

***Supporting Information***

**Chiral Diphenylprolinol TES Ether Promoted Conjugate**

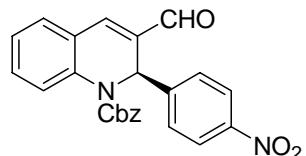
**Addition-Aldol-Dehydration Reactions between  $\alpha$ ,  $\beta$ -Unsaturated Aldehydes and  
2-N-Protected Amino Benzaldehydes**

*Hao Li, Jian Wang, Hexin Xie, Liansuo Zu, Wei Jiang, Eileen N. Duesler, and Wei Wang\**

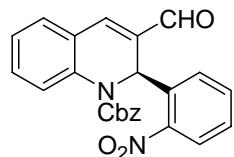
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**General Information:** Commercial reagents were used as received, unless otherwise stated. Merck 60 silica gel was used for chromatography, and Whatman silica gel plates with fluorescence F<sub>254</sub> were used for thin-layer chromatography (TLC) analysis. <sup>1</sup>H and <sup>13</sup>C NMR spectra were recorded on Broker Avance 500, and tetramethylsilane (TMS) was used as a reference. Data for <sup>1</sup>H are reported as follows: chemical shift (ppm), and multiplicity (s = singlet, d = doublet, t = triplet, q = quartet, m = multiplet). Data for <sup>13</sup>C NMR are reported as ppm. Mass Spectra were obtained from Ohio State University Mass Spectral facility.

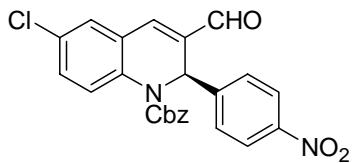
**General Procedure for addition of (2-Formyl-phenyl)-carbamic acid benzyl esters to unsaturated aldehydes:** To a solution of *trans*-4-nitrocinnamaldehyde (**1a**) (18 mg, 0.1 mmol) in the presence of catalyst **II** (20 mol %) and sodium acetate (0.05 mmol) in 1, 2-dichloroethane (0.2 mL) with 50 mg 4 Å MS was added (2-Formyl-phenyl)-carbamic acid benzyl ester (**2a**) (76 mg, 0.3 mmol) and the resulting solution was stirred for 18 h at rt. The reaction mixture was directly purified by silica gel chromatography (EtOAc/Hexane = 3:1) and fractions were collected and concentrated *in vacuo* to give a yellow oil (39 mg, 95% yield), 94% ee (HPLC Daicel CHIRALCEL OD-H column, Hexane/EtOH = 70:30 at 0.5 mL/min,  $\lambda$  = 254 nm);  $t_{\text{minor}} = 26.08$  min,  $t_{\text{major}} = 42.07$  min;  $[\alpha]_D^{23}$ (major) = - 501.2 (c = 1.0, CHCl<sub>3</sub>).



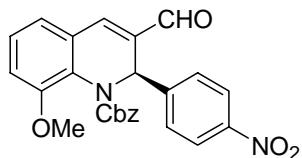
**3-Formyl-2-(4-nitro-phenyl)-2H-quinoline-1-carboxylic acid benzyl ester (3a)** (Table 2, entry 1): Yield: 95%; <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>):  $\delta$  9.68 (s, 1H), 8.01 (d, 2H,  $J$  = 8.5 Hz), 7.73 (s, 1H), 7.50 (s, 1H), 7.26-7.42 (m, 9H), 7.18 (t, 1H,  $J$  = 7.5 Hz), 6.77 (s, 1H), 5.31 (s, 2H); <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>):  $\delta$  189.6, 153.6, 147.5, 145.7, 142.3, 137.0, 136.8, 135.3, 132.2, 129.3, 128.7, 128.6, 128.3, 127.7, 125.0, 124.8, 124.5, 123.7, 68.7, 52.6;  $[\alpha]_D^{23} = - 501.2$  (c = 1.0, CHCl<sub>3</sub>); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min,  $\lambda$  = 254 nm);  $t_R = 26.08$  (minor), 42.07 (major) min.



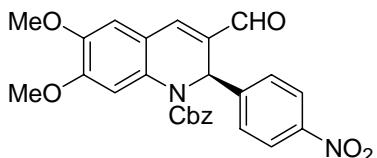
**3-Formyl-2-(2-nitro-phenyl)-2H-quinoline-1-carboxylic acid benzyl ester (3b)** (Table 2, entry 2): Yield: 98%; <sup>1</sup>H NMR (500 MHz, DMSO-d<sup>6</sup>):  $\delta$  9.69 (s, 1H), 8.02 (s, 1H), 7.81 (d, 1H,  $J$  = 8.0 Hz), 7.59 (d, 1H,  $J$  = 7.0 Hz), 7.31-7.49 (m, 9H), 7.25 (m, 1H), 7.08 (s, 1H), 7.00 (d, 1H,  $J$  = 7.5 Hz), 5.24 (d, 1H,  $J$  = 12.5 Hz), 5.10 (d, 1H,  $J$  = 12.5 Hz); <sup>13</sup>C NMR (125 MHz, DMSO-d<sup>6</sup>):  $\delta$  190.5, 153.2, 148.7, 143.0, 137.0, 135.7, 132.5, 131.6, 130.1, 129.8, 129.2, 128.4, 128.2, 128.1, 127.7, 125.7, 125.6, 125.3, 124.4, 67.8, 47.7;  $[\alpha]_D^{23} = - 270.4$  (c = 1.0, CHCl<sub>3</sub>); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min,  $\lambda$  = 254 nm);  $t_R = 35.09$  (major), 40.95 (minor) min.



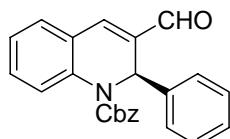
**6-Chloro-3-formyl-2-(4-nitro-phenyl)-2H-quinoline-1-carboxylic acid benzyl ester (3c)** (Table 2, entry 3): Yield: 95%; <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ 9.68 (s, 1H), 8.02 (d, 2H, J = 8.5 Hz), 7.68 (s, 1H), 7.43 (s, 1H), 7.30-7.36 (m, 9H), 6.75 (s, 1H), 5.31 (d, 1H, J = 12.5 Hz), 5.28 (d, 1H, J = 12.0 Hz); <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>): δ 189.3, 153.4, 147.7, 145.1, 140.7, 137.9, 135.2, 135.0, 131.8, 130.2, 128.7, 128.5, 128.4, 127.7, 126.1, 125.9, 123.8, 68.9, 52.7; [α]<sub>D</sub><sup>23</sup> = -508.0 (c = 1.0, CHCl<sub>3</sub>); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min, λ = 254 nm); t<sub>R</sub> = 28.95 (minor), 41.16 (major) min.



**3-Formyl-8-methoxy-2-(4-nitro-phenyl)-2H-quinoline-1-carboxylic acid benzyl ester (3d)** (Table 2, entry 4): Yield: 98%; <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ 9.79 (s, 1H), 8.01 (d, 1H, J = 7.0 Hz), 7.52 (s, 1H), 7.33-7.39 (m, 7H), 7.18 (t, 1H, J = 8.0 Hz), 6.97 (d, 1H, J = 7.5 Hz), 6.92 (s, 1H), 6.73 (s, 1H), 5.13-5.33 (m, 2H), 3.56-3.87 (m, 3H); <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>): δ 190.3, 153.4, 147.3, 145.4, 142.7, 135.8, 128.5, 128.2, 128.1, 127.4, 126.9, 125.2, 123.5, 120.7, 114.7, 68.4, 55.6, 52.7; [α]<sub>D</sub><sup>23</sup> = -362.3 (c = 1.0, CHCl<sub>3</sub>); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min, λ = 254 nm); t<sub>R</sub> = 24.09 (minor), 27.96 (major) min.

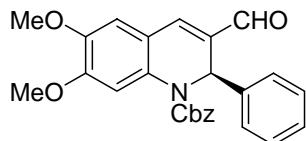


**3-Formyl-6,7-dimethoxy-2-(4-nitro-phenyl)-2H-quinoline-1-carboxylic acid benzyl ester (3e)** (Table 2, entry 5): Yield: 89%; <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ 9.62 (s, 1H), 8.03 (d, 2H, J = 8.5 Hz), 7.41 (s, 1H), 7.36 (m, 8H), 6.80 (s, 1H), 6.77 (s, 1H), 5.35 (d, 1H, J = 11.0 Hz), 5.21 (d, 1H, J = 10.5 Hz), 3.89 (s, 3H), 3.72 (s, 3H); <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>): δ 189.2, 153.7, 152.1, 147.6, 146.4, 146.0, 142.3, 135.2, 128.8, 128.7, 128.5, 127.7, 123.8, 117.5, 110.6, 108.1, 68.8, 56.1, 56.0, 52.5; [α]<sub>D</sub><sup>23</sup> = -501.6 (c = 1.0, CHCl<sub>3</sub>); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min, λ = 254 nm); t<sub>R</sub> = 47.23 (major), 53.00 (minor) min.

