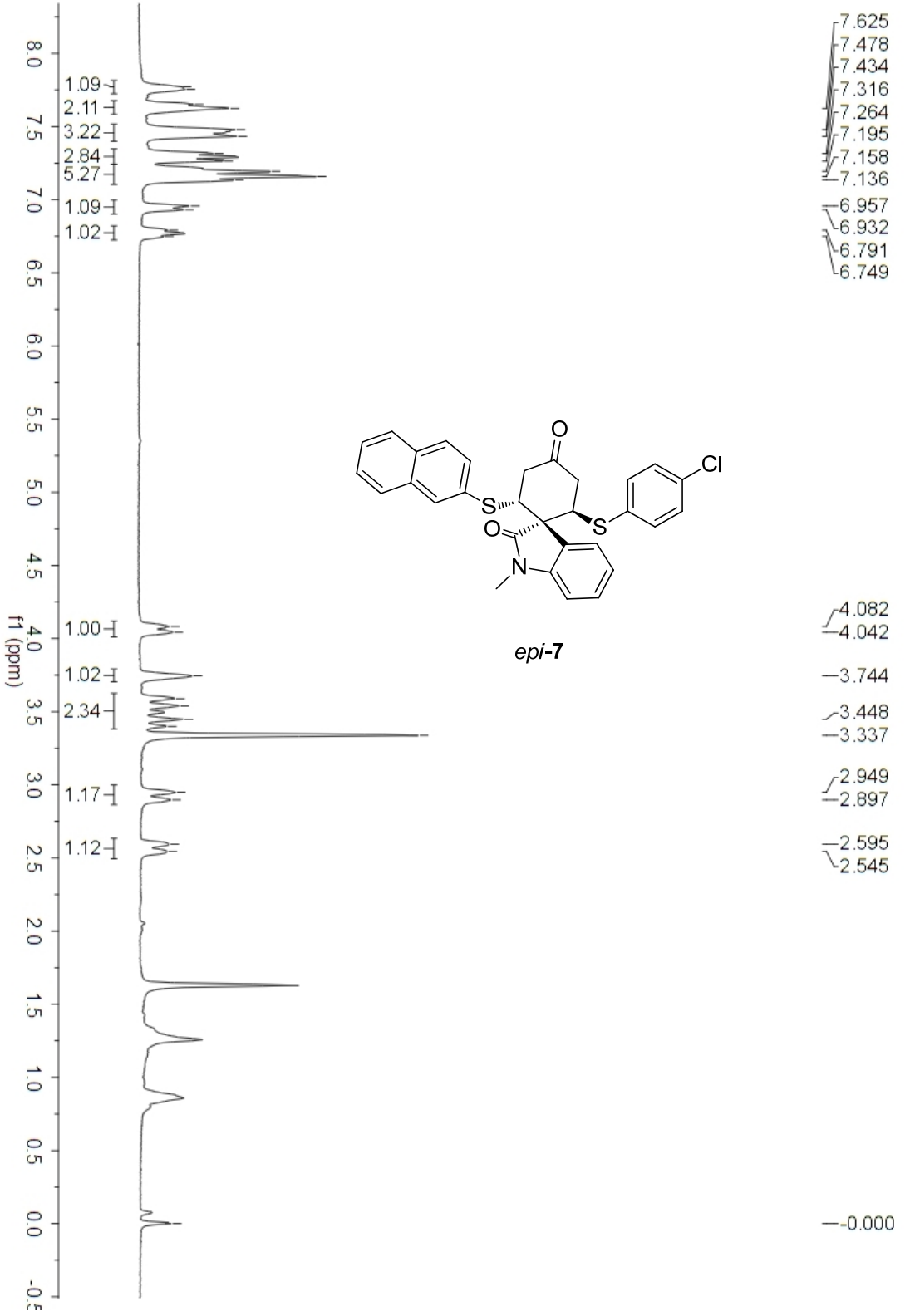
6


f1 (ppm)
4.00
3.92
1.55
1.81
3.69
0.96
0.97
1.03
0.91
3.02
1.05
1.00
7.774
7.689
7.476
7.417
7.339
7.260
7.240
7.120
7.092
6.962
6.935
6.910
4.049
4.032
4.007
3.990
3.869
3.852
3.837
3.555
3.458
3.363
3.282
2.901
2.849
2.661
2.644
2.608
2.592
0.000
Cl
O
S
O
S
N

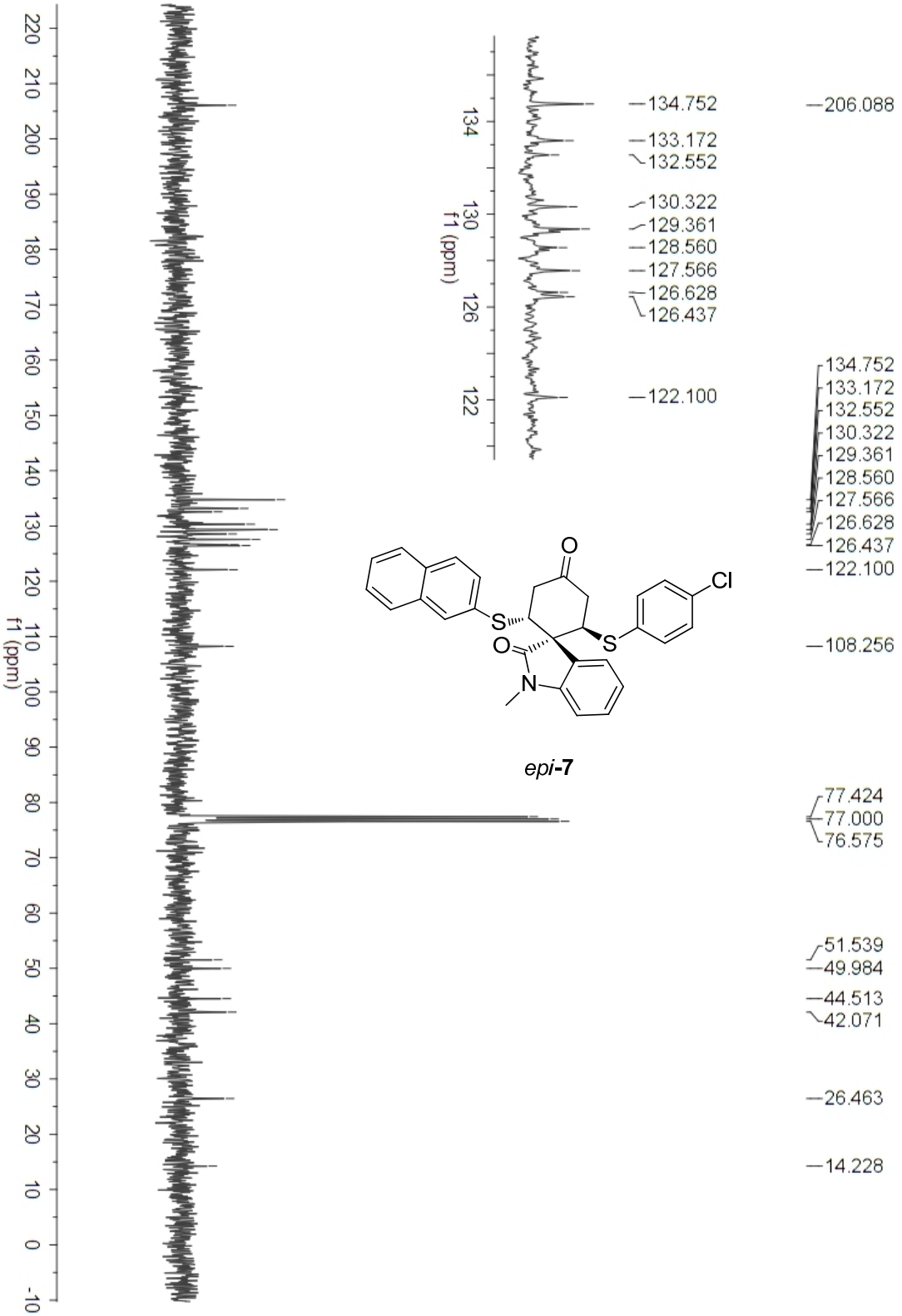
7


f1 (ppm)
134.823
134.273
133.391
132.773
132.572
131.737
129.936
129.151
128.948
128.853
128.510
127.571
127.475
126.653
126.515
205.901
175.344
143.900
134.823
128.948
127.571
126.515
122.185
108.205
77.423
77.000
76.573
54.811
51.142
50.501
44.347
42.060
26.350
Cl
O
S
O
S
N

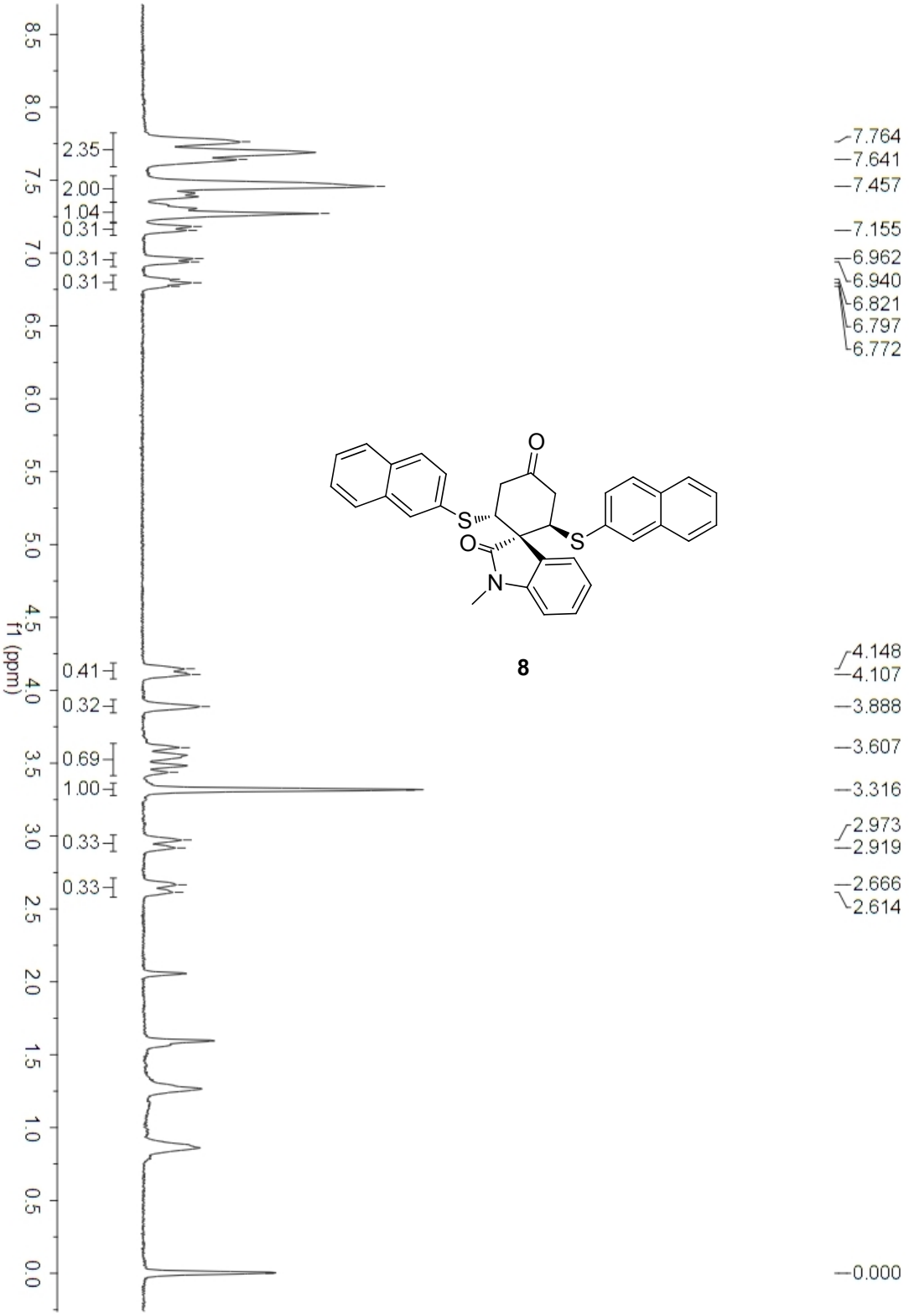
7


f1 (ppm)
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
1.09
2.11
3.22
2.84
5.27
1.09
1.02
1.00
1.02
2.34
1.17
1.12
7.625
7.478
7.434
7.316
7.264
7.195
7.158
7.136
6.957
6.932
6.791
6.749
4.082
4.042
3.744
3.448
3.337
2.949
2.897
2.595
2.545
-0.000
O
Cl
S
O
S
N

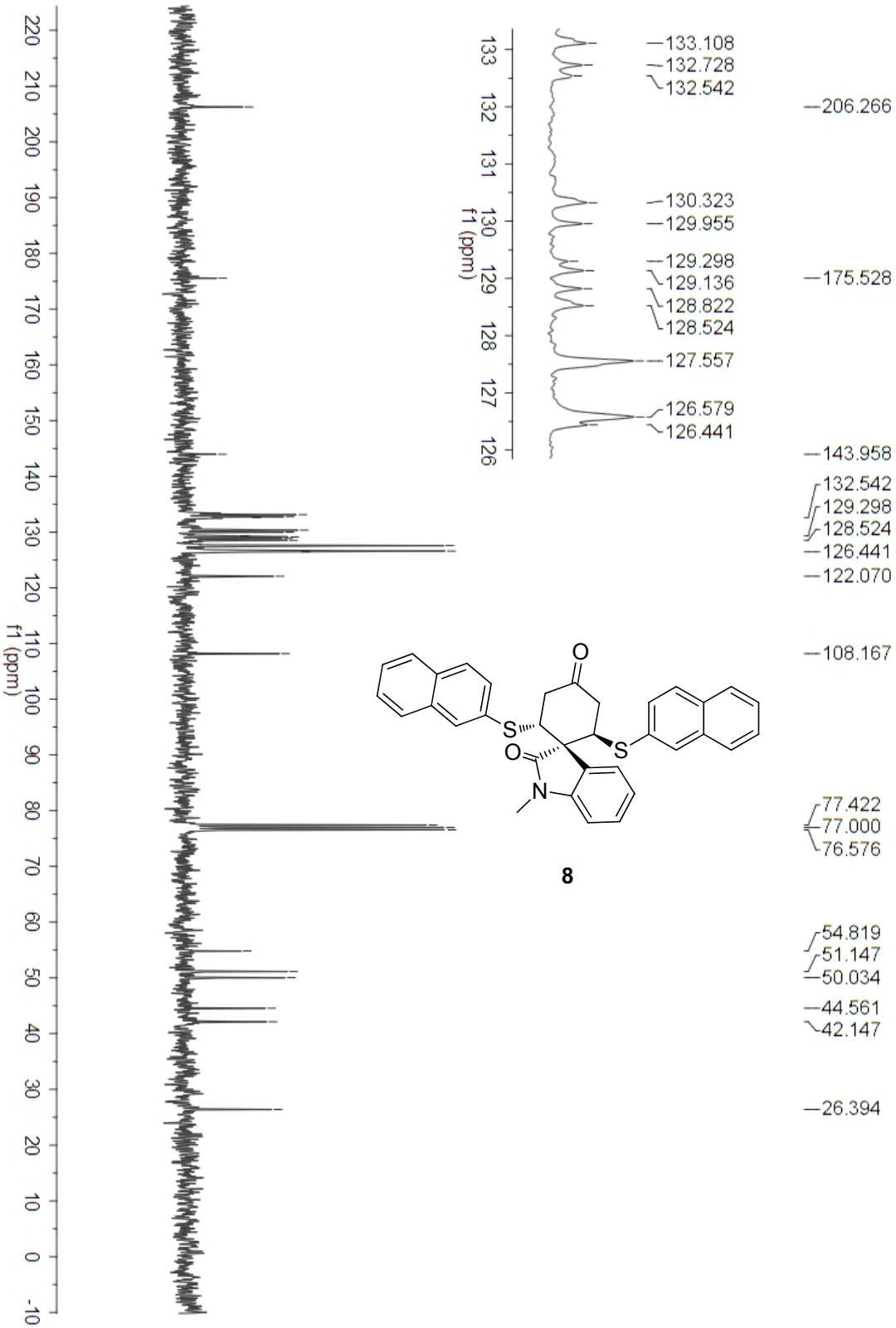
epi-**7**


f1 (ppm)
220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
134 130 126 122
134.752
133.172
132.552
130.322
129.361
128.560
127.566
126.628
126.437
122.100
206.088
108.256
77.424
77.000
76.575
51.539
49.984
44.513
42.071
26.463
14.228
O
Cl
S
O
S
N

epi-**7**


8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
f1 (ppm)
2.35
2.00
1.04
0.31
0.31
0.31
0.41
0.32
0.69
1.00
0.33
0.33
7.764
7.641
7.457
7.155
6.962
6.940
6.821
6.797
6.772
4.148
4.107
3.888
3.607
3.316
2.973
2.919
2.666
2.614
0.000
O
S
O
S
N

