Supporting Information for

Organocatalytic Synthesis of Spiro [pyrrolidin-3, 3'-Oxindoles] with High Enantiopurity and Structural Diversity

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(4a) Ding, K.; Lu, Y.; Nikolovska-Coleska, Z.; Qiu, S.; Ding, Y.; Gao, W.; Stuckey, J.; Krajewski, K.; Roller, P. P.; Tomita, Y.; Parrish, D. A.; Deschamps, J. R.; Wang, S. *J. Am. Chem. Soc.* **2005**, *127*, 10130.

(4b) Ding, K.; Lu, Y.; Nikolovska-Coleska, Z.; Wang, G.; Qiu, S.; Shangary, S.; Gao, W.; Qin, D.; Stuckey, J.; Krajewski, K.; Roller, P. P.; Wang, S. *J. Med. Chem.* **2006**, *49*, 3432.

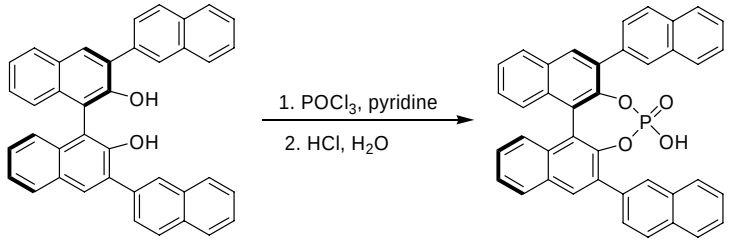
(4c) Shangary, S.; Qin, D.; McEachern, D.; Liu,M.; Miller, R. S.; Qiu, S.; Nikolovska-Coleska, Z.; Ding, K.; Wang, G.; Chen, J.; Bernard, D.; Zhang, J.; Lu, Y.; Gu, Q.; Shah, R. B.; Pienta, K. J.; Ling, X.; Kang, S.; Guo, M.; Sun, Y.; Yang, D.; Wang, S. *Proc. Natl. Acad. Sci. U. S. A.* **2008**, *105*, 3933.

General data: NMR spectra were recorded on a Brucker-400 MHz spectrometer. HRMS spectra (Micromass GCT-MS) were recorded on P-SIMS-Gly of Bruker Daltonics Inc.Infrared spectra were recorded on a Nicolet MX-1E FT-IR spectromter. HPLC analysis was performed on Waters-Breeze (2487 Dual λ Absorbance Detector and 1525 Binary HPLC Pump, UV detection monitored at 254nm). Chiralpak AS, AD, OD, IA, and OJ columns were purchased from Daicel Chemical Industries, LTD. Dichloromethane was dried over CaH_2 and distilled prior to use. Hexane, petroleum ether and ethyl acetate for the column chromatography were distilled before use. The

relative and absolute configurations of **8d** were assigned by the X-ray analysis.

Materials: All starting materials were purchased from Acros, Alfa and Aldrich and used directly. The arylidenoxindoles were prepared according to literature methods, [1] purified by chromatography, and recrystallization from ethanol. The absolute configuration of **1a** was assigned by the X-ray analysis.

Preparation of chiral phosphoric acid[2]



A 6f

Catalyst **6f** had been reported by MacMillan, Reuping and list, respectively.[2c-2e] Diol **A** was prepared from Suzuki coupling of (R)-3,3'-diiodo-2,2'-bis(methoxymethoxy)-1,1'- binaphthyl and naphthalen-2-ylboronic acid, then recrystallized from dichloromethane, the enantiomeric excess of diol A > 99%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm, t_R = 10.4 min(major), t_R = 13.4 min(minor). Diol **A** (1.0 mmol, 538 mg) was dissolved in pyridine (8.0 mL) under N_2 atmosphere in a flame-dried 50-ml round-bottom flask. To the resulting solution was added phosphorus oxychloride (3.0 equiv.) at room temperature and the reaction mixture was stirred at room temperature for 12 h. Then water (5 mL) was added and the resulting suspension was stirred at at room temperature for additional 6h. 200ml dichloromethane was used and pyridine was removed by reverse extractions with 6N HCl (3 X 50 mL). The organic phase was dried over anhydrous Na_2SO_4 and purified by column chromatography (eluent: 2% MeOH in CH_2Cl_2) to yield a white solid .The product was recrystallized from dichloromethane/hexane to give a white solid, and then purified again by column chromatography (eluent: 2% MeOH in $CHCl_3$) to give pure **6f** (468 mg, 78% yield) as a white solid (m.p.>250 ^{o}C), $[a]_D^{25}$ = - 265.0 (c= 0.20 in $CHCl_3$); ^{1}H-NMR (DMSO, 400 MHz) δ (ppm): 4.25 (brs), 7.16 (d, J = 8.8 Hz, 2H), 7.30-7.35 (m, 2H), 7.47-7.52 (m, 6H), 7.91-7.96 (m, 6H), 8.03 (dd, J_1= 1.6 Hz, J_2= 8.8 Hz, 2H), 8.11 (d, J = 8.1 Hz, 2H), 8.27 (s, 2H), 8.33 (s, 2H); ^{13}C NMR (DMSO, 100 MHz) δ (ppm): 122.4, 125.4, 126.0, 126.1, 126.2, 126.6, 127.2, 127.4, 128.1, 128.2, 128.6, 128.7, 130.6, 131.0, 131.5, 132.1, 132.8, 133.7, 134.9, 145.9; HRMS (FT-ICRMS) exact mass calcd for $(C40H24O4P1+Na2)^+$ requires m/z 645.1208, found m/z 645.1201.

General Procedure for Directly Catalytic Asymmetric Synthesis of Spiro [pyrrolidin-3,3'-Oxindoles]

A mixture of an aldehyde (0.24 mmol), catalyst (0.02 mmol, 12mg), methyleneindolinones (0.24 mmol), and 3Å molecular sieves (300 mg) in CH_2Cl_2 (2.0 mL) was stirred at 25 ^oC. To the mixture was added the amino ester (0.2 mmol), the reaction mixture was stirred at 25 ^oC until the reaction was complete (the reaction time was 24-96 h, monitored by TLC). The resultant solution was purified through flash column chromatography on silica gel (eluent: petroleum ether: ethyl acetate = 15:1-5:1) to yield pure products.

Diethyl-1-acetyl-5'-(4-nitrophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicar boxylate (**5a**), 107 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 10/1-5/1), 94% yield, white solid, m.p. 95-97^oC; $[a]_D^{25}$ = + 158.1 (c= 0.16 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 1.36 (t, *J*= 7.1 Hz, 3H), 2.54 (s 3H), 3.69-3.85(m, 3H), 4.39-4.43 (m, 2H), 4.48 (d, *J*= 11.0 Hz, 1H), 5.34 (d, *J*= 11.0 Hz, 1H), 6.75 (d, *J*= 7.2 Hz, 2H), 6.95 (m, 2H), 7.06-7.07 (m, 1H), 7.27-7.31 (m, 2H), 7.47-7.49 (m, 1H), 7.81 (d, *J*= 8.8 Hz, 2H), 7.98-8.01 (m, 1H), 8.07 (d, *J*= 8.8 Hz, 2H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 62.1, 62.2, 62.7, 63.6, 65.0, 77.9, 116.4, 123.3, 123.4, 125.0, 126.8, 128.2, 128.4, 128.6, 129.4, 131.6, 139.9, 147.5, 149.0, 168.6, 169.8, 170.2, 174.6; Enantiomeric excess: 93%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^oC, 254 nm): t_R = 11.12 min(minor), t_R = 16.79 min(major); IR (KBr): γ 3363, 2980, 2924, 1756, 1610, 1518, 1455, 1342, 1273, 1135, 858, 752, 701, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{29}N_3O_8)^+$ requires m/z 571.1955, found m/z 571.1954.

Diethyl-1-acetyl-5'-(3-nitrophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicar boxylate (**5b**), 110 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 10/1-5/1), 96% yield, white solid, m.p. 108-109^oC; $[a]_D^{25}$ = +145.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.70 (t, *J*= 7.2 Hz, 3H), 1.39 (t, *J*= 7.2 Hz, 3H), 2.54 (s 3H), 3.50-3.84 (m, 3H), 4.43-4.46 (m, 2H), 4.52 (d, *J*= 11.0 Hz, 1H), 5.36 (d, *J*= 11.0 Hz, 1H), 6.78 (d, *J*= 7.2 Hz, 2H), 6.97 (t, *J*= 7.8 Hz, 2H), 7.05 (t, *J*=7.3 Hz, 1H), 7.27-7.30 (m, 2H), 7.37 (t, *J*= 7.8 Hz, 1H), 7.49 (d, *J*= 8.7 Hz, 1H), 7.91 (d, *J*= 7.8 Hz, 1H), 7.98-8.20 (m, 2H), 8.61 (t, *J*= 1.8 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.4, 62.0, 62.8, 63.4, 65.0, 77.9, 116.4, 122.7, 122.8, 123.3, 124.9, 126.8, 128.2, 128.4, 128.6, 129.1, 129.4, 131.6, 133.7, 139.9, 143.7, 148.4, 168.6, 169.8, 170.2, 174.6; Enantiomeric excess: 93%, determined by HPLC (Daicel Chirapak

AD-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 7.98 min(major), t_R = 12.93 min(minor); IR (KBr): γ 3420, 3081, 2987, 2930, 1750, 1600, 1530, 1461, 1348, 1280, 764, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{29}N_3O_8)^+$ requires m/z 571.1955, found m/z 571.1953.

Diethyl-1-acetyl-5'-(2-nitrophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicar boxylate (**5c**), 104 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 10/1-5/1), 91% yield, white solid, m.p. 69-71^{o}C; $[a]_D^{25}$ = - 91.7 (c= 0.17 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.70 (t, *J*= 7.1 Hz, 3H), 1.35 (t, *J*= 7.1 Hz, 3H), 2.56 (s, 3H), 3.67-3.81 (m, 2H), 4.05 (brs, 1H), 4.36-4.41 (m, 2H), 4.82 (d, *J*= 11.3 Hz, 1H), 5.93 (d, *J*= 11.3 Hz, 1H), 6.70 (d, *J*= 7.4 Hz, 2H), 6.91 (t, *J*= 7.7 Hz, 2H), 7.00 (t, *J*= 7.4 Hz, 1H), 7.27-7.33 (m, 3H), 7.46-7.48 (m, 1H), 7.62 (m, 1H), 7.70 (d, *J*= 8.1 Hz, 1H), 7.97-7.99 (m, 1H), 8.48 (d, *J*= 8.1 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 57.0, 60.0, 62.0, 62.4, 64.7, 116.2, 123.3, 124.3, 125.3, 126.5, 127.7, 128.2, 128.3, 128.5, 129.3, 129.7, 131.3, 133.4, 135.1, 139.8, 150.5, 168.2, 169.8, 170.1, 174.9; Enantiomeric excess: 92%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 5.67 min(major), t_R = 7.22 min(minor); IR (KBr): γ 3363, 2987, 2924, 1750, 1600, 1530, 1461, 1373, 1273, 759, 710, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{29}N_3O_8)^+$ requires m/z 571.1955, found m/z 571.1951.

Diethyl-1-acetyl-5'-(4-cyanophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicar boxylate (**5d**), 102 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 12/1-5/1), 93% yield, white solid, m.p. 75-77^{o}C; $[a]_D^{25}$ = + 53.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.70 (t, *J*= 7.1 Hz, 3H), 1.35 (t, *J*= 7.1 Hz, 3H), 2.53 (s, 3H), 3.50-3.84 (m, 3H), 4.38-4.44 (m, 2H), 4.46 (d, *J*= 11.0 Hz, 1H), 5.30 (d, *J*= 11.0 Hz, 1H), 6.75 (d, *J*= 7.4 Hz, 2H), 6.96 (t, *J*= 7.7 Hz, 2H), 7.0 (d, *J*= 7.1 Hz, 1H), 7.25-7.31 (m, 2H), 7.47-7.51 (m, 3H), 7.75 (d, *J*= 8.2 Hz, 2H), 7.99 (d, *J*= 7.4 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.4, 61.9, 62.0, 62.7, 63.7, 65.0, 77.8, 111.4, 116.4, 118.8, 123.3, 124.9, 126.8, 128.1, 128.3, 128.6, 129.3, 131.7, 132.0, 139.8, 146.8, 168.6, 169.8, 170.1, 174.7; Enantiomeric excess: 91%, determined by HPLC (Daicel Chirapak AD-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 14.33 min(major), t_R = 10.78 min(minor); IR (KBr): γ 3370, 2980, 2937, 2227, 1750, 1600, 1467, 1373, 1280, 858, 759, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{32}H_{29}N_3O_6)^+$ requires m/z 551.2056, found m/z 551.2064.

Diethyl-1-acetyl-5'-(3-cyanophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5e**), 100 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 12/1-5/1), 91% yield, white solid, m.p. 48-50^{o}C; $[a]_D^{25}$ = + 140.0 (c= 0.19 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.70 (t, *J*= 7.1 Hz, 3H), 1.39 (t, *J*= 7.1Hz, 3H), 2.54 (s, 3H), 3.6-3.84 (m, 3H), 4.40-4.48 (m, 3H), 5.27 (d, *J*= 11.0 Hz, 1H), 6.74-6.76 (m, 2H), 6.95-6.99 (m, 2H), 7.05-7.06 (m, 1H), 7.25-7.33 (m, 3H), 7.45-7.47 (m, 2H), 7.75 (d, *J*= 7.7 Hz, 1H), 7.98 (d, *J*= 7.7 Hz, 1H); 8.04 (t, *J*= 1.6 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.4, 62.0, 62.8, 63.4, 65.0, 77.8, 112.3, 116.3, 118.9, 123.3, 124.9, 126.8, 128.1, 128.3, 128.5, 129.0, 129.3, 131.3, 131.4, 131.6, 132.1, 139.8, 142.9, 168.6, 169.8, 170.2, 174.7; Enantiomeric excess: 91%, determined by HPLC (Daicel Chirapak Kromasil-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 10.62 min(major), t_R = 9.43 min(minor); IR (KBr): γ 3439, 2924, 2227, 1750, 1719, 1631, 1455, 1084, 739, 701, 583; HRMS (FT-ICRMS) exact mass calcd for $(C_{32}H_{29}N_3O_6)^+$ requires m/z 551.2056, found m/z 551.2050.

Diethyl-1-acetyl-5'-(4-bromophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5f**), 116 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1-6/1), 96% yield, white solid, m.p.65-66 ^{o}C; $[a]_D^{25}$ = + 40.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 1.36 (t, *J*= 7.1Hz, 3H), 2.54 (s, 3H), 3.50 (brs, 1H), 3.68-3.81 (m, 2H), 4.38-4.46 (m, 3H), 5.20 (d, *J*= 11.0 Hz, 1H), 6.74 (d, *J*= 7.2 Hz, 2H), 6.94 (t, *J*= 7.8 Hz, 2H), 7.01-7.03 (m, 1H), 7.24-7.28 (m, 2H), 7.36 (d, *J*= 8.4 Hz, 2H), 7.49-7.54 (m, 3H), 7.97 (d, *J*= 9.2 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 61.7, 61.9, 62.7, 63.6, 65.1, 77.9, 116.3, 121.6, 123.5, 124.9, 127.1, 128.0, 128.1, 128.6, 129.2, 129.5, 131.4, 132.1 139.8, 168.8, 170.2, 175.0; Enantiomeric excess: 87%, determined by HPLC (Daicel Chirapak AD-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 10.53 min(major), t_R = 7.80 min(minor); IR (KBr): γ 3370, 3068, 2980, 2924, 1750, 1600, 1467, 1373, 1280, 815, 759, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{29}BrN_2O_6)^+$ requires m/z 604.1209, found m/z 604.1212.

Diethyl-1-acetyl-5'-(2-bromophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5g**), 107 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 6/1), 89% yield, white solid, m.p. 134-135^{o}C; $[a]_D^{25}$ = + 20.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 1.37 (t, *J*= 7.1Hz, 3H), 2.58 (s, 3H), 3.60 (brs, 1H), 3.68-3.82 (m, 2H), 4.36-4.42 (q, 2H), 4.78 (d, *J*= 11.4 Hz, 1H), 5.82 (d, *J*= 11.4 Hz, 1H), 6.83

(d, *J*= 7.7 Hz, 2H), 6.92 (t, *J*= 7.7 Hz, 2H), 6.90-7.05 (m, 2H), 7.25-7.28 (m, 2H), 7.33 (m, 1H), 7.44 (m, 1H), 7.60(m, 1H), 7.98(m, 1H), 8.23 (d, *J*= 6.3 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 60.1, 61.4, 61.9, 62.7, 64.9, 77.7, 116.2, 123.5, 125.1, 125.6, 127.0, 127.9, 128.1, 128.2, 128.6, 129.2, 129.4, 131.8, 132.7 138.9, 139.9, 168.6, 170.2, 170.3, 175.2; Enantiomeric excess: 90%, determined by HPLC (Daicel Chirapak AD-H, hexane/ isopropanol = 94/ 6, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 10.18 min(major), t_R = 9.18 min(minor); IR (KBr): γ 3351, 3062, 2980, 2943, 1750, 1724, 1600, 1461, 1367, 1280, 759, 701, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{29}BrN_2O_6)^+$ requires m/z 604.1209, found m/z 604.1210.

Diethyl-1-acetyl-5'-(4-chlorophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5g**), 109 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 6/1), 97% yield, white solid, m.p.60-61^{o}C; $[a]_D^{25}$ = + 93.7 (c= 0.16 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 1.36 (t, *J*= 7.1Hz, 3H), 2.54 (s, 3H), 3.52 (brs, 1H), 3.68-3.83 (m, 2H), 4.37-4.46 (m, 3H), 5.15-5.25 (d, *J*= 11.3 Hz, 1H), 6.73 (d, *J*= 7.2 Hz, 2H), 6.94 (t, *J*= 7.7 Hz, 2H), 7.02 (m, 1H), 7.20 (d, *J*= 8.5 Hz, 1H), 7.24-7.28(m, 2H), 7.49 (m, 1H), 7.59 (d, *J*= 8.5 Hz, 2H), 7.97 (d, *J*= 7.6 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 61.8, 61.9, 62.8, 63.6, 65.2, 77.9, 116.3, 123.5, 124.9, 127.2, 128.0, 128.1, 128.5, 128.6, 129.1, 129.2, 132.1, 133.5, 139.3, 139.8, 168.8, 170.3, 175.0; Enantiomeric excess: 88%, determined by HPLC (Daicel Chirapak AD-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 9.87 min(major), t_R = 7.57 min(minor); IR (KBr): γ 3370, 2980, 2930, 1750, 1600, 1467, 1373, 1273, 1016, 840, 759, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{29}ClN_2O_6)^+$ requires m/z 560.1714, found m/z 560.1721.

Diethyl-1-acetyl-5'-(2,4-dinitrophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5i**), 119 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 10/1- 4/1), 97% yield, white solid, m.p. 86-88^{o}C; $[a]_D^{25}$ = - 28.8 (c= 0.17 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 1.35 (t, *J*= 7.1Hz, 3H), 2.53 (s, 3H), 3.67-3.85 (m, 2H), 4.36-4.42 (m, 2H), 4.65 (d, *J*= 11.2 Hz, 1H), 6.03 (d, *J*= 11.2 Hz, 1H), 6.63 (dd, J_1= 1.3 Hz, J_2= 8.2 Hz, 2H), 6.93 (m, 2H), 7.05 (m, 1H), 7.3-7.33(m, 2H), 7.40-7.45(m, 1H), 7.99 -8.02 (m, 1H), 8.44-8.48 (m, 2H), 8.99 (d, *J*=8.5 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.4, 57.4, 61.5, 62.3, 62.8, 64.7, 77.5, 116.5 119.5, 123.0, 125.4, 126.1, 127.2, 128.3, 128.4, 128.8, 129.6, 130.2, 132.4, 139.9, 142.9, 168.1, 169.6, 170.0, 174.3; Enantiomeric excess: 98%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min,

T = 30 °C, 254 nm): t_R = 10.79 min(major), t_R = 8.20 min(minor); IR (KBr): γ 3433, 3112, 2987, 2930, 1750, 1719, 1600, 1530, 1467, 1342, 1280, 858, 759, 727, 701, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}N_4O_{10})^+$ requires m/z 616.1805, found m/z 616.1800.

Diethyl-1-acetyl-5'-(2,3-dichlorophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5j**), 112 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 7/1), 94% yield, white solid, m.p. 50-52°C; $[a]_D^{25}$ = - 15.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 1.36 (t, *J*= 7.1 Hz, 3H), 2.57 (s, 3H), 3.65-3.83 (m, 3H), 4.35-4.41 (m, 2H), 4.73 (d, *J*= 11.3 Hz, 1H), 5.90 (d, *J*= 11.3 Hz, 1H), 6.80 (d, *J*= 7.2 Hz, 2H), 6.94 (t, *J*= 7.7 Hz, 2H), 7.01 (m, 1H), 7.25-7.34 (m, 4H), 7.50-7.55 (m, 1H), 7.97-7.98 (m, 1H), 8.21 (dd, J_1= 1.5 Hz, J_2= 7.9 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.2, 14.0, 26.5, 59.4, 60.3, 62.0, 62.8, 64.9, 77.7, 116.3, 123.5, 125.2, 126.9, 127.5, 127.9, 128.0, 128.3, 128.5, 129.3, 129.9, 131.5, 132.9, 139.9, 140.1, 168.6, 170.2, 175.1; Enantiomeric excess: 94%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 94/ 6, flow rate 1.0 mL/min, T = 30 °C, 254 nm): t_R = 11.34 min(major), t_R = 9.88 min(minor); IR (KBr): γ 3370, 3074, 2980, 2924, 1750, 1719, 1600, 1461, 1367, 1280, 759, 727, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}Cl_2N_2O_6)^+$ requires m/z 594.1324, found m/z 594.1331.

Diethyl-1-acetyl-5'-(3,4-dichlorophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5k**), 111 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 7/1), 93% yield, white solid, m.p. 118-120°C; $[a]_D^{25}$ = + 134.5 (c= 0.24 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.70 (t, *J*= 7.1 Hz, 3H), 1.39 (t, *J*= 7.1 Hz, 3H), 2.54 (s, 3H), 3.50 (brs, 1H), 3.71-3.80 (m, 2H), 4.40-4.45 (m, 3H), 5.19 (d, *J*= 11.2 Hz, 1H), 6.74 (m, 2H), 6.96 (m, 2H), 7.03 (m, 1H), 7.23-7.34 (m, 4H), 8.46 (dd, J_1= 1.6 Hz, J_2= 7.2 Hz,1H), 7.91 (d, *J*= 2.0 Hz, 1H), 7.97-7.99 (m, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 61.9, 62.0, 62.8, 63.2, 65.1, 77.9, 116.4, 123.3, 124.9, 126.9, 127.0, 128.1, 128.3, 128.6, 129.3, 129.7, 130.1, 131.5, 131.8, 132.4, 139.8, 141.5, 168.7, 169.9, 170.2, 174.8; Enantiomeric excess: 90%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 °C, 254 nm): t_R = 6.88 min(major), t_R = 7.87 min(minor); IR (KBr): γ 3376, 2980, 1750, 1467, 1273, 1122, 1016, 752, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}Cl_2N_2O_6)^+$ requires m/z 594.1324, found m/z 594.1318.

Diethyl-1-acetyl-5'-(2-chloro-4-fluorophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5l**), 111 mg (Flash column chromatography eluent, petroleum ether/ethyl

acetate = 12/1- 6/1), 96% yield, white solid, m.p. 58-60°C; $[a]_D^{25}$ = + 48.0 (c= 0.20 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 1.36 (t, *J*= 7.1Hz, 3H), 2.56 (s, 3H), 3.58 (brs, 1H), 3.67-3.83 (m, 2H), 4.37-4.41 (m, 2H), 4.65 (d, *J*= 11.3 Hz, 1H), 5.79 (d, *J*= 11.3 Hz, 1H), 6.79 (d, *J*= 7.4 Hz, 2H), 6.90-7.02 (m, 5H), 7.26-7.29 (m, 1H), 7.53 (m, 1H), 7.98 (m, 1H), 8.36 (dd, J_1= 6.2 Hz, J_2= 8.8 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 58.3, 60.7, 61.9, 62.8, 64.9, 77.6, 115.0 (d, *J*= 20.8 Hz), 116.3, 116.5 (d, *J*= 24.5 Hz), 123.5, 125.1, 127.0, 127.9, 128.2, 128.6, 129.2, 130.8, 114.9, 115.1, 116.3, 116.4, 116.6, 123.5, 125.1, 127.0, 127.9, 128.2, 128.6, 129.2, 130.8 (d, *J*= 8.8 Hz), 131.5, 133.7, 135.0 (d, *J*= 10.1 Hz), 139.9, 161.7 (d, *J*= 248.6 Hz), 168.6, 170.2, 170.4, 175.1; Enantiomeric excess: 90%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 °C, 254 nm): t_R = 17.59 min(major), t_R = 11.76 min(minor); IR (KBr): γ 3439, 2987, 2930, 1756, 1713, 1600, 1492, 1461, 1373, 1273, 1235, 903, 858, 759, 702, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}ClFN_2O_6)^+$ requires m/z 578.1620, found m/z 578.1625.

Diethyl-1-acetyl-5'-(4-chloro-3-fluorophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5m**), 112 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 12/1- 6/1), 97% yield, white solid, m.p. 73-75°C; $[a]_D^{25}$ = + 126.0 (c= 0.20 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.70 (t, *J*= 7.1 Hz, 3H), 1.38 (t, *J*= 7.1Hz, 3H), 2.54 (s, 3H), 3.58 (brs, 1H), 3.59-3.83 (m, 2H), 4.38-4.45 (m, 3H), 5.20 (dd, *J*= 11.3 Hz, 1H), 6.74 (d, *J*= 7.3 Hz, 2H), 6.96 (m, 2H), 7.04 (m, 1H), 7.19-7.45 (m, 4H), 7.45 (m, 1H), 7.65 (m, 1H), 7.98 (dd, J_1= 1.3 Hz, J_2= 8.2 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 62.0, 62.1, 62.8, 63.3, 65.1, 77.8, 115.9 (d, *J*= 21.9 Hz), 116.4, 120.0 (d, *J*= 17.8 Hz), 123.4, 124.0, 124.9, 127.0, 128.1, 128.3, 128.6, 129.3, 130.2, 131.9, 139.9, 142.3 (d, *J*= 6.4 Hz), 158.0 (d, *J*= 246.8 Hz), 168.7, 170.0, 170.2, 174.8; Enantiomeric excess: 89%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 85/ 15, flow rate 1.0 mL/min, T = 30 °C, 254 nm): t_R = 13.87 min(major), t_R = 10.44 min(minor); IR (KBr): γ 3401, 2987, 2930, 1756, 1731, 1600, 1467, 1373, 1273, 865, 821, 764, 694, 608; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}ClFN_2O_6)^+$ requires m/z 578.1620, found m/z 578.1625.