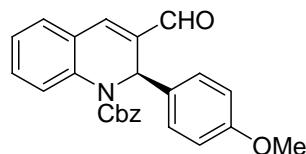


**3-Formyl-2-phenyl-2H-quinoline-1-carboxylic acid benzyl ester (3f)** (Table 2, entry 6): Yield: 92%; <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ 9.66 (s, 1H), 7.44 (s, 1H), 7.43 (s, 1H), 7.35-7.38 (m, 6H),

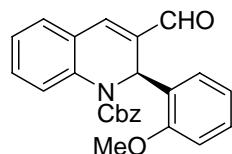
7.13-7.18 (m, 6H), 6.72 (s, 1H), 5.31 (s, 2H);  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ):  $\delta$  189.8, 153.8, 141.6, 138.6, 138.2, 137.2, 135.6, 131.7, 128.9, 128.6, 128.4, 128.3, 128.1, 128.0, 126.7, 125.2, 124.7, 124.5, 68.3, 53.2;  $[\alpha]_D^{23} = -619.1$  ( $c = 1.0$ ,  $\text{CHCl}_3$ ); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min,  $\lambda = 254$  nm);  $t_R = 16.43$  (minor), 22.46 (major) min.



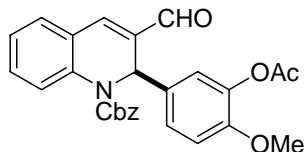
**3-Formyl-6,7-dimethoxy-2-phenyl-2H-quinoline-1-carboxylic acid benzyl ester (3g)** (Table 2, entry 7): Yield: 84%;  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  9.59 (s, 1H), 7.32-7.37 (m, 7H), 7.19 (m, 5H), 6.79 (s, 1H), 6.71 (s, 1H), 5.34 (d, 1H,  $J = 10.0$  Hz), 5.21 (d, 1H,  $J = 10.0$  Hz), 3.88 (s, 3H), 3.73 (s, 3H);  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ):  $\delta$  189.4, 153.8, 151.6, 146.0, 141.7, 138.8, 135.9, 135.5, 131.9, 128.6, 128.4, 128.3, 127.9, 126.7, 117.9, 110.4, 108.3, 68.3, 56.1, 55.9, 53.0;  $[\alpha]_D^{23} = -$  ( $c = 1.0$ ,  $\text{CHCl}_3$ ); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min,  $\lambda = 254$  nm);  $t_R = 21.63$  (minor), 32.07 (major) min.



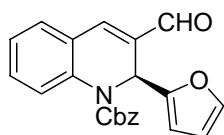
**3-Formyl-2-(4-methoxy-phenyl)-2H-quinoline-1-carboxylic acid benzyl ester (3h)** (Table 2, entry 8): Yield: 96%;  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  9.63 (s, 1H), 7.72 (s, 1H), 7.35-7.42 (m, 9H), 7.14 (t, 1H,  $J = 7.5$  Hz), 7.10 (d, 2H,  $J = 8.5$  Hz), 6.69 (d, 2H,  $J = 8.5$  Hz), 6.65 (s, 1H), 5.31 (s, 2H), 3.70 (s, 3H);  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ):  $\delta$  189.8, 159.3, 153.8, 141.3, 138.4, 137.1, 135.7, 131.6, 130.8, 128.9, 128.6, 128.3, 128.2, 128.1, 125.3, 124.7, 124.5, 113.8, 68.2, 55.1, 52.8;  $[\alpha]_D^{23} = -539.0$  ( $c = 1.0$ ,  $\text{CHCl}_3$ ); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min,  $\lambda = 254$  nm);  $t_R = 19.04$  (minor), 24.59 (major) min.



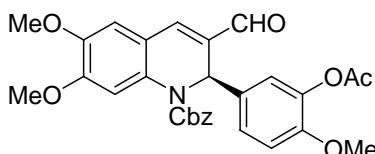
**3-Formyl-2-(2-methoxy-phenyl)-2H-quinoline-1-carboxylic acid benzyl ester (3i)** (Table 2, entry 9): Yield: 96%;  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  9.59 (s, 1H), 7.69 (d, 1H,  $J = 7.0$  Hz), 7.33-7.42 (m, 8H), 7.13-7.18 (m, 2H), 6.97 (d, 2H,  $J = 10.5$  Hz), 6.78 (d, 1H,  $J = 8.0$  Hz), 6.70 (t, 1H,  $J = 7.5$  Hz), 5.27 (s, 2H), 3.50 (s, 3H);  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ):  $\delta$  189.7, 157.5, 154.0, 141.2, 137.8, 135.9, 131.2, 129.4, 129.0, 128.5, 128.1, 126.2, 125.9, 124.7, 124.2, 120.0, 111.1, 68.0, 55.1, 50.0;  $[\alpha]_D^{23} = -390.3$  ( $c = 1.0$ ,  $\text{CHCl}_3$ ); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min,  $\lambda = 254$  nm);  $t_R = 20.35$  (minor), 23.14 (major) min.



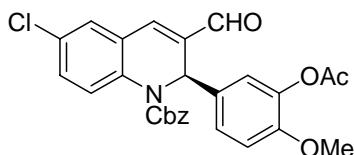
**2-(3-Acetoxy-4-methoxy-phenyl)-3-formyl-2H-quinoline-1-carboxylic acid benzyl ester (3j)** (Table 2, entry 10): Yield: 91%;  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  9.63 (s, 1H), 7.75 (s, 1H), 7.32-7.41 (m, 8H), 7.14 (t, 1H,  $J$  = 7.5 Hz), 6.85 (s, 1H), 6.77 (d, 1H,  $J$  = 8.0 Hz), 6.64-6.66 (m, 2H), 5.32 (d, 1H,  $J$  = 12.0 Hz), 5.26 (d, 1H,  $J$  = 12.0 Hz), 3.56 (s, 3H), 2.23 (s, 3H);  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ):  $\delta$  189.8, 168.8, 153.7, 150.8, 141.6, 139.4, 137.9, 137.5, 135.6, 131.8, 129.0, 128.6, 128.4, 128.2, 125.1, 124.6, 122.5, 118.6, 111.3, 68.4, 55.5, 52.9, 20.6;  $[\alpha]_D^{23} = -493.7$  ( $c$  = 1.0,  $\text{CHCl}_3$ ); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min,  $\lambda$  = 254 nm);  $t_R$  = 19.45 (minor), 31.69 (major) min.



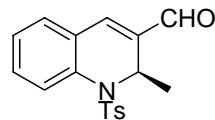
**3-Formyl-2-furan-2-yl-2H-quinoline-1-carboxylic acid benzyl ester (3k)** (Table 2, entry 11): Yield: 83%;  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  9.65 (s, 1H), 7.75 (s, 1H), 7.32-7.44 (m, 8H), 7.22 (s, 1H), 7.15 (t, 1H,  $J$  = 7.5 Hz), 6.82 (s, 1H), 6.15 (q, 1H,  $J$  = 1.5 Hz), 6.00 (d, 1H,  $J$  = 1.5 Hz), 5.34 (d, 1H,  $J$  = 12.5 Hz), 5.31 (d, 1H,  $J$  = 12.5 Hz);  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ):  $\delta$  189.1, 153.5, 150.8, 142.6, 142.1, 136.9, 135.7, 131.6, 129.0, 128.6, 128.3, 128.1, 125.0, 124.5, 124.4, 110.1, 107.9, 68.3, 47.4;  $[\alpha]_D^{23} = -521.1$  ( $c$  = 1.0,  $\text{CHCl}_3$ ); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min,  $\lambda$  = 254 nm);  $t_R$  = 16.57 (minor), 22.15 (major) min.



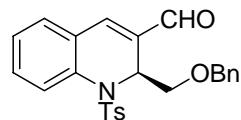
**2-(3-Acetoxy-4-methoxy-phenyl)-3-formyl-6,7-dimethoxy-2H-quinoline-1-carboxylic acid benzyl ester (3l)** (Table 2, entry 12): Yield: 86%;  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  9.58 (s, 1H), 7.35-7.40 (m, 7H), 6.91 (s, 1H), 6.79 (d, 2H,  $J$  = 5.5 Hz), 6.65 (d, 2H,  $J$  = 7.0 Hz), 5.29 (d, 2H), 3.89 (s, 3H), 3.68 (d, 6H), 2.25 (s, 3H);  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ):  $\delta$  189.4, 168.9, 153.7, 151.7, 150.8, 146.0, 141.8, 139.3, 137.6, 135.4, 128.7, 128.5, 128.4, 122.5, 118.6, 117.7, 111.5, 110.3, 108.2, 107.8, 68.4, 56.1, 55.9, 55.6, 52.8, 20.6;  $[\alpha]_D^{23} = -333.9$  ( $c$  = 1.0,  $\text{CHCl}_3$ ); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min,  $\lambda$  = 254 nm);  $t_R$  = 27.00 (minor), 52.19 (major) min.