8


f1 (ppm)
133.108
132.728
132.542
206.266
130.323
129.955
129.298
129.136
128.822
128.524
127.557
126.579
126.441
175.528
143.958
132.542
129.298
128.524
126.441
122.070
108.167
77.422
77.000
76.576
54.819
51.147
50.034
44.561
42.147
26.394
O
S
O
S
N

8

VIII. HPLC Chromatograms

Data File D:\LC\DATA\YL\YL-2-58B-S\YL-2-58B-S 2012-05-23 16-55-05\022-0101.D
Sample Name: YL-2-58B-S

```
    ====================================================================
    Acq. Operator   : THL                          Seq. Line :   1
    Acq. Instrument : Instrument 1                  Location : Vial 22
    Injection Date  : 5/23/2012 4:57:07 PM               Inj :   1
                                                   Inj Volume : 5 µl
    Acq. Method     : D:\LC\DATA\YL\YL-2-58B-S\YL-2-58B-S 2012-05-23 16-55-05\ASH-50-50-1ML-
                      230NM.M
    Last changed    : 5/23/2012 4:54:08 PM by THL
    Analysis Method : D:\LC\DATA\YL\YL-2-58B-S\YL-2-58B-S 2012-05-23 16-55-05\022-0101.D\DA.M (
                      ASH-50-50-1ML-230NM.M)
    Last changed    : 1/30/2013 9:56:22 AM by FX
                      (modified after loading)
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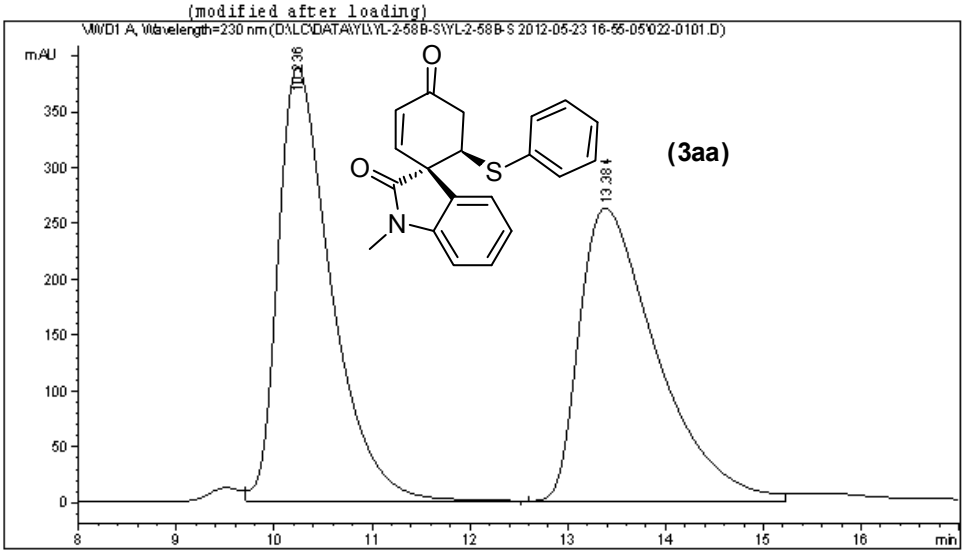



```
    ====================================================================
                            Area Percent Report
    ====================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]  mAU   *s    [mAU   ]      %
    ----|-------|----|-------|----------|----------|--------|
       1  10.236 VB    0.5690 1.46745e4   388.35678  50.3719
       2  13.384 BB    0.8274 1.44578e4   262.54214  49.6281

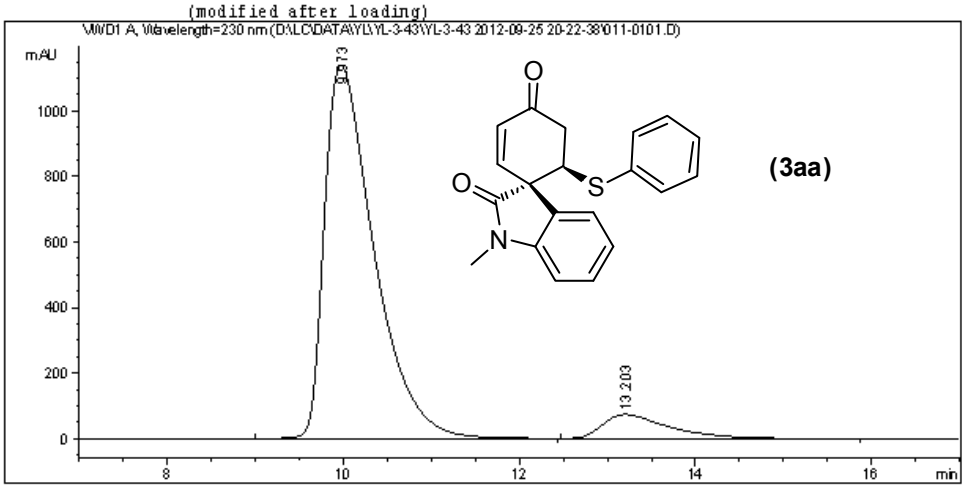
    Totals :                  2.91323e4   650.89893