Diethyl-1-acetyl-5'-(3-chloro-2-fluorophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5n**), 108 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 6/1), 93% yield, white solid, m.p. 74-76°C; $[a]_D^{25}$ = + 52.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 1.36 (t, *J*= 7.1Hz, 3H), 2.57 (s, 3H),

3.57 (brs, 1H), 3.68-3.83 (m, 2H), 4.38-4.42 (m, 2H), 4.61 (d, *J*= 11.2Hz, 1H), 5.69 (d, *J*= 11.2 Hz, 1H), 6.79 (d, *J*= 7.5 Hz, 2H), 6.94 (m, 2H), 7.02 (m, 1H), 7.12 (m, 1H), 7.23-7.28 (m, 2H), 7.50 (m, 1H), 7.97(m, 1H), 8.25 (m, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.2, 14.0, 26.5, 55.3, 60.8, 62.0, 62.8, 65.1, 77.7, 116.3, 120.7 (d, *J*= 18.6 Hz), 123.5, 125.1, 126.9, 127.8, 128.0, 128.2, 128.4, 129.3, 129.5 (d, *J*= 12.4 Hz), 129.9, 131.5, 139.8, 156.5 (d, *J*= 247.3 Hz), 168.6, 170.2, 170.3, 175.1; Enantiomeric excess: 89%, determined by HPLC (Daicel Chirapak 1-H, hexane/ isopropanol = 85/ 15, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 7.18 min(major), t_R = 8.58 min(minor); IR (KBr): γ 3370, 2980, 2930, 1756, 1719, 1600, 1461, 1373, 1273, 1016, 759, 733, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}ClFN_2O_6)^+$ requires m/z 578.1620, found m/z 578.1611.

Diethyl-1-acetyl-2-oxo-4',5'-diphenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5o**), 92 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 12/1- 6/1), 87% yield, white solid, m.p. 64-66^{o}C; $[a]_D^{25}$ = + 100.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 1.36 (t, *J*= 7.1 Hz, 3H), 2.55 (s 3H), 3.50 (brs, 1H), 3.72-3.80 (m, 2H), 4.39-4.42 (m, 2H), 4.53 (d, *J*= 11.2 Hz, 1H), 5.25 (d, *J*= 11.2 Hz, 1H), 6.75-6.77 (m, 2H), 6.90-6.99 (m, 3H), 7.18-7.27 (m, 5H), 7.54-7.56 (m, 1H), 7.65-7.67 (m, 2H), 7.97 (m, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 61.5, 61.7, 62.7, 64.1, 65.2, 78.0, 116.2, 123.7, 124.9, 127.3, 127.7, 127.8, 127.9, 128.0, 128.4, 128.5, 129.0, 132.4, 139.8, 140.4, 168.9, 170.2, 170.4, 175.2; Enantiomeric excess: 85%, determined by HPLC (Daicel Chirapak 1-H, hexane/ isopropanol = 90/ 10, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 11.33 min(major), t_R = 15.05 min(minor); IR (KBr): γ 3426, 3031, 2987, 2930, 1756, 1600, 1461, 1373, 1280, 759, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{30}N_2O_6)^+$ requires m/z 526.2104, found m/z 526.2111.

Diethyl-1-acetyl-2-oxo-4'-phenyl-5'-p-tolylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5p**), 103 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 6/1), 95% yield, white solid, m.p. 65-67^{o}C; $[a]_D^{25}$ = + 82.7 (c= 0.22 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 1.36 (t, *J*= 7.1Hz, 3H), 2.26 (s, 3H), 2.55 (s, 3H), 3.42 (brs, 1H), 3.69-3.82 (m, 2H), 4.37-4.43 (m, 2H), 4.51(d, *J*= 11.2 Hz, 1H), 5.25 (d, *J*= 11.2 Hz, 1H), 6.74-6.77 (m, 2H), 6.92-6.94 (m, 2H), 6.90-7.02 (m, 1H), 7.06 (d, *J*= 7.8 Hz, 2H), 7.24-7.27(m, 2H), 7.53-7.56 (m, 3H), 7.95-7.97 (m, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.2, 14.0, 21.2, 26.5, 61.4, 61.8, 62.7, 63.9, 65.3, 78.0, 116.2, 123.7, 124.9, 127.4, 127.8, 127.9, 128.5, 129.0, 129.1,

132.5, 137.2, 137.4, 139.8, 169.0, 170.3, 175.0, 175.3; Enantiomeric excess: 82%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 90/ 10, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 16.45 min(major), t_R = 12.39 min(minor); IR (KBr): γ 3370, 2980, 2924, 1750, 1724, 1600, 1461, 1367, 1273, 759, 710, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{32}H_{32}N_2O_6)^+$ requires m/z 540.2260, found m/z 540.2253.

Diethyl-1-acetyl-5'-(4-methoxyphenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-di carboxylate (**5q**), 96 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 10/1- 5/1), 86% yield, white solid, m.p. 57-59^{o}C; $[a]_D^{25}$ = + 52.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 1.36 (t, *J*= 7.1Hz, 3H), 2.55 (s, 3H), 3.40 (brs, 1H), 3.68-3.80 (m, 5H), 4.39-4.42 (m, 2H), 4.48 (d, *J*= 11.2 Hz, 1H), 5.19 (d, *J*= 11.2 Hz, 1H), 6.74-6.80 (m, 4H), 6.90-6.99 (m, 2H), 7.23-7.27 (m, 3H), 7.54-7.61 (m, 3H), 7.96 (d, *J*= 7.2 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 55.2, 61.5, 61.7, 62.7, 63.7, 77.9, 113.3, 113.8, 116.2, 123.7, 124.9, 128.1, 128.5, 129.0, 129.9, 132.2, 132.5, 139.8, 159.2, 168.9, 170.3, 170.6, 175.3; Enantiomeric excess: 81%, determined by HPLC (Daicel Chirapak AD-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 12.34 min(major), t_R = 8.89 min(minor); IR (KBr): γ 3363, 2980, 2937, 1750, 1724, 1600, 1518, 1467, 1373, 1280, 1242, 840, 759, 701, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{32}H_{32}N_2O_7)^+$ requires m/z 556.2210, found m/z 556.2211.

Diethyl-1-acetyl-2-oxo-4'-phenyl-5'-propylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5r**), 70 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 6/1), 71% yield, white solid, m.p. 114-115^{o}C; $[a]_D^{25}$ = + 20.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 0.89 (t, *J*= 7.3 Hz, 3H), 1.28-1.36 (m, 4H), 1.43-1.50 (m, 1H), 1.58-1.66 (m, 1H), 1.83-1.91 (m, 1H), 2.55 (s, 3H), 3.10 (brs, 1H), 3.68-3.79 (m, 2H), 4.06-4.08 (m, 2H), 4.34-4.36 (m, 2H), 6.76-6.78 (m, 2H), 6.96-7.00 (m, 2H), 7.03-7.05 (m, 1H), 7.17-7.22 (m, 2H), 7.49-7.52 (m, 1H); 7.92-7.93 (m, 1H);^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.2, 14.0, 14.3, 21.0, 26.5, 37.2, 59.9, 60.4, 61.6, 62.7, 116.0, 124.0, 124.9, 127.4, 127.8, 128.0, 128.4, 128.9, 133.7, 139.8, 168.8, 170.3, 170.8, 175.6; Enantiomeric excess: 91%, determined by HPLC (Daicel Chirapak 1-H, hexane/ isopropanol = 94/ 6, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 11.55 min(major), t_R = 5.66 min(minor); IR (KBr): γ 3351, 3056, 2955, 2937, 1756, 1731, 1600, 1467, 1373, 1273, 764, 694, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{28}H_{32}N_2O_6)^+$ requires m/z 492.2260, found m/z 492.2258.

Diethyl-1-acetyl-5'-butyl-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5s**), 60 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 6/1), 59% yield, white solid, m.p. 75-77^{o}C; $[a]_D^{25}$ = + 21.1 (c= 0.17 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 0.84 (t, *J*= 6.9 Hz, 3H), 1.28-1.36 (m, 6H), 1.40-1.51 (m, 1H), 1.60-1.72 (m, 1H), 1.85-1.95 (m, 1H), 2.56 (s, 3H), 3.10 (brs, 1H), 3.69-3.77 (m, 2H), 4.05-4.07 (m, 2H), 4.33-4.37 (m, 2H), 6.76-6.78 (m, 2H), 6.96-7.00 (m, 2H), 7.03-7.05 (m, 1H), 7.17-7.22 (m, 2H), 7.48- 7.49 (m, 1H); 7.92- 7.94 (m, 1H);^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 14.1, 22.8, 26.5, 29.9, 34.6, 59.9, 60.6, 61.6, 62.6, 65.0, 78.8, 116.0, 124.0, 124.9, 127.4, 127.8, 128.0, 128.4, 128.9, 133.7, 139.8, 168.8, 170.3, 170.7, 175.6; Enantiomeric excess: 86%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 15.41 min(major), t_R = 6.99 min(minor); IR (KBr): γ 3358, 2955, 2930, 1750, 1737, 1600, 1467, 1373, 1273, 759, 710, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{34}N_2O_6)^+$ requires m/z 506.2417, found m/z 506.2412.

Diethyl-1-acetyl-5'-isobutyl-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5t**), 90 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 89% yield, white solid, m.p. 139-140^{o}C; $[a]_D^{25}$ = + 29.0 (c= 0.20 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 0.91 (d, *J*= 6.4 Hz, 6H), 1.36 (t, *J*= 7.1Hz, 3H), 1.37-1.39 (m, 1H), 1.85-1.90 (m, 1H), 1.91-1.96 (m, 1H), 2.56 (s, 3H), 2.95 (brs, 1H), 3.71-3.76 (m, 2H), 4.03-4.06 (d, *J*= 10.8 Hz, 1H), 4.13-4.33 (m, 1H), 4.33-4.37 (m, 2H), 6.77 (d, *J*= 7.2 Hz, 2H), 6.96-7.00 (m, 2H), 7.03-7.05 (m, 1H), 7.18-7.22 (m, 2H), 7.50 (dd, J_1= 1.6 Hz, J_2= 7.2 Hz, 1H), 7.92-7.94 (m, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 22.0, 23.6, 26.1, 26.5, 44.0, 58.2, 60.1, 61.6, 62.6, 78.9, 116.0, 124.0, 124.9, 127.4, 127.8, 128.0, 128.4, 128.8, 133.5, 139.9, 168.8, 170.3, 170.8, 175.6; Enantiomeric excess: 93%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 6.89 min(major), t_R = 6.00 min(minor); IR (KBr): γ 3353, 2962, 1755, 1727, 1704, 1466, 1375, 1313, 1273, 1216, 1171, 752, 689, 582; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{34}N_2O_6)^+$ requires m/z 506.2417, found m/z 506.2424.

Diethyl-1-acetyl-5'-neopentyl-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**5u**), 94 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 6/1), 90% yield, white solid, m.p. 121-123^{o}C; $[a]_D^{25}$ = + 35.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 0.97 (s, 9H), 1.33 (t, *J*= 7.1Hz, 3H), 1.42 (dd, J_1= 0.9 Hz,

J_2= 14.3 Hz 1H), 1.95 (dd, J_1= 9.0 Hz, J_2= 14.3 Hz 1H), 2.56 (s, 3H), 2.87 (brs, 1H), 3.71-3.75 (m, 2H), 4.03 (d, J= 10.8 Hz, 1H), 4.14-4.16 (m, 1H), 4.33-4.36 (m, 2H), 6.75-6.78 (m, 2H), 6.96-7.00 (m, 2H), 7.03-7.05 (m, 1H), 7.18-7.22 (m, 2H), 7.520-7.53 (m, 1H), 7.92-7.94 (m, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 30.1, 30.6, 48.5, 57.3, 60.4, 61.5, 62.6, 63.9, 79.4, 116.0, 124.0, 124.9, 127.5, 127.9, 128.0, 128.6, 128.8, 133.3, 139.9, 168.8, 170.3, 171.0, 175.8; Enantiomeric excess: 92%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 5.61 min(major), t_R = 4.65 min(minor); IR (KBr): γ 3358, 3062, 2955, 1756, 1731, 1600, 1467, 1373, 1280, 1210, 759, 701, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{30}H_{36}N_2O_6)^+$ requires m/z 520.2573, found m/z 520.2570.

Methyl-1-acetyl-5'-(4-nitrophenyl)-2-oxo-2',4'-diphenylspiro[indoline-3,3'-pyrrolidine]-2'-car boxylate (**5v**), 48 mg (0.1mmlo scale, Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 6/1), 85% yield, white solid, m.p. 62-64^{o}C; $[a]_D^{25}$ = + 182.6 (c= 0.15 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 2.64 (s, 3H), 3.70 (brs, 1H), 3.81 (s, 3H), 4.24 (d, J= 11.7 Hz, 1H), 5.14 (d, J= 11.6 Hz, 1H), 6.68-6.70 (m, 2H), 6.84-6.86 (m, 2H), 6.91-6.93 (m, 2H), 6.99-7.07 (m, 5H), 7.25-7.26 (m, 2H), 7.89-7.93 (m, 3H), 8.17 (d, J= 8.8 Hz, 2H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 26.7, 29.7, 53.7, 64.4, 64.7, 68.7, 116.0, 124.0, 124.3, 126.0, 126.9, 127.2, 127.4, 128.1, 128.2, 128.4, 128.6, 128.9, 132.2, 139.7, 139.8, 147.4, 170.3, 174.7, 177.0; Enantiomeric excess: 82%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 11.29 min(major), t_R = 5.16 min(minor); IR (KBr): γ 3426, 3062, 2930, 2855, 1744, 1719, 1600, 1524, 1467, 1342, 852, 809, 739, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{33}H_{27}N_3O_6)^+$ requires m/z 561.1900, found m/z 561.1903.

Methyl-1-acetyl-2'-(4-chlorophenyl)-5'-(4-nitrophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2'-ca rboxylate (**5w**), 48 mg (0.1mmlo scale, Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 6/1), 80% yield, white solid, m.p. 88-90^{o}C; $[a]_D^{25}$ = + 190.0 (c= 0.20 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 2.63 (s, 3H), 3.73 (brs, 1H), 3.82 (s, 3H), 4.23 (d, J= 11.6 Hz, 1H), 5.12 (d, J= 11.6 Hz, 1H), 6.67-6.69 (m, 2H), 6.87-6.93 (m, 4H), 6.98-7.02 (m, 3H), 7.08-7.16 (m, 3H), 7.89-7.91 (m, 3H), 8.18 (dd, J_1= 1.6 Hz, J_2= 7.2 Hz, 2H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 26.7, 29.7, 53.9, 64.5, 64.7, 68.7, 116.2, 124.1, 124.6, 125.6, 126.9, 127.3, 128.1, 128.2, 128.3, 128.9, 129.8, 132.0, 133.3, 138.4, 139.7, 147.0, 147.9, 170.2, 174.3, 176.8; Enantiomeric excess: 85%, determined by HPLC (Daicel Chirapak 1-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 12.83 min(major), t_R = 5. 78 min(minor); IR (KBr): γ 3401,

2930, 1744, 1703, 1600, 1530, 1461, 1373, 1280, 1167, 784, 759, 701; HRMS (FT-ICRMS) exact mass calcd for $(C_{33}H_{26}ClN_3O_6)^+$ requires m/z 595.1510, found m/z 595.1517.

Methyl-1-acetyl-2'-(4-fluorophenyl)-5'-(4-nitrophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2'-carboxylate (**5x**), 52 mg (0.1mmlo scale, Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 6/1), 90% yield, white solid, m.p. 137-139^oC; $[a]_D^{25}$ = + 174.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 2.64 (s, 3H), 3.73 (brs, 1H), 3.82 (s, 3H), 4.22 (d, *J*= 11.7 Hz, 1H), 5.12 (d, *J*= 11.7 Hz, 1H), 6.67-6.73 (m, 4H), 6.85-6.93 (m, 4H), 6.97-6.99 (m, 1H), 7.03-7.11 (m, 1H), 7.24-7.25 (m, 2H), 7.89-7.91 (m, 3H), 8.18 (dd, J_1= 2.0 Hz, J_2= 6.8 Hz, 2H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 26.7, 29.7, 53.8, 64.6, 64.7, 68.9, 114.1 (d, *J*= 22.0 Hz), 116.1, 124.1, 124.5, 125.7, 127.0, 128.1, 128.2, 128.3, 128.8, 128.9, 130.2 (d, *J*= 8.0 Hz), 132.1, 135.5, 139.8, 147.1, 147.9, 161.9 (d, *J*= 245.3 Hz), 170.3, 174.5, 177.0; Enantiomeric excess: 84%, determined by HPLC (Daicel Chirapak 1-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^oC, 254 nm): t_R = 11.91 min(major), t_R = 5.42 min(minor); IR (KBr): γ 3408, 3068, 2955, 2924, 1750, 1719, 1600, 1524, 1474, 1348, 1084, 840, 815, 752, 701; HRMS (FT-ICRMS) exact mass calcd for $(C_{33}H_{26}FN_3O_6)^+$ requires m/z 579.1806, found m/z 579.1811.

Diethyl-1-acetyl-4'-(4-cyanophenyl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7a**), 113 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 12/1- 5/1), 95% yield, white solid, m.p. 175-177^oC; $[a]_D^{25}$ = + 193.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.73 (t, *J*= 7.1 Hz, 3H), 1.36 (t, *J*= 7.1Hz, 3H), 2.55 (s, 3H), 3.67-3.72 (m, 2H), 3.83-3.86 (m, 1H), 4.36-4.45 (m, 2H), 4.53 (d, *J*= 10.9 Hz, 1H), 5.32 (d, *J*= 10.9 Hz, 1H), 6.88-6.90 (m, 2H), 7.26-7.31 (m, 3H), 7.30-7.40 (m, 1H), 7.45-7.48 (m, 1H), 7.80 (d, *J*= 8.8 Hz, 2H), 8.04-8.06 (m, 1H), 8.11 (d, *J*= 8.8 Hz, 2H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.6, 61.6, 62.3, 63.0, 63.8, 64.7, 78.1, 112.6, 116.8, 117.9, 123.3, 123.7, 125.3, 126.0, 128.4, 129.5, 130.0, 132.0, 137.5, 139.9, 147.8, 148.0, 168.2, 169.6, 170.0, 174.2; Enantiomeric excess: 91%, determined by HPLC (Daicel Chirapak AD-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^oC, 254 nm): t_R = 21.03 min(major), t_R = 18.14 min(minor); IR (KBr): γ 3363, 2987, 924, 2227, 1750, 1724, 1600, 1518, 1461, 1342, 1267, 865, 764, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{32}H_{28}N_4O_8)^+$ requires m/z 596.1907, found m/z 596.1909.

Diethyl-1-acetyl-4'-(4-(methoxycarbonyl)phenyl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7b**), 117 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 10/1- 5/1), 93% yield, white solid, m.p. 177-179^oC; $[a]_D^{25}$ = + 185.9 (c= 0.22

in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.70-0.74 (m, 3H), 1.35-1.38 (m, 3H), 2.55 (s, 3H), 3.68-3.75 (m, 2H), 3.81-3.85 (m, 4H), 4.40-4.43 (m, 2H), 4.54 (d, *J*= 10.9 Hz, 1H), 5.42 (m 1H), 6.86 (d, *J*= 8.3 Hz, 2H), 7.27-7.32 (m, 2H), 7.50 (d, *J*= 7.1 Hz, 1H), 7.66 (d, *J*= 7.1 Hz, 2H), 7.80 (d, *J*= 8.1 Hz, 2H), 8.00-8.02 (m, 1H), 8.08 (d, *J*= 8.6 Hz, 2H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 52.1, 61.7, 62.1, 62.8, 63.6, 64.9, 78.0, 116.6, 123.3, 123.5, 123.9, 125.1, 126.3, 128.4, 128.7, 129.4, 129.7, 130.2, 137.0, 139.8, 147.6, 148.5, 166.3, 168.3, 169.6, 170.0, 174.4; Enantiomeric excess: 92%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 19.39 min(major), t_R = 28.15 min(minor); IR (KBr): γ 3326, 3074, 2980, 2930, 1756, 1706, 1600, 1518, 1461, 1348, 1285, 865, 834, 764, 727, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{33}H_{31}N_3O_{10})^+$ requires m/z 629.2009, found m/z 629.2015.

Diethyl-1-acetyl-4'-(4-bromophenyl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7c**), 126 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 12/1- 5/1), 97% yield, white solid, m.p. 188-190^{o}C; $[a]_D^{25}$ = + 193.8 (c= 0.21 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.73 (t, *J*= 7.2 Hz, 3H), 1.36 (t, *J*= 7.2Hz, 3H), 2.55 (s, 3H), 3.67-3.73 (m, 2H), 3.80-3.85 (m, 1H), 4.36-4.45 (m, 3H), 5.29 (dd, J_1= 3.4, J_2= 10.5 Hz 1H), 6.64 (d, *J*= 8.3 Hz, 2H), 7.11 (d, *J*= 8.2 Hz, 2H), 7.25-7.36 (m, 2H), 7.48 (d, *J*= 7.4 Hz, 1H), 7.79 (d, *J*= 8.5 Hz, 2H), 8.05-8.09 (m, 3H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.0, 14.0, 26.5, 61.3, 62.1, 62.7, 63.8, 64.7, 77.9, 116.6, 122.6, 123.2, 123.4, 125.0, 126.3, 128.3, 129.6, 130.2, 130.6, 130.8, 131.4, 139.9, 147.5, 148.6, 168.3, 169.6, 170.0, 174.3; Enantiomeric excess: 91%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 18.23 min(major), t_R = 12.24 min(minor); IR (KBr): γ 3363, 3074, 2980, 1750, 1724, 1600, 1512, 1461, 1342, 1273, 858, 815, 764, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}BrN_3O_8)^+$ requires m/z 649.1060, found m/z 649.1062.

Diethyl-1-acetyl-4'-(4-fluorophenyl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7d**), 107 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 12/1- 5/1), 91% yield, white solid, m.p. 90-92^{o}C; $[a]_D^{25}$ = + 134 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.72 (t, *J*= 7.2 Hz, 3H), 1.36 (t, *J*= 7.2Hz, 3H), 2.54 (s, 3H), 3.68-3.73 (m, 2H), 3.80-3.85 (m, 1H), 4.39-4.46 (m, 3H), 5.25 (d, J_1= 11.0 Hz 1H), 6.68-6.73 (m, 4H), 7.26-7.34 (m, 2H), 7.46-7.50 (m, 1H), 7.79 (d, *J*= 8.8 Hz, 1H), 8.03-8.05 (m, 1H), 8.08-8.10 (m, 2H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 61.3, 62.1, 62.8, 64.0, 64.9, 77.8,

115.3(d, *J*= 21.2 Hz),116.6, 123.3, 123.5, 125.1, 126.6, 127.5, 128.4, 129.6, 130.3 (d, *J*= 8.0 Hz), 139.9, 147.6, 148.7, 162.5 (d, *J*= 246.7 Hz), 168.5, 169.7, 170.1, 174.5; Enantiomeric excess: 93%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R =16.23 min(major), t_R =11.18 min(minor); IR (KBr): γ 3376, 3074, 2987, 2937, 1750, 1719, 1600, 1518, 1461, 1348, 1273, 865, 840, 764, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}FN_3O_8)^+$ requires m/z 589.1860, found m/z 589.1865.

Diethyl-1-acetyl-4'-(4-chlorophenyl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7e**), 114 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 94% yield, white solid, m.p. 172-174^{o}C; $[a]_D^{25}$ = + 178.5 (c= 0.20 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.72 (t, *J*= 7.2 Hz, 3H), 1.36 (t, *J*= 7.2Hz, 3H), 2.55 (s, 3H), 3.67-3.72 (m, 2H), 3.80-3.83 (m, 1H), 4.38-4.45 (m, 3H), 5.30 (d, J_1= 10.9 Hz 1H), 6.69 (d, *J*= 8.7 Hz, 2H), 6.95-6.97 (m, 2H), 7.26-7.34 (m, 2H), 7.46-7.50 (m, 1H), 7.79 (d, *J*= 8.8 Hz, 2H), 8.04-8.10 (m, 3H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.6, 61.3, 62.2, 62.8, 64.0, 64.8, 78.0, 116.7, 123.3, 123.6, 125.1, 126.5, 128.4, 128.5, 129.7, 130.0, 130.3, 134.5, 140.0, 147.6, 148.5, 168.4, 169.7, 170.1, 174.5; Enantiomeric excess: 92%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 17.59 min(major), t_R = 11.76 min(minor); IR (KBr): γ 3376, 2980, 2937, 1750, 1724, 1600, 1505, 1461, 1366, 1273, 858, 759, 696, 583; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}ClN_3O_8)^+$ requires m/z 605.1565, found m/z 605.1560.