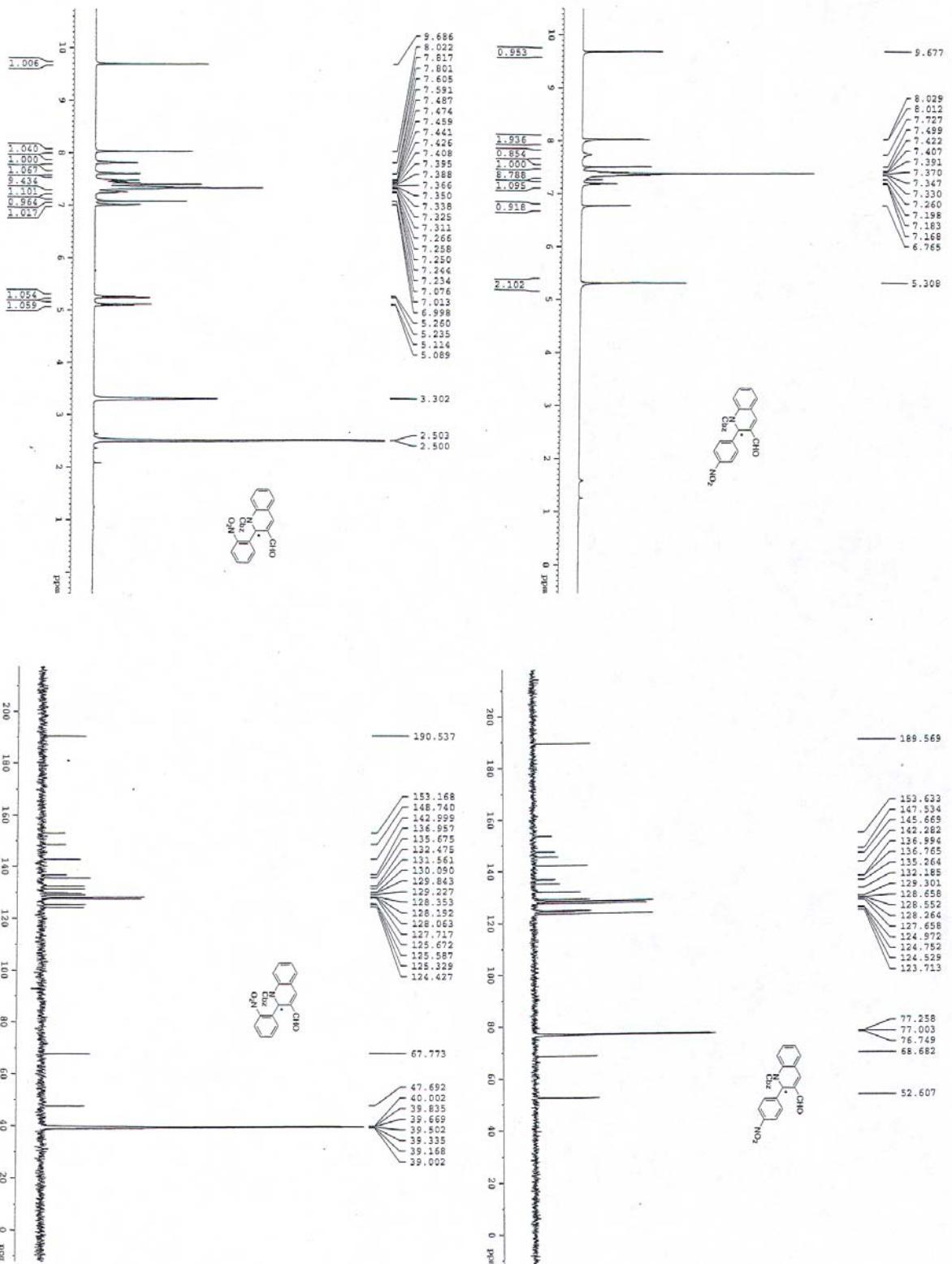
**2-(3-Acetoxy-4-methoxy-phenyl)-6-chloro-3-formyl-2H-quinoline-1-carboxylic acid benzyl ester (**3m**)** (Table 2, entry 13): Yield: 96%; <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ 9.62 (s, 1H), 7.71 (s, 1H), 7.33-7.38 (m, 8H), 6.84 (s, 1H), 6.79 (d, 1H, *J* = 8.0 Hz), 6.65 (s, 1H), 6.59 (dd, 1H, *J<sub>1</sub>* = 2.0 Hz, *J<sub>2</sub>* = 8.0 Hz), 5.32 (d, 1H, *J* = 12.0 Hz), 5.24 (d, 1H, *J* = 12.0 Hz), 3.58 (s, 3H), 2.24 (s, 3H); <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>): δ 189.6, 168.8, 153.5, 150.9, 140.0, 139.5, 137.0, 135.5, 135.3, 131.4, 129.7, 128.7, 128.5, 128.3, 128.2, 126.4, 125.9, 122.6, 118.5, 111.4, 68.6, 55.6, 53.0, 20.6; [α]<sub>D</sub><sup>23</sup> = -386.4 (c = 1.0, CHCl<sub>3</sub>); HPLC (Daicel CHIRALCEL OD-H, Hexane/EtOH = 70:30, flow rate 0.5 mL/min, λ = 254 nm); *t<sub>R</sub>* = 21.45 (minor), 35.23 (major) min.