    ====================================================================
```

Instrument 1 1/30/2013 9:56:43 AM FX Page 1 of 1

Data File D:\LC\DATA\YL\YL-3-43\YL-3-43 2012-09-25 20-22-38\011-0101.D
Sample Name: YL-3-43

Acq. Operator	: YL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 11
Injection Date	: 9/25/2012 8:23:52 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-43\YL-3-43 2012-09-25 20-22-38\ASH-50-50-1ML-230NM-20MIN.M		
Last changed	: 5/23/2012 8:48:56 PM by THL		
Analysis Method	: D:\LC\DATA\YL\YL-3-43\YL-3-43 2012-09-25 20-22-38\011-0101.D\DA.M (ASH-50-50-1ML-230NM-20MIN.M)		
Last changed	: 1/29/2013 7:57:57 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=230 nm

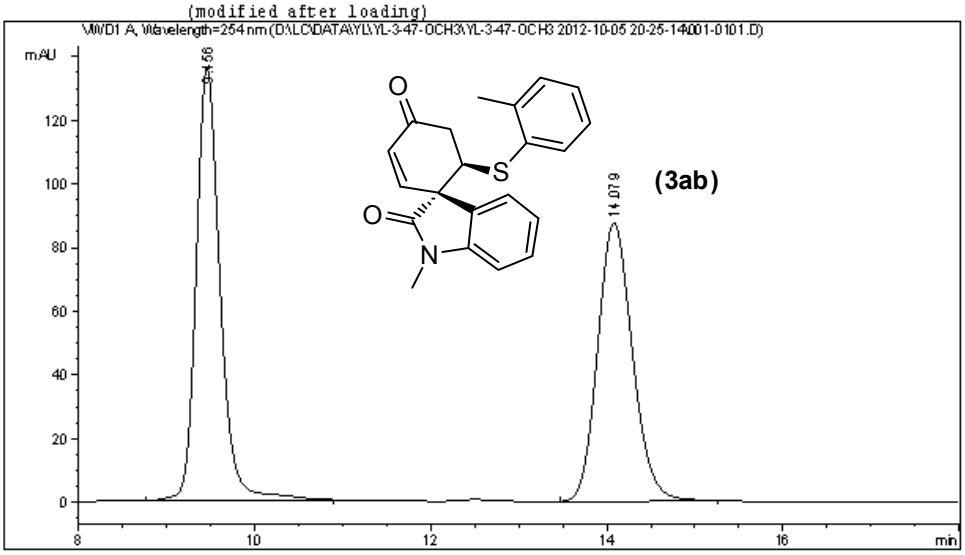
Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	9.973	BB	0.5938	4.46753e4	1140.58459	91.8316
2	13.203	BB	0.7807	3973.87573	74.18596	8.1684
Totals :				4.86492e4	1214.77055	

*** End of Report ***

Instrument 1 1/29/2013 7:58:46 PM FX

Data File D:\LC\DATA\YL\YL-3-47-OCH3\YL-3-47-OCH3 2012-10-05 20-25-14\001-0101.D
Sample Name: YL-3-47-oCH3

Acq. Operator	: YL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/5/2012 8:26:39 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-OCH3\YL-3-47-OCH3 2012-10-05 20-25-14\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-OCH3\YL-3-47-OCH3 2012-10-05 20-25-14\001-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 1/29/2013 9:10:01 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

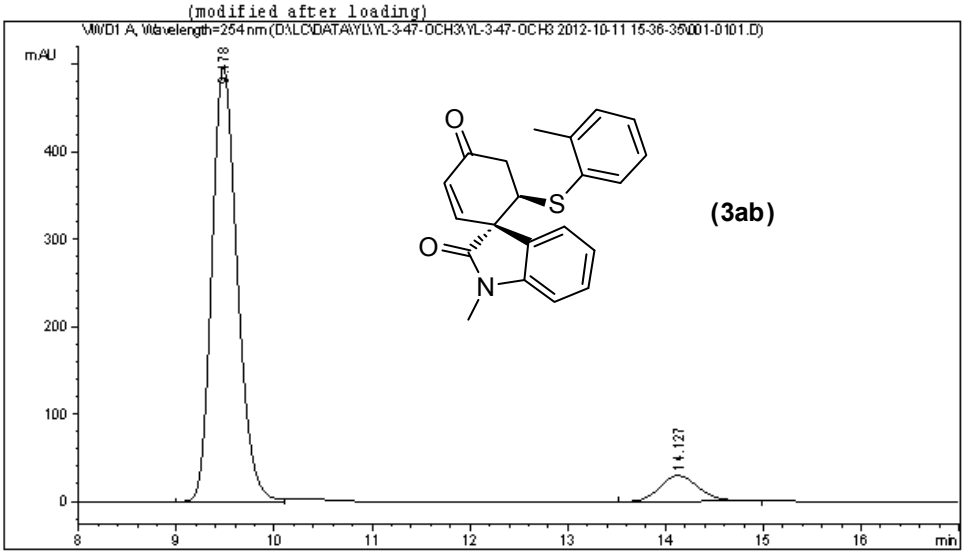
Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	9.456	BB	0.2894	2577.26636	136.04590	51.6613
2	14.079	BB	0.4259	2411.50513	87.61938	48.3387
Totals :				4988.77148	223.66528	

Instrument 1 1/29/2013 9:10:07 PM FX

Data File D:\LC\DATA\YL\YL-3-47-OCH3\YL-3-47-OCH3 2012-10-11 15-36-35\001-0101.D
Sample Name: YL-3-47-OCH3

Acq. Operator	: YDC	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/11/2012 3:38:26 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-OCH3\YL-3-47-OCH3 2012-10-11 15-36-35\ICH-50-50ML-254NM-20MIN.M		
Last changed	: 10/8/2012 2:44:55 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-OCH3\YL-3-47-OCH3 2012-10-11 15-36-35\001-0101.D\DA.M (ICH-50-50ML-254NM-20MIN.M)		
Last changed	: 1/29/2013 9:10:53 PM by FX (modified after loading)		



Area Percent Report

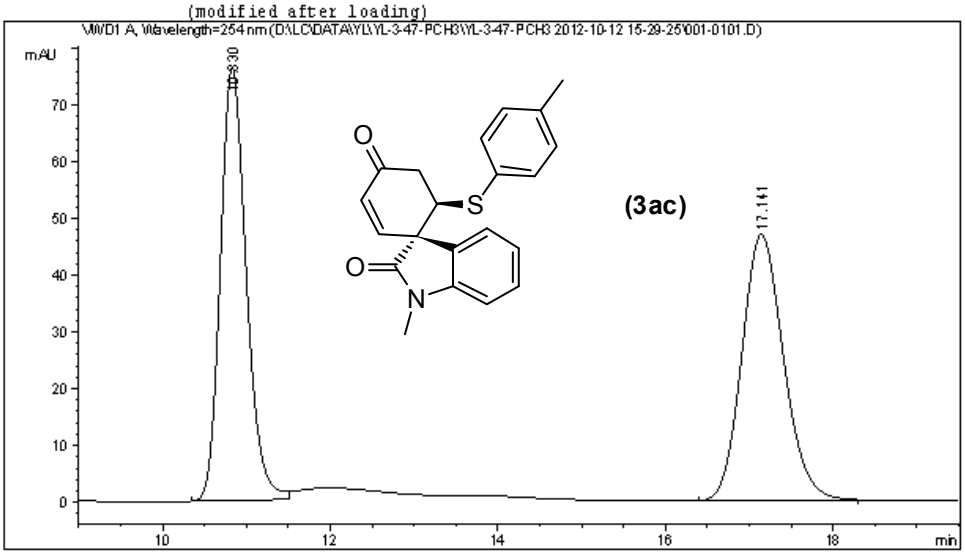
Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	9.478	BV	0.2788	8948.98633	496.22672	91.6117
2	14.127	BB	0.4309	819.40564	29.58645	8.3883
Totals :				9768.39197	525.81316	

Data File D:\LC\DATA\YL\YL-3-47-PCH3\YL-3-47-PCH3 2012-10-12 15-29-25\001-0101.D
Sample Name: YL-3-47-PCH3

Acq. Operator	: FX	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/12/2012 3:30:49 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-PCH3\YL-3-47-PCH3 2012-10-12 15-29-25\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-PCH3\YL-3-47-PCH3 2012-10-12 15-29-25\001-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 1/29/2013 9:14:09 PM by FX (modified after loading)		



Area Percent Report

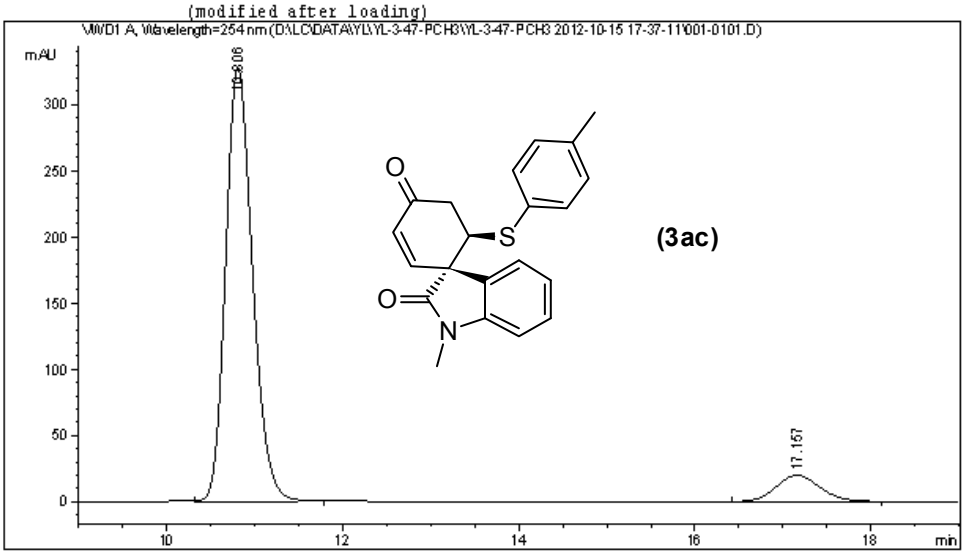
Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	10.830	BB	0.3303	1636.98621	76.32961	50.2297
2	17.141	BB	0.5339	1622.01636	46.97461	49.7703
Totals :				3259.00256	123.30422	

Data File D:\LC\DATA\YL\YL-3-47-PCH3\YL-3-47-PCH3 2012-10-15 17-37-11\001-0101.D
Sample Name: YL-3-47-PCH3

Acq. Operator	: FX	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/15/2012 5:38:34 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-PCH3\YL-3-47-PCH3 2012-10-15 17-37-11\ICH-50-50ML-254NM-25MIN.M		
Last changed	: 10/6/2012 3:15:19 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-PCH3\YL-3-47-PCH3 2012-10-15 17-37-11\001-0101.D\DA.M (ICH-50-50ML-254NM-25MIN.M)		
Last changed	: 1/29/2013 9:14:56 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

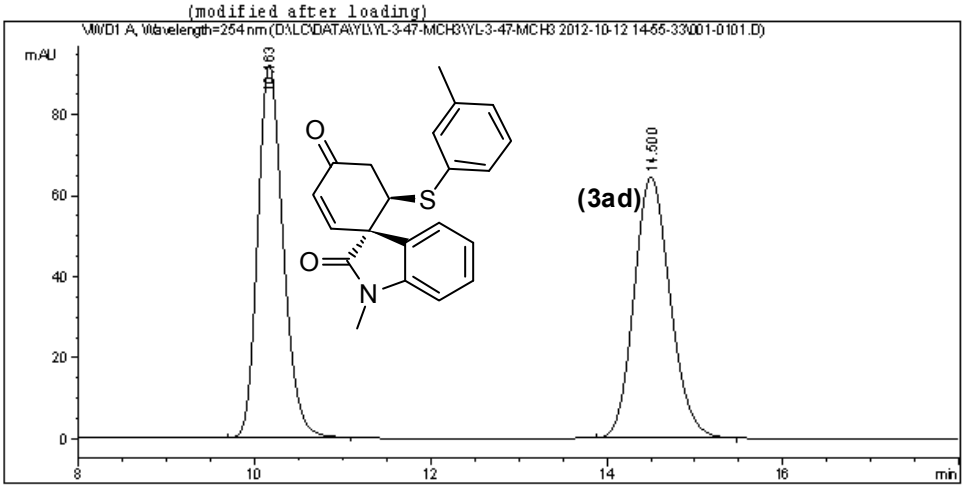
Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	10.806	VB	0.3272	6937.76758	327.56784	90.8713
2	17.157	BB	0.5403	696.95325	20.01100	9.1287
Totals :				7634.72083	347.57884	

Instrument 1 1/29/2013 9:15:03 PM FX

Data File D:\LC\DATA\YL\YL-3-47-MCH3\YL-3-47-MCH3 2012-10-12 14-55-33\001-0101.D
Sample Name: YL-3-47-MCH3

Acq. Operator	: FX	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/12/2012 2:56:48 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-MCH3\YL-3-47-MCH3 2012-10-12 14-55-33\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-MCH3\YL-3-47-MCH3 2012-10-12 14-55-33\001-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 1/29/2013 8:06:01 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	10.163	BB	0.3088	1852.73242	92.15969	50.1461
2	14.500	BB	0.4437	1841.93372	64.52709	49.8539
Totals :				3694.66614	156.68678	

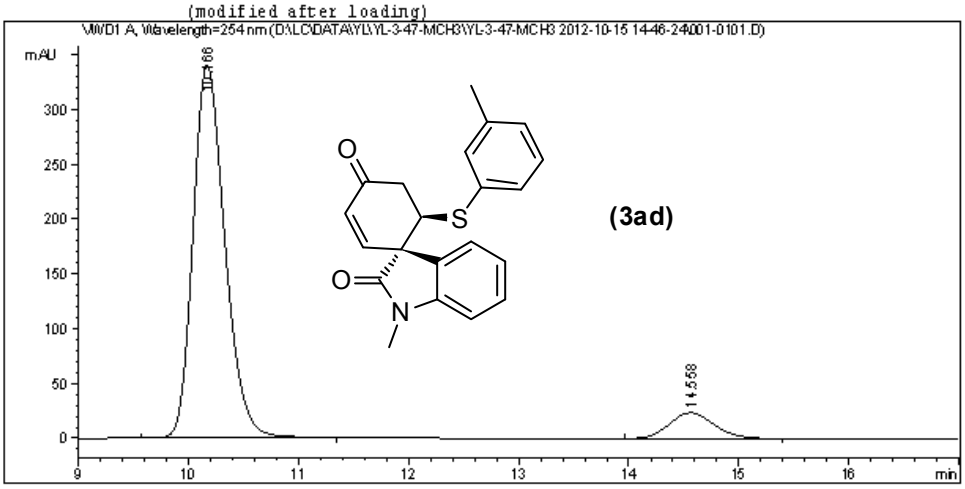
*** End of Report ***

Instrument 1 1/29/2013 8:06:08 PM FX

Page 1 of 1

Data File D:\LC\DATA\YL\YL-3-47-MCH3\YL-3-47-MCH3 2012-10-15 14-46-24\001-0101.D
Sample Name: YL-3-47-MCH3

Acq. Operator	: FX	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/15/2012 2:47:58 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-MCH3\YL-3-47-MCH3 2012-10-15 14-46-24\ICH-50-50ML-254NM-20MIN.M		
Last changed	: 10/8/2012 2:44:55 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-MCH3\YL-3-47-MCH3 2012-10-15 14-46-24\001-0101.D\DA.M (ICH-50-50ML-254NM-20MIN.M)		
Last changed	: 1/29/2013 8:08:41 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	10.166	BB	0.3099	6843.88770	340.94449	90.9717
2	14.558	BB	0.4411	679.20776	23.66611	9.0283
Totals :				7523.09546	364.61060	

*** End of Report ***

Instrument 1 1/29/2013 8:08:49 PM FX

Page 1 of 1

Data File D:\LC\DATA\YL\YL-3-47-0F\YL-3-47-0F 2012-10-05 19-30-02\001-0101.D
Sample Name: YL-3-47-0F

Acq. Operator	: YL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/5/2012 7:31:18 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-0F\YL-3-47-0F 2012-10-05 19-30-02\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-0F\YL-3-47-0F 2012-10-05 19-30-02\001-0101.D\DA.M (ICH-50-50ML-254NM.M)		
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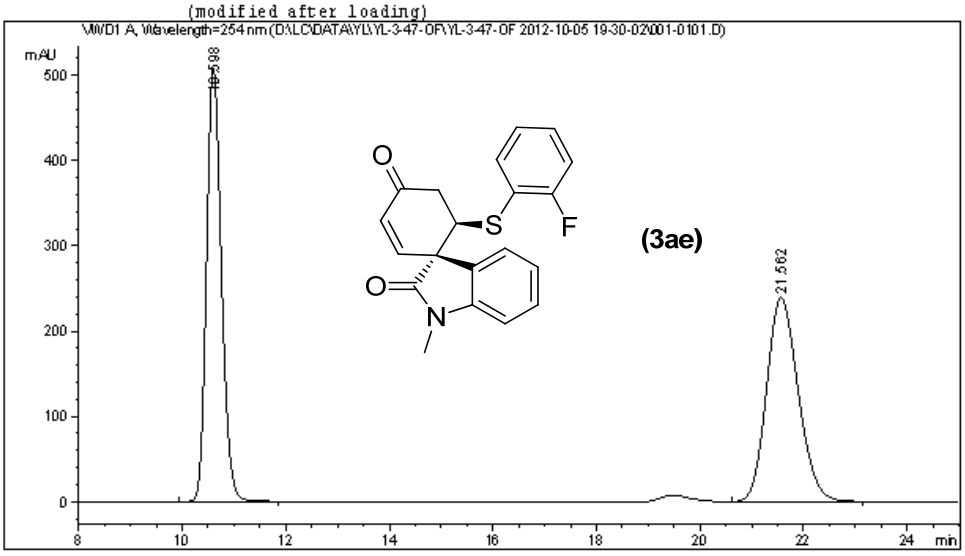

Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	10.598	BB	0.3092	1.01775e4	508.62097	50.0895
2	21.562	BB	0.6595	1.0141le4	239.02881	49.9105
Totals :				2.03185e4	747.64978	

Data File D:\LC\DATA\YL\YL-3-47-0F\YL-3-47-0F 2012-10-11 14-59-20\001-0101.D
Sample Name: YL-3-47-0F

Acq. Operator	: YDC	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/11/2012 3:00:37 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-0F\YL-3-47-0F 2012-10-11 14-59-20\ICH-50-50ML-254NM-30MIN.M		
Last changed	: 10/6/2012 3:59:52 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-0F\YL-3-47-0F 2012-10-11 14-59-20\001-0101.D\DA.M (ICH-50-50ML-254NM-30MIN.M)		
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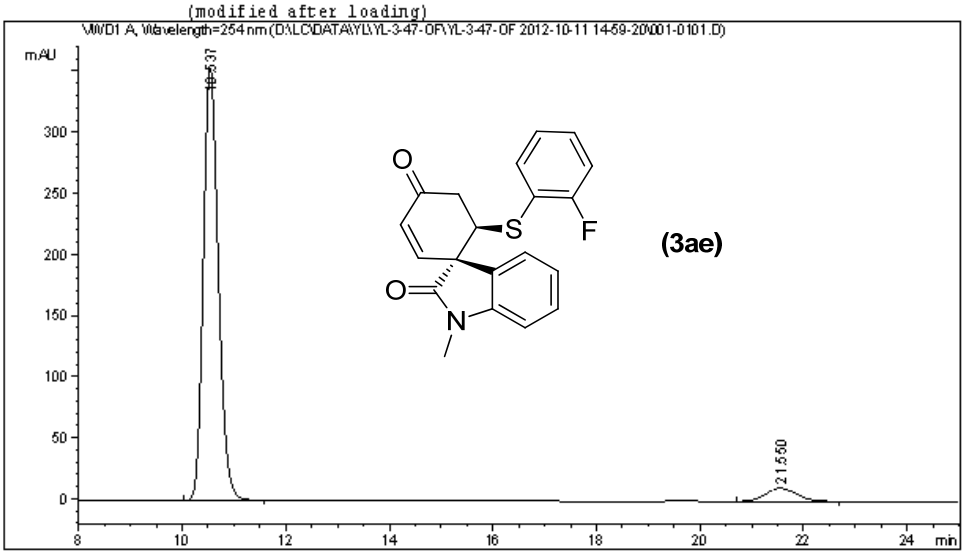


Area Percent Report

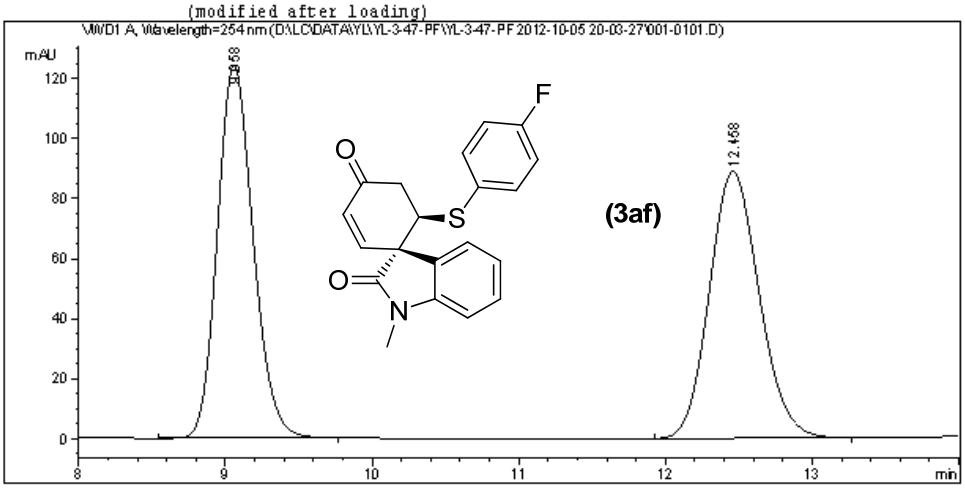
Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	10.537	BB	0.3122	7131.78906	354.02740	93.9355
2	21.550	BB	0.6631	460.43182	10.74324	6.0645
Totals :				7592.22089	364.77065	

Data File D:\LC\DATA\YL\YL-3-47-PF\YL-3-47-PF 2012-10-05 20-03-27\001-0101.D
Sample Name: YL-3-47-PF

Acq. Operator	: YL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/5/2012 8:04:48 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-PF\YL-3-47-PF 2012-10-05 20-03-27\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-PF\YL-3-47-PF 2012-10-05 20-03-27\001-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 1/29/2013 8:28:31 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

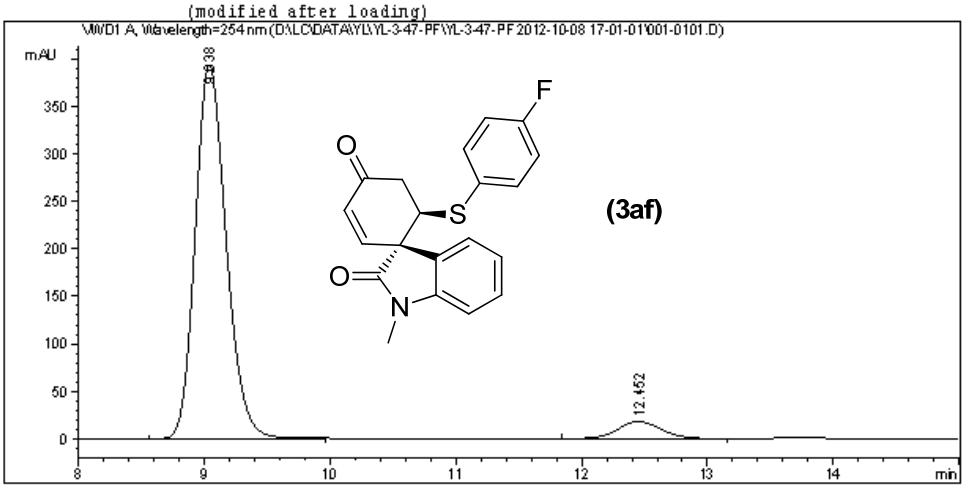
Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	9.058	VB	0.2617	2108.23682	124.42626	50.1061
2	12.458	BB	0.3670	2099.30688	88.98952	49.8939
Totals :				4207.54370	213.41578	

*** End of Report ***

Instrument 1 1/29/2013 8:28:37 PM FX

Data File D:\LC\DATA\YL\YL-3-47-PF\YL-3-47-PF 2012-10-08 17-01-01\001-0101.D
Sample Name: YL-3-47-PF

Acq. Operator	: FX	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/8/2012 5:02:27 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-PF\YL-3-47-PF 2012-10-08 17-01-01\ICH-50-50ML-254NM-20MIN.M		
Last changed	: 10/8/2012 2:44:55 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-PF\YL-3-47-PF 2012-10-08 17-01-01\001-0101.D\DA.M (ICH-50-50ML-254NM-20MIN.M)		
Last changed	: 1/29/2013 8:29:48 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

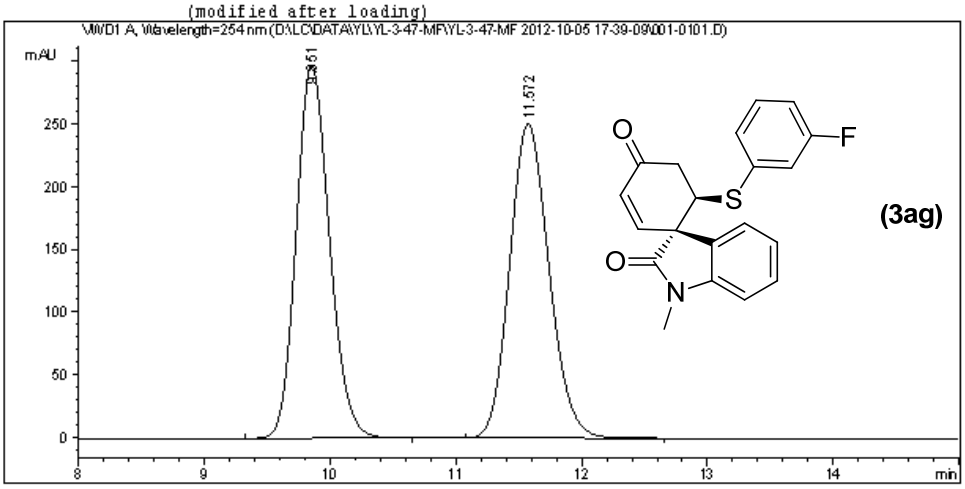
Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	9.038	VB	0.2631	6710.80664	393.38159	93.8005
2	12.452	BB	0.3780	443.53589	18.07591	6.1995
Totals :				7154.34253	411.45750	

*** End of Report ***

Instrument 1 1/29/2013 8:29:53 PM FX

Data File D:\LC\DATA\YL\YL-3-47-MF\YL-3-47-MF 2012-10-05 17-39-09\001-0101.D
Sample Name: YL-3-47-mF

Acq. Operator	: YL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/5/2012 5:40:37 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-MF\YL-3-47-MF 2012-10-05 17-39-09\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-MF\YL-3-47-MF 2012-10-05 17-39-09\001-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 1/29/2013 9:04:26 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	9.851	BB	0.2853	5466.89453	298.07571	50.0353
2	11.572	BB	0.3384	5459.16992	250.83772	49.9647
Totals :				1.0926e4	548.91344	

*** End of Report ***

Instrument 1 1/29/2013 9:04:31 PM FX

Data File D:\LC\DATA\YL\YL-3-47-MF\YL-3-47-MF 2012-10-08 14-51-58\001-0101.D
Sample Name: YL-3-47-MF

Acq. Operator	: FX	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/8/2012 2:53:26 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-MF\YL-3-47-MF 2012-10-08 14-51-58\ICH-50-50ML-254NM-20MIN.M		
Last changed	: 10/8/2012 2:44:55 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-MF\YL-3-47-MF 2012-10-08 14-51-58\001-0101.D\DA.M (ICH-50-50ML-254NM-20MIN.M)		
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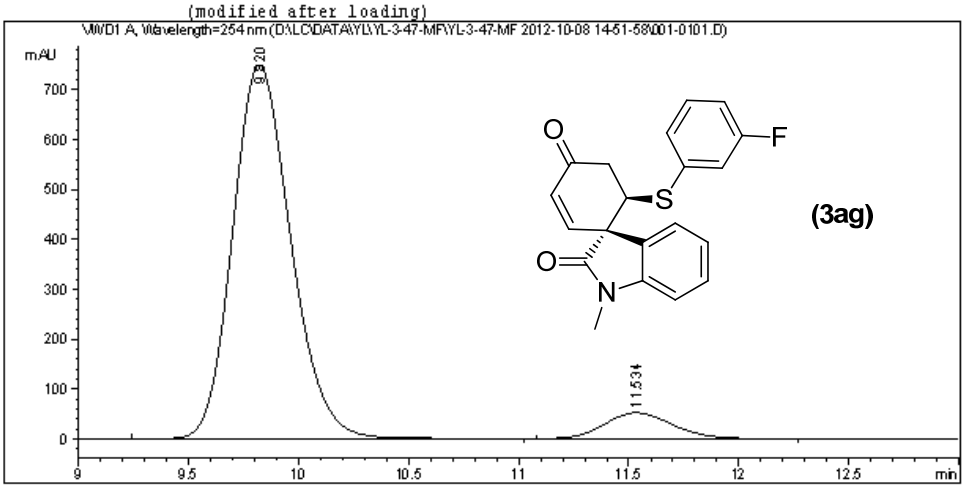

Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	9.820	VB	0.2843	1.37896e4	750.30682	92.3717
2	11.534	BB	0.3386	1138.78308	52.26485	7.6283
Totals :				1.49284e4	802.57167	

*** End of Report ***

Instrument 1 1/29/2013 9:05:37 PM FX

Page 1 of 1

Data File D:\LC\DATA\YL\YL-3-47-PCL\YL-3-47-PCL 2012-09-28 19-28-05\001-0101.D
Sample Name: YL-3-47-PCl

Acq. Operator	: YL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 9/28/2012 7:29:32 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-PCL\YL-3-47-PCL 2012-09-28 19-28-05\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-PCL\YL-3-47-PCL 2012-09-28 19-28-05\001-0101.D\DA.M (ICH-50-50ML-254NM.M)		
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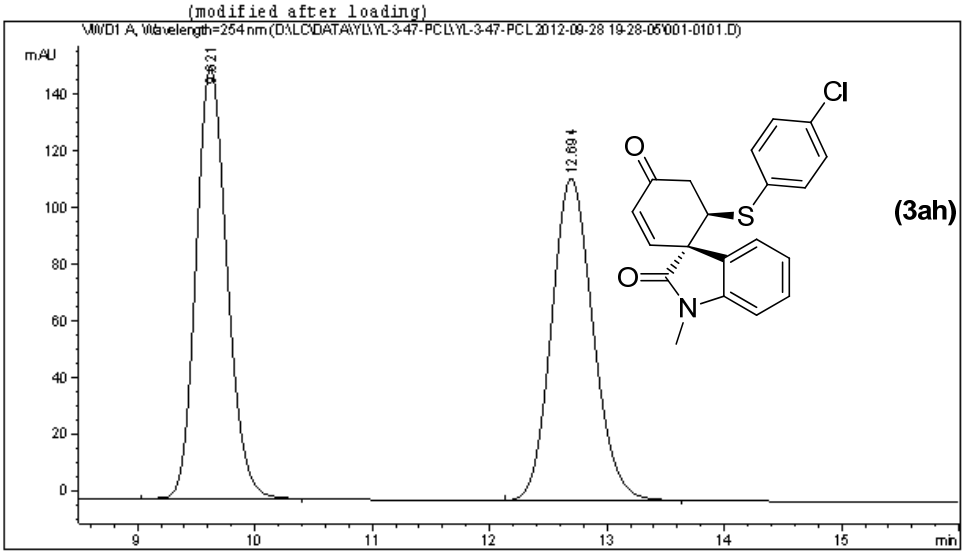


Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

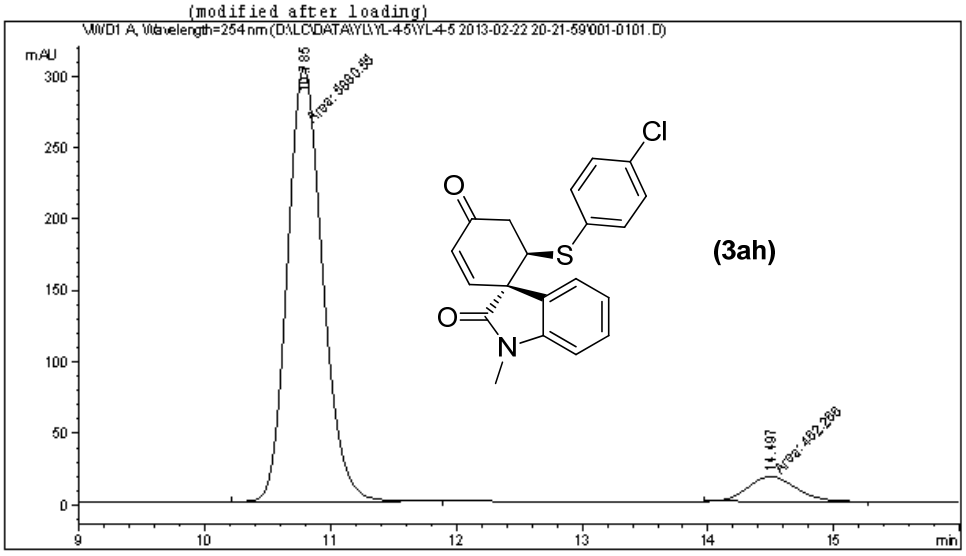
Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	9.621	BB	0.2843	2797.49121	152.18671	50.1040
2	12.694	BB	0.3792	2785.87280	113.62158	49.8960
Totals :				5583.36401	265.80829	

Instrument 1 1/29/2013 9:16:31 PM FX

Data File D:\LC\DATA\YL\YL-4-5\YL-4-5 2013-02-22 20-21-59\001-0101.D
Sample Name: YL-4-5

Acq. Operator	: LQH	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 2/22/2013 8:23:14 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-4-5\YL-4-5 2013-02-22 20-21-59\ICH-50-50-1ML-254NM-20MIN.M		
Last changed	: 1/12/2013 11:01:51 AM by FX		
Analysis Method	: D:\LC\DATA\YL\YL-4-5\YL-4-5 2013-02-22 20-21-59\001-0101.D\DA.M (ICH-50-50-1ML-254NM-20MIN.M)		
Last changed	: 4/1/2013 3:00:06 PM by FX (modified after loading)		



Area Percent Report

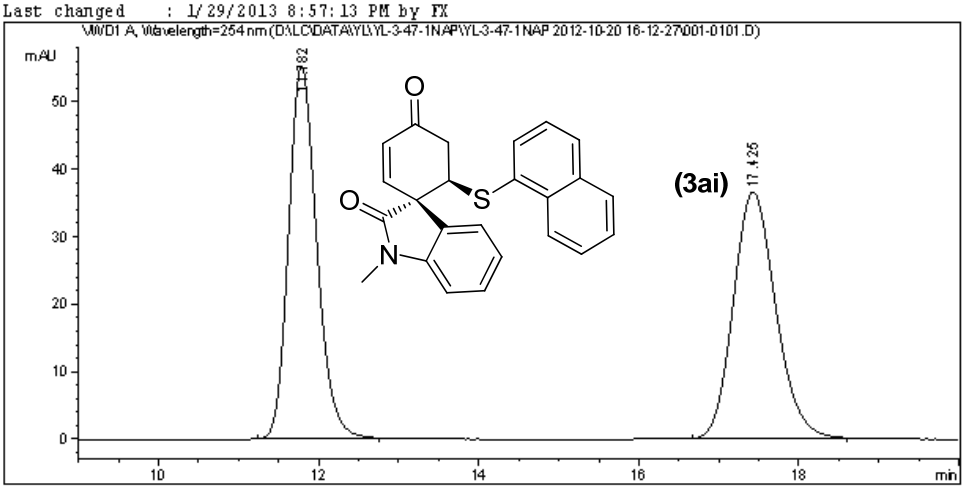
Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	10.785	MM	0.3230	5880.54932	303.38959	92.7120
2	14.497	MM	0.4447	462.26587	17.32384	7.2880
Totals :				6342.81519	320.71342	

Data File D:\LC\DATA\YL\YL-3-47-1NAP\YL-3-47-1NAP 2012-10-20 16-12-27\001-0101.D
Sample Name: YL-3-47-1NAP

Acq. Operator	: YDC	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/20/2012 4:13:56 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-1NAP\YL-3-47-1NAP 2012-10-20 16-12-27\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-1NAP\YL-3-47-1NAP 2012-10-20 16-12-27\001-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 1/29/2013 8:57:13 PM by FX		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	11.782	BB	0.3769	1351.95154	55.31890	50.0910
2	17.425	BB	0.5631	1347.03809	36.62056	49.9090
Totals :				2698.98962	91.93946	

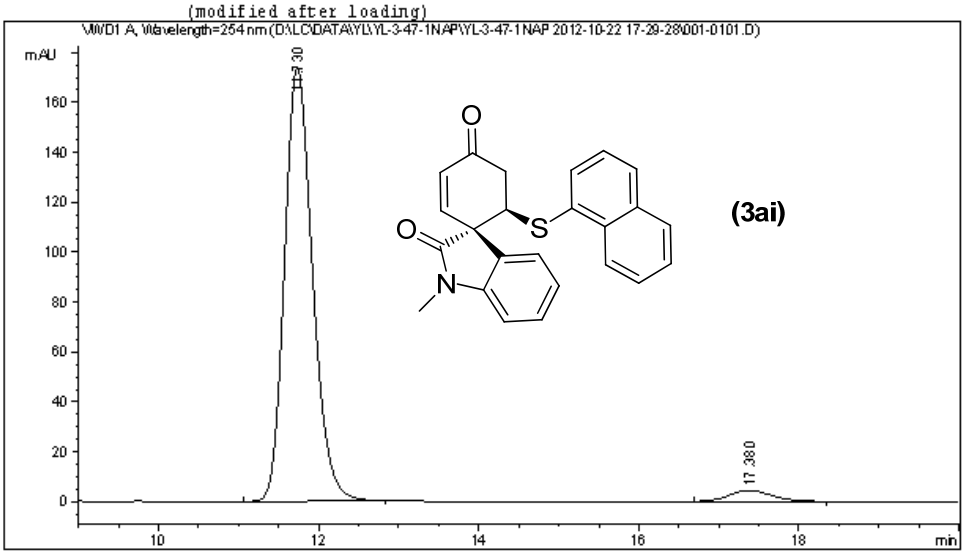
*** End of Report ***

Instrument 1 1/29/2013 8:57:33 PM FX

Page 1 of 1

Data File D:\LC\DATA\YL\YL-3-47-1NAP\YL-3-47-1NAP 2012-10-22 17-29-28\001-0101.D
Sample Name: YL-3-47-1NAP

Acq. Operator	: LQH	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/22/2012 5:30:56 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-1NAP\YL-3-47-1NAP 2012-10-22 17-29-28\ICH-50-50ML-254NM-25MIN.M		
Last changed	: 10/6/2012 3:15:19 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-1NAP\YL-3-47-1NAP 2012-10-22 17-29-28\001-0101.D\DA.M (ICH-50-50ML-254NM-25MIN.M)		
Last changed	: 1/29/2013 8:59:56 PM by FX (modified after loading)		



Area Percent Report

Sorted By	: Signal
Multiplier	: 1.0000
Dilution	: 1.0000

Use Multiplier & Dilution Factor with ISTDs

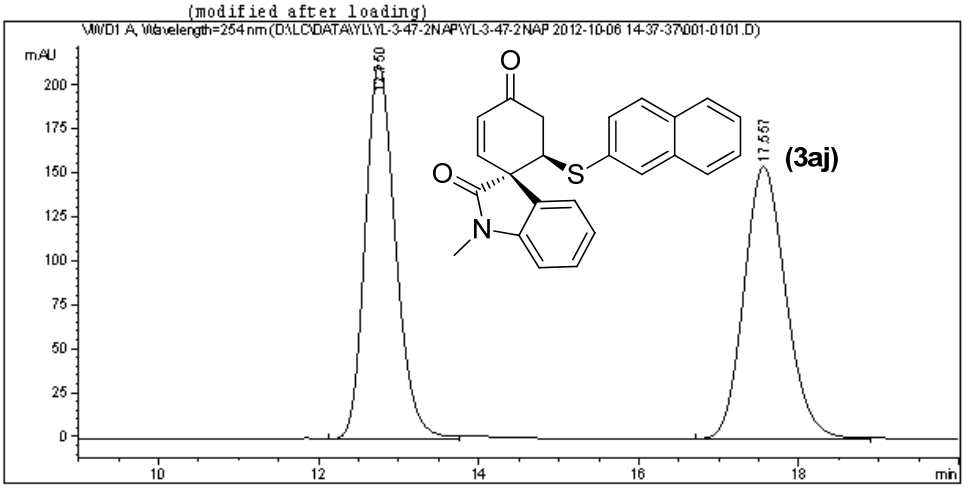
Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	11.730	BB	0.3752	4222.47852	173.76492	96.2335
2	17.380	BB	0.5619	165.26472	4.45965	3.7665
Totals :				4387.74324	178.22457	

Instrument 1 1/29/2013 9:00:01 PM FX

Data File D:\LC\DATA\YL\YL-3-47-2NAP\YL-3-47-2NAP 2012-10-06 14-37-37\001-0101.D
Sample Name: YL-3-47-2NAP

Acq. Operator	: YL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 10/6/2012 2:38:59 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-2NAP\YL-3-47-2NAP 2012-10-06 14-37-37\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-2NAP\YL-3-47-2NAP 2012-10-06 14-37-37\001-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 1/29/2013 9:00:53 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	12.750	VB	0.4071	5600.19434	212.04953	50.1211
2	17.557	BB	0.5586	5573.14209	154.17569	49.8789
Totals :				1.11733e4	366.22522	

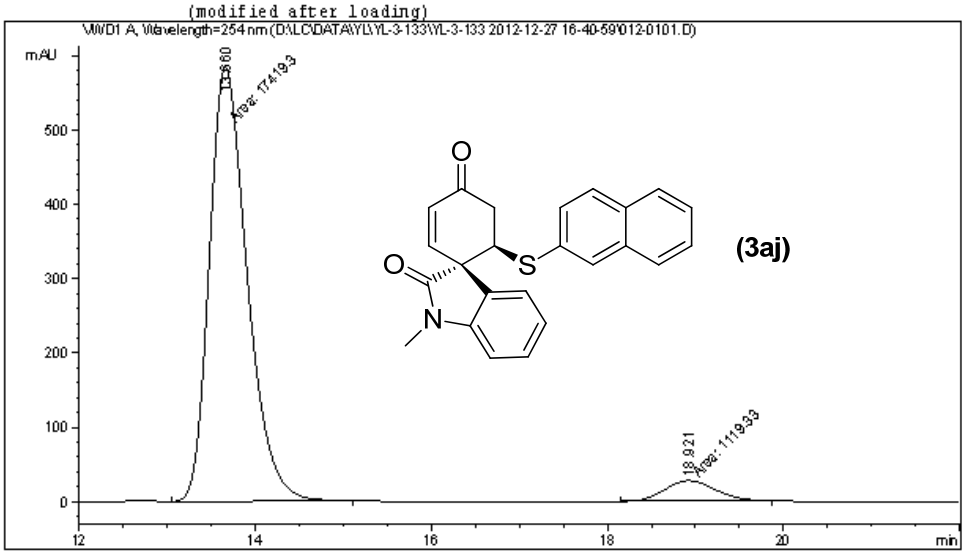
*** End of Report ***

Instrument 1 1/29/2013 9:01:59 PM FX

Page 1 of 1

Data File D:\LC\DATA\YL\YL-3-133\YL-3-133 2012-12-27 16-40-59\012-0101.D
Sample Name: YL-3-133

Acq. Operator	: FX	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 12
Injection Date	: 12/27/2012 4:42:19 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-133\YL-3-133 2012-12-27 16-40-59\ICH-50-50ML-254NM-25MIN.M		
Last changed	: 10/6/2012 3:15:19 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-133\YL-3-133 2012-12-27 16-40-59\012-0101.D\DA.M (ICH-50-50ML-254NM-25MIN.M)		
Last changed	: 4/1/2013 2:53:35 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

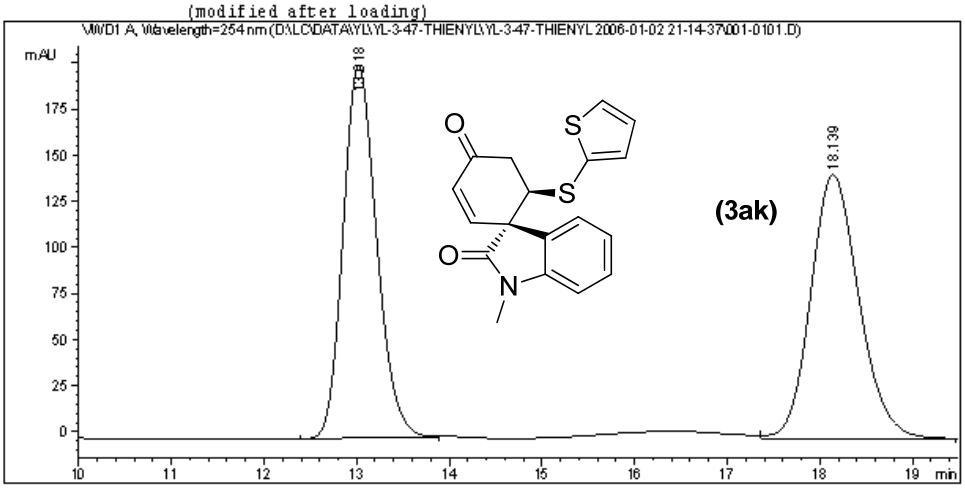
Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	13.660	MM	0.4981	1.74193e4	582.84009	93.9622
2	18.921	MM	0.6743	1119.33411	27.66591	6.0378
Totals :				1.85386e4	610.50600	

Instrument 1 4/1/2013 2:53:42 PM FX

Data File D:\LC\DATA\YL\YL-3-47-THIENYL\YL-3-47-THIENYL 2006-01-02 21-14-37\001-0101.D
Sample Name: YL-3-47-thienyl

Acq. Operator	: YL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 1/2/2006 9:15:53 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-THIENYL\YL-3-47-THIENYL 2006-01-02 21-14-37\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-THIENYL\YL-3-47-THIENYL 2006-01-02 21-14-37\001-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 1/29/2013 8:33:56 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	13.018	BB	0.3876	5081.63135	202.37563	49.5872
2	18.139	VB	0.5594	5166.23389	143.13538	50.4128
Totals :				1.02479e4	345.51100	

*** End of Report ***

Instrument 1 1/29/2013 8:34:01 PM FX

Data File D:\LC\DATA\YL\YL-3-47-THIENYL\YL-3-47-THIENYL 2006-01-08 12-50-35\001-0101.D
Sample Name: YL-3-47-THIENYL

Acq. Operator	: THL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 1/8/2006 12:52:08 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-47-THIENYL\YL-3-47-THIENYL 2006-01-08 12-50-35\ICH-50-50ML-254NM-30MIN.M		
Last changed	: 10/6/2012 3:59:52 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-47-THIENYL\YL-3-47-THIENYL 2006-01-08 12-50-35\001-0101.D\DA.M (ICH-50-50ML-254NM-30MIN.M)		
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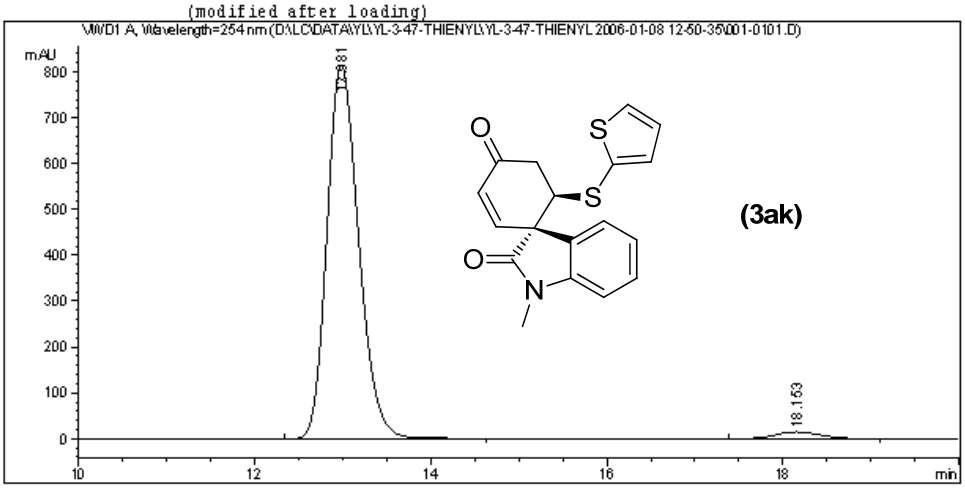


Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

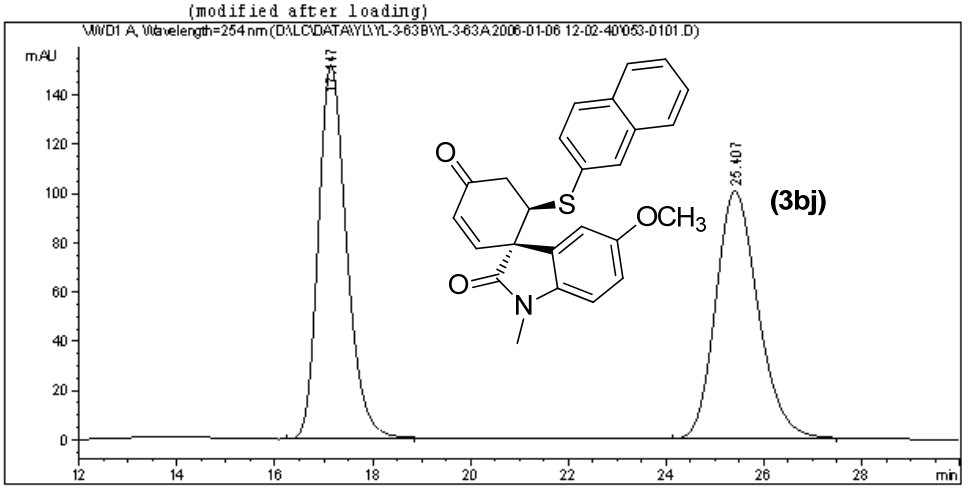
Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	12.981	VB	0.3861	2.03815e4	815.88013	97.4018
2	18.153	BB	0.5507	543.68622	15.11477	2.5982
Totals :				2.09251e4	830.99490	

*** End of Report ***

Instrument 1 1/29/2013 8:35:17 PM FX

Data File D:\LC\DATA\YL\YL-3-63B\YL-3-63A 2006-01-06 12-02-40\053-0101.D
Sample Name: YL-3-63A

Acq. Operator	: THL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 53
Injection Date	: 1/6/2006 12:04:21 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-63B\YL-3-63A 2006-01-06 12-02-40\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-63B\YL-3-63A 2006-01-06 12-02-40\053-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 1/29/2013 8:37:14 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

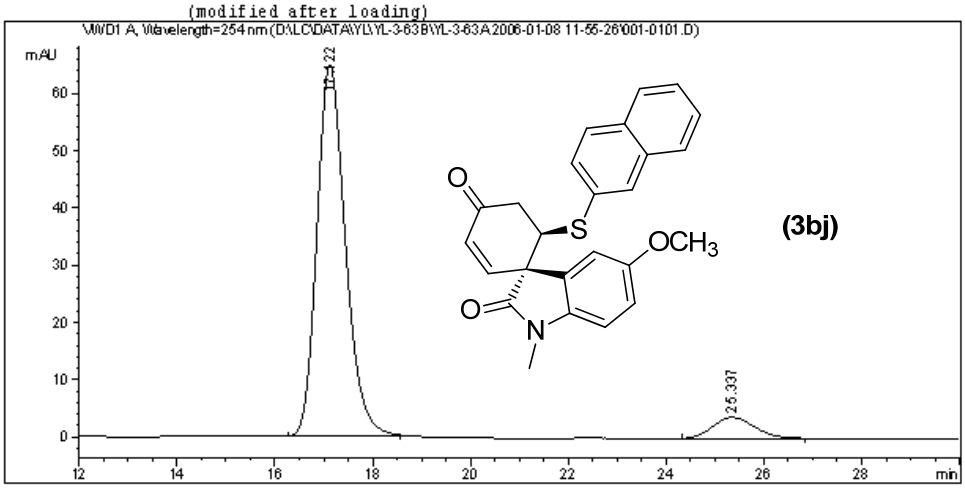
Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	17.147	BB	0.6178	6080.92090	151.65036	50.1486
2	25.407	BB	0.9220	6044.88525	100.65038	49.8514
Totals :				1.21258e4	252.30074	

*** End of Report ***

Data File D:\LC\DATA\YL\YL-3-63B\YL-3-63A 2006-01-08 11-55-26\001-0101.D
Sample Name: YL-3-63A

Acq. Operator	: THL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 1/8/2006 11:56:56 AM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-63B\YL-3-63A 2006-01-08 11-55-26\ICH-50-50ML-254NM-35MIN.M		
Last changed	: 9/29/2012 1:31:31 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-63B\YL-3-63A 2006-01-08 11-55-26\001-0101.D\DA.M (ICH-50-50ML-254NM-35MIN.M)		
Last changed	: 1/29/2013 8:38:05 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	17.122	BB	0.6156	2608.60278	64.75417	92.1757
2	25.337	BB	0.7927	221.43080	3.70056	7.8243
Totals :				2830.03358	68.45474	

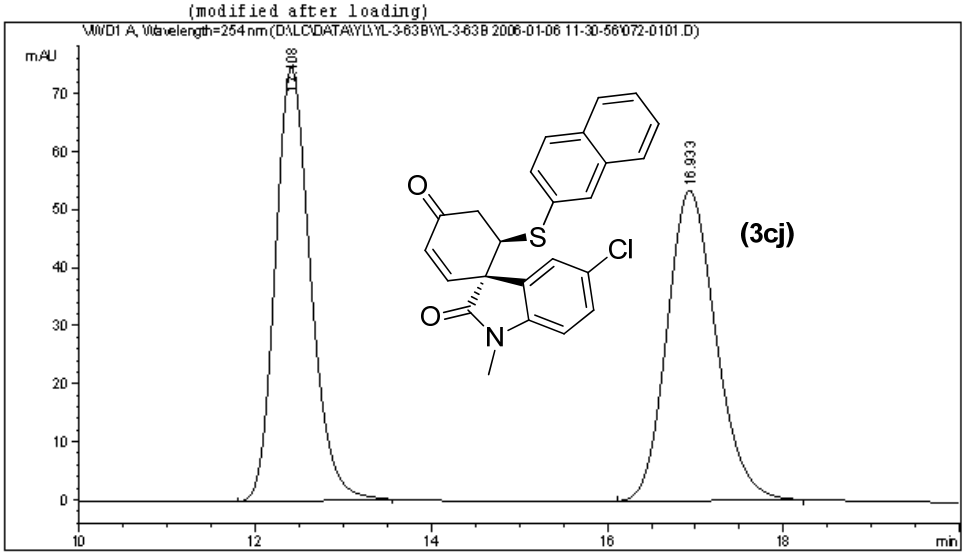
*** End of Report ***

Instrument 1 1/29/2013 8:38:09 PM FX

Page 1 of 1

Data File D:\LC\DATA\YL\YL-3-63B\YL-3-63B 2006-01-06 11-30-56\072-0101.D
Sample Name: YL-3-63B

Acq. Operator	: THL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 72
Injection Date	: 1/6/2006 11:32:15 AM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-63B\YL-3-63B 2006-01-06 11-30-56\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-63B\YL-3-63B 2006-01-06 11-30-56\072-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 1/29/2013 9:30:30 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

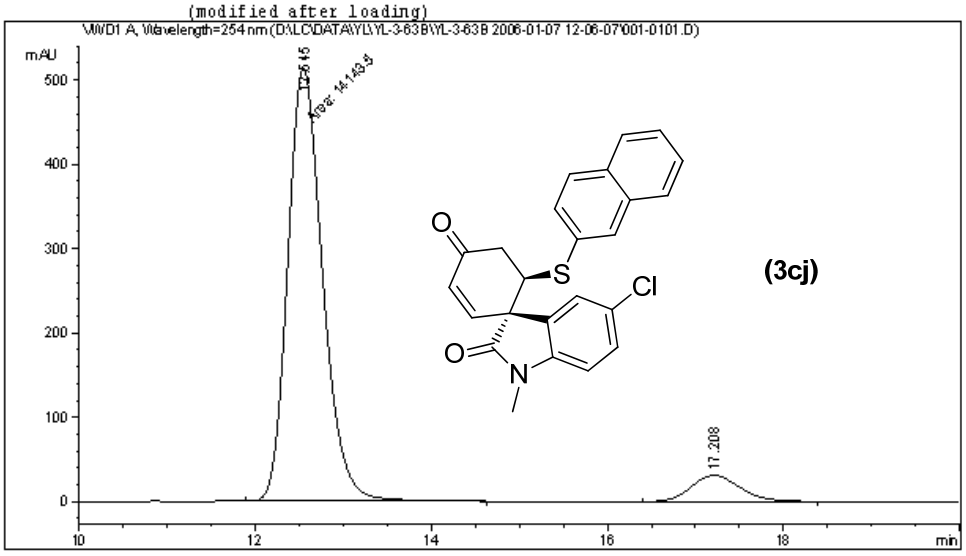
Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	12.408	BB	0.4292	2080.08765	74.48940	50.2223
2	16.933	BB	0.5973	2061.67188	53.42269	49.7777
Totals :				4141.75952	127.91208	

*** End of Report ***

Instrument 1 1/29/2013 9:30:37 PM FX

Data File D:\LC\DATA\YL\YL-3-63B\YL-3-63B 2006-01-07 12-06-07\001-0101.D
Sample Name: YL-3-63b

Acq. Operator	: LQH	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 1/7/2006 12:07:22 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-63B\YL-3-63B 2006-01-07 12-06-07\ICH-50-50ML-254NM-25MIN.M		
Last changed	: 10/6/2012 3:15:19 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-63B\YL-3-63B 2006-01-07 12-06-07\001-0101.D\DA.M (ICH-50-50ML-254NM-25MIN.M)		
Last changed	: 1/29/2013 9:22:57 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	12.545	MM	0.4587	1.41435e4	513.91882	92.1190
2	17.208	BB	0.6006	1210.00098	31.12719	7.8810
Totals :				1.53535e4	545.04601	

Data File D:\LC\DATA\YL\YL-3-63D\YL-3-63D 2012-11-23 15-26-25\052-0101.D
Sample Name: YL-3-63D