Diethyl-1-acetyl-4'-(4-methoxyphenyl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7f**), 115 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 12/1- 5/1), 94% yield, white solid, m.p. 131-134^{o}C; $[a]_D^{25}$ = + 180.0 (c= 0.25 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.2 Hz, 3H), 1.36 (t, *J*= 7.2Hz, 3H), 2.54 (s, 3H), 3.63 (s, 3H), 3.68-3.72 (m, 2H), 3.80-3.84 (m, 1H), 4.38-4.44 (m, 3H), 5.25 (dd, J_1= 3.4, J_2= 10.8 Hz 1H), 6.50 (d, *J*= 8.7 Hz, 2H), 6.65 (d, *J*= 8.7 Hz, 2H), 7.26-7.32 (m, 2H), 7.47 (d, *J*= 7.2 Hz, 1H), 7.78 (d, *J*= 8.7 Hz, 2H), 8.02-8.8 (m, 3H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 55.0, 61.6, 62.0, 62.7, 63.9, 65.0, 77.8, 113.6, 116.5, 123.3, 123.4, 123.9, 124.9, 126.9, 128.4, 129.4, 129.7, 140.0, 147.4, 149.1, 159.4, 168.6, 169.8, 170.2, 174.7; Enantiomeric excess: 92%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 18.94 min(major), t_R = 12.85 min(minor); IR (KBr): γ 3363, 3074, 2980, 2930, 1756, 1719, 1600, 1518, 1461, 1366, 1273, 858, 834, 758, 696, 588; HRMS (FT-ICRMS)

exact mass calcd for $(C_{32}H_{31}N_3O_9)^+$ requires m/z 601.2060, found m/z 601.2059.

Diethyl-1-acetyl-5'-(4-nitrophenyl)-2-oxo-4'-p-tolylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7g**), 108 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1-5/1), 92% yield, white solid, m.p. 83-85°C; $[a]_D^{25}$ = + 153.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.2 Hz, 3H), 1.36 (t, *J*= 7.2Hz, 3H), 2.13 (s, 3H), 2.54 (s, 3H), 3.67-3.72 (m, 2H), 3.79-3.82 (m, 1H), 4.39-4.44 (m, 3H), 5.29 (d, J_1 = 11.0 Hz 1H), 6.62 (d, *J*= 8.1 Hz, 2H), 6.76 (d, *J*= 8.1 Hz, 2H), 7.26-7.31 (m, 2H), 7.46-7.48 (m, 1H), 7.79 (d, *J*= 8.8 Hz, 2H), 8.01-8.03 (m, 1H), 8.06-8.08 (m, 2H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.1, 21.0, 26.5, 61.8, 62.1, 62.7, 63.7, 65.0, 77.9, 116.5, 123.3, 123.4, 125.0, 126.9, 128.4, 128.5, 129.0, 129.4, 138.2, 140.0, 147.5, 149.1, 168.6, 169.8, 170.3, 174.7; Enantiomeric excess: 90%, determined by HPLC (Daicel Chirapak 1-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 °C, 254 nm): t_R = 15.93 min(major), t_R = 9.83 min(minor); IR (KBr): γ 3363, 2987, 2924, 1750, 1719, 1600, 1518, 1461, 1342, 1280, 858, 834, 759, 701, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{32}H_{31}N_3O_8)^+$ requires m/z 585.2111, found m/z 585.2119.

Diethyl-1-acetyl-4'-(2-fluorophenyl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7h**), 114 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 97% yield, white solid, m.p. 80-82°C; $[a]_D^{25}$ = + 27.0 (c= 0.20 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.73 (t, *J*= 7.2 Hz, 3H), 1.35 (t, *J*= 7.2Hz, 3H), 2.58 (s, 3H), 3.74-3.89 (m, 3H), 4.38-4.44 (q, 2H), 4.92 (d, *J*= 10.8 Hz, 1H), 5.46 (d, *J*= 10.8 Hz, 2H), 6.74-6.79 (m, 2H), 6.81-6.85 (m, 1H), 7.03-7.05 (m, 1H), 7.16-7.20 (m, 1H), 7.26-7.35 (m, 2H), 7.82 (d, *J*= 8.8 Hz, 2H), 8.03 (d, *J*= 8.0 Hz, 1H), 8.10 (d, *J*= 8.4 Hz, 2H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 13.9, 26.3, 54.1, 61.1, 62.7, 63.1, 63.9, 78.3, 115.5 (d, *J*= 22.9 Hz), 115.6, 119.5 (d, *J*= 13.1 Hz), 123.5, 123.6, 123.7, 124.7, 126.4, 128.4, 129.2, 129.4 (d, *J*= 15.8 Hz), 129.9 (d, *J*= 8.6 Hz), 140.0, 147.6, 148.7, 161.1 (d, *J*= 246.2 Hz), 168.7, 169.5, 170.4, 174.9; Enantiomeric excess: 81%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 °C, 254 nm): t_R = 18.80 min(major), t_R = 12.58 min(minor); IR (KBr): γ 3370, 2987, 1737, 1606, 1518, 1348, 1273, 1230, 1016, 852, 752, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}FN_3O_8)^+$ requires m/z 589.1860, found m/z 589.1852.

Diethyl-1-acetyl-4'-(2-chlorophenyl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7i**), 115 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 95% yield, white solid, m.p. 82-85°C; $[a]_D^{25}$ = + 144.0 (c= 0.10 in $CHCl_3$);

^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.79-0.83 (m, 3H), 1.34-1.37 (m, 3H), 2.56 (s, 3H), 3.65 (brs, 1H), 3.70-3.95 (m, 2H), 4.38-4.45 (m, 3H), 5.26 (d, *J*= 10.8 Hz, 1H), 6.66 (d, *J*= 7.6 Hz, 1H), 6.79 (s, 1H), 6.90-6.98 (m, 1H), 7.07-7.08 (m, 1H), 7.26-7.29 (m, 1H), 7.39 (d, *J*= 8.0 Hz, 1H), 7.81 (d, *J*= 8.4 Hz, 2H), 8.10-8.12 (m, 3H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.2, 14.0, 26.4, 61.3, 62.3, 63.0, 63.4, 64.6, 77.8, 117.1, 123.7, 124.2, 124.9, 125.1, 126.4, 128.5, 128.8, 128.9, 129.6, 133.7, 134.4, 135.5, 140.6, 147.7, 148.1, 168.2, 169.5, 170.0, 174.2; Enantiomeric excess: 86%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 18.25 min(major), t_R = 16.14 min(minor); IR (KBr): γ 3370, 2980, 2924, 1756, 1724, 1600, 1518, 1474, 1348, 1280, 852, 752, 689, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}ClN_3O_8)^+$ requires m/z 605.1565, found m/z 605.1562.

Diethyl-1-acetyl-4'-(3-chlorophenyl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7j**), 113 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 12/1- 5/1), 93% yield, white solid, m.p. 89-91^{o}C; $[a]_D^{25}$ = + 148.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.70-0.73 (m, 3H), 1.35-1.38 (m, 3H), 2.56 (s, 3H), 3.70-3.85 (m, 3H), 4.39-4.46 (m, 3H), 5.30 (d, *J*= 10.8 Hz, 1H), 6.64 (d, *J*= 8.0 Hz, 1H), 6.76 (d, *J*= 1.6 Hz, 1H), 6.89-6.93 (m, 1H), 7.05 (d, *J*= 7.6 Hz, 1H), 7.26-7.34 (m, 2H), 7.47 (d, *J*= 7.2 Hz, 1H), 7.80-7.83 (m, 2H), 8.03 (d, *J*= 8.0 Hz, 1H), 8.10 (d, *J*= 8.0 Hz, 2H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.4, 61.5, 62.1, 62.8, 63.5, 64.9, 77.7, 116.6, 123.2, 123.6, 125.1, 126.4, 126.6, 128.4, 128.6, 128.8, 129.4, 129.7, 133.9, 134.1, 139.8, 147.6, 148.5, 168.4, 169.7, 170.1, 174.; Enantiomeric excess: 90%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 20.74 min(major), t_R = 10.80 min(minor); IR (KBr): γ 3363, 2980, 2937, 1756, 1724, 1600, 1524, 1455, 1336, 1280, 858, 759, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}ClN_3O_8)^+$ requires m/z 605.1565, found m/z 605.1558.

Diethyl-1-acetyl-4'-(3,4-dichlorophenyl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7k**), 116 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 12/1- 5/1), 91% yield, white solid, m.p. 159-160^{o}C; $[a]_D^{25}$ = + 175.8 (c= 0.17 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.70-0.74(m, 3H), 1.34-1.38 (m, 3H), 2.56 (s, 3H), 3.71-3.83 (m, 3H), 4.38-4.42 (m, 3H), 5.24 (d, *J*= 10.8 Hz, 1H), 6.56-6.60 (m, 1H), 6.86 (d, *J*= 1.6 Hz, 1H), 7.05(d, *J*= 8.4 Hz, 1H), 7.30-7.37 (m, 2H), 7.46 (d, *J*= 7.6 Hz, 1H), 7.80 (d, *J*= 8.4 Hz, 2H), 8.07-8.13 (m, 3H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.1, 26.6, 60.9, 62.2, 62.9, 63.9, 64.7, 77.9, 116.8, 123.3, 123.7, 125.2, 126.1, 127.7, 129.9, 130.2, 130.7, 132.2, 132.6, 132.8, 139.9,

147.8, 148.1, 168.3, 169.6, 170.1,. 174.3; Enantiomeric excess: 90%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 18.81 min(major), t_R = 10.94 min(minor); IR (KBr): γ 3426, 2987, 2924, 1750, 1719, 1606, 1518, 1467, 1342, 1016, 858, 759, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{27}Cl_2N_3O_8)^+$ requires m/z 639.1175, found m/z 605.1182.

Diethyl-1-acetyl-4'-(naphthalen-2-yl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7l**), 112 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 90% yield, white solid, m.p. 99-101^{o}C; $[a]_D^{25}$ = + 231.9 (c= 0.21 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.72 (t, *J*= 7.2 Hz, 3H), 1.38 (t, *J*= 7.2Hz, 3H), 2.50 (s, 3H), 3.71-3.83 (m, 3H), 4.44 (m, 2H), 4.65 (d, *J*= 11.2 Hz, 1H), 5.46 (d, *J*= 11.2 Hz, 1H), 6.83 (dd, J_1= 1.6, J_2= 8.4 Hz 1H), 7.29-7.38 (m, 5H), 7.44 (d, *J*= 8.8 Hz, 1H), 7.50-7.62 (m, 3H), 7.80 (dd, J_1= 2.0, J_2= 6.8 Hz 2H), 7.93 (d, *J*= 9.2 Hz, 1H), 8.04 (dd, J_1= 2.0, J_2= 6.8 Hz 2H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.1, 26.5, 62.1, 62.2, 62.8, 63.9, 65.1, 78.1, 116.6, 123.4, 123.5, 125.0, 125.6, 126.4, 126.5, 126.8, 127.5, 127.7, 127.9, 128.4, 128.7, 129.2, 129.5, 132.9, 140.0, 147.5, 148.9, 168.6, 169.8, 170.1, 174.7; Enantiomeric excess: 92%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 25.38 min(major), t_R = 11.53 min(minor); IR (KBr): γ 3370, 2975, 2930, 1756, 1724, 1600, 1518, 1467, 1342, 1267, 858, 752, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{35}H_{31}N_3O_8)^+$ requires m/z 621.2111, found m/z 621.2110.

Diethyl-1-acetyl-4'-(naphthalen-1-yl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7m**), 114 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 92% yield, white solid, m.p. 142-144^{o}C; $[a]_D^{25}$ = + 233.9 (c= 0.23 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.69 (t, *J*= 7.2 Hz, 3H), 1.44 (t, *J*= 7.2Hz, 3H), 2.06 (s, 3H), 3.79-3.84 (m, 3H), 4.51-4.53 (q, 2H), 5.49 (d, *J*= 10.4 Hz, 1H), 5.77 (d, *J*= 10.4 Hz, 1H), 6.94-7.00 (m, 2H), 7.25-7.28 (m, 3H), 7.35-7.41 (m, 2H), 7.50-7.56 (m, 2H), 7.66-7.68 (m, 1H), 7.80-7.82 (m, 2H), 7.87 (dd, J_1= 3.2, J_2= 6.0 Hz 2H), 7.97-8.02 (m, 3H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.1, 25.8, 54.3, 62.1, 62.8, 64.4, 64.5, 78.8, 116.3, 122.4, 123.4, 123.5, 124.1, 124.8, 125.7, 125.9, 126.5, 127.0, 127.4, 128.3, 128.8, 128.9, 129.3, 132.4, 133.7, 139.9, 147.5, 149.0, 168.8, 170.0, 170.1, 174.7; Enantiomeric excess: 98%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 21.00 min(major), t_R = 12.26 min(minor); IR (KBr): γ 3383, 3062, 2980, 2937, 1750, 1724, 1600, 1524, 1467, 1348,

1273, 858, 777, 759, 701, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{35}H_{31}N_3O_8)^+$ requires m/z 621.2111, found m/z 621.2119.

Diethyl-1-acetyl-4'-(furan-2-yl)-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7n**), 83 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 12/1- 5/1), 74% yield, white solid, m.p. 75-77^{o}C; $[a]_D^{25}$ = + 86.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.74 (t, *J*= 7.2 Hz, 3H), 1.32 (t, *J*= 7.2 Hz, 3H), 2.64 (s, 3H), 3.66-3.86 (m, 3H), 4.34-4.41 (m, 2H), 5.56 (d, *J*= 10.4 Hz, 1H), 5.36 (d, *J*= 10.4 Hz, 1H), 5.77 (d, *J*= 3.2 Hz, 1H), 6.02 (dd, J_1= 2.0, J_2= 3.2 Hz 1H), 7.00-7.01 (m, 1H), 7.20-7.22 (m, 1H), 7.29-7.35 (m, 2H), 7.80 (d, *J*= 8.8 Hz, 2H), 8.11-8.15 (m, 3H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.6, 55.7, 62.2, 62.7, 63.1, 63.7, 78.3, 109.2, 110.3, 116.3, 123.0, 123.5, 123.6, 125.0, 126.7, 127.7, 128.3, 129.4, 139.9, 142.6, 147.3, 147.6, 148.8, 168.3, 169.4, 170.5, 174.8; Enantiomeric excess: 93%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 16.33 min(major), t_R = 10.47 min(minor); IR (KBr): γ 3363, 3119, 3081, 2980, 2937, 1750, 1600, 1518, 1461, 1342, 1273, 858, 752, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{27}N_3O_9)^+$ requires m/z 561.1747, found m/z 561.1746.

Diethyl-1-acetyl-5'-(4-nitrophenyl)-2-oxo-4'-styrylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7o**), 98 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1-5/1), 82% yield, white solid, m.p. 71-73^{o}C; $[a]_D^{25}$ = + 131.2 (c= 0.16 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.75 (t, *J*= 7.1 Hz, 3H), 1.34 (t, *J*= 7.1 Hz, 3H), 2.61 (s, 3H), 3.66-3.70 (m, 1H), 3.81-3.92 (m, 2H), 4.35-4.40 (m, 2H), 4.90-4.95 (m, 1H), 5.37 (dd, J_1= 9.6, J_2= 15.6 Hz 1H), 6.17 (d, *J*= 15.6 Hz, 1H), 6.94-6.96 (m, 2H), 7.16-7.18 (m, 3H), 7.21-7.25 (m, 1H), 7.30-7.44 (m, 3H), 7.90 (d, *J*= 8.8 Hz, 2H), 8.17 (d, *J*= 8.8 Hz, 2H), 8.28 (d, *J*= 8.1 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.2, 14.1, 26.6, 56.5, 60.8, 62.4, 62.7, 65.4, 78.4, 116.7, 121.2, 122.9, 123.2, 123.5, 125.4, 126.4, 126.7, 127.5, 128.3, 128.6, 129.6, 135.7, 136.5, 140.2, 148.8, 168.4, 169.6, 170.5, 174.7; Enantiomeric excess: 90%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 17.05 min(major), t_R = 10.91 min(minor); IR (KBr): γ 3433, 2980, 2924, 1750, 1606, 1518, 1342, 1280, 1172, 1016, 852, 752, 689, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{33}H_{31}N_3O_8)^+$ requires m/z 597.2111, found m/z 597.2114

Diethyl-1-acetyl-4'-isobutyl-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7p**), 104 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate =

15/1- 5/1), 94% yield, Colorless oil; $[a]_D^{25}$ = + 81.6 (c= 0.18 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.46 (d, *J*= 5.8 Hz, 3H), 0.51 (d, *J*= 5.8 Hz, 3H), 0.76 (t, *J*= 7.1 Hz, 3H), 0.80-0.82 (m, 2H), 1.20 (d, *J*= 6.1 Hz, 1H), 1.35 (t, *J*= 7.1 Hz, 3H), 2.68 (s, 3H), 3.30-3.40 (m, 1H), 3.50 (brs, 1H), 3.57-3.62 (m, 1H), 3.78-3.83 (m, 1H), 4.33-4.39 (m, 2H), 4.56 (d, *J*= 10.8 Hz, 1H), 7.24-7.27 (m, 2H), 7.39-7.42 (m, 1H), 8.00 (dd, J_1= 1.8, J_2= 6.9 Hz 2H), 8.24 (dd, J_1= 1.8, J_2= 6.9 Hz 2H), 8.32 (d, *J*= 8.2 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 21.7, 23.0, 25.8, 26.7, 36.8, 53.4, 62.0, 62.6, 63.4, 67.5, 79.2, 116.5, 123.4, 123.7, 125.4, 127.0, 127.5, 129.3, 140.3, 147.8, 149.7, 168.6, 169.9, 170.6, 175.6; Enantiomeric excess: 89%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^oC, 254 nm): t_R = 14.22 min(major), t_R = 8.64 min(minor); IR (KBr): γ 3363, 3081, 2962, 1756, 1719, 1600, 1518, 1461, 1348, 1273, 858, 752, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{33}N_3O_8)^+$ requires m/z 551.2268, found m/z 551.2274

Diethyl-1-acetyl-5'-(4-nitrophenyl)-2-oxo-4'-propylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7q**), 101 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1-5/1), 94% yield, white solid, m.p. 49-51^oC; $[a]_D^{25}$ = + 59.5 (c= 0.20 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.52 (t, *J*= 7.2 Hz, 3H), 0.77 (t, *J*= 7.2 Hz, 3H), 0.80-1.05 (m, 2H), 1.33-1.39 (m, 5H), 2.69 (s, 3H), 3.25-3.35 (m, 1H), 3.50-3.70 (m, 3H), 4.33-4.39 (m, 2H), 4.59 (d, *J*=10.4 Hz, 1H), 7.25-7.27 (m, 1H), 7.30-7.42 (m, 2H), 8.01-8.03 (m, 2H), 8.23-8.25 (m, 2H), 8.33 (d, *J*= 8.4 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 14.2, 20.6, 26.7, 29.6, 55.6, 62.1, 62.6, 67.2, 72.3, 79.3, 116.5, 123.1, 123.5, 123.7, 125.2, 127.5, 129.4, 140.4, 147.8, 149.8, 168.5, 169.9, 170.6, 175.8; Enantiomeric excess: 83%, determined by HPLC (Daicel Chirapak 1-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^oC, 254 nm): t_R = 16.40 min(major), t_R = 9.05 min(minor); IR (KBr): γ 3363, 2962, 2930, 1750, 1600, 1518, 1461, 1342, 1273, 1210, 1016, 858, 752, 701, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{28}H_{31}N_3O_8)^+$ requires m/z 537.2111, found m/z 537.2108.

Diethyl-1-acetyl-5'-isobutyl-2-oxo-4'-p-tolylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7r**), 92 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 88% yield, white solid, m.p. 145-147^oC; $[a]_D^{25}$ = + 33.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.70 (t, *J*= 7.1 Hz, 3H), 0.90 (d, *J*= 6.6 Hz, 6H), 1.32-1.35 (m, 4H), 1.75-1.90 (m, 2H), 2.15 (s, 3H), 2.56 (s, 3H), 2.85 (brs, 1H), 3.70-3.75 (m, 2H), 4.01 (d, *J*= 10.6 Hz, 1H), 4.10-4.15 (m, 1H), 4.32-4.36 (m, 2H), 6.65 (d, *J*= 8.1 Hz, 2H), 6.78 (d, *J*= 8.1 Hz, 2H), 7.18-7.23 (m, 2H), 7.50

(dd, J_1= 1.2, J_2= 7.2 Hz 1H), 7.95 (dd, J_1= 1.3, J_2= 7.4 Hz 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 21.0, 31.9, 23.7, 26.1, 26.6, 44.0, 58.3, 59.7, 61.5, 62.6, 79.0, 116.1, 124.0, 124.9, 127.6, 128.3, 128.8, 129.9, 130.4, 137.5, 139.9, 168.8, 170.4, 170.8, 175.7; Enantiomeric excess: 82%, determined by HPLC (Daicel Chirapak AD-H, hexane/ isopropanol = 99/ 1, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 23.57 min(major), t_R = 20.32 min(minor); IR (KBr): γ 3351, 3049, 2955, 1756, 1724, 1600, 1518, 1461, 1273, 1217, 846, 752, 696, 583; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{33}N_3O_8)^+$ requires m/z 520.2573, found m/z 520.2560.

Diethyl-1-acetyl-4'-(4-chlorophenyl)-5'-isobutyl-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dic arboxylate (**7s**), 102 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 94% yield, white solid, m.p. 186-188^{o}C; $[a]_D^{25}$ = + 30.5 (c= 0.21 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 0.90 (d, *J*= 6.6 Hz, 6H), 1.30-1.35 (m, 4H), 1.75-1.88 (m, 2H), 2.56 (s, 3H), 2.90 (brs, 1H), 3.70-3.76 (m, 2H), 4.01 (d, *J*= 10.6 Hz, 1H), 4.05-4.10 (m, 1H), 4.32-4.35 (m, 2H), 6.71 (d, *J*= 8.5 Hz, 2H), 6.96-6.98 (m, 2H), 7.19-7.26 (m, 2H), 7.50 (dd, J_1= 1.4, J_2= 7.3 Hz 1H), 7.98 (dd, J_1= 1.2, J_2= 8.0 Hz 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 22.0, 23.6, 26.1, 26.6, 44.0, 58.5, 59.3, 61.6, 62.7, 79.0, 116.3, 124.0, 125.0, 127.1, 128.3, 129.1, 129.7, 132.2, 133.8, 139.9, 168.6, 170.2, 170.7, 175.4; Enantiomeric excess: 92%, determined by HPLC (Daicel Chirapak OD-H, hexane/ isopropanol = 99/ 1, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R =7.31 min(major), t_R = 6.33 min(minor); IR (KBr): γ 3351, 3068, 2962, 1750, 1694, 1600, 1474, 1280, 1217, 846, 759, 696, 583; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{33}N_3O_8)^+$ requires m/z 540.2027, found m/z 540.2024.

Diethyl-1-acetyl-4'-(4-fluorophenyl)-5'-isobutyl-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dic arboxylate (**7t**), 93 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1-5/1), 89% yield, white solid, m.p. 164-166^{o}C; $[a]_D^{25}$ = + 27.0 (c= 0.20 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 0.89 (d, *J*= 6.6 Hz, 6H), 1.30-1.35 (m, 4H), 1.75-1.90 (m, 2H), 2.56 (s, 3H), 3.71-3.76 (m, 2H), 4.00-4.10 (m, 2H), 4.33-4.36 (m, 2H), 6.66-6.75 (m, 4H), 7.19-7.25 (m, 2H), 7.51 (dd, J_1= 1.6, J_2= 7.2 Hz 1H), 7.97 (dd, J_1= 0.8, J_2= 8.0 Hz 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 22.0, 23.6, 26.1, 26.5, 44.0, 58.6, 59.2, 61.6, 62.7, 78.9, 115.0 (d, *J*= 21.0 Hz), 116.2, 123.9, 125.0, 127.2, 129.0, 129.4, 130.0(d, *J*= 7.8 Hz), 139.9, 162.5 (d, *J*= 247.0 Hz), 168.7, 170.2, 170.7, 175.5; Enantiomeric excess: 93%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R =7.17 min(major), t_R = 6.30 min(minor); IR (KBr): γ 3433, 2955, 2930, 1756, 1724, 1600, 1512,

1455, 1280, 1210, 846, 752, 583; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{33}N_3O_8)^+$ requires m/z 524.2323, found m/z 524.2316.

Diethyl-1-acetyl-4'-(3-chlorophenyl)-5'-neopentyl-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**7u**), 104 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 20/1- 5/1), 94% yield, white solid, m.p. 109-110°C; $[a]_D^{25}$ = + 32.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.71 (t, *J*= 7.1 Hz, 3H), 0.98 (s, 9H), 1.33 (t, *J*= 7.1 Hz, 3H), 1.39 (dd, J_1= 0.7, J_2= 14.2 Hz 1H), 1.96 (dd, J_1= 9.0, J_2= 14.3 Hz 1H), 2.58 (s, 3H), 2.80 (s, 1H), 3.72-3.76 (m, 2H), 4.00 (d, *J*= 10.7 Hz, 1H), 4.07-4.09 (m, 1H), 4.32-4.36 (m, 2H), 6.62-6.63 (m, 1H), 6.80-6.81 (m, 1H), 6.89-6.93 (m, 1H), 7.02-7.03 (m, 1H), 7.21-7.26 (m, 2H), 7.51 (d, J_1= 1.8, Hz 1H), 7.97 (dd, J_1= 1.5, J_2= 8.0 Hz 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 26.5, 30.0, 30.6, 48.4, 57.3, 59.8, 61.5, 62.6, 63.7, 79.3, 116.1, 123.9, 125.1, 126.5, 127.0, 128.1, 129.0, 129.2, 133.9, 135.5, 139.8, 168.6, 170.3, 170.9, 175.6; Enantiomeric excess: 88%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 °C, 254 nm): t_R =5.75 min(major), t_R = 4.86 min(minor); IR (KBr): γ 3389, 3074, 2962, 1756, 1719, 1600, 1461, 1367, 1273, 759, 708, 626, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{33}N_3O_8)^+$ requires m/z 554.2184, found m/z 554.2186.