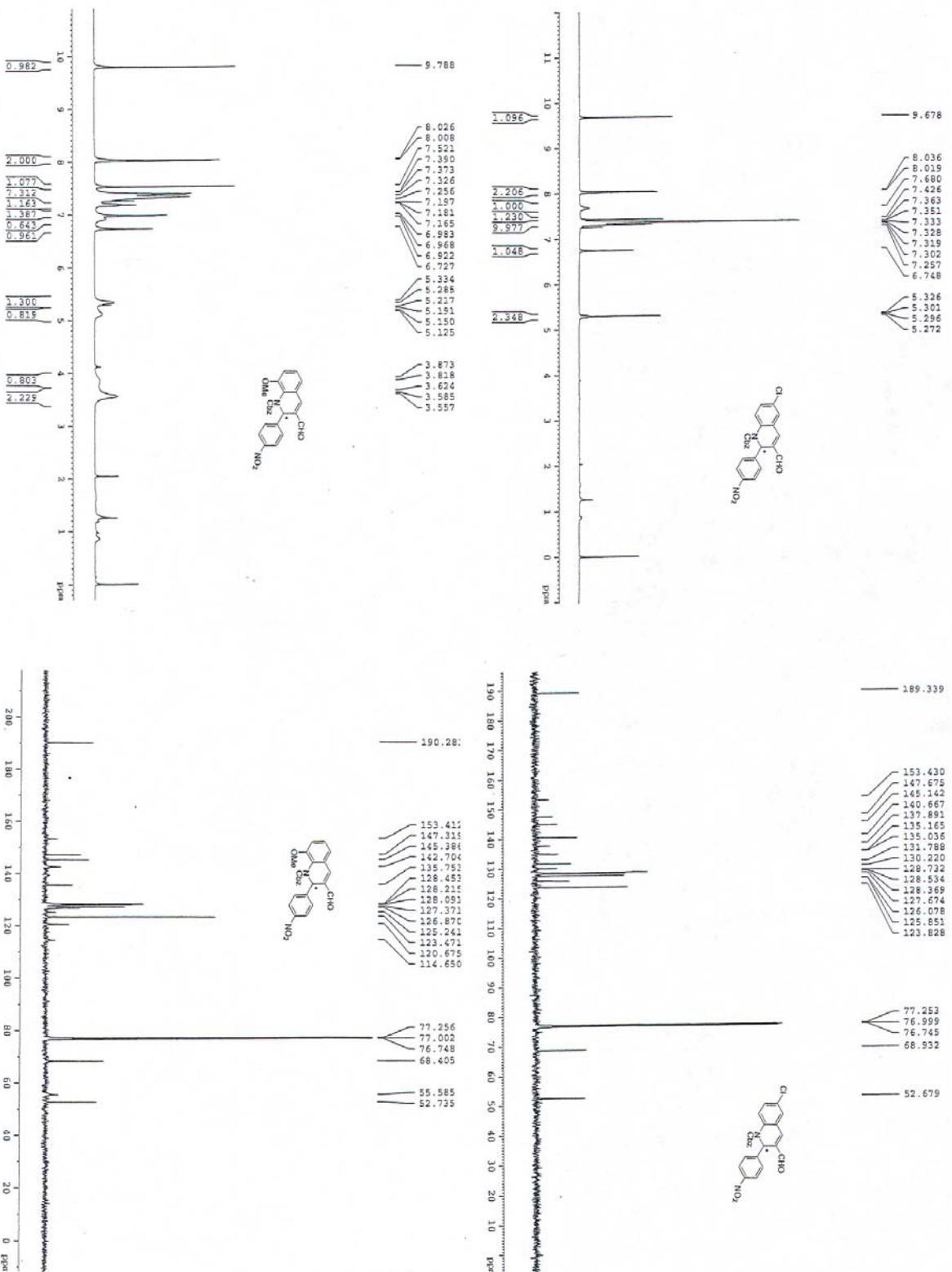


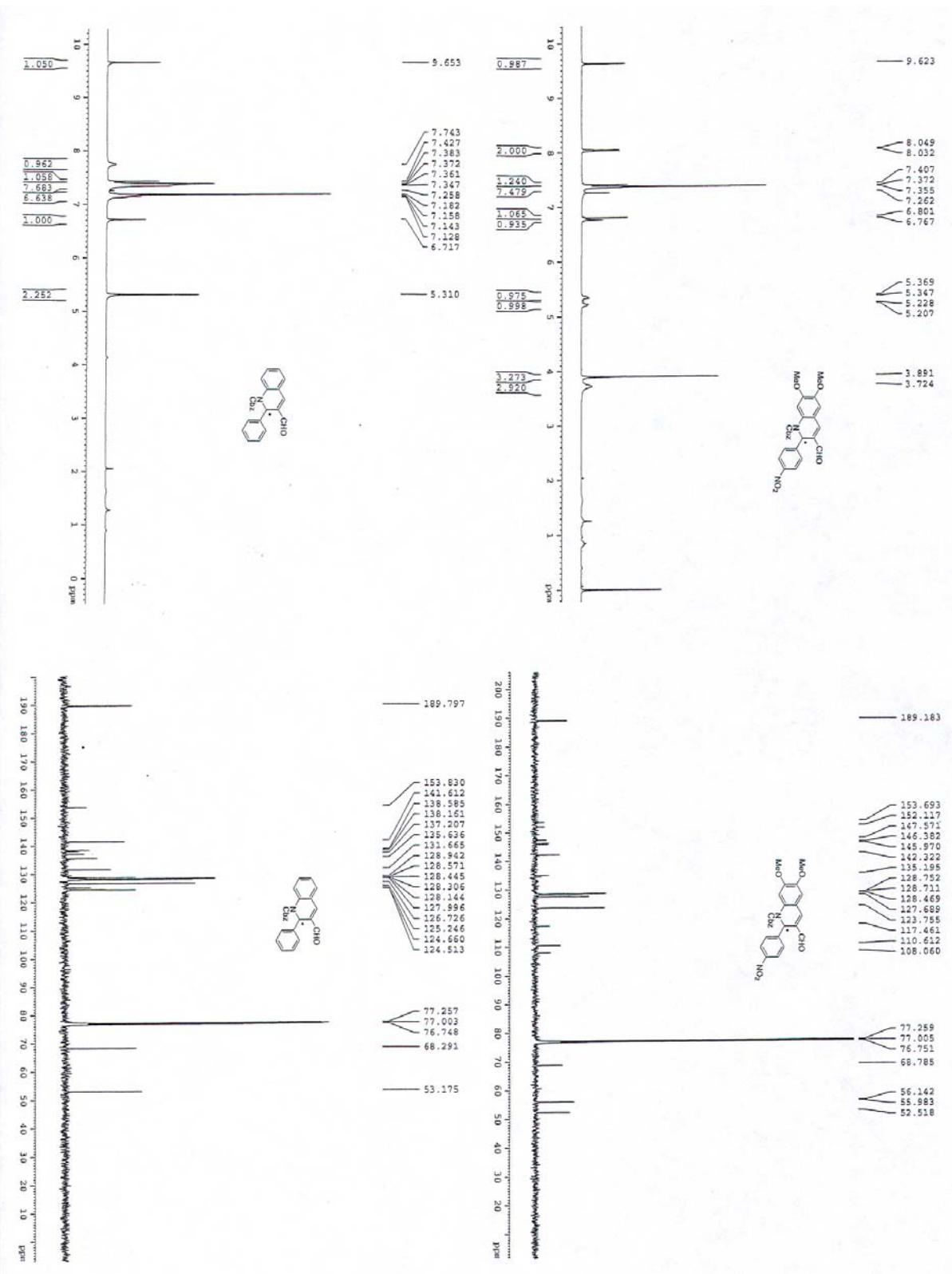
**2-Methyl-1-(toluene-4-sulfonyl)-1,2-dihydro-quinoline-3-carbaldehyde (**3n**)** (Table 2, entry 14): Yield: 86%; <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ 9.18 (s, 1H), 7.83 (d, 1H, *J* = 8.0 Hz), 7.49 (t, 1H, *J* = 7.5 Hz), 7.30 (t, 1H, *J* = 7.5 Hz), 7.21 (m, 3H), 7.03 (d, 2H, *J* = 8.0 Hz), 6.73 (s, 1H), 5.42 (q, 1H, *J* = 7.0 Hz), 2.32 (s, 3H), 1.13 (d, 3H, *J* = 7.0 Hz); <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>): δ 189.4, 143.7, 139.6, 139.2, 135.5, 134.8, 131.6, 129.2, 128.7, 128.5, 126.8, 126.7, 48.2, 21.4, 19.2; [α]<sub>D</sub><sup>23</sup> = -517.0 (c = 1.0, CHCl<sub>3</sub>); HPLC (Daicel CHIRALPAK AS-H, Hexane/EtOH = 85:15, flow rate 0.5 mL/min, λ = 254 nm); *t<sub>R</sub>* = 18.90 (major), 20.10 (minor) min.