```
=====================================================================
Acq. Operator   : YL                              Seq. Line :   1
Acq. Instrument : Instrument 1                     Location : Vial 52
Injection Date  : 11/23/2012 3:28:12 PM                Inj :   1
                                                  Inj Volume : 5 µl
Acq. Method     : D:\LC\DATA\YL\YL-3-63D\YL-3-63D 2012-11-23 15-26-25\ICH-50-50ML-254NM.M
Last changed    : 9/28/2012 7:27:35 PM by YL
Analysis Method : D:\LC\DATA\YL\YL-3-63D\YL-3-63D 2012-11-23 15-26-25\052-0101.D\DA.M (ICH-
                  50-50ML-254NM.M)
Last changed    : 4/1/2013 10:53:52 AM by FX
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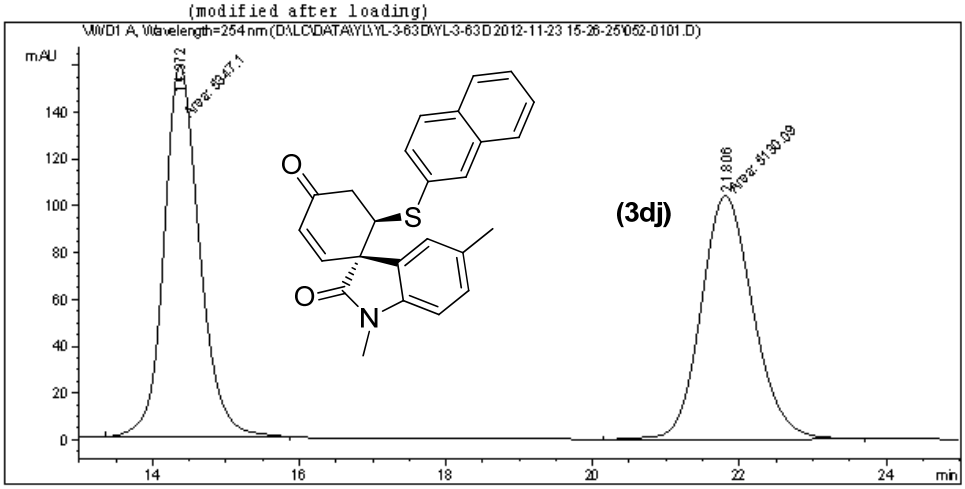


```
=====================================================================
                        Area Percent Report
=====================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]  mAU   *s   [mAU   ]      %
----|-------|----|-------|----------|----------|--------|
   1  14.372 MM    0.5615 5347.10156  158.70834  51.0356
   2  21.806 MM    0.8222 5130.08984  103.99667  48.9644

Totals :                  1.04772e4   262.70501

=====================================================================
                        *** End of Report ***
```