Diethyl-1-acetyl-5-fluoro-5'-isobutyl-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**8a**), 91 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1-5/1), 87% yield, white solid, m.p. 150-152°C; $[a]_D^{25}$ = + 24.0 (c= 0.20 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.80 (t, *J*= 7.1 Hz, 3H), 0.90-0.93 (m, 6H), 1.33 (t, *J*= 7.1Hz, 3H), 1.38-1.42 (m, 1H), 1.70-1.75 (m, 1H), 1.90-1.95 (m, 1H), 2.55 (s, 3H), 2.85 (brs, 1H), 3.79-3.85 (q, 2H), 4.02 (d, *J*= 10.6 Hz, 1H), 4.10-4.15 (m, 1H), 4.32-4.36 (m, 2H), 6.78-6.81 (m, 2H), 6.91-6.92 (m, 1H), 7.00-7.03 (m, 2H), 7.06-7.08 (m, 1H), 7.26-7.29 (m, 1H), 7.92 (dd, J_1= 4.7 Hz, J_2= 8.9 Hz 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.3, 14.0, 22.0, 23.6, 26.1, 26.4, 44.0, 58.0, 60.0, 61.7, 62.8, 78.8, 111.8 (d, *J*= 25.0 Hz), 115.2 (d, *J*= 22.3 Hz), 117.4 (d, *J*= 7.8 Hz), 128.0, 128.2, 128.3, 129.5 (d, *J*= 8.3 Hz), 133.2, 135.9, 160.1 (d, *J*= 243.0 Hz), 168.5, 170.0, 170.7, 175.3; Enantiomeric excess: 92%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 °C, 254 nm): t_R = 6.51 min(major), t_R = 5.37 min(minor); IR (KBr): γ 3345, 3062, 2955, 1750, 1706, 1600, 1474, 1373, 1291, 827, 771, 701, 583; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{33}FN_2O_6)^+$ requires m/z 524.2323, found m/z 524.2328.

Diethyl-1-acetyl-5-chloro-5'-isobutyl-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dica

rboxylate (**8b**), 102 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 94% yield, white solid, m.p. 163-165°C; $[a]_D^{25}$ = + 87.0 (c= 0.20 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.80 (t, *J*= 7.1 Hz, 3H), 0.91-0.93 (m, 6H), 1.33 (t, *J*= 7.1Hz, 3H), 1.42-1.45 (m, 1H), 1.65-1.70 (m, 1H), 1.89-1.95 (m, 1H), 2.55 (s, 3H), 2.85 (brs, 1H), 3.81-3.86 (q, 2H), 4.00 (d, *J*= 10.6 Hz, 1H), 4.10-4.15 (m, 1H), 4.31-4.37 (m, 2H), 6.77-6.79 (m, 2H), 7.01-7.04 (m, 2H), 7.06-7.08 (m, 1H), 7.19 (dd, J_1= 2.2 Hz, J_2= 8.7 Hz 1H), 7.50 (d, *J*= 2.2 Hz, 1H), 7.88 (d, *J*= 8.7 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.3, 14.0, 22.1, 23.6, 26.1, 26.4, 44.1, 58.1, 60.1, 61.8, 62.8, 64.7, 78.9, 117.2, 124.2, 128.1, 128.2, 128.3, 128.8, 129.5, 130.5, 133.2, 138.3, 168.4, 170.1, 170.5, 175.5; Enantiomeric excess: 92%, determined by HPLC (Daicel Chirapak 1-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 °C, 254 nm): t_R = 6.12 min(major), t_R = 5.20 min(minor); IR (KBr): γ 3345, 3062, 2955, 1750, 1706, 1600, 1467, 1373, 1298, 1273, 827, 752, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{33}ClN_2O_6)^+$ requires m/z 540.2027, found m/z 540.2034.

Diethyl-1-acetyl-5'-isobutyl-5-methyl-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dic arboxylate (**8c**), 99 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 18/1- 5/1), 95% yield, white solid, m.p. 122-124°C; $[a]_D^{25}$ = + 60.5 (c= 0.18 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.80 (t, *J*= 7.1 Hz, 3H), 0.88-0.92 (m, 6H), 1.33 (t, *J*= 7.1Hz, 3H), 1.38-1.45 (m, 1H), 1.67-1.72 (m, 1H), 1.90-1.95 (m, 1H), 2.38 (s, 3H), 2.55 (s, 3H), 2.90 (brs, 1H), 3.73-3.77 (m, 2H), 4.01 (d, *J*= 10.6 Hz, 1H), 4.10-4.13 (m, 1H), 4.32-4.36 (m, 2H), 6.75-6.77 (m, 2H), 6.97-7.05 (m, 4H), 7.30 (d, *J*= 1.1 Hz, 1H), 7.80 (d, *J*= 8.3 Hz 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.1, 14.0, 14.1, 22.4, 22.1, 23.6, 26.1, 26.4, 44.1, 58.3, 60.1, 61.5, 62.6, 64.9, 79.0, 115.8, 124.4, 127.4, 127.8, 128.0, 128.4, 129.3, 133.7, 134.6, 137.6, 168.8, 170.2, 170.9, 175.8; Enantiomeric excess: 93%, determined by HPLC (Daicel Chirapak 1-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 °C, 254 nm): t_R = 6.33 min(major), t_R = 5.36 min(minor); IR (KBr): γ 3351, 3056, 2955, 1756, 1700, 1600, 1480, 1373, 1304, 1273, 827, 771, 689, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{30}H_{36}N_2O_6)^+$ requires m/z 520.2573, found m/z 520.2568.

Diethyl-1-acetyl-5-bromo-5'-isobutyl-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dica rboxylate (**8d**), 105 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 90% yield, white solid, m.p. 148-150°C; $[a]_D^{25}$ = + 76.2 (c= 0.08 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.80 (t, *J*= 7.1 Hz, 3H), 0.90-0.93 (m, 6H), 1.33 (t, *J*= 7.1Hz, 3H), 1.40-1.45 (m, 1H), 1.70-1.75 (m, 1H), 1.90-1.95 (m, 1H), 2.55 (s, 3H), 2.90 (brs, 1H), 3.82-3.85 (m,

2H), 3.99 (d, *J*= 10.6 Hz, 1H), 4.10-4.15 (m, 1H), 4.31-4.36 (m, 2H), 6.77-6.79 (m, 2H), 7.01-7.04 (m, 2H), 7.06-7.08 (m, 1H), 7.34 (dd, J_1= 2.1 Hz, J_2= 8.7 Hz 1H), 7.63 (d, *J*= 2.1 Hz, 1H)，7.83 (d, *J*= 8.7 Hz, 1H)；^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.3, 14.0, 22.1, 23.6, 26.1, 26.5, 44.1, 58.1, 60.1, 61.8, 62.8, 64.6, 78.9, 117.6, 118.0, 127.0, 128.1, 128.2, 128.3, 129.8, 131.8, 133.2, 168.5, 170.0, 170.7, 175.3; Enantiomeric excess: 92%, determined by HPLC (Daicel Chirapak 1-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 6.26 min(major), t_R = 5.27 min(minor); IR (KBr): γ 3351, 3056, 2962, 1756, 1706, 1600, 1467, 1373, 1298, 1273, 827, 721, 696, 588; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{33}BrN_2O_6)^+$ requires m/z 584.1522, found m/z 584.1520.

Diethyl-1-acetyl-6-chloro-5'-isobutyl-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**8e**), 102 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 94% yield, white solid, m.p. 123-125^{o}C; $[a]_D^{25}$ = + 42.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.80 (t, *J*= 7.1 Hz, 3H), 0.91 (d, *J*= 6.5 Hz, 6H), 1.33 (t, *J*= 7.1Hz, 3H), 1.36-1.42 (m, 1H), 1.68-1.75 (m, 1H), 1.85-1.95 (m, 1H), 2.55 (s, 3H), 2.90 (brs, 1H), 3.78-3.81 (m, 2H), 4.02 (d, *J*= 10.6 Hz, 1H), 4.15-4.20 (m, 1H), 4.31-4.37 (m, 2H), 6.77-6.79 (m, 2H), 7.00-7.04 (m, 2H), 7.06-7.08 (m, 1H), 7.18 (dd, J_1= 2.0 Hz, J_2= 7.9 Hz 1H), 7.44 (d, *J*= 8.1 Hz, 1H), 8.01 (d, *J*= 2.0 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.2, 13.7, 22.9, 23.5, 26.0, 26.3, 50.5, 58.1, 59.8, 61.6, 62.7, 64.4, 78.8, 116.6, 124.9, 126.0, 128.0, 128.1, 128.2, 133.2, 134.5, 140.5, 168.5, 170.0, 170.5, 175.2; Enantiomeric excess: 91%, determined by HPLC (Daicel Chirapak AD-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 6.14 min(major), t_R = 6.97 min(minor); IR (KBr): γ 3351, 3068, 2955, 1762, 1706, 1600, 1467, 1373, 1280, 1210, 746, 696, 613; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{33}ClN_2O_6)^+$ requires m/z 540.2027, found m/z 540.2021.

Diethyl-1-acetyl-5'-isobutyl-6-methyl-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**8f**), 93 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 18/1-5/1), 89% yield, white solid, m.p. 128-130^{o}C; $[a]_D^{25}$ = + 40.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.73 (t, *J*= 7.1 Hz, 3H), 0.88-0.91 (m, 6H), 1.30-1.40 (m, 4H), 1.70-1.75 (m, 1H), 1.85-1.90 (m, 1H), 2.30 (s, 3H), 2.54 (s, 3H), 2.90 (brs, 1H), 3.69-3.77 (m, 2H), 4.03 (d, *J*= 10.7 Hz, 1H), 4.15-4.20 (m, 1H), 4.32-4.35 (m, 2H), 6.77-6.79 (m, 2H), 6.97-7.01 (m, 3H), 7.04-7.06 (m, 1H), 7.35 (d, *J*= 7.7 Hz, 1H), 7.78 (d, *J*= 0.8 Hz 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.2, 14.0, 14.1, 21.9, 22.0, 23.6, 26.1, 26.5, 44.0, 58.3, 59.9, 61.5, 62.6, 64.7, 79.0, 116.7,

123.7, 124.3, 125.5, 127.8, 128.0, 128.5, 133.7, 139.0, 139.9, 168.8, 170.4, 170.8, 176.0; Enantiomeric excess: 93%, determined by HPLC (Daicel Chirapak 1-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 6.81 min(major), t_R = 6.39 min(minor); IR (KBr): γ 3358, 3062, 2955, 1756, 1700, 1618, 1492, 1379, 1285, 1217, 809, 701, 633; HRMS (FT-ICRMS) exact mass calcd for $(C_{30}H_{36}N_2O_6)^+$ requires m/z 520.2573, found m/z 520.2575.

Diethyl-1-acetyl-5-chloro-5'-(4-nitrophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**8g**), 110 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 91% yield, white solid, m.p. 78-80^{o}C; $[a]_D^{25}$ = + 176.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.79 (t, *J*= 7.1 Hz, 3H), 1.35 (t, *J*= 7.1Hz, 3H), 2.54 (s, 3H), 3.67 (brs, 1H), 3.84-3.89 (m, 2H), 4.38-4.43(m, 2H), 4.46(d, *J*= 10.9 Hz, 1H), 5.35-5.42 (d, *J*= 10.9 Hz, 1H), 6.79 (d, *J*= 7.2 Hz, 2H), 7.00-7.04 (m, 2H), 7.07-7.09 (d, *J*= 7.2 Hz, 1H), 7.28-7.29 (m, 1H), 7.47 (d, *J*= 2.1 Hz, 1H), 7.82 (d, *J*= 8.7 Hz 2H), 7.95 (d, *J*= 8.7 Hz 1H), 8.06-8.09 (m, 2H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.2, 14.1, 26.4, 61.9, 62.3, 62.9, 63.3, 64.9, 77.8, 117.5, 123.4, 123.5, 128.3, 128.4, 128.5, 128.6, 128.8, 129.3, 130.5, 131.3, 138.3, 147.6, 148.5, 168.3, 169.6, 169.9, 174.2; Enantiomeric excess: 92%, determined by HPLC (Daicel Chirapak 1-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 19.41 min(major), t_R = 6.20 min(minor); IR (KBr): γ 3376, 3068, 2987, 2930, 1762, 1724, 1606, 1518, 1474, 1348, 1304, 858, 821, 739, 701, 608; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{28}ClN_3O_8)^+$ requires m/z 605.1565, found m/z 605.1559.

Diethyl-1-acetyl-6-chloro-5'-(4-nitrophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**8h**), 104 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 15/1- 5/1), 86% yield white solid, m.p. 97-99^{o}C; $[a]_D^{25}$ = + 156.0 (c= 0.10 in CHC_3l); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.80 (t, *J*= 7.2 Hz, 3H), 1.35 (t, *J*= 7.1Hz, 3H), 2.54 (s, 3H), 3.60 (brs, 1H), 3.75-3.90 (m, 2H), 4.38-4.42 (m, 2H), 4.46 (d, *J*= 10.8 Hz, 1H), 5.30 (d, *J*= 10.8 Hz, 1H), 6.76-6.78 (m, 2H), 7.00-7.04 (m, 2H), 7.08-7.10 (m, 1H), 7.25-7.27 (m, 1H), 7.39-7.41 (d, *J*= 8.0 Hz, 1H), 7.80 (dd, J_1= 2.0 Hz, J_2= 6.8 Hz 2H), 8.08 (m, 3H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.2, 14.0, 26.4, 61.8, 62.3, 62.9, 63.5, 64.8, 77.9, 117.0, 123.5, 124.2, 125.0, 125.3, 128.4, 128.5, 128.7, 131.4, 135.2, 140.7, 147.6, 148.6, 168.4, 169.6, 170.0, 174.4; Enantiomeric excess: 91%, determined by HPLC (Daicel Chirapak AD-H, hexane/ isopropanol = 85/ 15, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 13.77 min(major), t_R = 8.94 min(minor); IR (KBr): γ 3433, 3074, 2975, 2924, 1756, 1731, 1600, 1518, 1342, 1291, 852, 746, 701, 613; HRMS (FT-ICRMS) exact

mass calcd for $(C_{31}H_{28}ClN_3O_8)^+$ requires m/z 605.1565, found m/z 605.1571.

Diethyl-1-acetyl-6-chloro-4'-(3-chlorophenyl)-5-fluoro-5'-isobutyl-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**8i**), 87 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 20/1- 5/1), 73% yield, white solid, m.p. 102-104^{o}C; $[a]_D^{25}$ = + 41.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.89 (t, *J*= 7.1 Hz, 3H), 0.93 (m, 6H), 1.33 (t, *J*= 7.1 Hz, 3H), 1.42-1.47 (m, 1H), 1.60-1.70 (m, 1H), 1.92-1.97 (m, 1H), 2.57 (s, 3H), 2.80 (brs, 1H), 3.85-3.90 (q, 2H), 3.96 (d, *J*= 10.4 Hz, 1H), 4.03-4.05 (m, 1H), 4.31-4.36 (m, 2H), 6.65 (d, *J*= 7.8 Hz, 1H), 6.85 (s, 1H), 7.96-7.00 (m, 1H), 7.08-7.11(m, 1H), 7.35 (d, *J*= 8.2 Hz, 1H), 8.12 (d, *J*= 6.8 Hz 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.4, 13.9, 22.0, 23.5, 26.1, 26.3, 43.9, 57.9, 59.2, 61.9, 62.9, 64.3, 78.7, 112.6 (d, *J*= 24.7 Hz), 118.4, 121.2 (d, *J*= 18.3 Hz), 125.8, 127.4 (d, *J*= 7.2 Hz), 128.4, 128.8, 129.6, 134.3, 135.3, 136.1, 155.5 (d, *J*= 246.0 Hz), 168.0, 169.8, 170.4, 174.6. Enantiomeric excess: 86%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 97/ 3, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 5.88 min(major), t_R = 4.47 min(minor); IR (KBr): γ 3351, 3131, 2962, 1756, 1713, 1600, 1467, 1373, 1280, 1223, 883, 789, 689, 620; HRMS (FT-ICRMS) exact mass calcd for $(C_{29}H_{31}Cl_2FN_2O_6)^+$ requires m/z 592.1543, found m/z 605.1551.

Diethyl-1-acetyl-6-chloro-4'-(3-chlorophenyl)-5-fluoro-5'-neopentyl-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**8j**), 97 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 20/1- 5/1), 80% yield, white solid, m.p. 120-122^{o}C; $[a]_D^{25}$ = + 50.4 (c= 0.24 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.88 (t, *J*= 7.2 Hz, 3H), 0.98 (s, 9H), 1.32 (t, *J*= 7.1Hz, 3H), 1.31 (d, *J*= 14.0 Hz, 1H), 2.00 (dd, J_1= 8.94, J_2= 14.0 Hz 1H), 2.57 (s, 3H), 2.58 (brs, 1H), 3.84-3.90 (q, 2H), 3.95 (d, *J*= 10.7 Hz, 1H), 4.01-4.05 (m, 1H), 4.31-4.36 (m, 2H), 6.64 (d, *J*= 7.8 Hz, 1H), 6.85-6.86 (m, 1H), 6.96-7.00 (m, 1H), 7.08-7.11 (m, 1H), 7.37 (d, *J*= 8.2 Hz, 1H), 8.13 (d, *J*= 6.6 Hz, 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.4, 13.9, 26.3, 30.0, 30.6, 48.4, 56.8, 59.5, 61.8, 62.9, 63.4, 79.2, 112.6 (d, *J*= 24.7 Hz), 118.4, 121.1 (d, *J*= 18.4 Hz), 126.0, 127.5 (d, *J*= 7.2 Hz), 128.4, 129.0, 129.6 134. 3, 134.9, 136.1 (d, *J*= 2.9 Hz), 155.5 (d, *J*= 246.0 Hz), 168.0, 169.8, 170.6, 174.7; Enantiomeric excess: 88%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 98/ 2, flow rate 1.0 mL/min, T = 30 ^{o}C, 254 nm): t_R = 5.25 min(major), t_R = 4.25 min(minor); IR (KBr): γ 3389, 3131, 2962, 1756, 1731, 1600, 1467, 1367, 1298, 1223, 784, 708, 613; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{26}Cl_2FN_3O_8)^+$ requires m/z 606.1700, found m/z. 606.1696.

Diethyl-1-acetyl-6-chloro-5-fluoro-5'-(4-nitrophenyl)-2-oxo-4'-phenylspiro[indoline-3,3'-pyrrol

idine]-2',2'-dicarboxylate (**8k**), 114 mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 18/1- 5/1), 91% yield, white solid, m.p. 135-137°C; $[a]_D^{25}$ = + 146.0 (c= 0.10 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.86 (t, *J*= 7.2 Hz, 3H), 1.35 (t, *J*= 7.1Hz, 3H), 2.54 (s, 3H), 3.58 (brs, 1H), 3.83-3.96 (m, 2H), 4.37-4.43 (m, 2H), 4.47 (d, *J*= 10.8 Hz, 1H), 5.29 (d, *J*= 10.8 Hz, 1H), 6.80-6.82 (m, 2H), 7.03-7.07 (m, 2H), 7.10-7.12 (m, 1H), 7.32 (d, *J*= 8.4 Hz, 1H), 7.80-7.83 (m, 2H), 8.02-8.11 (m, 2H), 8.16 (d *J*= 6.8 Hz 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.3, 14.0, 26.3, 61.6, 62.4, 63.0, 63.2, 64.8, 77.9, 112.1(d *J*= 24.0 Hz), 118.7, 121.6 (d *J*= 18.0 Hz), 123.6, 127.0 (d *J*= 7.0 Hz), 128.4, 128.5, 128.6, 128.8, 131.2, 136.2, 147.7, 148.1, 155.5 (d *J*= 246.0 Hz), 168.1, 169.5, 169.8, 174.0; Enantiomeric excess: 89%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 °C, 254 nm): t_R = 17.98 min(major), t_R = 5.89 min(minor); IR (KBr): γ 3383, 3125, 2980, 1756, 1731, 1600, 1524, 1480, 1342, 1285, 1229, 858, 701, 613; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{27}ClFN_3O_8)^+$ requires m/z 623.1471, found m/z 623.1467.

Diethyl-1-acetyl-6-chloro-4'-(3-chlorophenyl)-5-fluoro-5'-(4-nitrophenyl)-2-oxospiro[indoline-3,3'-pyrrolidine]-2',2'-dicarboxylate (**8l**), 124mg (Flash column chromatography eluent, petroleum ether/ethyl acetate = 18/1- 5/1), 94% yield, white solid, m.p. 71-73°C; $[a]_D^{25}$ = + 144.6 (c= 0.15 in $CHCl_3$); ^{1}H-NMR ($CDCl_3$, 400 MHz) δ (ppm): 0.87 (t, *J*= 7.2 Hz, 3H), 1.35 (t, *J*= 7.1Hz, 3H), 2.57 (s, 3H), 3.57 (brs, 1H), 3.84-3.96 (m, 2H), 4.37-4.45 (m, 3H), 5.24 (d, *J*= 10.8 Hz, 1H), 6.70 (d, *J*= 8.0 Hz, 1H), 6.82-6.83 (m, 1H), 6.98-7.02 (m, 1H), 7.09-7.12 (m, 1H), 7.31 (d, *J*= 8.0 Hz, 1H), 7.82-7.84 (m, 2H), 8.11-8.13 (m, 2H), 8.19 (d *J*= 6.8 Hz 1H); ^{13}C-NMR ($CDCl_3$, 100 MHz) δ (ppm): 13.3, 14.0, 26.3, 61.0, 62.5, 63.1, 64.6, 77.9, 112.0 (d *J*= 24.0 Hz), 118.8, 121.9 (d *J*= 19.0 Hz), 123.7, 126.1, 126.5 (d *J*= 7.0 Hz), 128.5, 128.9, 129.0, 129.8, 133.4, 134.5, 136.1, 147.6, 147.8, 155.5 (d *J*= 247.0 Hz), 168.0, 169.4, 169.8, 173.8; Enantiomeric excess: 87%, determined by HPLC (Daicel Chirapak IA-H, hexane/ isopropanol = 70/ 30, flow rate 1.0 mL/min, T = 30 °C, 254 nm): t_R = 20.63 min(major), t_R = 5.56 min(minor); IR (KBr): γ 3426, 3131, 3026, 2987, 2937, 1756, 1719, 1600, 1518, 1480, 1342, 1285, 1229, 852, 701, 608; HRMS (FT-ICRMS) exact mass calcd for $(C_{31}H_{26}Cl_2FN_3O_8)^+$ requires m/z 657.1081, found m/z.657.1081.

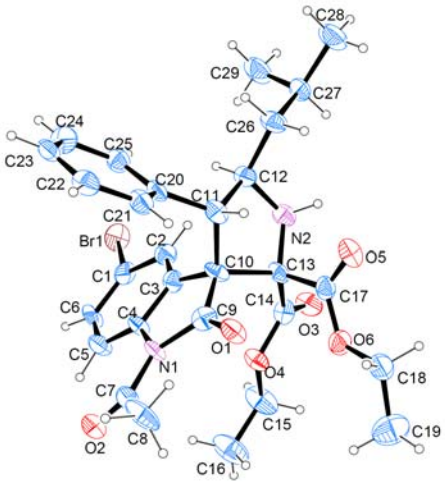
Reference:

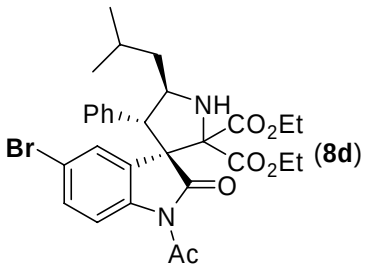
(1) (a) Milanesio, M.; Viterbo, D.; Albini, A.; Fasani, E.; Bianchi, R.; Barzaghi, M. *J. Org. Chem.* **2000**, *65*, 3416. b) Ding, K.; Wang, G.; Deschamps, J. R.; Parrish, D. A.; Wang, S. *Tetrahedron.*

Lett. **2005**, *46*, 5949.

(2) (a) Simonsen, K. B.; Gothelf, K. V.; Jørgensen, K. A. *J. Org. Chem.* **1998**, *63*, 7536. (b) Wipf, P.; Jung, J. K. *J. Org. Chem.* **2000**, 65, 6319. (c) Storer, R. I.; Carrera, D. E.; Ni, Y.; MacMillan, D. W. C. *J. Am. Chem. Soc.* **2006**, *128*, 84. (d) Reuping, M.; Sugiono, E.; Azap, C.; Theissmann, T.; Bolte, M. *Org. Lett.* **2005**, *7*, 378. (e) Hoffman, S.; Seayad, A. M.; List, B. *Angew. Chem.Int. Ed.* **2005**, *44*, 7424.