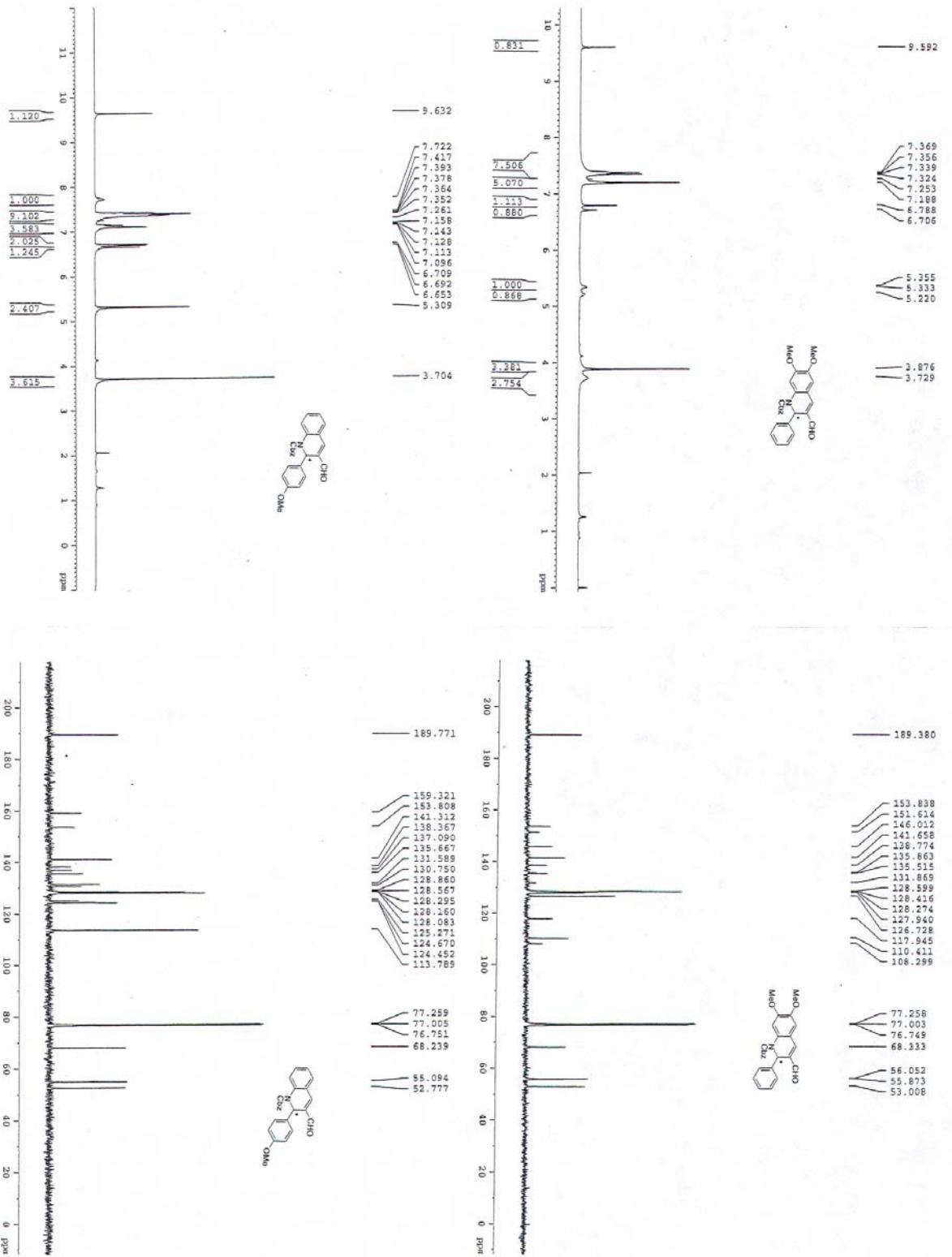


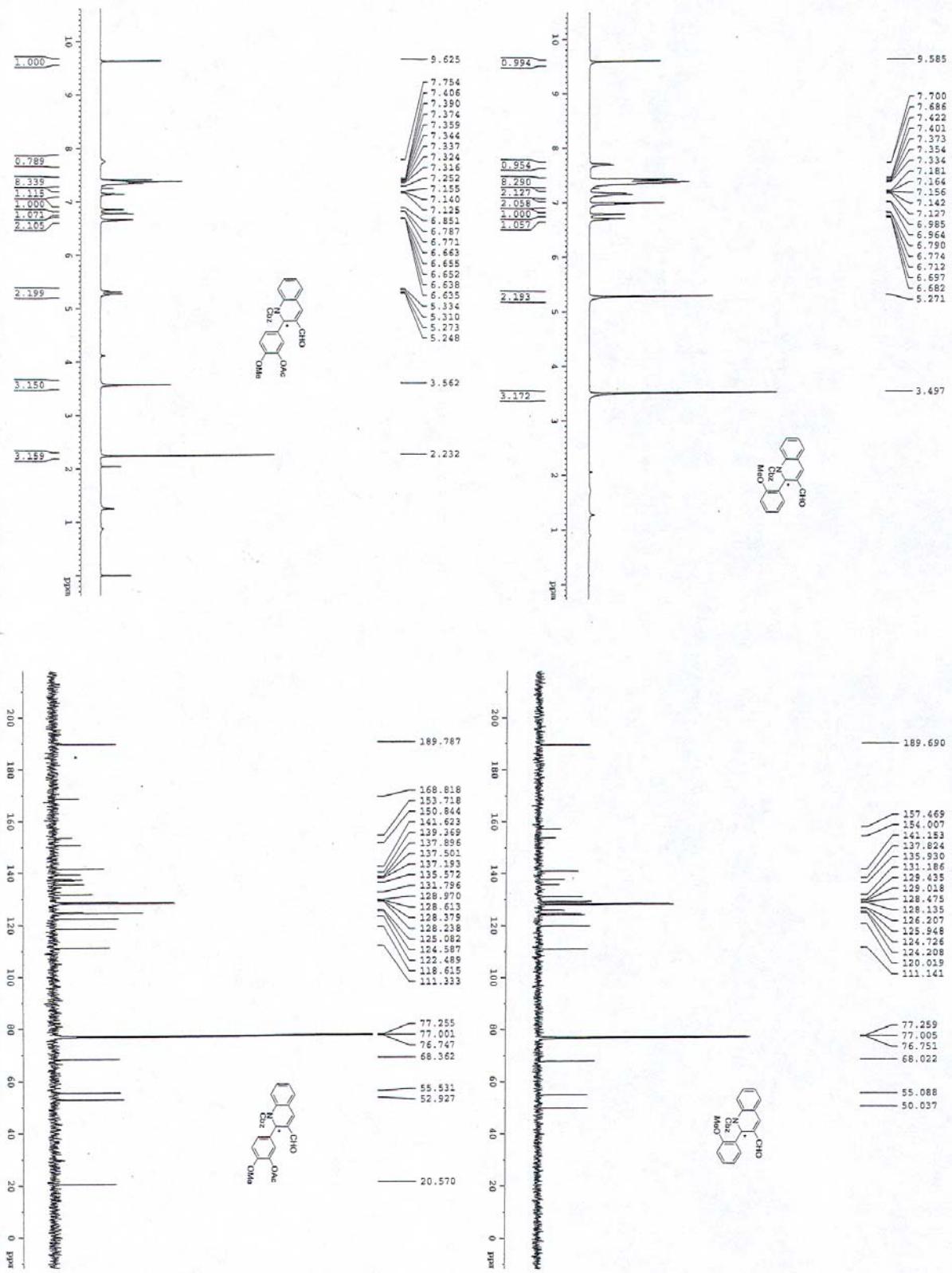
**2-Benzoyloxymethyl-1-(toluene-4-sulfonyl)-1,2-dihydro-quinoline-3-carbaldehyde (**3o**)** (Table 2, entry 15): Yield: 86%; <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ 9.22 (s, 1H), 7.85 (d, 1H, *J* = 8.0 Hz), 7.47 (t, 1H, *J* = 7.5 Hz), 7.18-7.28 (m, 7H), 7.09 (d, 2H, *J* = 7.0 Hz), 7.04 (d, 2H, *J* = 8.0 Hz), 6.84 (s, 1H), 5.66 (t, 1H, *J* = 5.5 Hz), 4.51 (d, 1H, *J* = 12.0 Hz), 4.44 (d, 1H, *J* = 12.0 Hz), 3.42 (d, 1H, *J* = 5.5 Hz), 2.32 (s, 3H); <sup>13</sup>C NMR (125 MHz, CDCl<sub>3</sub>): δ 189.5, 143.8, 141.3, 137.8, 135.8, 135.6, 135.1, 131.7, 129.2, 128.9, 128.2, 127.8, 127.4, 127.3, 126.9, 126.8, 126.7, 72.7, 69.9, 51.7, 21.5; [α]<sub>D</sub><sup>23</sup> = -480.5 (c = 1.0, CHCl<sub>3</sub>); HPLC (Daicel CHIRALPAK AS-H, Hexane/EtOH = 75:25, flow rate 0.5 mL/min, λ = 254 nm); *t<sub>R</sub>* = 15.51 (minor), 16.70 (major) min.