Data File D:\LC\DATA\YL\YL-3-63D\YL-3-63D 2012-11-24 19-51-04\023-0101.D
Sample Name: YL-3-63D

```
==================================================================
Acq. Operator   : YL                              Seq. Line :   1
Acq. Instrument : Instrument 1                     Location : Vial 23
Injection Date  : 11/24/2012 7:52:33 PM                 Inj :   1
                                                  Inj Volume : 5 µl
Acq. Method     : D:\LC\DATA\YL\YL-3-63D\YL-3-63D 2012-11-24 19-51-04\ICH-50-50ML-254NM-
                  30MIN.M
Last changed    : 10/6/2012 3:59:52 PM by YL
Analysis Method : D:\LC\DATA\YL\YL-3-63D\YL-3-63D 2012-11-24 19-51-04\023-0101.D\DA.M (ICH-
                  50-50ML-254NM-30MIN.M)
Last changed    : 1/29/2013 9:27:16 PM by FX
                  (modified after loading)
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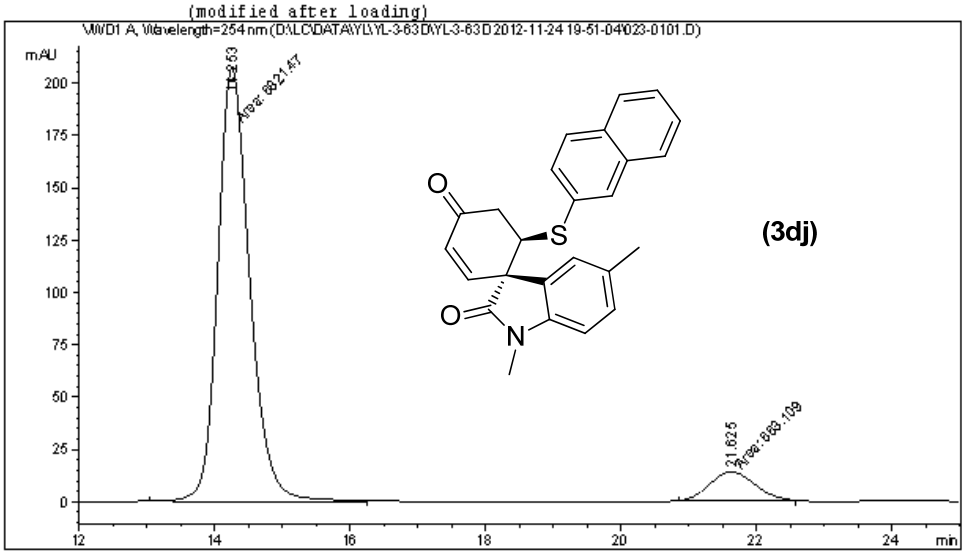