X-ray single crystal data for 8d





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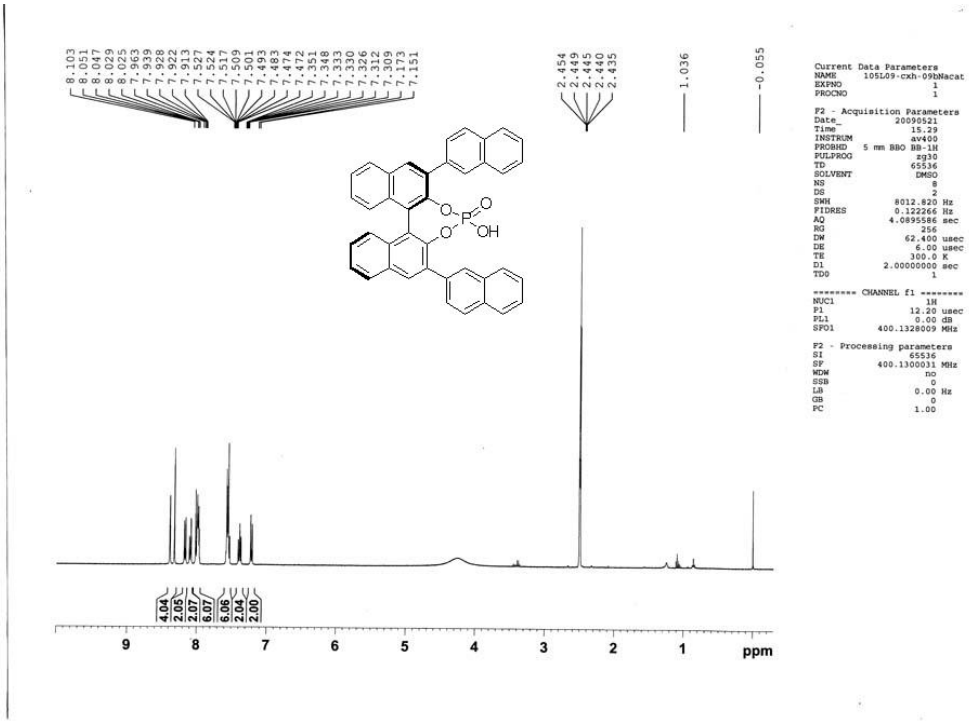
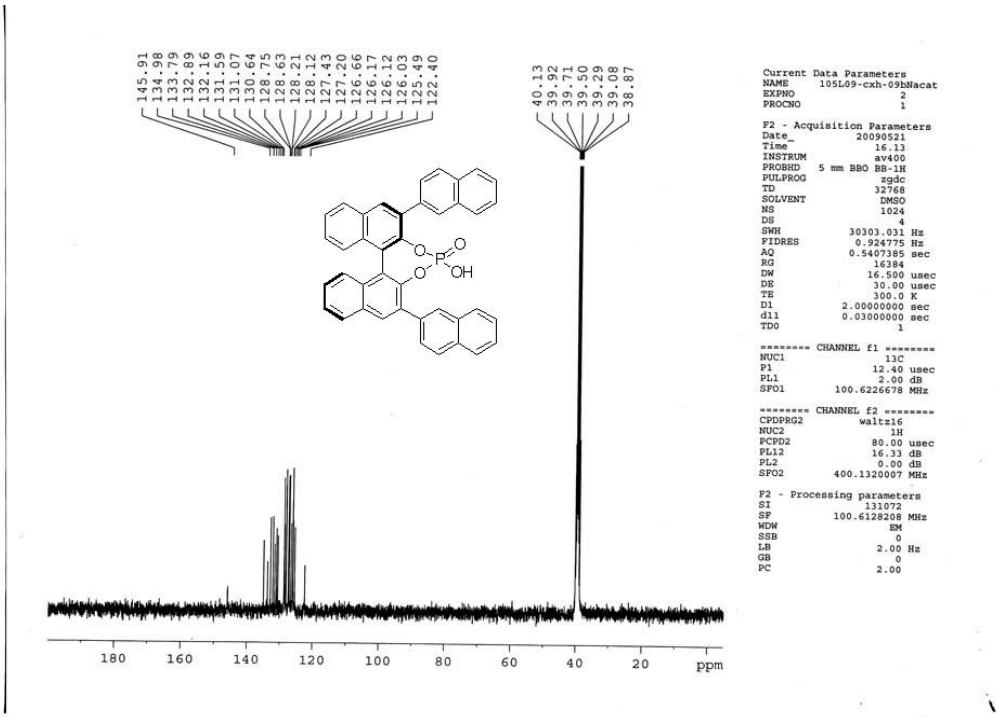
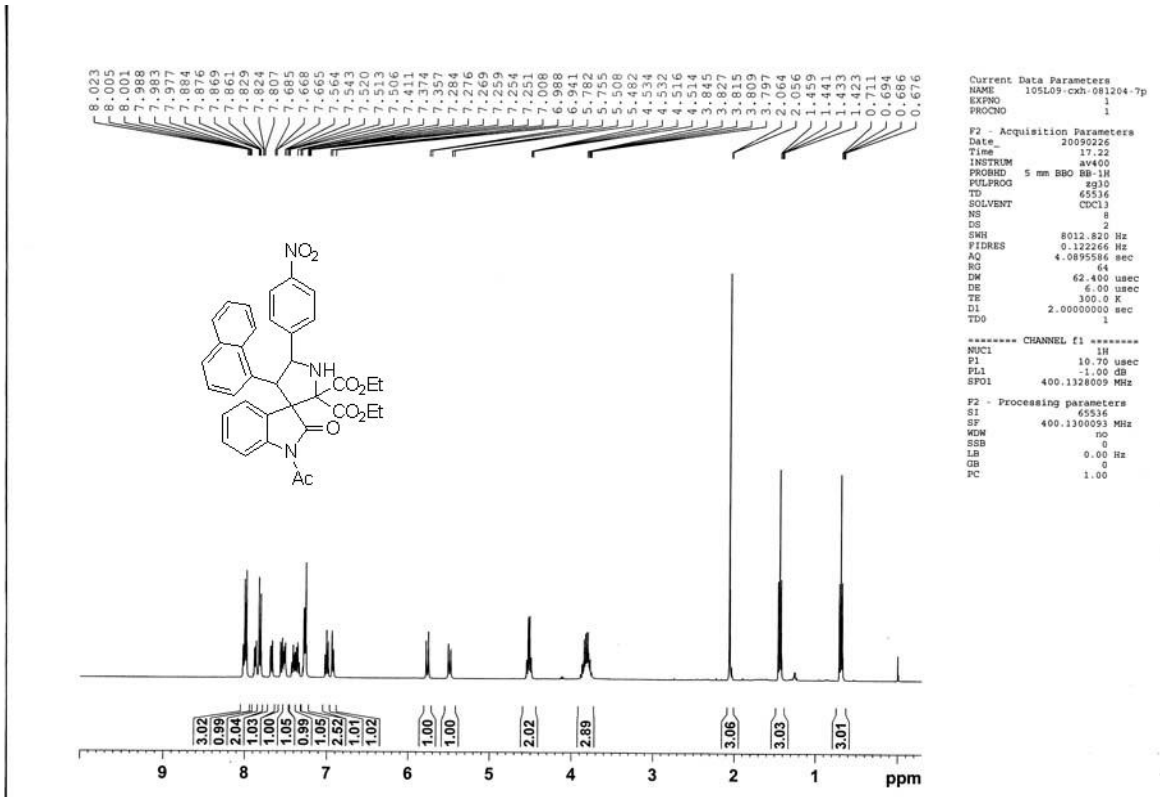
Selected NMR and HPLC Spectra





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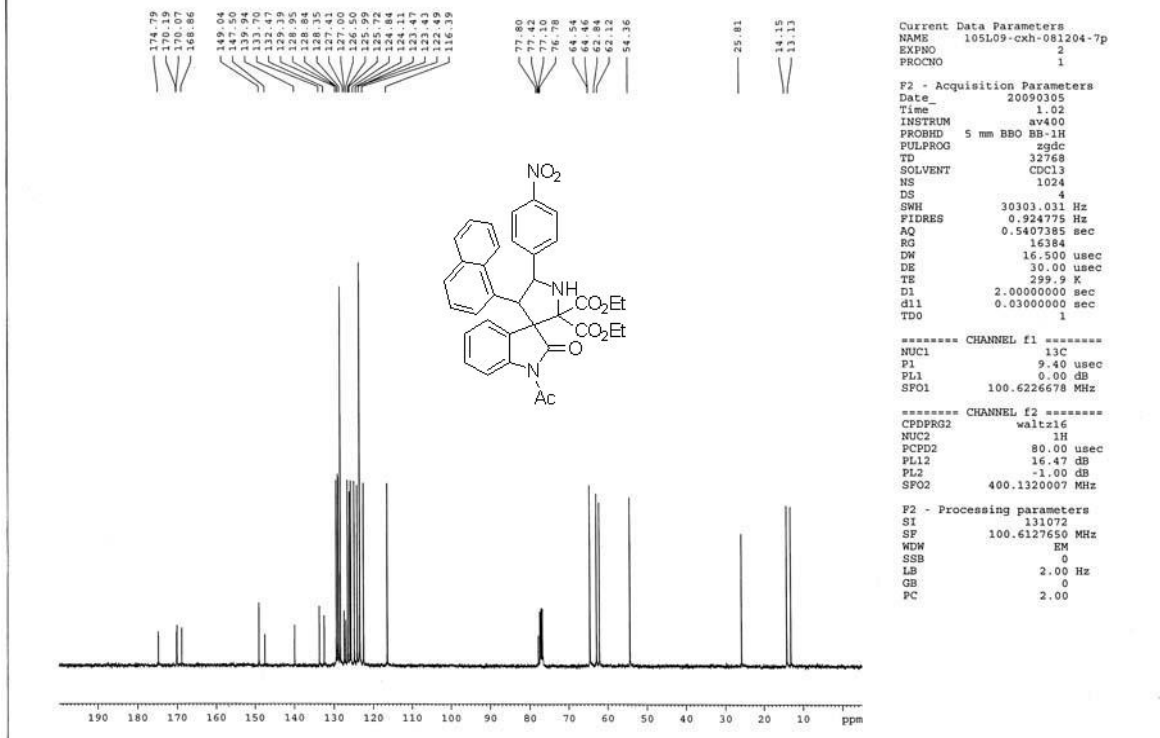


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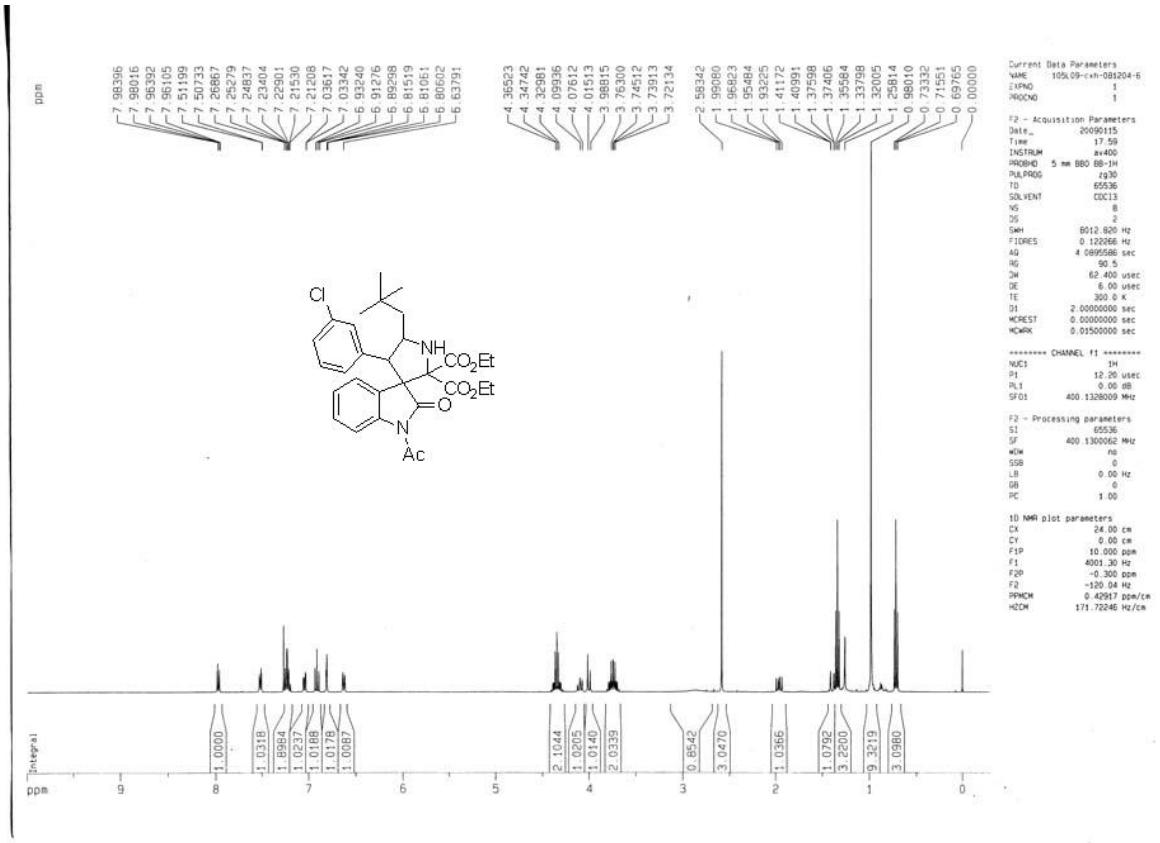
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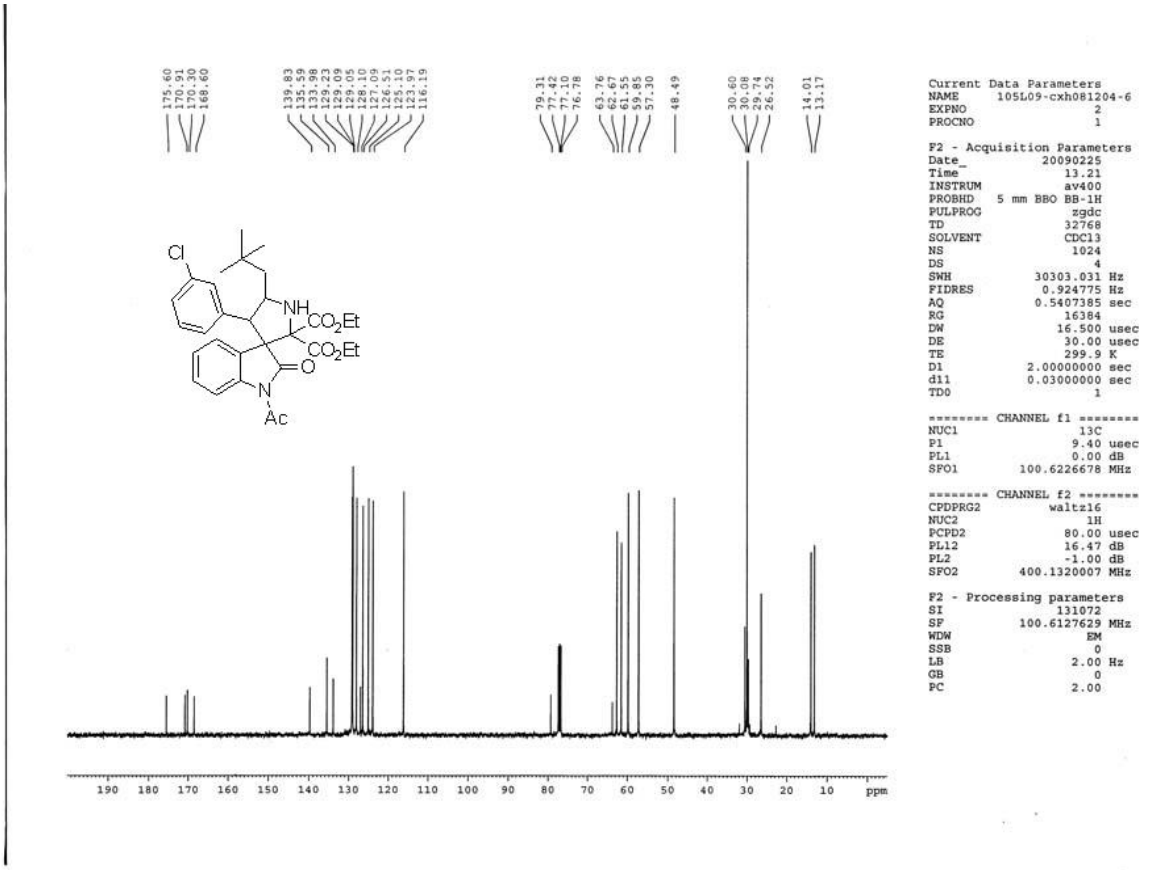
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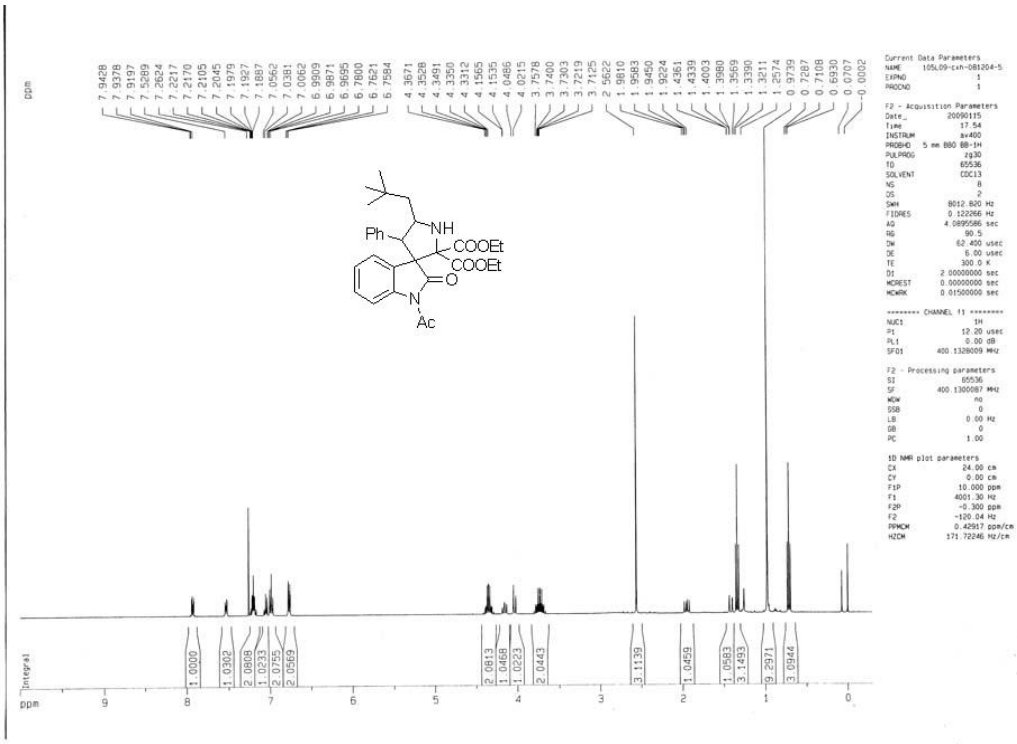
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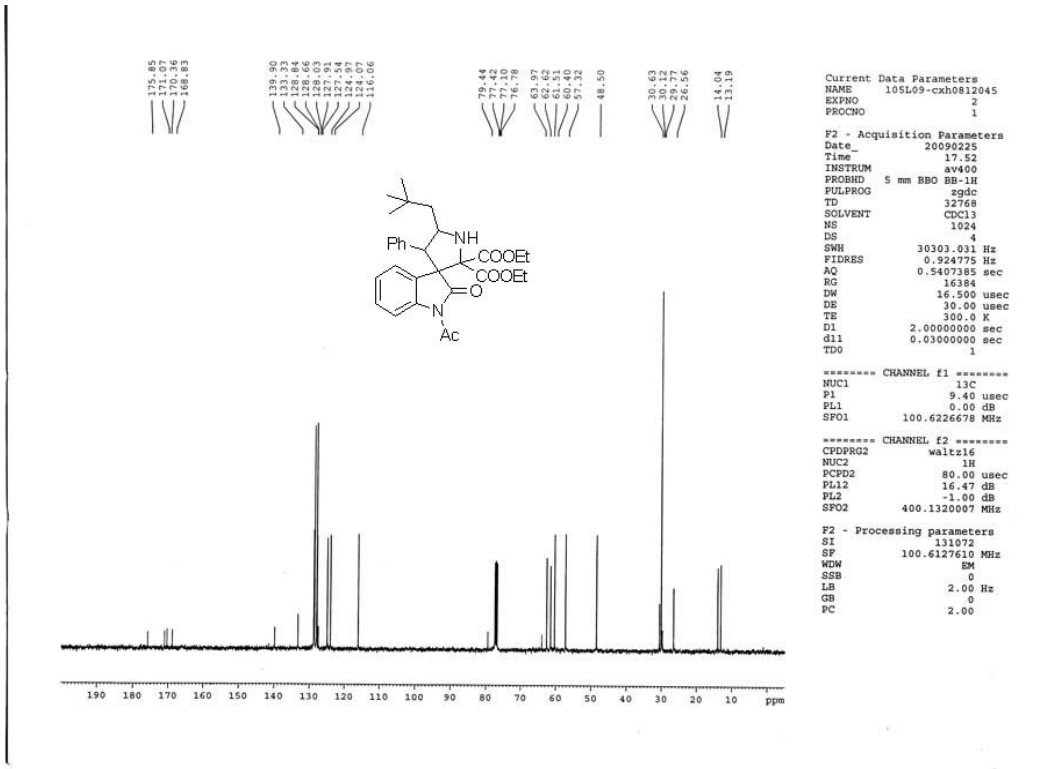
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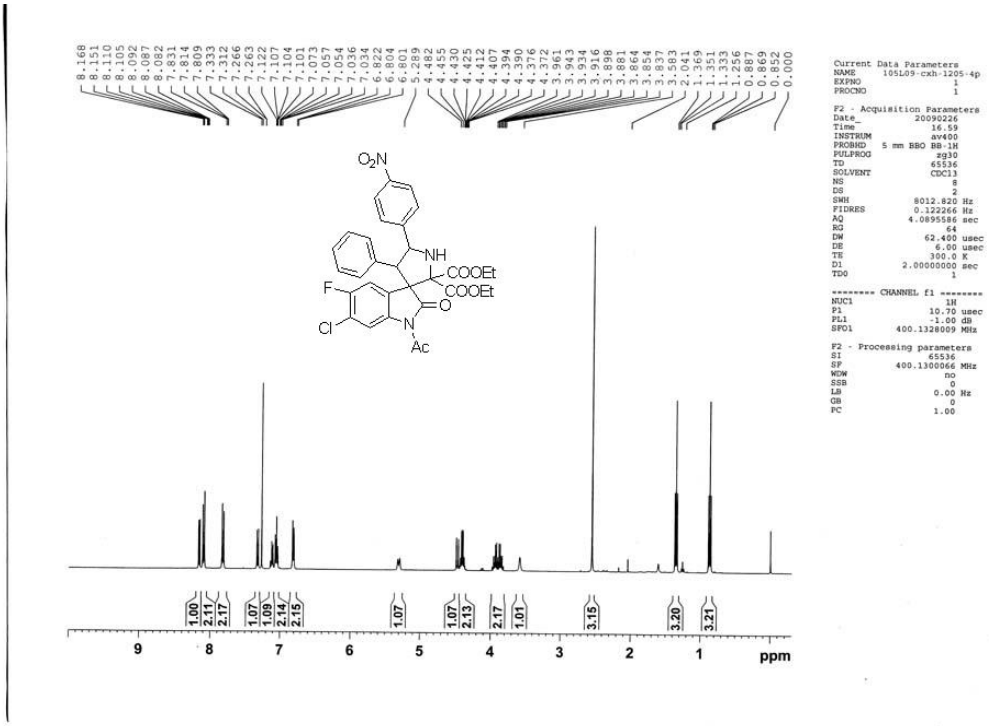
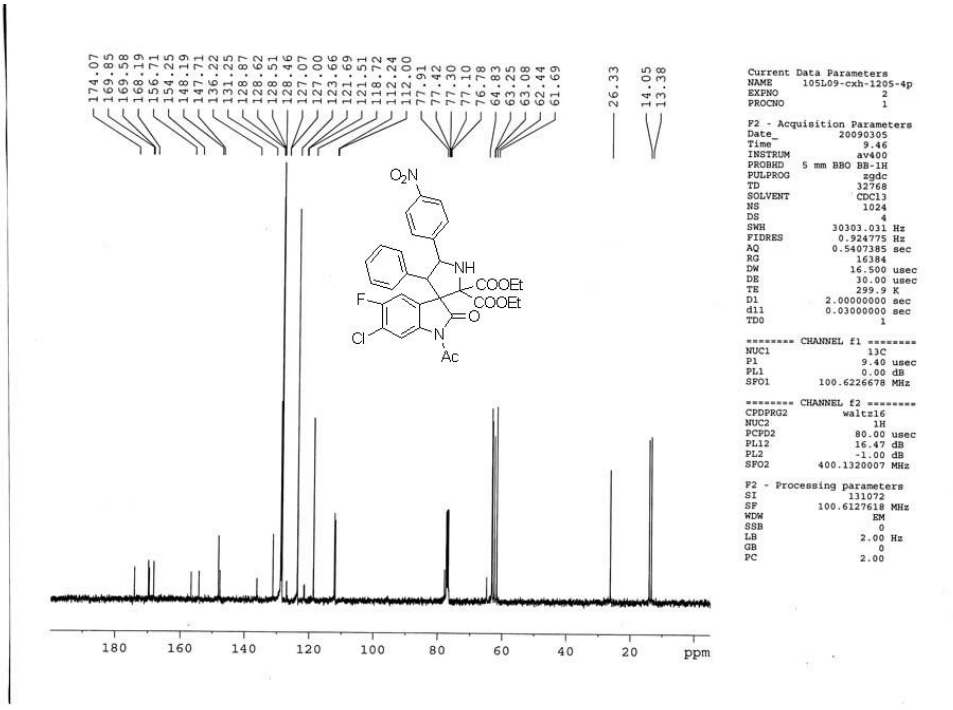