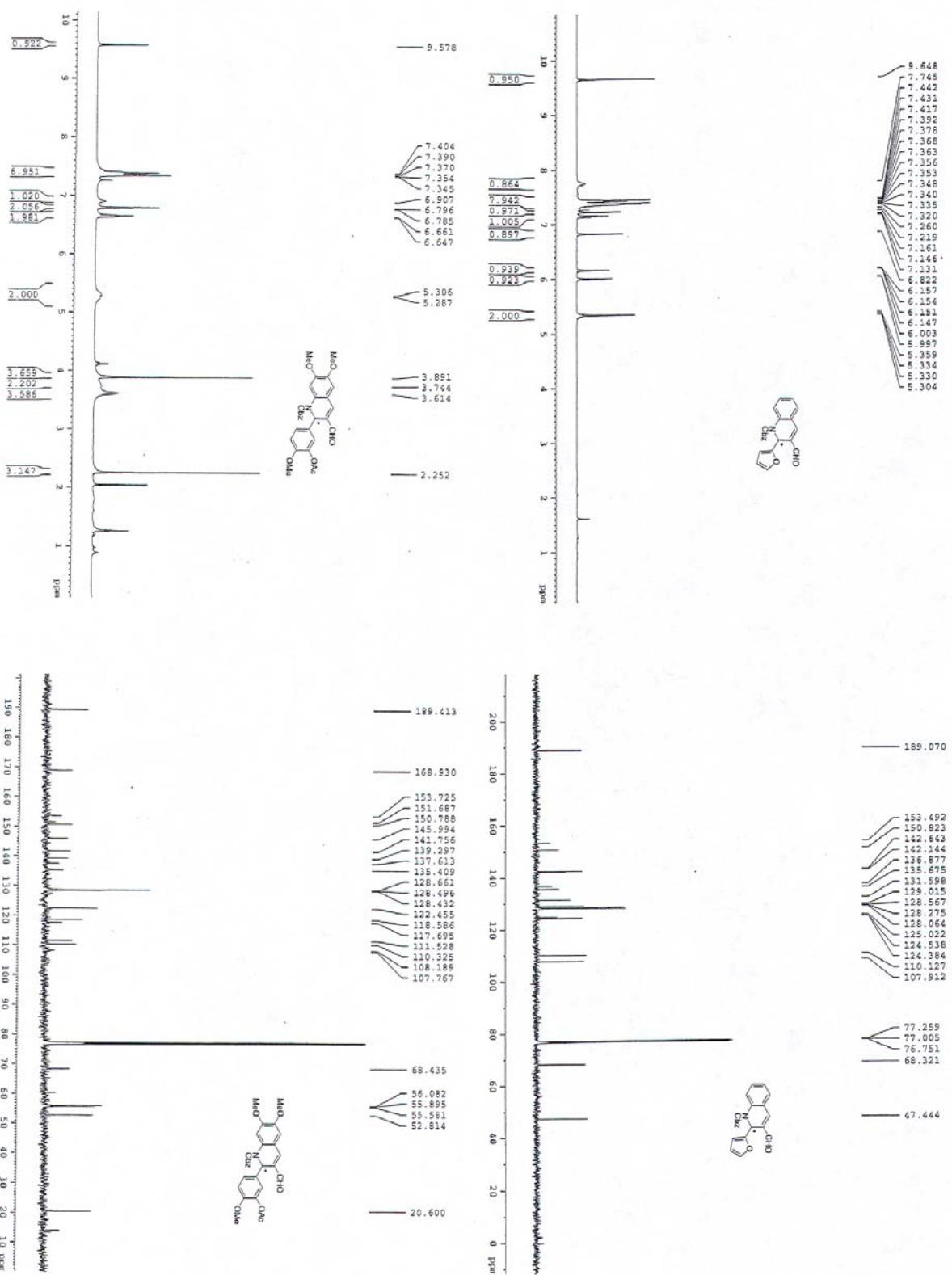


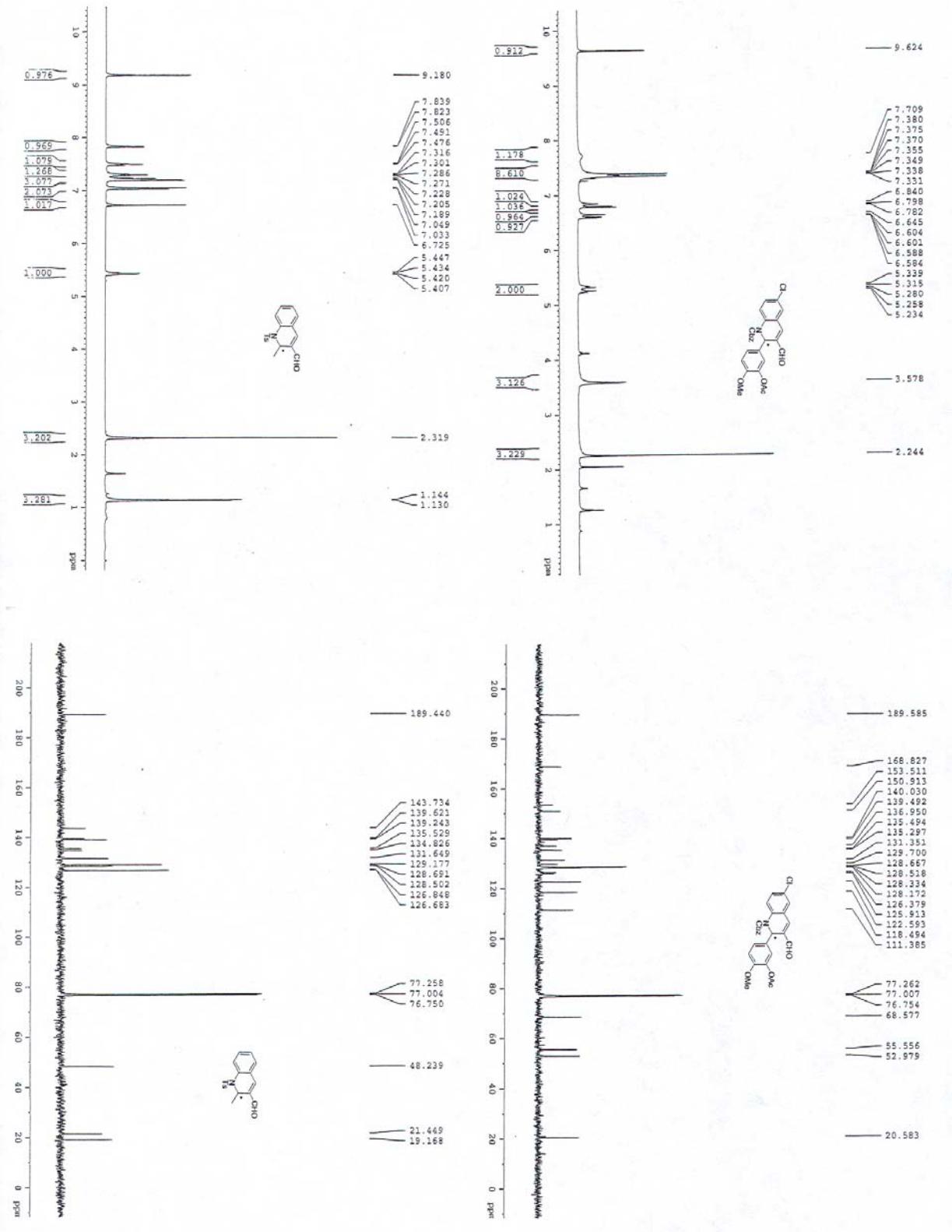


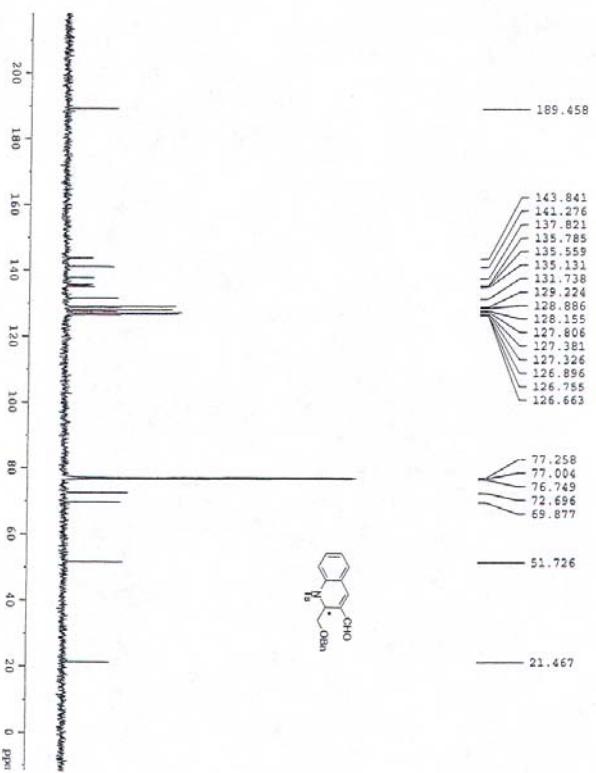
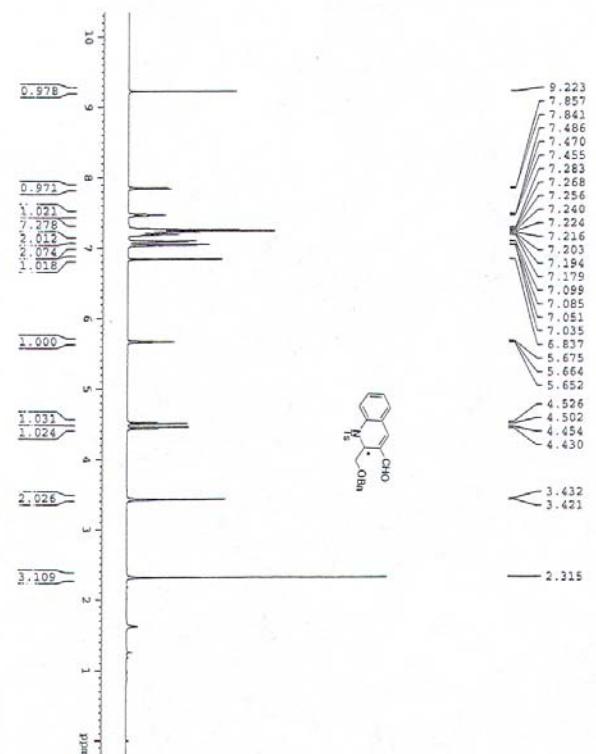






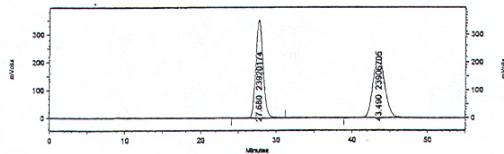
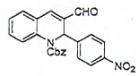