```
==================================================================
                        Area Percent Report
==================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

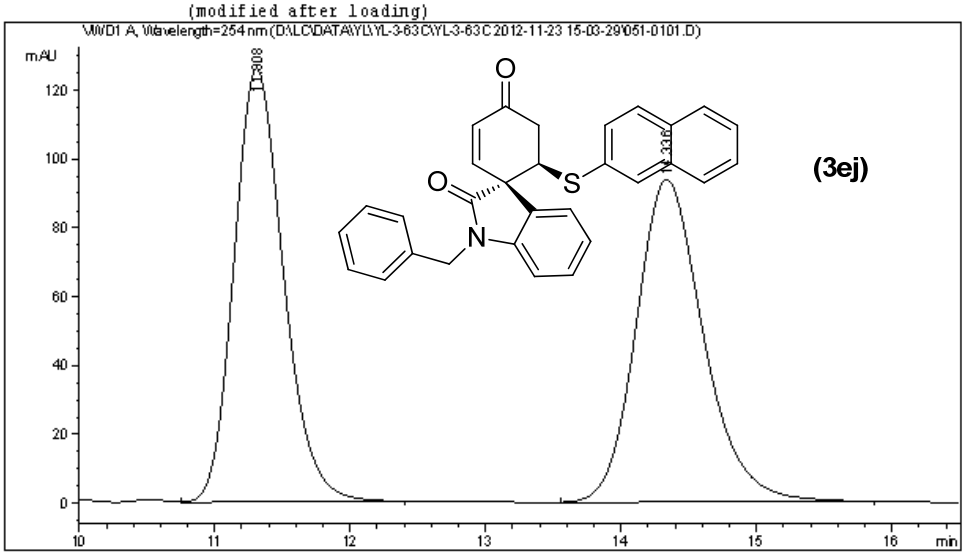
Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]  mAU   *s   [mAU   ]      %
----|-------|----|-------|----------|----------|--------|
   1  14.253 MM    0.5488 6821.46582  207.17690  91.1403
   2  21.625 MM    0.7876  663.10907   14.03206   8.8597

Totals :                  7484.57489  221.20895


==================================================================
```

Data File D:\LC\DATA\YL\YL-3-63C\YL-3-63C 2012-11-23 15-03-29\051-0101.D
Sample Name: YL-3-63C

Acq. Operator	: YL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 51
Injection Date	: 11/23/2012 3:04:55 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-63C\YL-3-63C 2012-11-23 15-03-29\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-63C\YL-3-63C 2012-11-23 15-03-29\051-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 1/29/2013 9:24:06 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

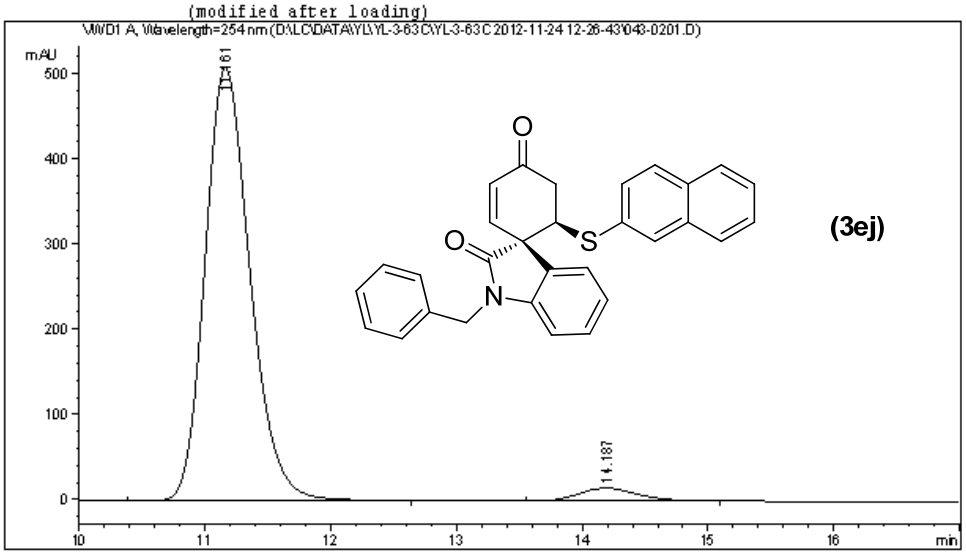
Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	11.308	VB	0.3917	3208.27271	126.01763	49.6972
2	14.336	BB	0.5293	3247.36353	93.74928	50.3028
Totals :				6455.63623	219.76691	

*** End of Report ***

Instrument 1 1/29/2013 9:24:12 PM FX

Data File D:\LC\DATA\YL\YL-3-63C\YL-3-63C 2012-11-24 12-26-43\043-0201.D
Sample Name: YL-3-63C

Acq. Operator	: YL	Seq. Line	: 2
Acq. Instrument	: Instrument 1	Location	: Vial 43
Injection Date	: 11/24/2012 12:49:16 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-63C\YL-3-63C 2012-11-24 12-26-43\ICH-50-50ML-254NM-20MIN.M		
Last changed	: 10/8/2012 2:44:55 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-63C\YL-3-63C 2012-11-24 12-26-43\043-0201.D\DA.M (ICH-50-50ML-254NM-20MIN.M)		
Last changed	: 1/29/2013 9:25:02 PM by FX (modified after loading)		



Area Percent Report

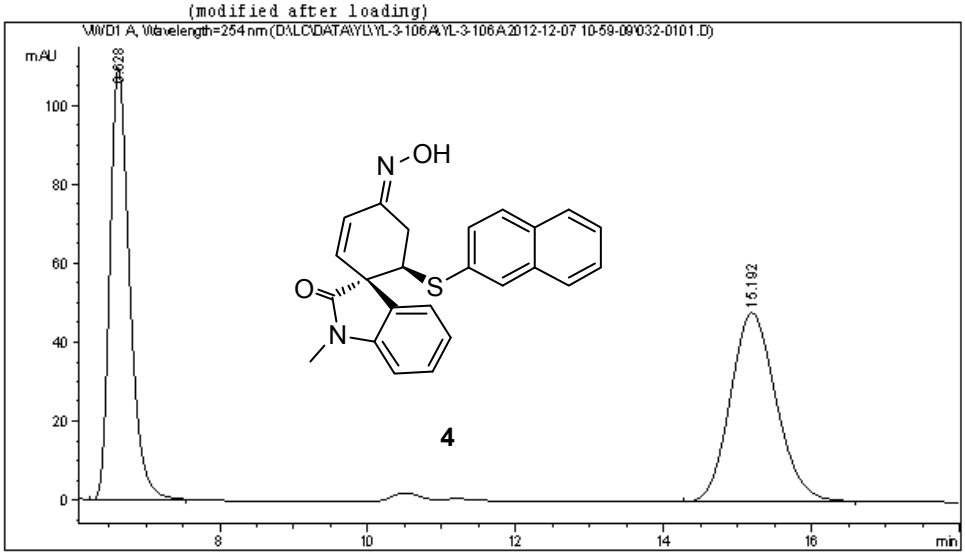
Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	11.161	VB	0.3833	1.26499e4	508.61636	96.2128
2	14.187	BB	0.5071	497.93774	15.21023	3.7872
Totals :				1.31478e4	523.82660	

Data File D:\LC\DATA\YL\YL-3-106A\YL-3-106A 2012-12-07 10-59-09\032-0101.D
Sample Name: YL-3-106A

Acq. Operator	: hzl	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 32
Injection Date	: 12/7/2012 11:01:02 AM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-106A\YL-3-106A 2012-12-07 10-59-09\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-106A\YL-3-106A 2012-12-07 10-59-09\032-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 4/1/2013 3:15:45 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	6.628	VB	0.2829	2024.24878	109.39726	49.5729
2	15.192	BB	0.6678	2059.13013	47.87001	50.4271
Totals :				4083.37891	157.26727	

*** End of Report ***

Data File D:\LC\DATA\YL\YL-3-106B\YL-3-110 2012-12-07 12-20-49\042-0101.D
Sample Name: YL-3-110A