8.168
8.151
8.110
8.095
8.092
8.087
8.082
7.831
7.814
7.809
7.333
7.312
7.266
7.263
7.122
7.107
7.104
7.101
7.073
7.057
7.054
7.036
7.034
6.822
6.804
6.801
5.289
4.482
4.465
4.430
4.425
4.412
4.407
4.394
4.390
4.376
4.372
3.961
3.943
3.934
3.916
3.898
3.881
3.864
3.854
3.837
3.583
2.041
1.369
1.351
1.333
1.256
0.887
0.869
0.852
0.000
O2N
NH
COOEt
COOEt
F
O
Cl
N
Ac
1.00
2.11
2.17
1.07
1.09
2.14
2.15
1.07
1.07
2.13
2.17
1.01
3.15
3.20
3.21
9
8
7
6
5
4
3
2
1
ppm
Current Data Parameters
NAME 105L09-cxh-1205-4p
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20090226
Time 16.59
INSTRUM av400
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 8
DS 2
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0895586 sec
RG 64
DW 62.400 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.70 usec
PL1 -1.00 dB
SFO1 400.1328009 MHz
F2 - Processing parameters
SI 65536
SF 400.1300066 MHz
WDW no
SSB 0
LB 0.00 Hz
GB 0
PC 1.00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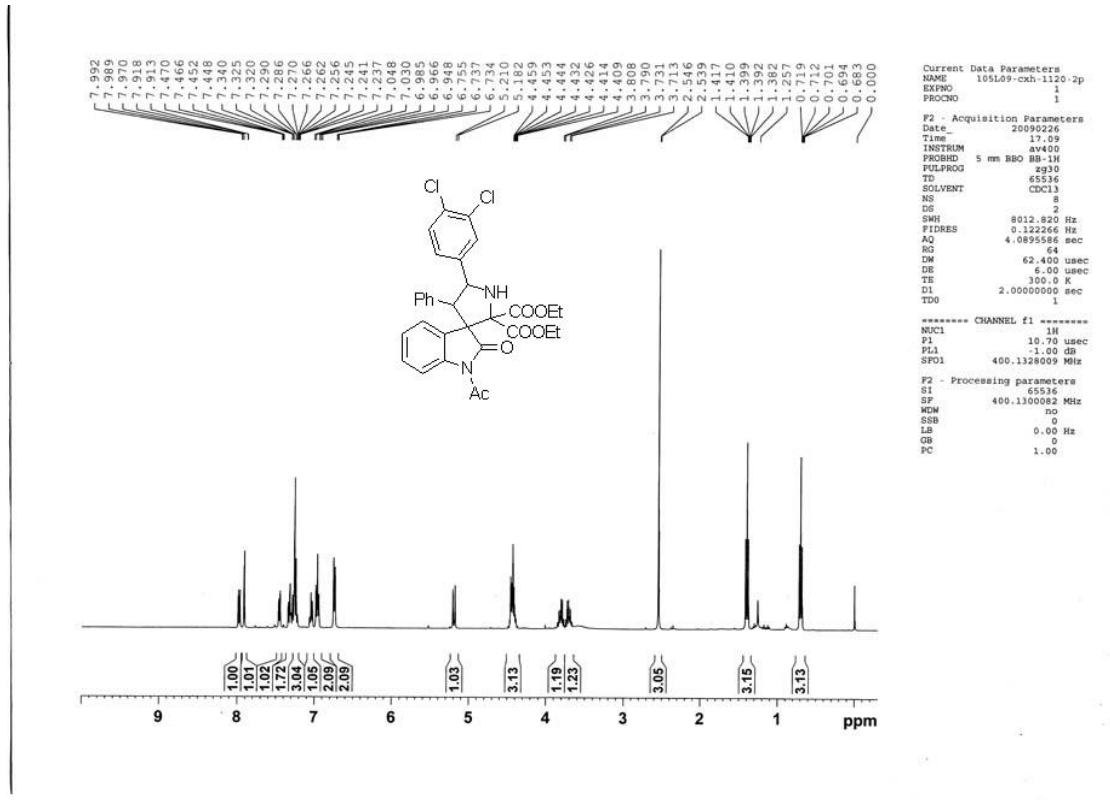
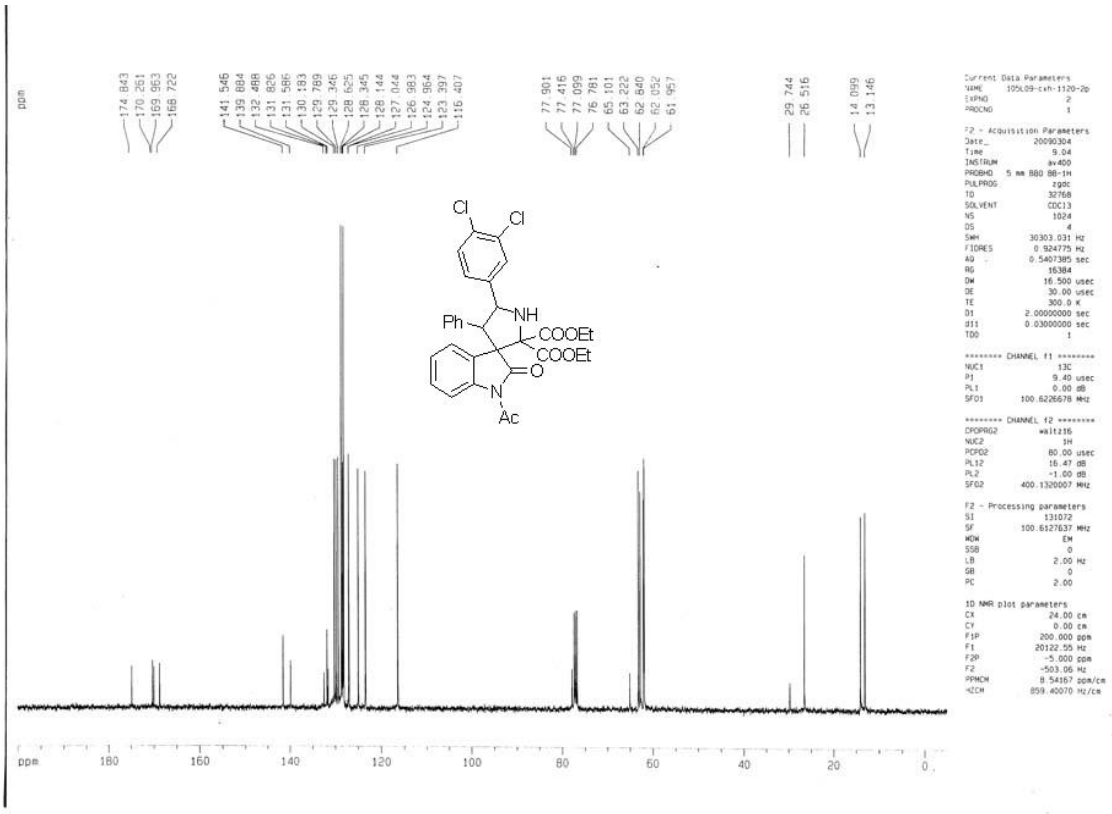
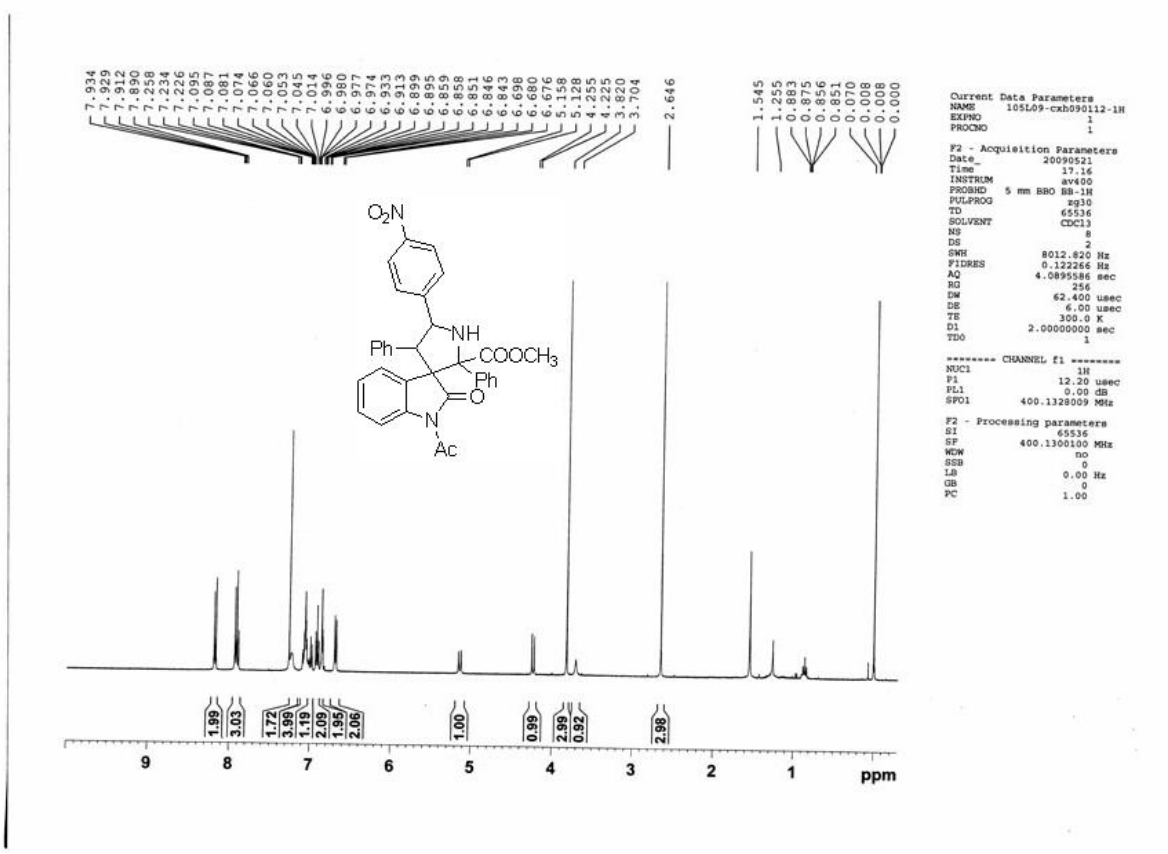
169.85
169.58
168.19
156.71
154.25
148.19
147.71
136.22
131.25
128.87
128.62
128.51
128.46
127.07
127.00
123.66
121.69
121.51
118.72
112.24
112.00
77.91
77.42
77.30
77.10
76.78
64.83
63.25
63.08
62.44
61.69
26.33
14.05
13.38
O2N
NH
COOEt
COOEt
F
O
Cl
N
Ac
180
160
140
120
100
80
60
40
20
ppm
Current Data Parameters
NAME 105L09-cxh-1205-4p
EXPNO 2
PROCNO 1
F2 - Acquisition Parameters
Date_ 20090305
Time 9.46
INSTRUM av400
PROBHD 5 mm BBO BB-1H
PULPROG zgdc
TD 32768
SOLVENT CDCl3
NS 1024
DS 4
SWH 30303.031 Hz
FIDRES 0.924775 Hz
AQ 0.5407385 sec
RG 16384
DW 16.500 usec
DE 30.00 usec
TE 299.9 K
D1 2.00000000 sec
d11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 9.40 usec
PL1 0.00 dB
SFO1 100.6226678 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL12 16.47 dB
PL2 -1.00 dB
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 131072
SF 100.6127618 MHz
WDW EM
SSB 0
LB 2.00 Hz
GB 0
PC 2.00


7.992
7.989
7.970
7.918
7.913
7.470
7.466
7.452
7.448
7.340
7.325
7.320
7.290
7.286
7.270
7.266
7.262
7.256
7.245
7.241
7.237
7.048
7.030
6.985
6.966
6.948
6.755
6.737
6.734
5.210
4.459
4.453
4.444
4.432
4.426
4.414
4.409
3.808
3.790
3.731
3.713
2.546
2.539
1.417
1.410
1.399
1.392
1.382
1.257
0.719
0.712
0.701
0.694
0.683
0.000
Cl
Cl
Ph
NH
COOEt
COOEt
O
N
Ac
1.00
1.01
1.02
1.72
3.04
1.05
2.09
2.09
1.03
3.13
1.19
1.23
3.05
3.15
3.13
9
8
7
6
5
4
3
2
1
ppm
Current Data Parameters
NAME 105L09-cxh-1120-2p
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20090226
Time 17.09
INSTRUM av400
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 8
DS 2
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0895586 sec
RG 64
DW 62.400 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 10.70 usec
PL1 -1.00 dB
SFO1 400.1328009 MHz
F2 - Processing parameters
SI 65536
SF 400.1300082 MHz
WDW no
SSB 0
LB 0.00 Hz
GB 0
PC 1.00


ppm
174.843
170.261
169.963
168.722
141.546
139.884
132.488
131.825
131.586
130.183
129.789
129.346
128.625
128.345
128.144
127.044
126.983
124.964
123.397
116.407
77.901
77.416
77.099
76.781
65.101
63.222
62.840
62.052
61.957
29.744
26.516
14.099
13.146
Cl
Cl
Ph
NH
COOEt
COOEt
O
N
Ac
ppm
180
160
140
120
100
80
60
40
20
0
Current Data Parameters
NAME 105L09-cxh-1120-2p
EXPNO 2
PROCNO 1
F2 - Acquisition Parameters
Date_ 20090304
Time 9.04
INSTRUM av400
PROBHD 5 mm BBO BB-1H
PULPROG zgdc
TD 32768
SOLVENT CDCl3
NS 1024
DS 4
SWH 30303.031 Hz
FIDRES 0.924775 Hz
AQ 0.5407385 sec
RG 16384
DW 16.500 usec
DE 30.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 9.40 usec
PL1 0.00 dB
SFO1 100.6228678 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL12 16.47 dB
PL2 -1.00 dB
SFO2 400.1320007 MHz
F2 - Processing parameters
SI 131072
SF 100.6127637 MHz
WDW EM
SSB 0
LB 2.00 Hz
GB 0
PC 2.00
1D NMR plot parameters
CX 24.00 cm
CY 0.00 cm
F1P 200.000 ppm
F1 20122.55 Hz
F2P -5.000 ppm
F2 -503.06 Hz
PPMCM 8.54167 ppm/cm
HZCM 859.40070 Hz/cm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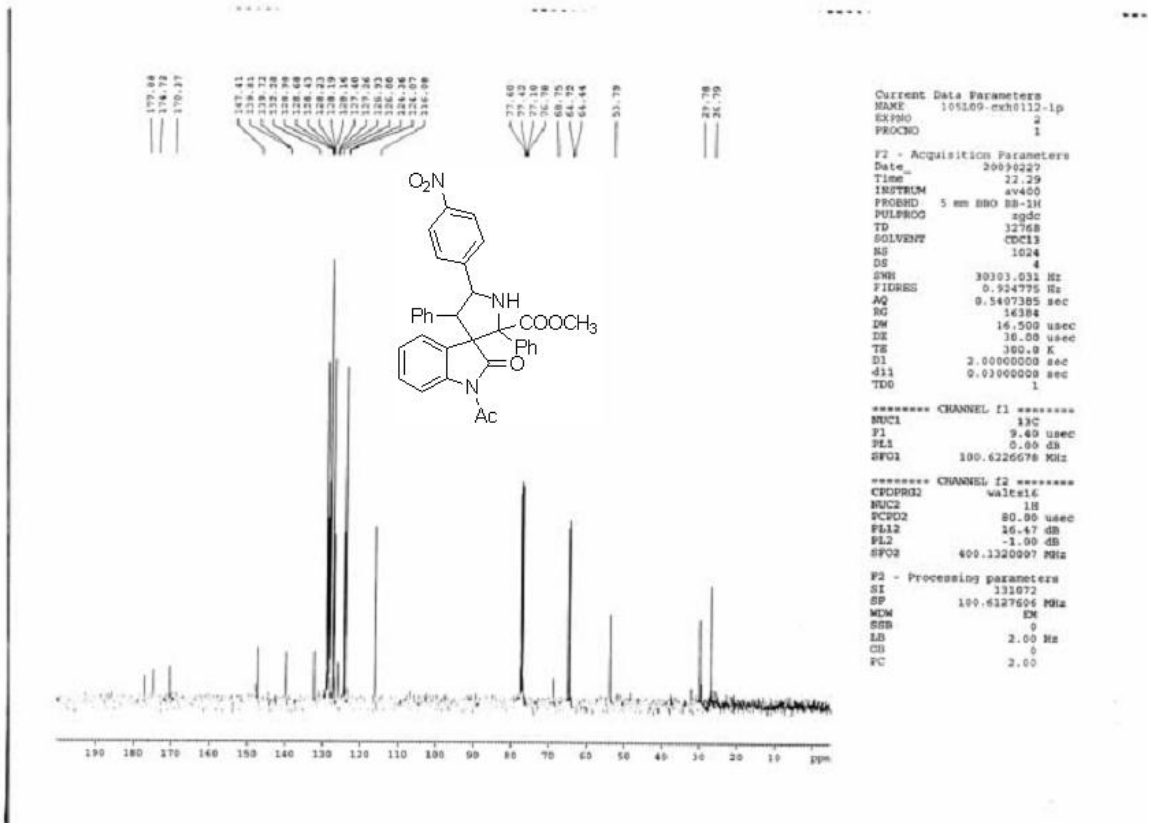
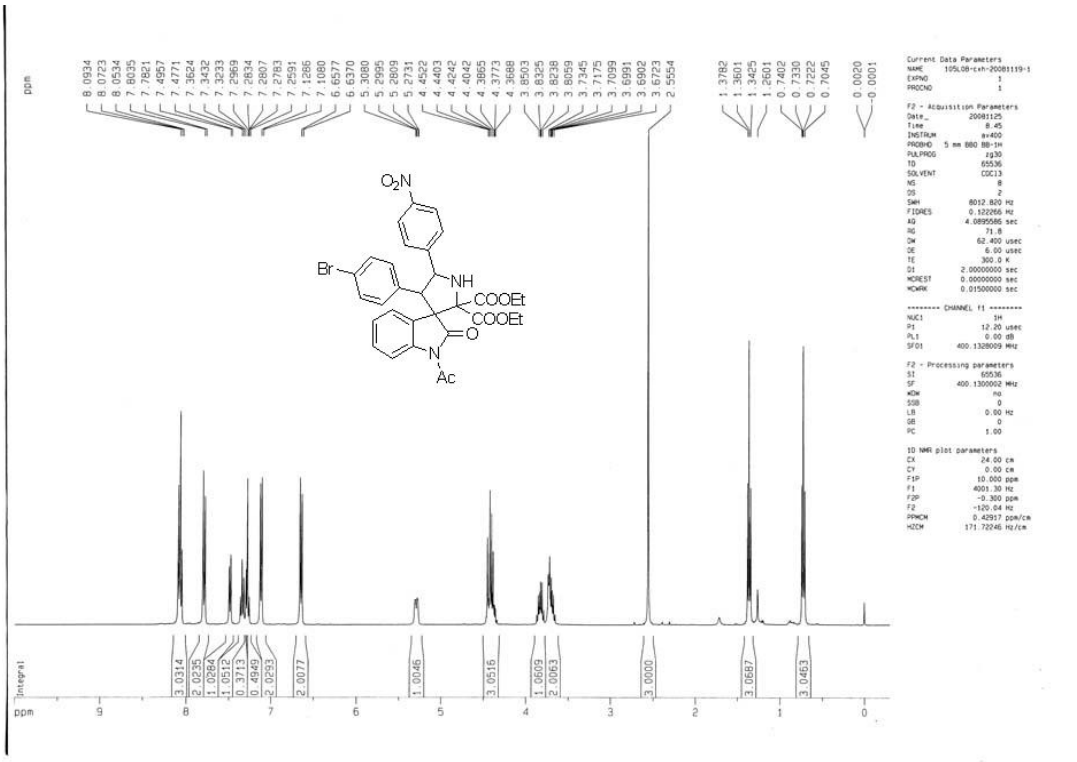
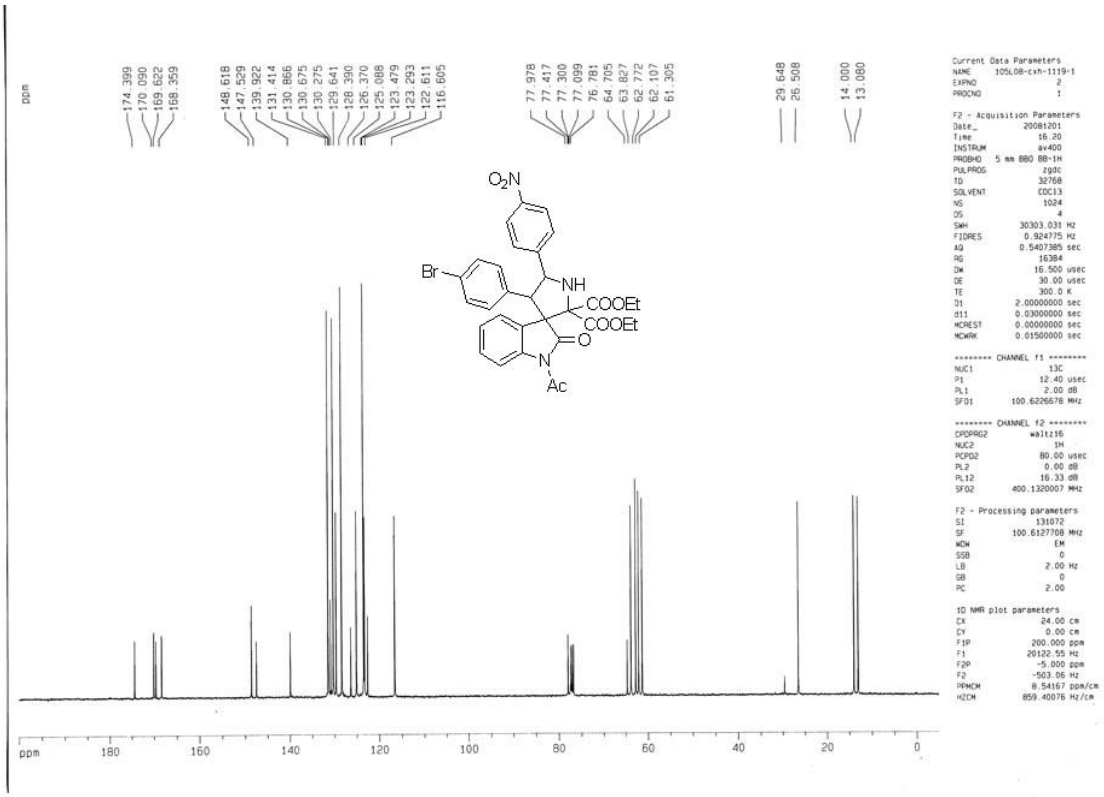
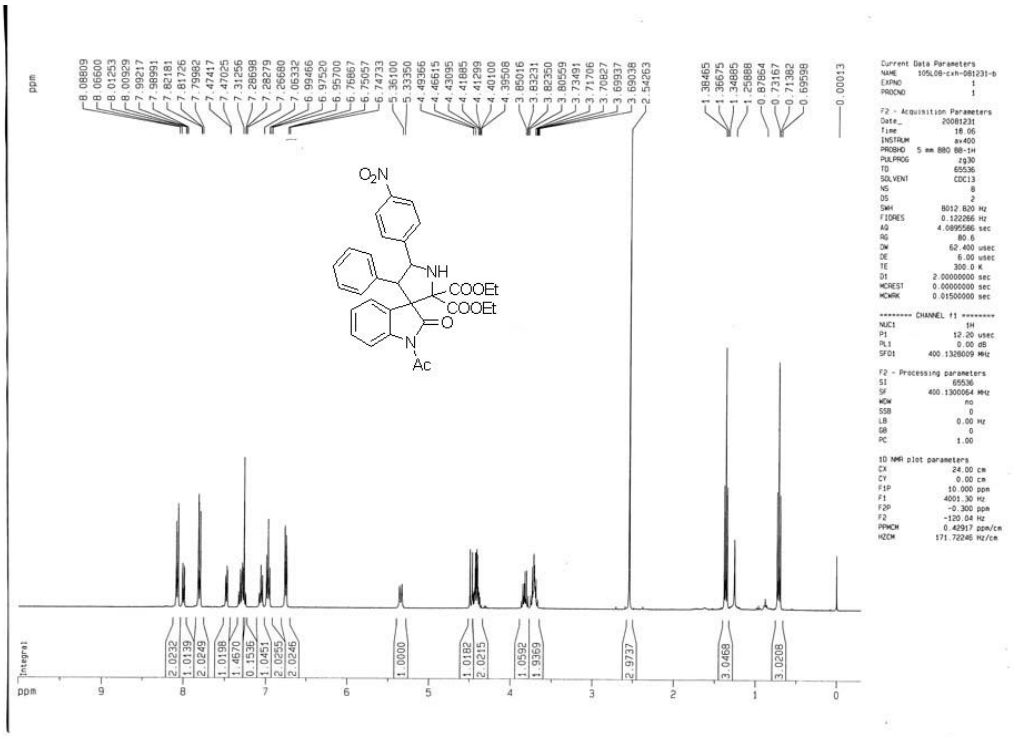
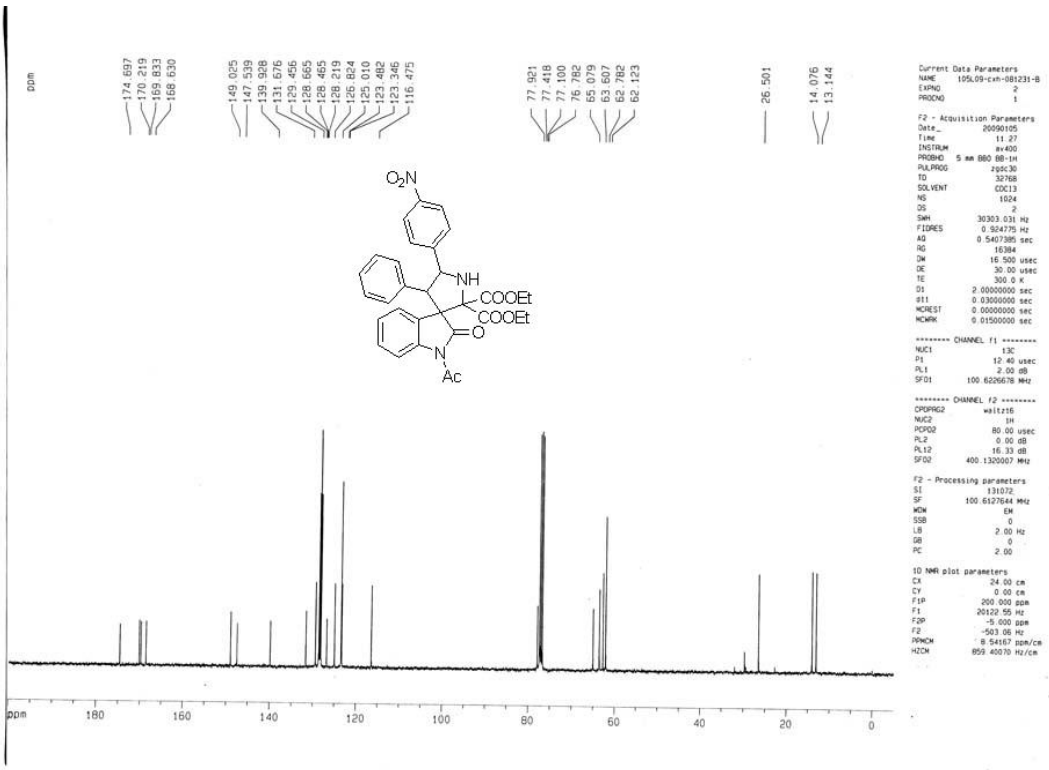
7.912
7.890
7.258
7.234
7.226
7.095
7.087
7.081
7.074
7.066
7.060
7.053
7.045
7.014
6.996
6.980
6.977
6.974
6.933
6.913
6.899
6.895
6.859
6.858
6.851
6.846
6.843
6.698
6.680
6.676
5.158
5.128
4.255
4.225
3.820
3.704
2.646
1.545
1.255
0.883
0.875
0.856
0.851
0.070
0.008
0.008
0.000
O2N
NH
Ph
COOCH3
Ph
O
N
Ac
1.99
3.03
1.72
3.99
1.19
2.09
1.95
2.06
1.00
0.99
2.99
0.92
2.98
9
8
7
6
5
4
3
2
1
ppm
Current Data Parameters
NAME 105L09-cxh090112-1H
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20090521
Time 17.16
INSTRUM av400
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 8
DS 2
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0895586 sec
RG 256
DW 62.400 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 1H
P1 12.20 usec
PL1 0.00 dB
SFO1 400.1328009 MHz
F2 - Processing parameters
SI 65536
SF 400.1300100 MHz
WDW no
SSB 0
LB 0.00 Hz
GB 0
PC 1.00