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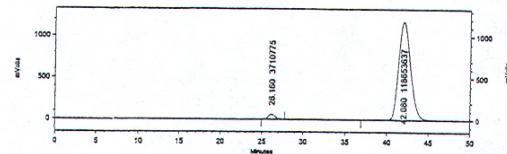
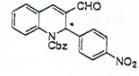
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SPD-10Avp Ch1-254nm Results			
Pk #	RT	Area	Area %
1	27.690	23920174	50.014
2	43.490	23906705	49.986
Totals		47826879	100.000

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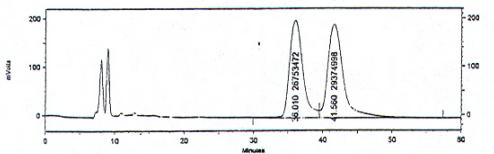
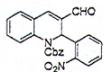
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PK  
Sample ID: hln51e



SPD-10Avp Ch1-254nm Results			
Pk #	RT	Area	Area %
1	28.660	3710775	3.033
2	37.075	11865367	96.967
Totals		12236412	100.000

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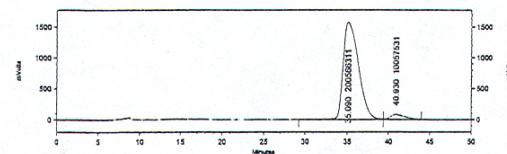
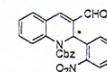
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PK  
Sample ID: hlo2e



SPD-10Avp Ch1-254nm Results			
Pk #	RT	Area	Area %
1	36.010	26753472	47.665
2	41.560	29374398	52.335
Totals		56128470	100.000

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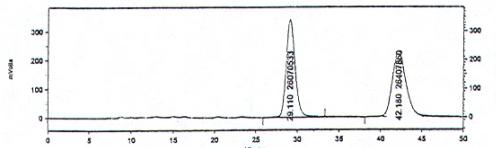
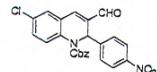
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PK  
Sample ID: hlo3e



SPD-10Avp Ch1-254nm Results			
Pk #	RT	Area	Area %
1	35.090	200566311	95.225
2	40.930	10057531	4.775
Totals		210623842	100.000

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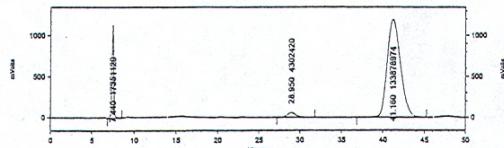
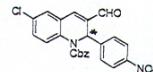
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Date Acquired: 6/9/2006 4:45:33 PM Date Printed: 06/29/2006 01:41:30 PM  
Sample ID: hln62e



SPD-10Avp Ch1-254nm Results			
Pk #	RT	Area	Area %
1	29.110	26070533	49.579
2	42.180	26407860	50.321
Totals		52478393	100.000

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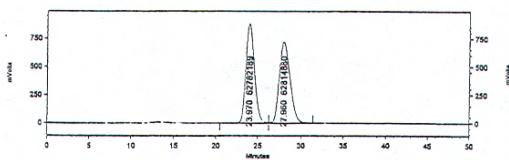
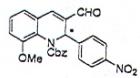
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Date Acquired: 6/12/2006 1:16:23 PM Date Printed: 06/29/2006 01:45:33 PM  
Sample ID: hln92e



SPD-10Avp Ch1-210nm Results			
Pk #	RT	Area	Area %
2	28.950	4302420	2.766
3	43.024	133878974	98.078
Totals		138181394	100.000

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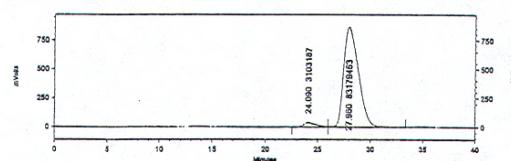
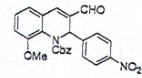
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Date Acquired: 6/15/2006 9:10:15 PM Date Printed: 06/29/2006 01:51:00 PM  
Sample ID: hln7e



SPD-10Avp Ch1-254nm Results				
Pk #	RT	Area	Area %	
1	23.970	62782189	49.987	
2	27.960	6281480	50.013	
Totals		125570769	100.000	

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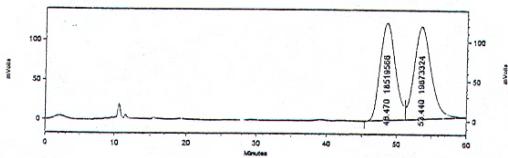
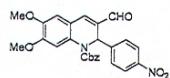
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PK Sample ID: hln9e



SPD-10Avp Ch1-254nm Results				
Pk #	RT	Area	Area %	
1	24.080	3103187	3.597	
2	27.960	83179453	96.403	
Totals		86282650	100.000	

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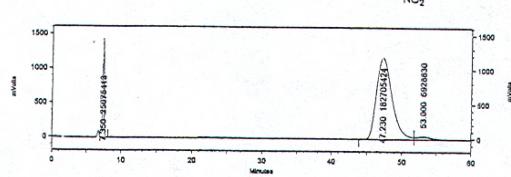
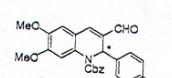
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Date Acquired: 6/9/2006 9:40:27 PM Date Printed: 06/29/2006 01:40:49 PM  
Sample ID: hln8e



SPD-10Avp Ch1-254nm Results				
Pk #	RT	Area	Area %	
1	48.470	18519366	48.237	
2	53.440	19873324	51.763	
Totals		38392890	100.000	

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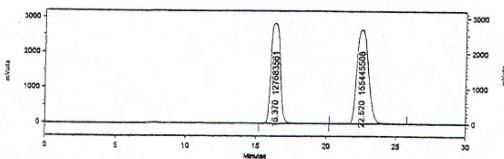
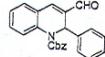
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PK Sample ID: hln9e



SPD-10Avp Ch1-210nm Results				
Pk #	RT	Area	Area %	
2	47.230	182705424	94.357	
3	53.000	6928830	3.218	
Totals		189634254	100.000	

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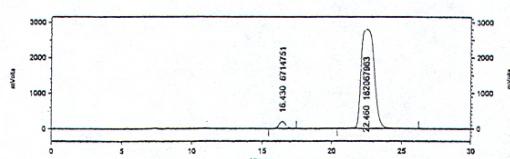
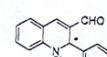
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Date Acquired: 5/30/2006 12:30:13 PM Date Printed: 06/29/2006 01:34:02  
PK Sample ID: hln6e



SPD-10Avp Ch1-254nm Results				
Pk #	RT	Area	Area %	
1	16.370	127583561	45.097	
2	22.520	155445508	54.903	
Totals		283129069	100.000	

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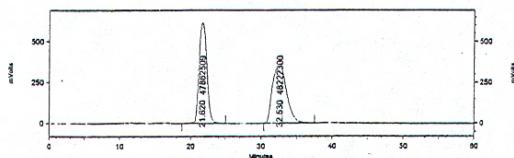
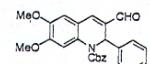
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Date Acquired: 6/6/2006 11:08:41 AM Date Printed: 06/29/2006 01:36:27 PM  
Sample ID: hln7e



SPD-10Avp Ch1-254nm Results				
Pk #	RT	Area	Area %	
1	16.430	6714751	3.557	
2	22.460	182067963	96.443	
Totals		188782714	100.000	

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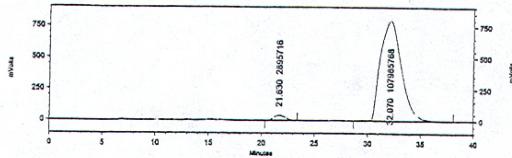
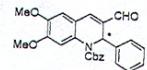
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Sample ID: hlo10e



SPD-10AvP Ch1-254nm Results				
Pk #	RT	Area	Area %	
1	21.620	47862509	49.813	
2	32.530	48222300	50.187	
Totals		96084809	100.000	

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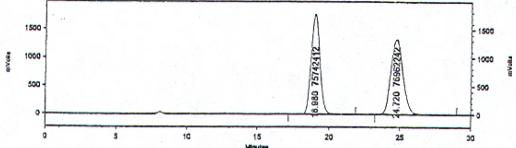
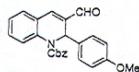
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Sample ID: hlo10e



SPD-10AvP Ch1-254nm Results				
Pk #	RT	Area	Area %	
1	21.630	2895716	2.912	
2	32.070	107985768	97.388	
Totals		110881184	100.000	