```
==================================================================
Acq. Operator   : hzl                          Seq. Line :   1
Acq. Instrument : Instrument 1                  Location : Vial 42
Injection Date  : 12/7/2012 12:22:37 PM              Inj :   1
                                               Inj Volume : 5 µl
Acq. Method     : D:\LC\DATA\YL\YL-3-106B\YL-3-110 2012-12-07 12-20-49\ICH-50-50ML-254NM-
                  25MIN.M
Last changed    : 10/6/2012 3:15:19 PM by YL
Analysis Method : D:\LC\DATA\YL\YL-3-106B\YL-3-110 2012-12-07 12-20-49\042-0101.D\DA.M (ICH-
                  50-50ML-254NM-25MIN.M)
Last changed    : 4/8/2013 5:30:53 PM by TMC
                  (modified after loading)
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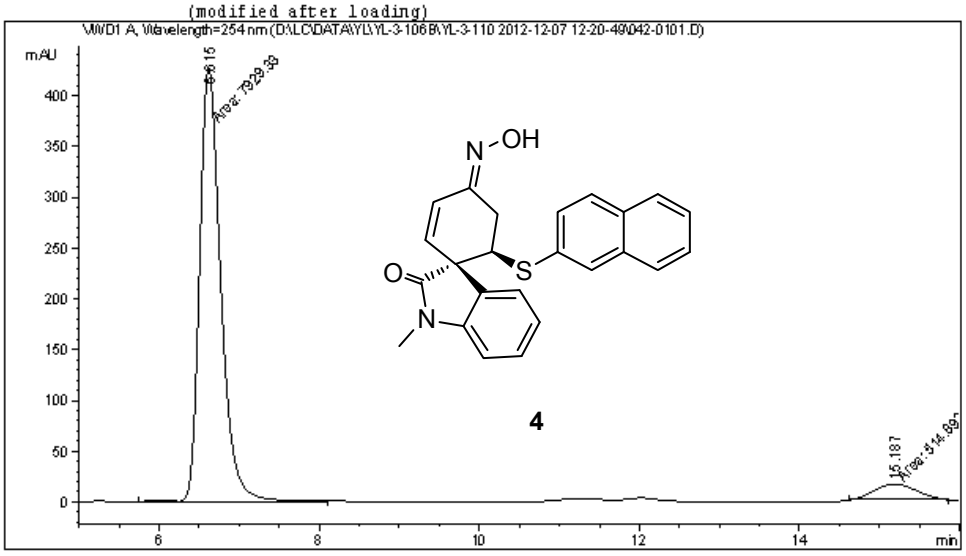



```
==================================================================
                        Area Percent Report
==================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]  mAU   *s   [mAU   ]      %
----|-------|----|-------|----------|----------|--------|
   1   6.615 MM    0.3090 7929.32568  427.64563  93.9024
   2  15.187 MM    0.5797  514.89221   14.80229   6.0976

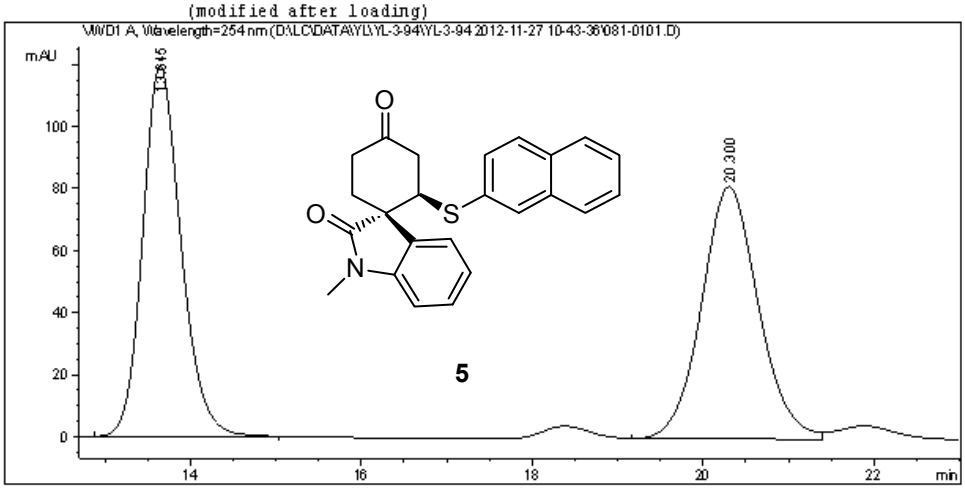
Totals :                  8444.21790  442.44792


==================================================================
```

Instrument 1 4/8/2013 5:31:06 PM TMC Page 1 of 1

Data File D:\LC\DATA\YL\YL-3-94\YL-3-94 2012-11-27 10-43-36\081-0101.D
Sample Name: YL-3-94

Acq. Operator	: THL	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 81
Injection Date	: 11/27/2012 10:44:47 AM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-94\YL-3-94 2012-11-27 10-43-36\ICH-50-50ML-254NM.M		
Last changed	: 9/28/2012 7:27:35 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-94\YL-3-94 2012-11-27 10-43-36\081-0101.D\DA.M (ICH-50-50ML-254NM.M)		
Last changed	: 1/29/2013 8:54:31 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	13.645	BB	0.4782	3745.00952	119.82549	49.8536
2	20.300	VV	0.7107	3767.00488	81.33421	50.1464
Totals :				7512.01440	201.15971	

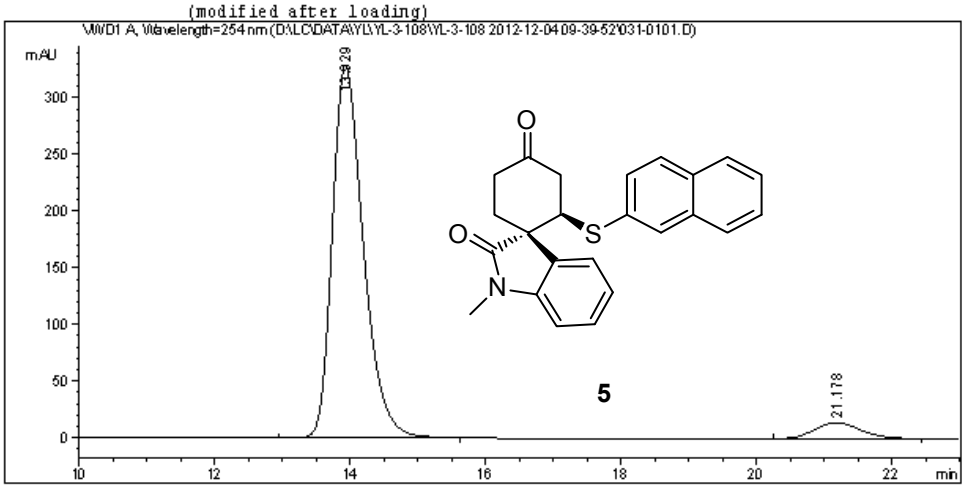
*** End of Report ***

Instrument 1 1/29/2013 8:55:00 PM FX

Page 1 of 1

Data File D:\LC\DATA\YL\YL-3-108\YL-3-108 2012-12-04 09-39-52\031-0101.D
Sample Name: YL-3-108

Acq. Operator	: FX	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 31
Injection Date	: 12/4/2012 9:41:10 AM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-108\YL-3-108 2012-12-04 09-39-52\ICH-50-50ML-254NM-25MIN.M		
Last changed	: 10/6/2012 3:15:19 PM by YL		
Analysis Method	: D:\LC\DATA\YL\YL-3-108\YL-3-108 2012-12-04 09-39-52\031-0101.D\DA.M (ICH-50-50ML-254NM-25MIN.M)		
Last changed	: 1/29/2013 8:51:50 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	13.929	BB	0.4880	1.04882e4	329.34100	93.8694
2	21.178	BB	0.7126	684.97815	14.38924	6.1306
Totals :				1.11732e4	343.73024	

*** End of Report ***

Data File E:\DATA\CJW\YL-3-102-103\YL-3-102-103 2012-12-18 11-48-35\003-0201.D
Sample Name: YL-3-102

```
    ======================================================================
    Acq. Operator   : SYSTEM                        Seq. Line :   2
    Acq. Instrument : 1260HPLC-DAD                   Location : Vial 3
    Injection Date  : 12/18/2012 12:00:29 PM              Inj :   1
                                                   Inj Volume : 5.000 µl
    Acq. Method     : E:\DATA\CJW\YL-3-102-103\YL-3-102-103 2012-12-18 11-48-35\DAD-ICH-10-90-
                      1ML-60MIN.M
    Last changed    : 12/18/2012 11:48:35 AM by SYSTEM
    Analysis Method : E:\DATA\CJW\YL-3-102-103\YL-3-102-103 2012-12-18 11-48-35\DAD-ICH-10-90-
                      1ML-60MIN.M (Sequence Method)
    Last changed    : 1/30/2013 12:55:03 PM by SYSTEM
                      (modified after loading)
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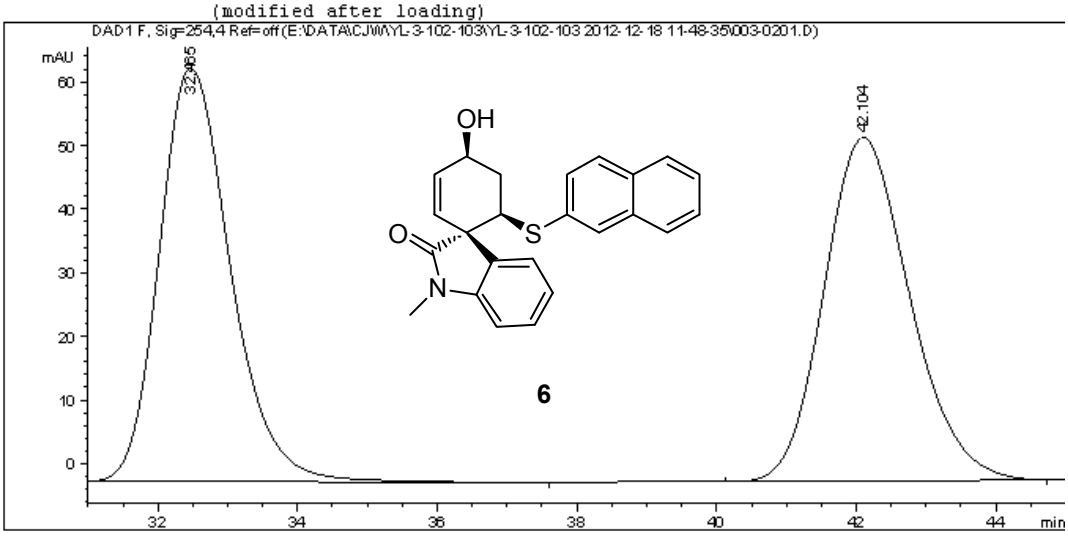



```
    ======================================================================
                            Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Do not use Multiplier & Dilution Factor with ISTDs


    Signal 1: DAD1 F, Sig=254,4 Ref=off

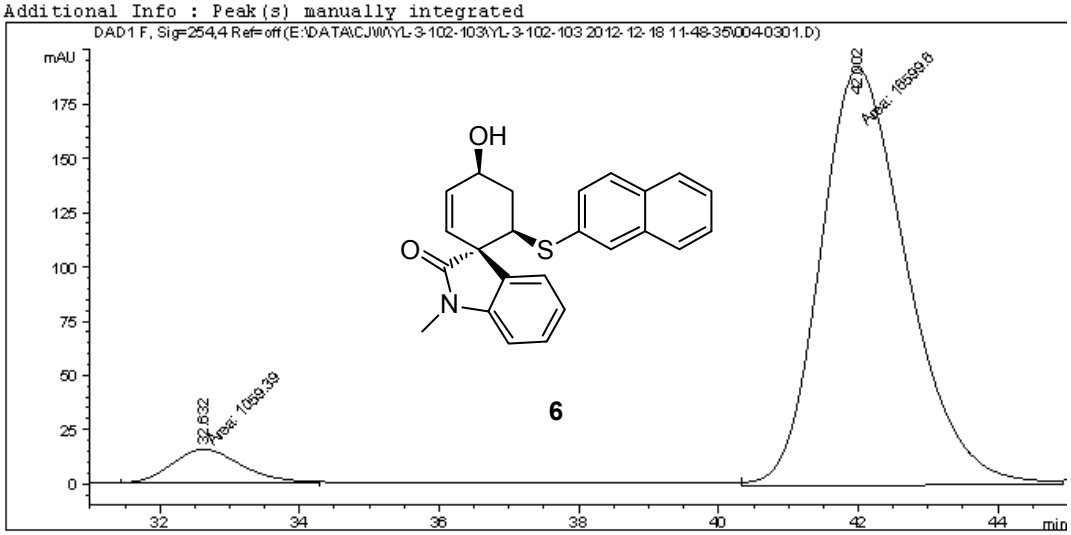
    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]   [mAU*s]     [mAU]       %
    ----|-------|----|-------|----------|----------|--------|
       1  32.465 BB    1.0756 4600.70313   65.00924  49.9965
       2  42.104 BB    1.2908 4601.35107   53.96385  50.0035

    Totals :                  9202.05420  118.97309


    ======================================================================
                            *** End of Report ***
```

Data File E:\DATA\CJW\YL-3-102-103\YL-3-102-103 2012-12-18 11-48-35\004-0301.D
Sample Name: YL-3-103

```
    ======================================================================
    Acq. Operator   : SYSTEM                          Seq. Line :   3
    Acq. Instrument : 1260HPLC-DAD                     Location : Vial 4
    Injection Date  : 12/18/2012 1:01:25 PM                 Inj :   1
                                                     Inj Volume : 5.000 µl
    Acq. Method     : E:\DATA\CJW\YL-3-102-103\YL-3-102-103 2012-12-18 11-48-35\DAD-ICH-10-90-
                      1ML-60MIN.M
    Last changed    : 12/18/2012 11:48:35 AM by SYSTEM
    Analysis Method : E:\DATA\CJW\YL-3-102-103\YL-3-102-103 2012-12-18 11-48-35\DAD-ICH-10-90-
                      1ML-60MIN.M (Sequence Method)
    Last changed    : 1/30/2013 12:55:03 PM by SYSTEM
                      (modified after loading)
    Additional Info : Peak(s) manually integrated
```




```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Do not use Multiplier & Dilution Factor with ISTDs