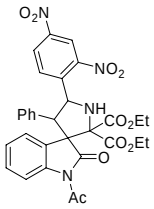

179.68
174.72
170.37
147.41
139.41
139.72
77.40
77.19
76.78
68.75
64.72
64.44
53.79
27.78
26.79
O2N
NH
Ph
COOCH3
Ph
O
N
Ac
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
ppm
Current Data Parameters
NAME 105L09-cxh0112-1p
EXPNO 2
PROCNO 1
F2 - Acquisition Parameters
Date_ 20090227
Time 22.29
INSTRUM av400
PROBHD 5 mm BBO BB-1H
PULPROG zgdc
TD 32768
SOLVENT CDCl3
NS 1024
DS 4
SWH 30303.031 Hz
FIDRES 0.924775 Hz
AQ 0.5407385 sec
RG 16384
DW 16.500 usec
DE 30.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 9.40 usec
PL1 0.00 dB
SFO1 100.6226678 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL12 16.47 dB
PL2 -1.00 dB
SFO2 400.1320097 MHz
F2 - Processing parameters
SI 131072
SF 100.6127696 MHz
WDW EM
SSB 0
LB 2.00 Hz
GB 0
PC 2.00









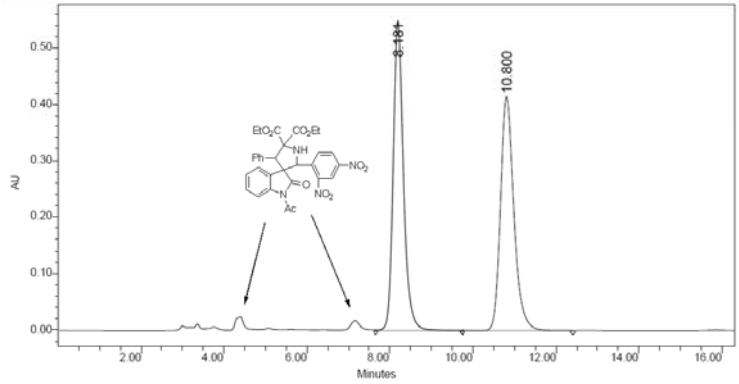


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-2,4-diNO2-DL-IA30%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	10/20/2008 10:01:27 PM
Vial:	1	Acq. Method:	chenxh30
Injection #:	1	Date Processed:	10/21/2008 3:21:58 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



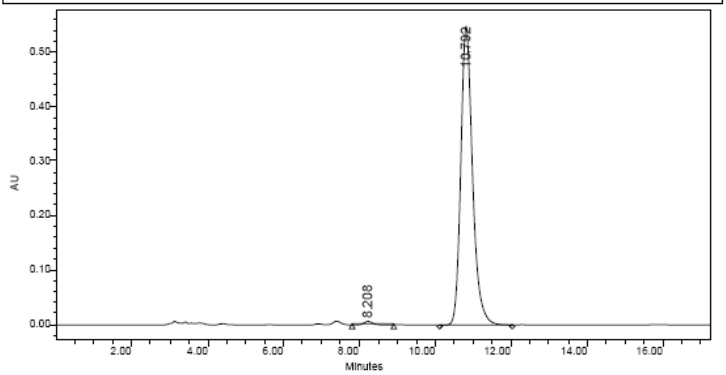
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	8.181	9471342	50.40	549163	56.93
2	10.800	9320092	49.60	415430	43.07

USTC
Project Name: chenxh
Reported by User: System

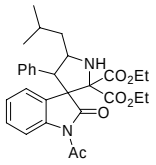
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-20081015-5-2,4-2NO2-IA30%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	10/21/2008 2:40:14 AM
Vial:	1	Acq. Method:	chenxh30
Injection #:	1	Date Processed:	10/21/2008 8:57:43 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	8.208	101167	0.85	6341	1.14
2	10.792	11813625	99.15	548368	98.86

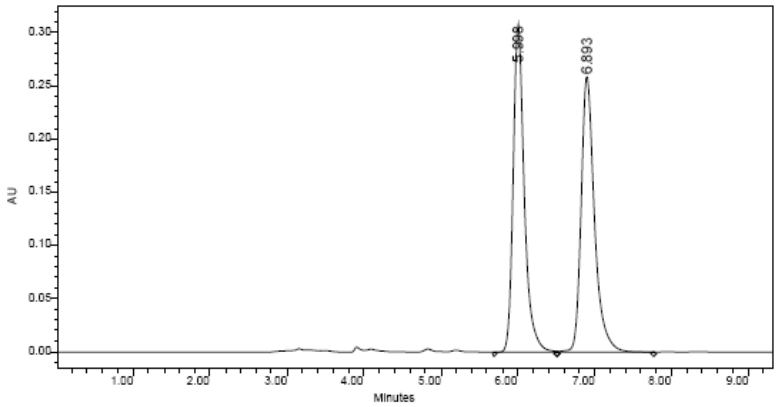


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-090224-phph-yiwu_DL-IA3%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	2/24/2009 5:06:56 PM
Vial:	1	Acq. Method:	chenxh3
Injection #:	1	Date Processed:	2/26/2009 3:47:57 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



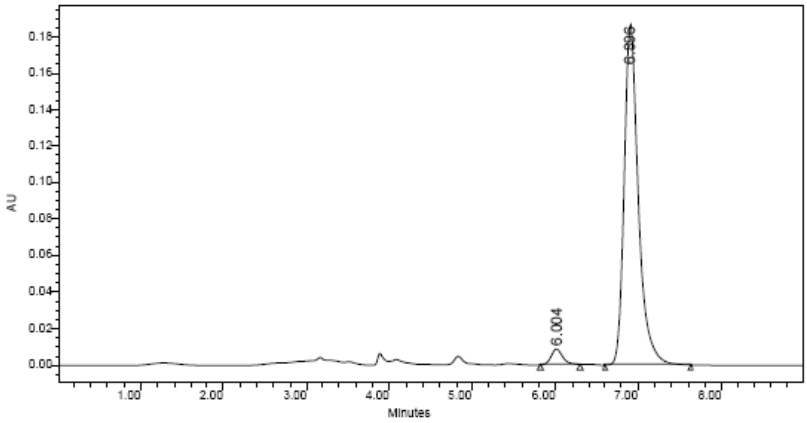
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.998	3107308	49.73	307989	54.27
2	6.893	3141480	50.27	259546	45.73

USTC
Project Name: chenxh
Reported by User: System

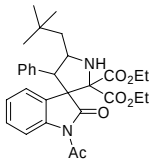
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-090224-phph-yiwu-IA3%pro	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	2/24/2009 5:18:45 PM
Vial:	1	Acq. Method:	chenxh3
Injection #:	2	Date Processed:	2/26/2009 3:49:32 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	6.004	82805	3.59	8624	4.41
2	6.896	2222486	96.41	186786	95.59

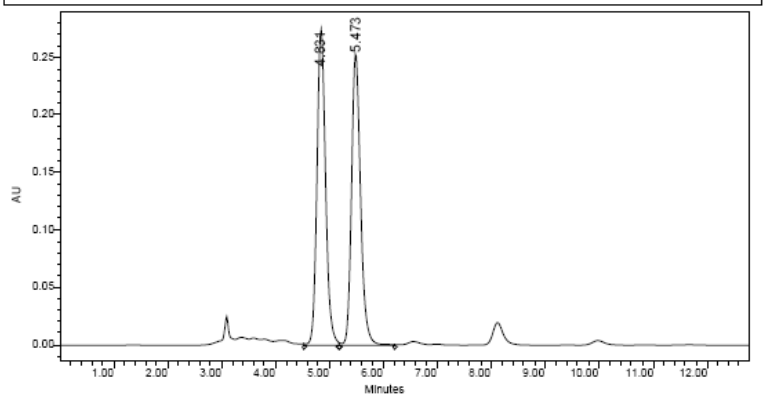


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-t-Bu-yi'quan_DL-IA3%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	10/23/2008 10:58:34 AM
Vial:	1	Acq. Method:	chenxh3
Injection #:	1	Date Processed:	2/19/2009 11:42:01 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



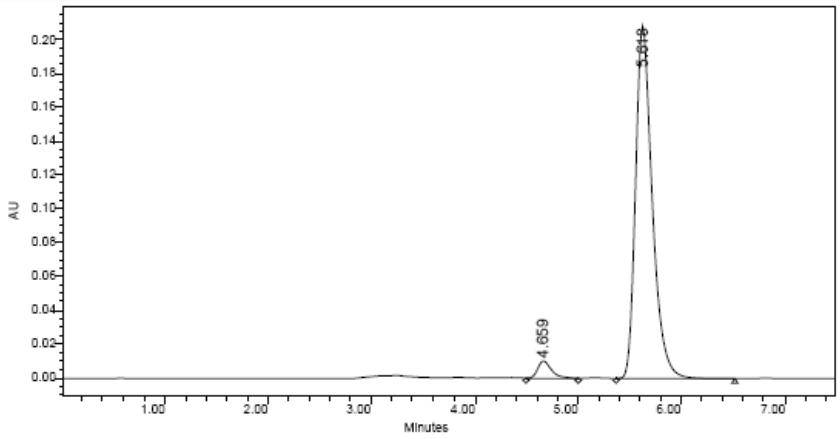
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	4.831	3058553	50.76	274860	51.96
2	5.473	2966377	49.24	254098	48.04

USTC
Project Name: chenxh
Reported by User: System

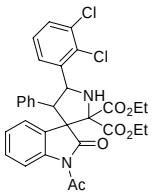
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1211-4-IA3%-2	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	12/17/2008 6:12:56 PM
Vial:	1	Acq. Method:	chenxh3
Injection #:	2	Date Processed:	2/19/2009 11:34:58 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	4.659	101200	4.14	10491	4.80
2	5.618	2344316	95.86	208173	95.20

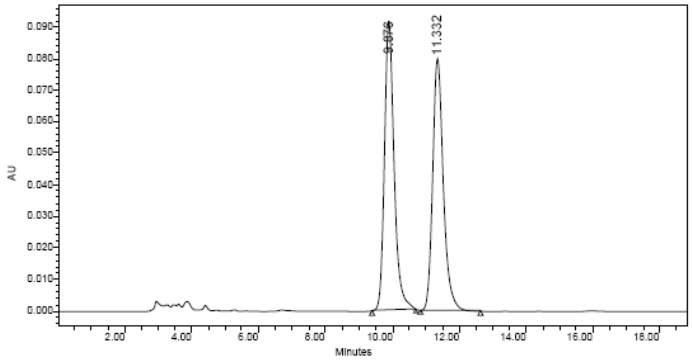


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-090225-2,3-diCl_DL-IA6%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	2/25/2009 7:15:57 PM
Vial:	1	Acq. Method:	chenxh6%
Injection #:	1	Date Processed:	2/26/2009 3:23:42 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



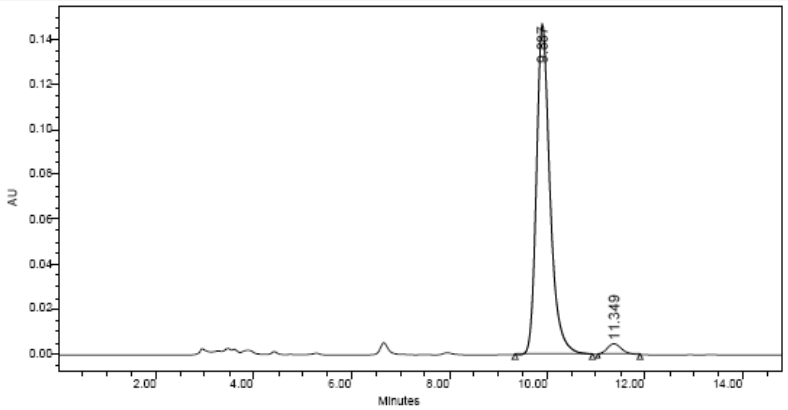
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	9.876	1837346	50.97	91755	53.46
2	11.332	1767743	49.03	79892	46.54

USTC
Project Name: chenxh
Reported by User: System

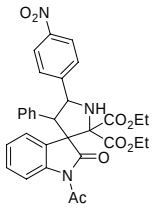
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-090225-2,3-diCl-IA6%pro	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	2/25/2009 8:29:16 PM
Vial:	1	Acq. Method:	chenxh6%
Injection #:	5	Date Processed:	2/26/2009 3:20:11 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	9.887	2838216	96.79	146807	96.92
2	11.349	94148	3.21	4669	3.08

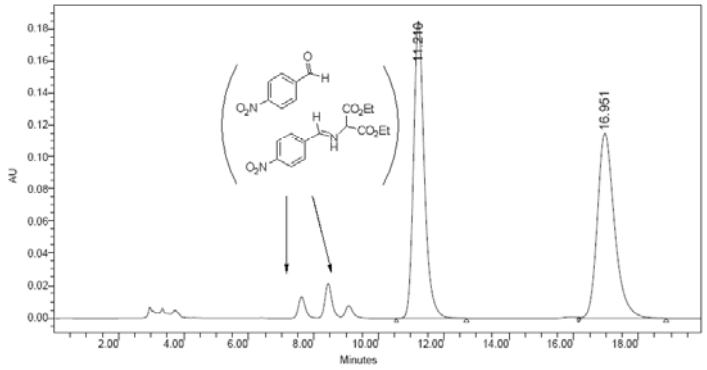


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-090224-4NO2_DL-IA30%N	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	2/24/2009 10:19:11 PM
Vial:	1	Acq. Method:	chenxh30
Injection #:	4	Date Processed:	2/26/2009 3:09:28 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



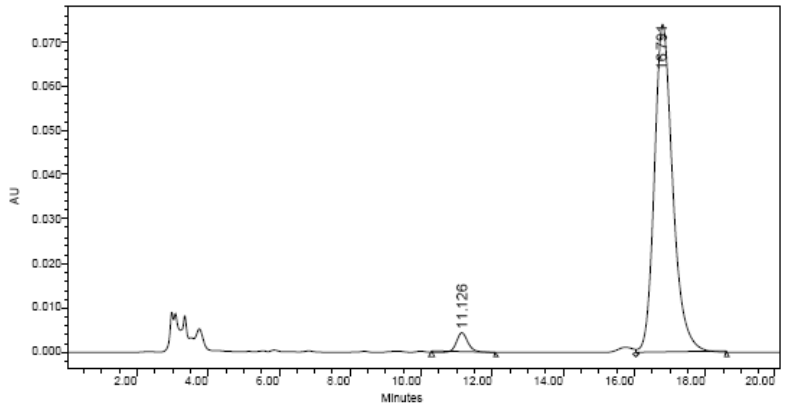
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	11.210	4273660	50.19	185805	61.58
2	16.951	4240565	49.81	115923	38.42

USTC
Project Name: chenxh
Reported by User: System

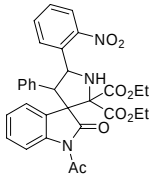
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-090225-4NO2-IA30%pro	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	2/25/2009 6:22:43 PM
Vial:	1	Acq. Method:	chenxh30
Injection #:	1	Date Processed:	2/26/2009 3:10:21 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	11.126	101209	3.62	4436	5.64
2	16.791	2691327	96.38	74270	94.36

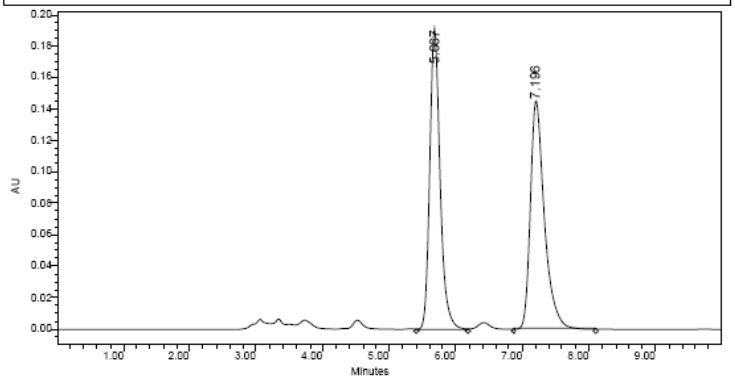


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-090224-2NO2_DL-IA30%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	2/24/2009 2:16:03 PM
Vial:	1	Acq. Method:	chenxh30
Injection #:	7	Date Processed:	2/26/2009 3:35:33 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



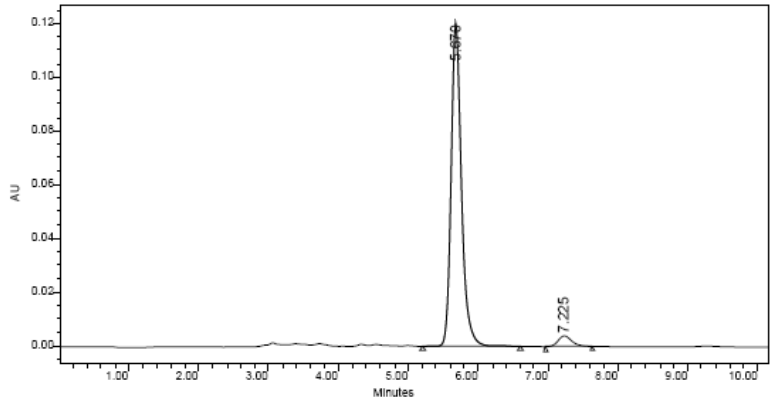
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.667	2069701	49.18	191244	56.81
2	7.196	2139033	50.82	145418	43.19

USTC
Project Name: chenxh
Reported by User: System

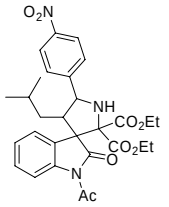
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-090224-2NO2-IA30%proN	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	2/24/2009 3:01:06 PM
Vial:	1	Acq. Method:	chenxh30
Injection #:	1	Date Processed:	2/26/2009 3:38:02 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



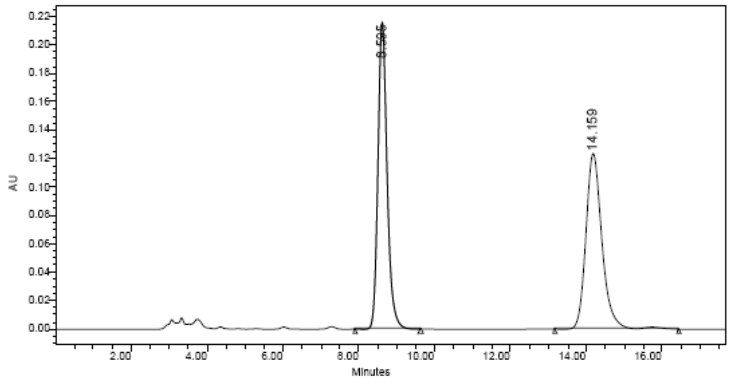
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.670	1236808	95.78	120130	96.79
2	7.225	54555	4.22	3989	3.21



USTC
Project Name: chenxh
Reported by User: System

SAMPLE INFORMATION

Sample Name:	spiro-090225-yiwu4NO2_DL-IA30%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	2/25/2009 6:44:13 PM
Vial:	1	Acq. Method:	chenxh30
Injection #:	2	Date Processed:	2/26/2009 3:42:00 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	

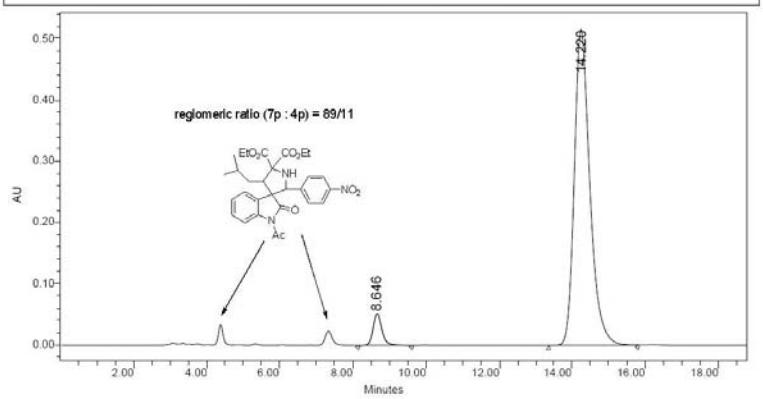


	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	8.595	3615833	49.72	215975	63.57
2	14.159	3656288	50.28	123767	36.43

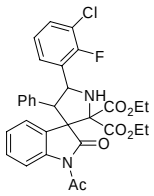
USTC
Project Name: chenxh
Reported by User: System

SAMPLE INFORMATION

Sample Name:	spiro-1119-6-4-NO2-IA30%pro-2	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	11/26/2008 12:12:10 AM
Vial:	1	Acq. Method:	chenxh30
Injection #:	4	Date Processed:	2/20/2009 10:28:45 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	8.646	875129	5.42	51726	9.11
2	14.220	15263974	94.58	516167	90.89

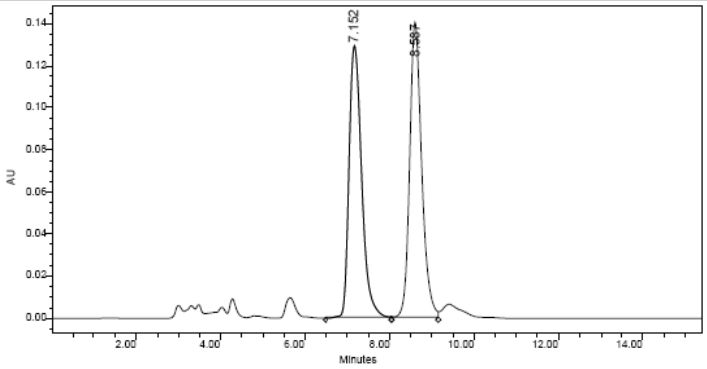


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1026-2-3Cl2F_DL-AD15%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	10/29/2008 11:40:07 PM
Vial:	1	Acq. Method:	chenxh15%
Injection #:	2	Date Processed:	2/19/2009 10:21:42 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



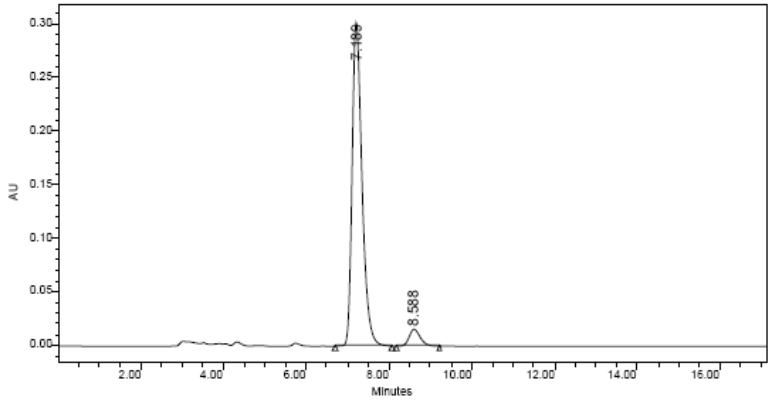
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	7.152	2717223	49.27	129644	47.93
2	8.587	2797585	50.73	140846	52.07

USTC
Project Name: chenxh
Reported by User: System

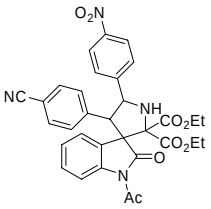
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-102 4-2-3Cl-2F-IA15%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	10/31/2008 1:46:42 AM
Vial:	1	Acq. Method:	chenxh15%
Injection #:	2	Date Processed:	11/7/2008 9:38:58 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



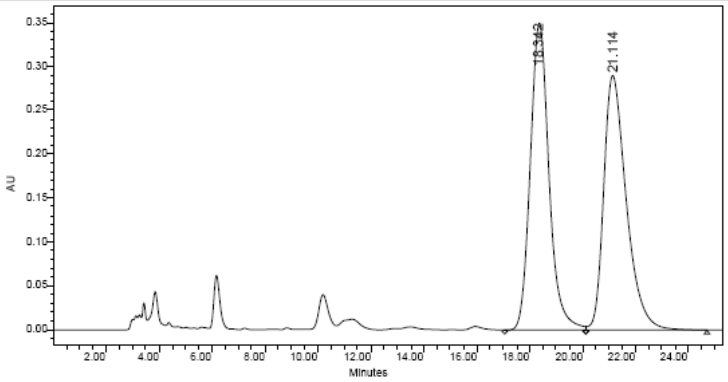
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	7.189	5019512	94.51	302131	95.04
2	8.588	291653	5.49	15767	4.96



USTC
Project Name: chenxh
Reported by User: System

SAMPLE INFORMATION

Sample Name:	spiro-1115-4-4-CN-4NO2-DL_AD3(	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	11/19/2008 2:33:54 PM
Vial:	1	Acq. Method:	chenxh30
Injection #:	1	Date Processed:	11/19/2008 3:32:11 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	

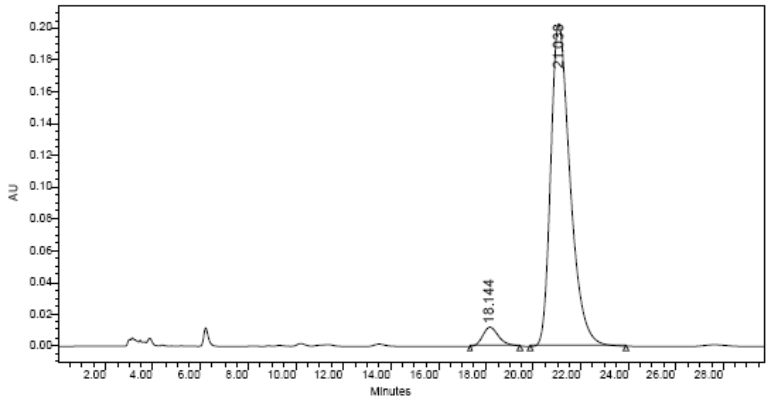


	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	18.342	17239785	50.06	350134	54.68
2	21.114	17200737	49.94	290200	45.32

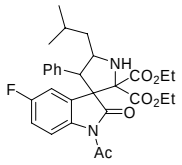
USTC
Project Name: chenxh
Reported by User: System

SAMPLE INFORMATION

Sample Name:	spiro-1115-4-4-CN-NO2-AD-30%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	11/19/2008 8:19:10 PM
Vial:	1	Acq. Method:	chenxh30
Injection #:	1	Date Processed:	11/19/2008 8:50:25 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	18.144	566328	4.67	11997	5.57
2	21.038	11550736	95.33	203326	94.43

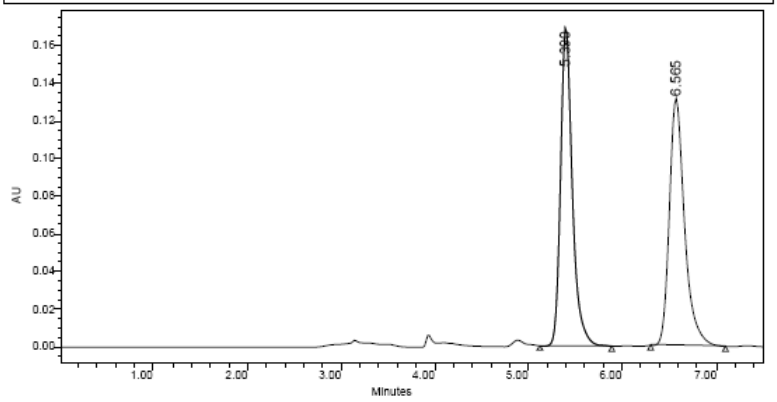


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1225-1-5F-ph-yiw_DL-IA3%N	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	1/6/2009 11:02:19 AM
Vial:	1	Acq. Method:	chenxh3
Injection #:	8	Date Processed:	2/20/2009 11:31:49 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



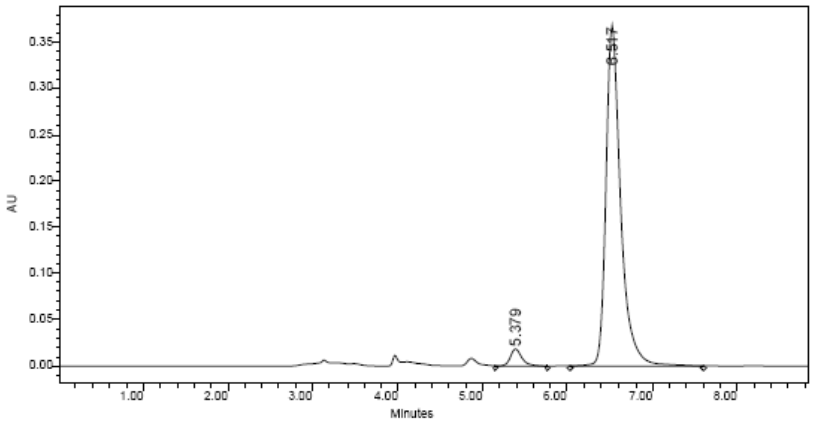
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.390	1479764	49.95	169523	56.33
2	6.565	1482574	50.05	131439	43.67

USTC
Project Name: chenxh
Reported by User: System

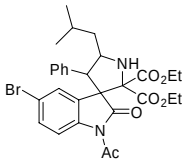
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1225-1-5F-yiwu-IA3%pro	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	1/6/2009 10:22:09 PM
Vial:	1	Acq. Method:	chenxh3
Injection #:	2	Date Processed:	2/20/2009 11:32:38 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.379	185364	3.97	18726	4.83
2	6.517	4478227	96.03	368790	95.17

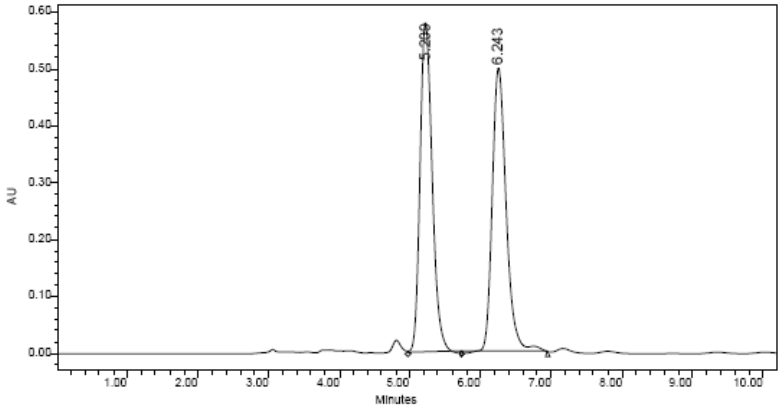


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1225-2-5Br-ph-yiwu_DL-IA3%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	1/6/2009 9:39:11 AM
Vial:	1	Acq. Method:	chenxh3
Injection #:	1	Date Processed:	2/20/2009 11:35:49 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



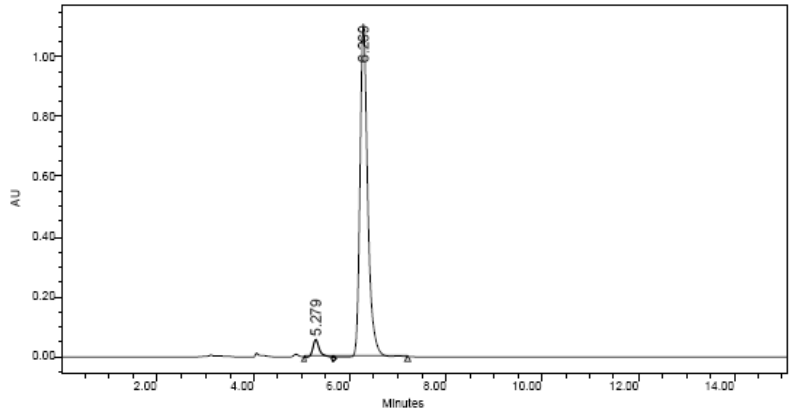
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.209	6936721	50.16	580351	53.73
2	6.243	6891969	49.84	499863	46.27

USTC
Project Name: chenxh
Reported by User: System

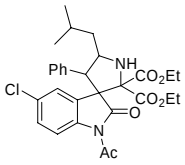
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1225-2-5Br-yiwu-IA3%pro	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	1/6/2009 10:41:15 PM
Vial:	1	Acq. Method:	chenxh3
Injection #:	3	Date Processed:	2/20/2009 11:36:52 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.279	520659	4.03	57637	4.93
2	6.269	12400339	95.97	1111938	95.07

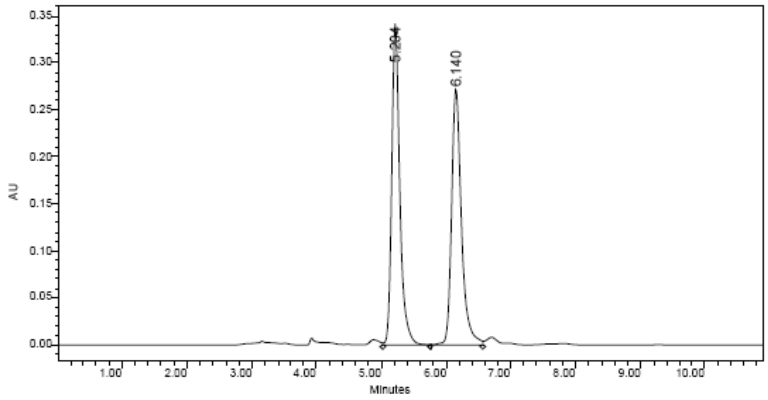


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1225-3-5Cl-ph-yiw_DL-IA3%N	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	1/6/2009 10:45:57 AM
Vial:	1	Acq. Method:	chenxh3
Injection #:	7	Date Processed:	2/26/2009 11:11:38 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



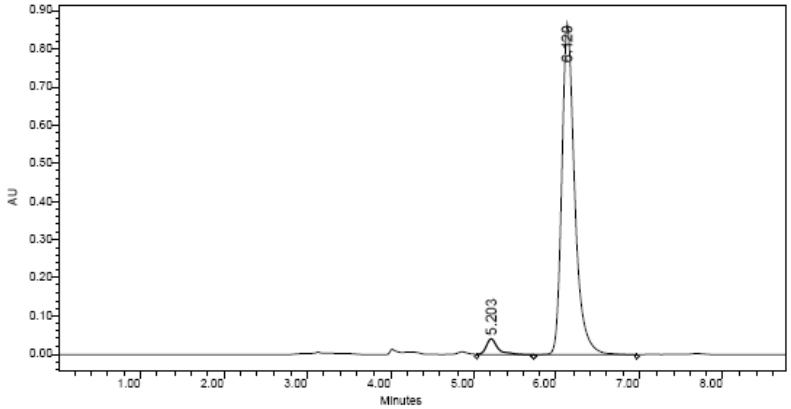
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.204	2968470	50.64	342694	55.62
2	6.140	2893974	49.36	273449	44.38

USTC
Project Name: chenxh
Reported by User: System

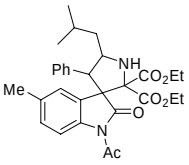
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1225-3-5Cl-yiwu-IA3%pro	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	1/6/2009 10:07:50 PM
Vial:	1	Acq. Method:	chenxh3
Injection #:	1	Date Processed:	2/26/2009 11:12:57 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.203	422111	4.30	42093	4.63
2	6.120	9392943	95.70	867864	95.37

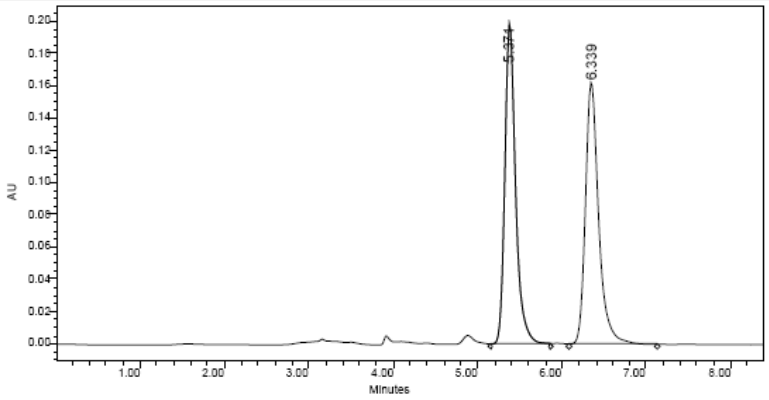


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1225-4-5CH-ph-yiw_DL-IA3%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	1/6/2009 11:50:18 AM
Vial:	1	Acq. Method:	chenxh3
Injection #:	1	Date Processed:	2/26/2009 11:15:48 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



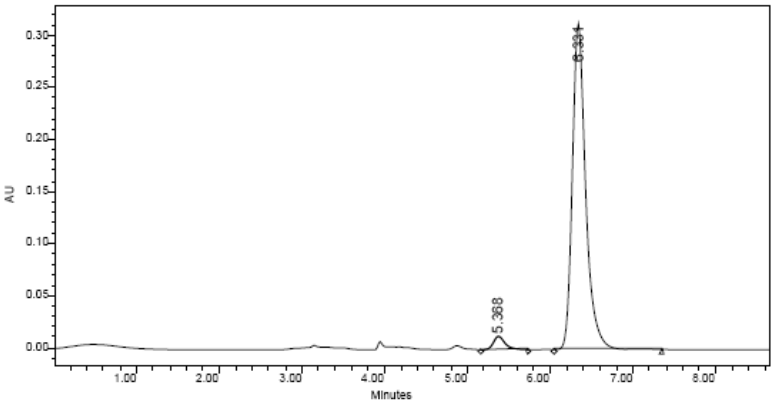
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.371	1776067	49.84	199167	55.00
2	6.339	1787373	50.16	162979	45.00

USTC
Project Name: chenxh
Reported by User: System

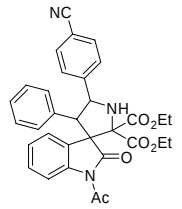
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1225-4-5CH3-yiwu-IA3%pro	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	1/6/2009 11:04:12 PM
Vial:	1	Acq. Method:	chenxh3
Injection #:	4	Date Processed:	2/26/2009 11:16:35 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



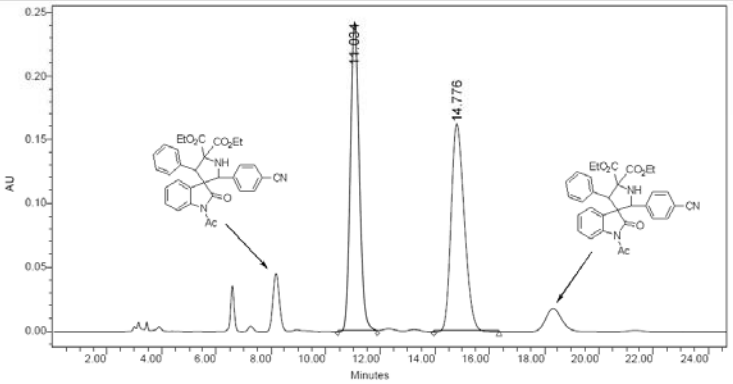
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.368	126015	3.47	12851	3.95
2	6.331	3504814	96.53	312575	96.05



USTC
Project Name: chenxh
Reported by User: System

SAMPLE INFORMATION

Sample Name:	spiro-Ph-Ph-p-CN-DL_AD30%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	10/10/2008 9:03:54 PM
Vial:	1	Acq. Method:	chenxh30
Injection #:	1	Date Processed:	10/24/2008 1:08:08 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	

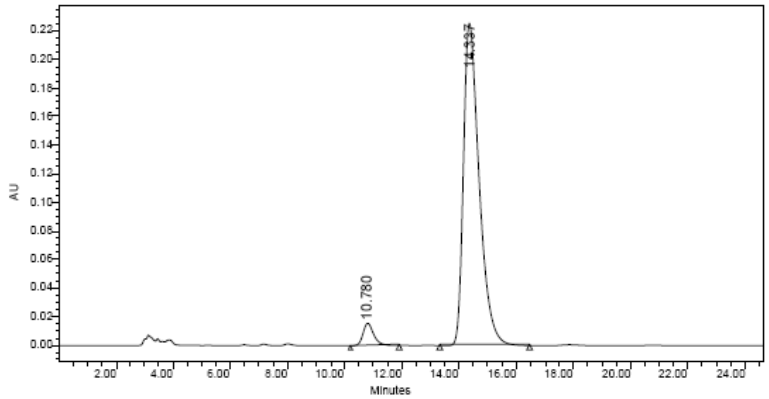


	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	11.034	5533198	50.31	242397	59.91
2	14.776	5464878	49.69	162179	40.09

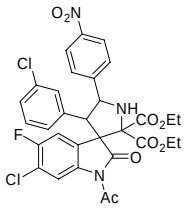
USTC
Project Name: chenxh
Reported by User: System

SAMPLE INFORMATION

Sample Name:	spiro-ph-ph-20081009-5-4CN	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	10/14/2008 1:24:25 AM
Vial:	1	Acq. Method:	chenxh30
Injection #:	1	Date Processed:	10/24/2008 1:11:47 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	10.780	398702	4.42	15566	6.46
2	14.337	8625636	95.58	225509	93.54

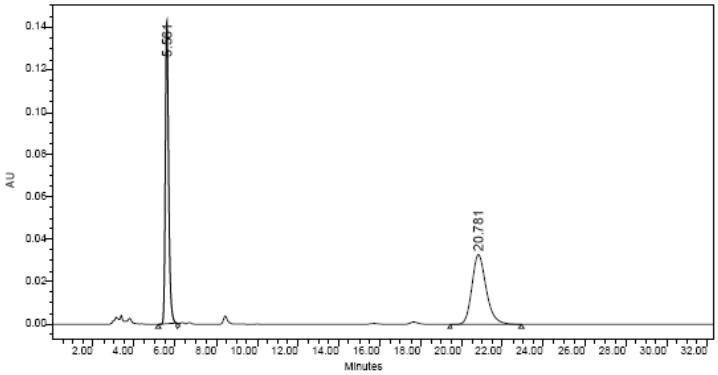


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1205-5-4NO2-IA30%rac	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	12/10/2008 12:40:55 AM
Vial:	1	Acq. Method:	chenxh30
Injection #:	3	Date Processed:	2/26/2009 3:00:34 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



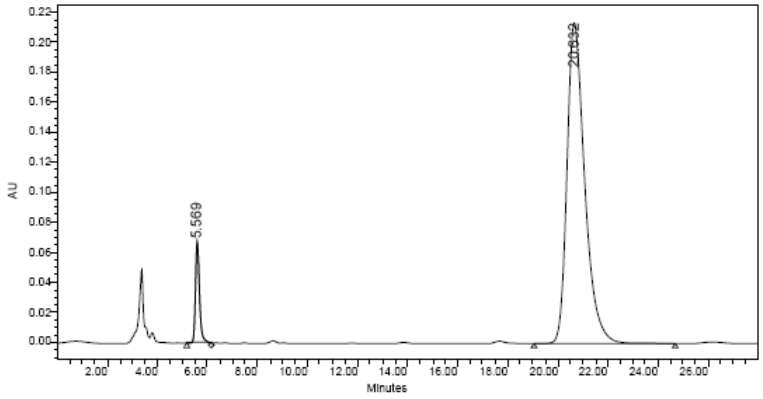
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.561	1609711	50.19	143195	81.31
2	20.781	1597834	49.81	32922	18.69

USTC
Project Name: chenxh
Reported by User: System

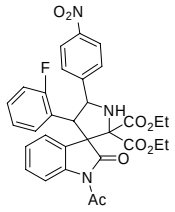
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1205-5-4NO2-IA30%pro	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	12/10/2008 1:49:56 AM
Vial:	1	Acq. Method:	chenxh30
Injection #:	5	Date Processed:	2/26/2009 3:07:32 PM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	5.569	755611	6.70	67387	23.97
2	20.632	10520448	93.30	213714	76.03

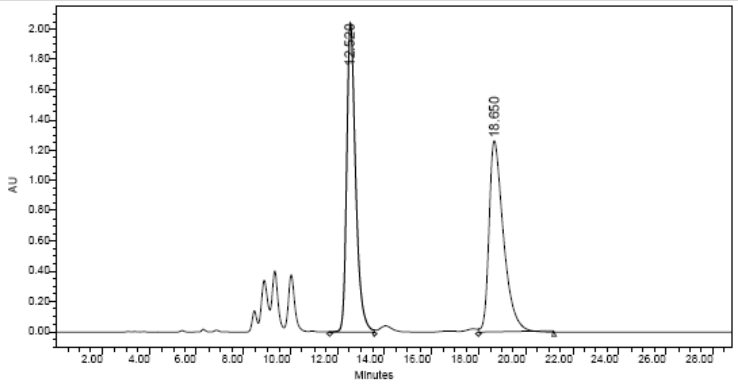


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1126-1-2F-4NO2_DL-IA30%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	12/1/2008 9:33:25 AM
Vial:	1	Acq. Method:	chenxh30
Injection #:	1	Date Processed:	2/20/2009 12:17:58 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



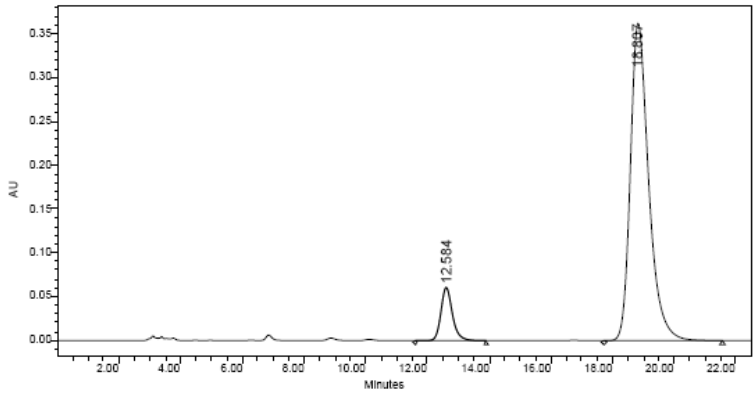
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	12.520	54262656	49.98	2044037	61.75
2	18.650	54308306	50.02	1266064	38.25

USTC
Project Name: chenxh
Reported by User: System

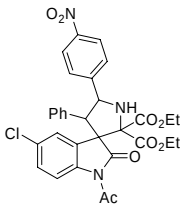
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1126-1-2F-4NO2-IA30%pro	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	12/2/2008 4:00:28 PM
Vial:	1	Acq. Method:	chenxh30
Injection #:	1	Date Processed:	2/20/2009 12:18:45 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	12.584	1574758	9.52	60760	14.35
2	18.807	14970543	90.48	362716	85.65

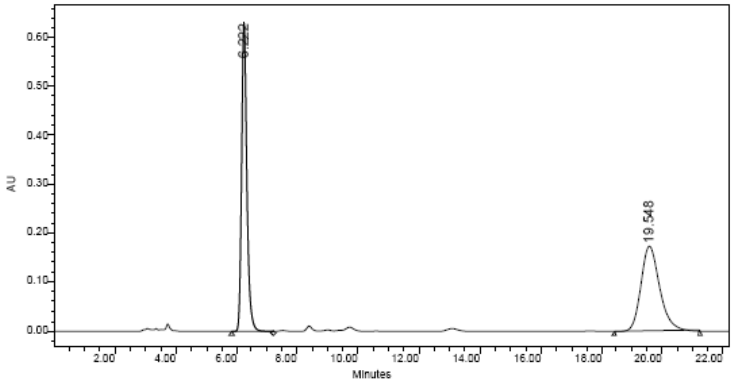


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1225-6-5Cl-ph-4NO_DL-IA30	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	1/6/2009 12:10:18 PM
Vial:	1	Acq. Method:	chenxh30
Injection #:	1	Date Processed:	2/26/2009 11:24:48 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



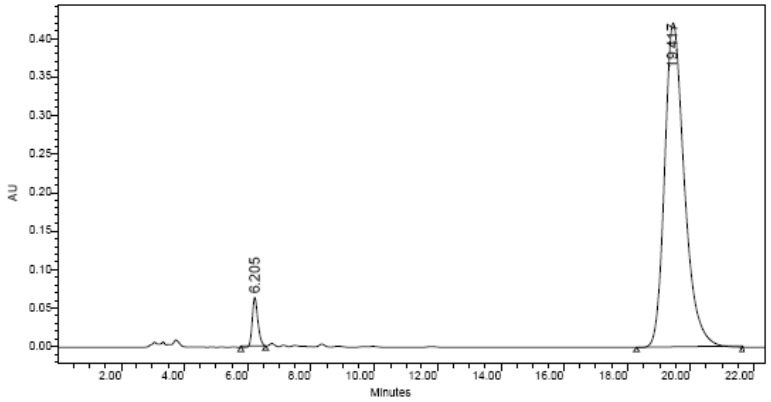
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	6.222	7593051	50.27	632676	78.43
2	19.548	7512786	49.73	174038	21.57

USTC
Project Name: chenxh
Reported by User: System

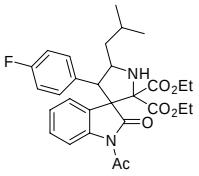
Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1225-6-5Cl-4NO2-IA30%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	1/7/2009 10:30:01 AM
Vial:	1	Acq. Method:	chenxh30
Injection #:	1	Date Processed:	2/26/2009 11:26:25 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	6.205	792855	4.14	64024	13.19
2	19.417	18359098	95.86	421369	86.81

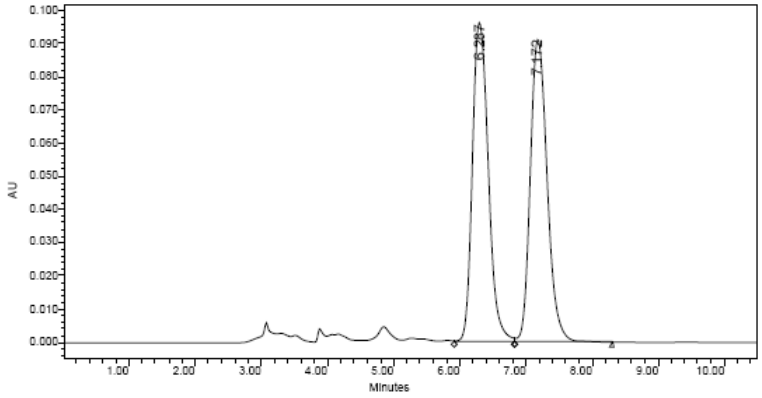


USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1126-6-2F-yiwu_DL-IA3%	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	12/1/2008 2:56:31 PM
Vial:	1	Acq. Method:	chenxh3
Injection #:	1	Date Processed:	2/20/2009 11:16:46 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



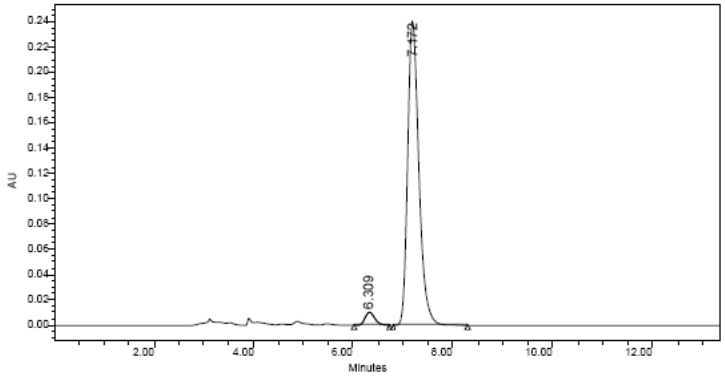
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	6.287	1624814	49.96	96350	51.36
2	7.172	1627404	50.04	91258	48.64

USTC
Project Name: chenxh
Reported by User: System

Breeze

SAMPLE INFORMATION

Sample Name:	spiro-1126-6--IA30%pro	Acquired By:	System
Sample Type:	Unknown	Date Acquired:	12/2/2008 7:16:44 PM
Vial:	1	Acq. Method:	chenxh3
Injection #:	1	Date Processed:	2/20/2009 11:18:04 AM
Injection Volume:	20.00 ul	Channel Name:	2487Channel 1
Run Time:	70.00 Minutes	Sample Set Name:	



	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	6.309	139223	3.57	10252	4.08
2	7.172	3763356	96.43	240810	95.92