    Signal 1: DAD1 F, Sig=254,4 Ref=off

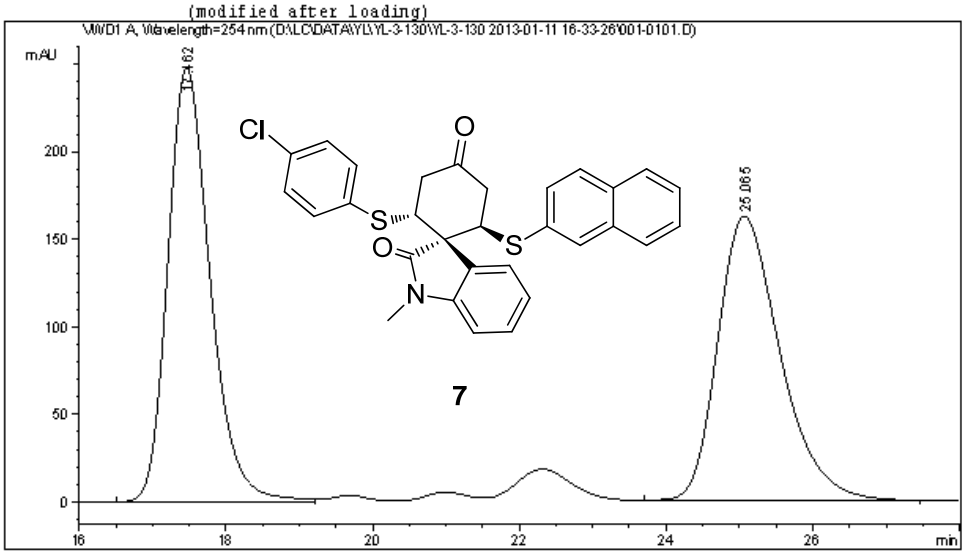
    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]   [mAU*s]     [mAU]       %
    ----|-------|----|-------|----------|----------|--------|
       1  32.632 MM    1.1507 1059.38684   15.34451   5.9991
       2  42.002 MM    1.4399 1.65996e4   192.13950  94.0009

    Totals :                  1.76590e4   207.48401

    ======================================================================
                              *** End of Report ***
```

Data File D:\LC\DATA\YL\YL-3-130\YL-3-130 2013-01-11 16-33-26\001-0101.D
Sample Name: YL-3-130

Acq. Operator	: FX	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 1/11/2013 4:34:57 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-130\YL-3-130 2013-01-11 16-33-26\ICH-30-70ML-254NM-35MIN.M		
Last changed	: 1/10/2013 11:09:12 AM by FX		
Analysis Method	: D:\LC\DATA\YL\YL-3-130\YL-3-130 2013-01-11 16-33-26\001-0101.D\DA.M (ICH-30-70ML-254NM-35MIN.M)		
Last changed	: 1/29/2013 9:37:28 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

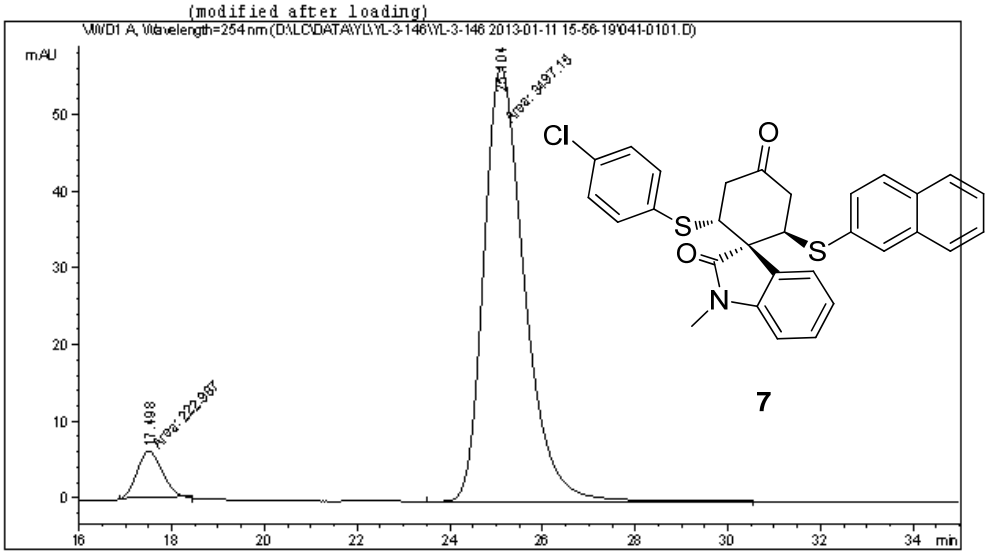
Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	17.462	BB	0.6139	9910.95996	247.69756	50.6485
2	25.065	BB	0.9117	9657.18066	162.51738	49.3515
Totals :				1.9568le4	410.21494	

Instrument 1 1/29/2013 9:37:35 PM FX

Data File D:\LC\DATA\YL\YL-3-146\YL-3-146 2013-01-11 15-56-19\041-0101.D
Sample Name: YL-3-146

Acq. Operator	: FX	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 41
Injection Date	: 1/11/2013 3:57:34 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-146\YL-3-146 2013-01-11 15-56-19\ICH-30-70ML-254NM-35MIN.M		
Last changed	: 1/10/2013 11:09:12 AM by FX		
Analysis Method	: D:\LC\DATA\YL\YL-3-146\YL-3-146 2013-01-11 15-56-19\041-0101.D\DA.M (ICH-30-70ML-254NM-35MIN.M)		
Last changed	: 4/8/2013 5:17:10 PM by TMC (modified after loading)		



Area Percent Report

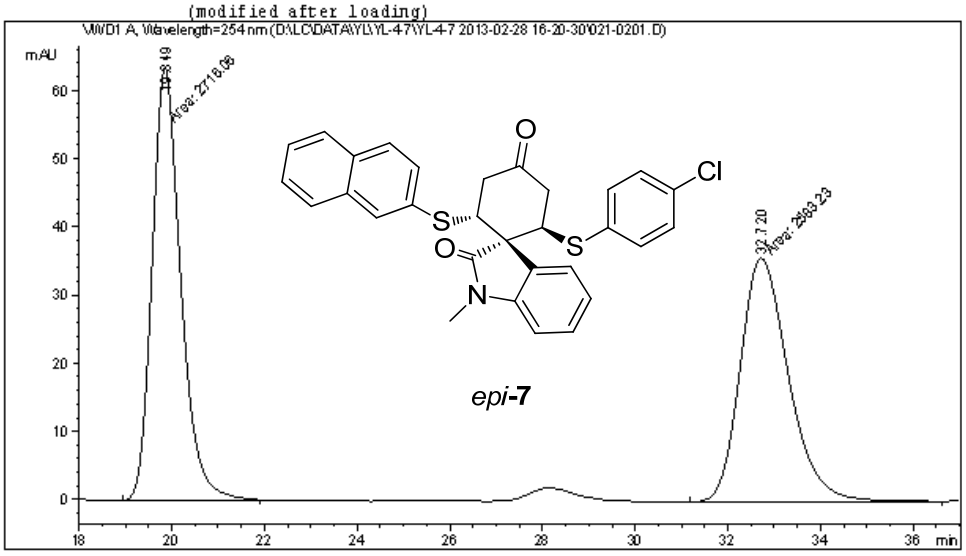
Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	17.498	MM	0.6174	222.98653	6.01981	5.9940
2	25.104	MM	1.0285	3497.15308	56.66911	94.0060
Totals :				3720.13960	62.68892	

Data File D:\LC\DATA\YL\YL-4-7\YL-4-7 2013-02-28 16-20-30\021-0201.D
Sample Name: YL-4-7

Acq. Operator	: FX	Seq. Line	: 2
Acq. Instrument	: Instrument 1	Location	: Vial 21
Injection Date	: 2/28/2013 4:33:10 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-4-7\YL-4-7 2013-02-28 16-20-30\ICH-30-70-1ML-254NM-40MIN.M		
Last changed	: 2/28/2013 4:14:06 PM by FX		
Analysis Method	: D:\LC\DATA\YL\YL-4-7\YL-4-7 2013-02-28 16-20-30\021-0201.D\DA.M (ICH-30-70-1ML-254NM-40MIN.M)		
Last changed	: 4/1/2013 3:05:46 PM by FX (modified after loading)		



Area Percent Report

Sorted By	:	Signal
Multiplier	:	1.0000
Dilution	:	1.0000

Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

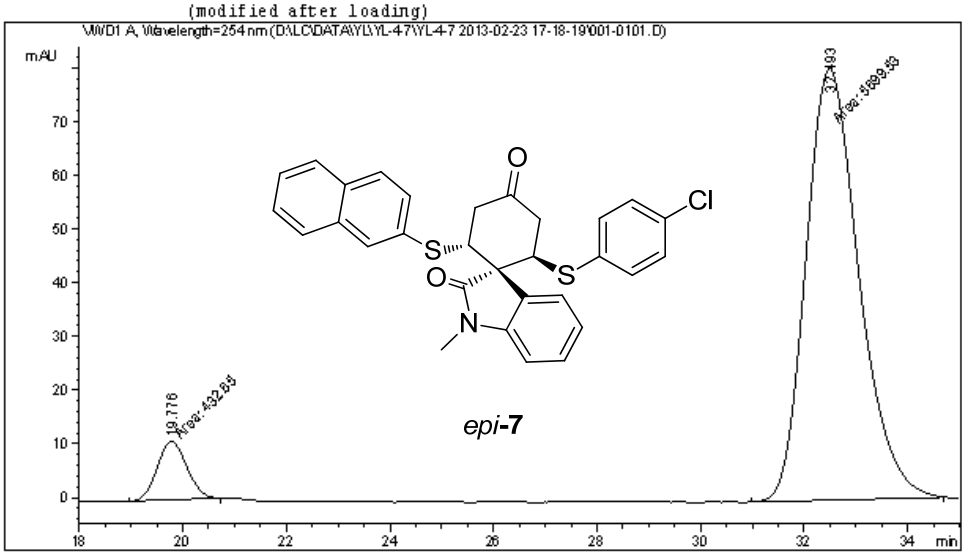
Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	19.849	MM	0.7142	2716.05835	63.37870	51.2532
2	32.720	MM	1.2064	2583.23218	35.68828	48.7468
Totals :				5299.29053	99.06698	

Instrument 1 4/1/2013 3:05:53 PM FX

Page 1 of 1

Data File D:\LC\DATA\YL\YL-4-7\YL-4-7 2013-02-23 17-18-19\001-0101.D
Sample Name: YL-4-7

Acq. Operator	: LQH	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 2/23/2013 5:19:41 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-4-7\YL-4-7 2013-02-23 17-18-19\ICH-30-70ML-254NM-35MIN.M		
Last changed	: 1/10/2013 11:09:12 AM by FX		
Analysis Method	: D:\LC\DATA\YL\YL-4-7\YL-4-7 2013-02-23 17-18-19\001-0101.D\DA.M (ICH-30-70ML-254NM-35MIN.M)		
Last changed	: 4/1/2013 3:07:55 PM by FX (modified after loading)		



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	19.776	MM	0.6636	432.65024	10.86619	7.0554
2	32.493	MM	1.1823	5699.52539	80.34451	92.9446
Totals :				6132.17563	91.21070	

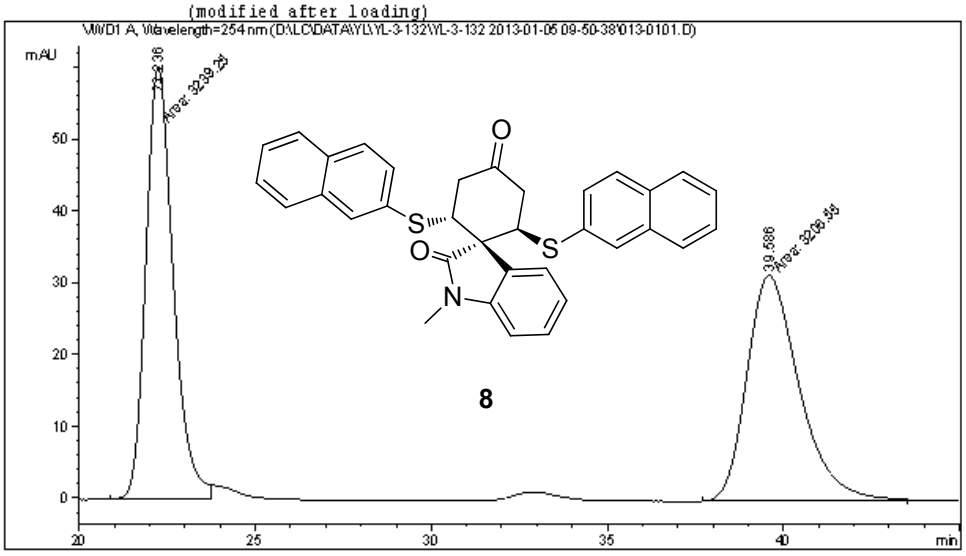
*** End of Report ***

Instrument 1 4/1/2013 3:08:03 PM FX

Page 1 of 1

Data File D:\LC\DATA\YL\YL-3-132\YL-3-132 2013-01-05 09-50-38\013-0101.D
Sample Name: YL-3-132

Acq. Operator	: FX	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 13
Injection Date	: 1/5/2013 9:51:55 AM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-132\YL-3-132 2013-01-05 09-50-38\ICH-30-70ML-254NM-50MIN.M		
Last changed	: 12/28/2012 3:33:08 PM by FX		
Analysis Method	: D:\LC\DATA\YL\YL-3-132\YL-3-132 2013-01-05 09-50-38\013-0101.D\DA.M (ICH-30-70ML-254NM-50MIN.M)		
Last changed	: 1/29/2013 9:34:04 PM by FX (modified after loading)		



Area Percent Report

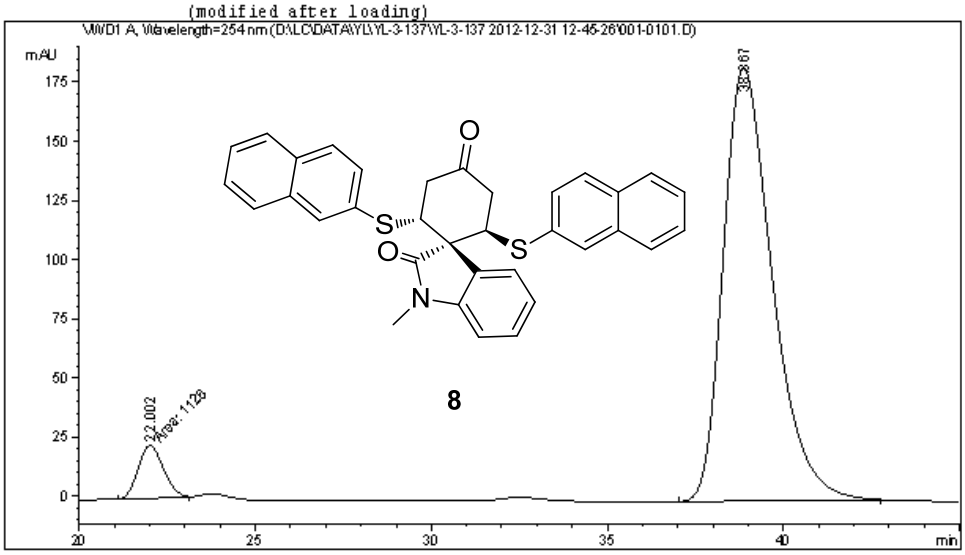
Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	22.236	MF	0.8998	3239.24512	59.99622	50.2536
2	39.586	MM	1.7093	3206.55469	31.26649	49.7464
Totals :				6445.79980	91.26271	

Data File D:\LC\DATA\YL\YL-3-137\YL-3-137 2012-12-31 12-45-26\001-0101.D
Sample Name: YL-3-137

Acq. Operator	: FX	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 1
Injection Date	: 12/31/2012 12:46:39 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: D:\LC\DATA\YL\YL-3-137\YL-3-137 2012-12-31 12-45-26\ICH-30-70ML-254NM-50MIN.M		
Last changed	: 12/28/2012 3:33:08 PM by FX		
Analysis Method	: D:\LC\DATA\YL\YL-3-137\YL-3-137 2012-12-31 12-45-26\001-0101.D\DA.M (ICH-30-70ML-254NM-50MIN.M)		
Last changed	: 4/8/2013 5:26:34 PM by TMC (modified after loading)		



8

Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=254 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU*s	Height [mAU]	Area %
1	22.002	MM	0.8370	1125.99988	22.42122	5.9674
2	38.867	BB	1.4715	1.77433e4	183.06735	94.0326
Totals :				1.88693e4	205.48857	