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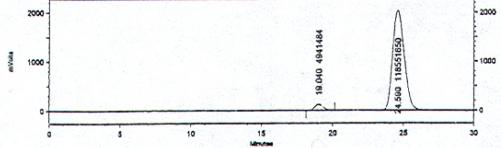
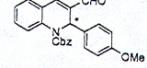
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Date Acquired: 5/30/2006 2:10:00 PM Date Printed: 06/29/2006 01:34:43 PM  
Sample ID: hln69i



SPD-10AvP Ch1-254nm Results				
Pk #	RT	Area	Area %	
1	18.980	75742412	49.801	
2	24.720	76962242	50.199	
Totals		152704654	100.000	

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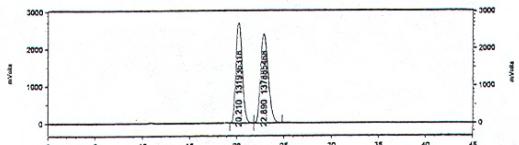
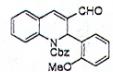
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Sample ID: hln73i



SPD-10AvP Ch1-254nm Results				
Pk #	RT	Area	Area %	
1	19.040	4941484	4.001	
2	24.590	118551650	95.999	
Totals		123493134	100.000	

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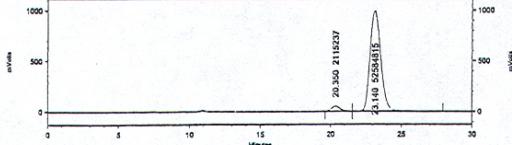
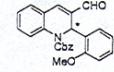
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Sample ID: hln70i



SPD-10AvP Ch1-254nm Results				
Pk #	RT	Area	Area %	
1	20.210	131393613	48.398	
2	22.890	137085468	51.102	
Totals		269821786	100.000	

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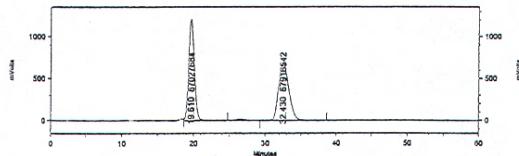
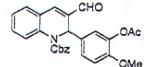
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Sample ID: hln74i



SPD-10AvP Ch1-254nm Results				
Pk #	RT	Area	Area %	
1	20.350	2115237	3.887	
2	23.140	52584815	96.133	
Totals		54760052	100.000	

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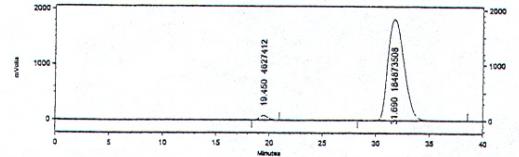
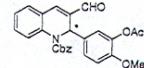
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Sample ID: hlc04e



SPD-10Avp Chl-254nm Results			
Pk #	RT	Area	Area %
1	19.610	67027584	49.671
2	32.430	67916542	50.329
Totals		134944226	100.000

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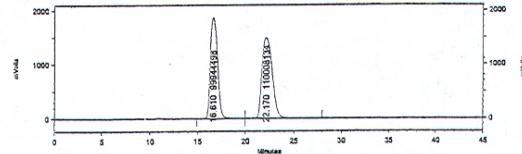
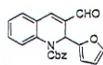
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Date Acquired: 6/15/2006 12:08:55 PM Date Printed: 06/29/2006 01:50:24  
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Sample ID: hlc05e



SPD-10Avp Chl-254nm Results			
Pk #	RT	Area	Area %
1	19.450	4627412	2.442
2	31.690	134873508	97.558
Totals		139500920	100.000

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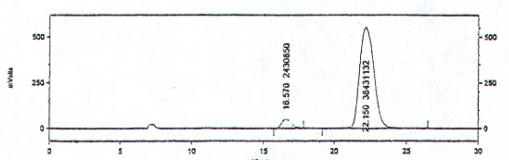
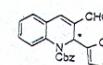
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Date Acquired: 6/25/2006 9:23:37 PM Date Printed: 06/29/2006 01:54:51 PM  
Sample ID: hlc018e



SPD-10Avp Chl-254nm Results			
Pk #	RT	Area	Area %
1	16.610	99944498	47.603
2	22.170	110008134	52.397
Totals		209952632	100.000

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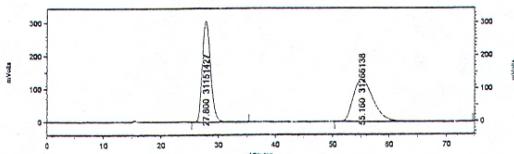
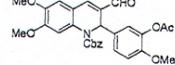
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PM  
Sample ID: hlc019e



SPD-10Avp Chl-254nm Results			
Pk #	RT	Area	Area %
1	16.570	2430850	5.349
2	22.190	38431132	94.051
Totals		40861982	100.000

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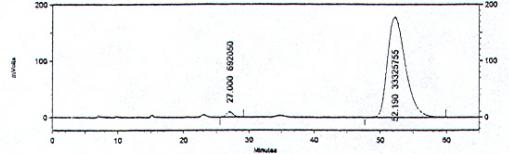
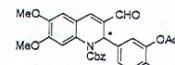
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Date Acquired: 7/3/2006 1:44:53 PM Date Printed: 07/31/2006 02:47:31 PM  
Sample ID: hlc034e



SPD-10Avp Chl-254nm Results			
Pk #	RT	Area	Area %
1	27.800	31151427	49.908
2	55.160	31266138	50.092
Totals		62417565	100.000

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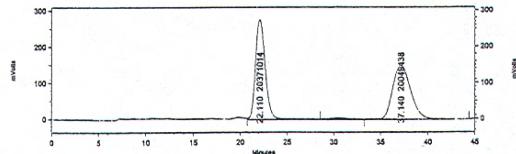
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Date Acquired: 7/6/2006 12:07:56 PM Date Printed: 07/31/2006 02:49:49 PM  
Sample ID: hlc040e



SPD-10Avp Chl-254nm Results			
Pk #	RT	Area	Area %
1	27.000	692050	2.034
2	52.190	33325755	97.966
Totals		34017805	100.000

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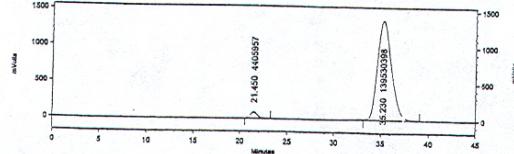
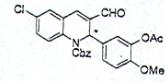
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Sample ID: hlo35e



SPD-10Avp Ch1-254nm Results			
Pk #	RT	Area	Area %
1	22.110	20371014	50.398
2	37.140	20049438	49.602
<b>Totals</b>		<b>40420452</b>	<b>100.000</b>

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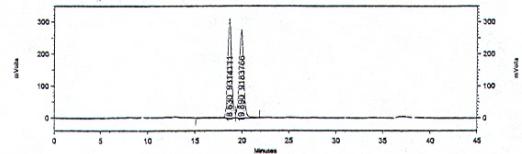
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Date Acquired: 7/6/2006 11:19:41 AM Data Printed: 07/31/2006 02:51:28 PM  
Sample ID: hlo41e



SPD-10Avp Ch1-254nm Results			
Pk #	RT	Area	Area %
1	21.450	4405957	3.061
2	35.230	139330398	96.939
<b>Totals</b>		<b>143936355</b>	<b>100.000</b>

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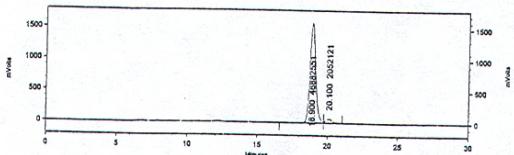
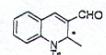
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Date Acquired: 7/28/2006 2:57:13 PM Data Printed: 07/31/2006 10:05:10 AM  
Sample ID: hlo73e



SPD-10Avp Ch1-254nm Results			
Pk #	RT	Area	Area %
1	18.630	9314111	50.352
2	19.890	9183766	49.648
<b>Totals</b>		<b>18497877</b>	<b>100.000</b>

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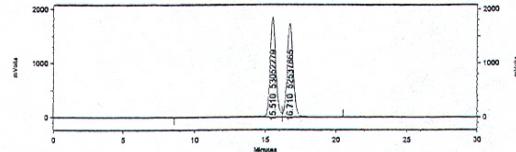
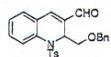
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Date Acquired: 7/29/2006 12:34:27 PM Data Printed: 07/31/2006 10:06:19 AM  
Sample ID: hlo82e



SPD-10Avp Ch1-254nm Results			
Pk #	RT	Area	Area %
1	18.900	46882551	95.306
2	20.100	2052121	4.194
<b>Totals</b>		<b>48934672</b>	<b>100.000</b>

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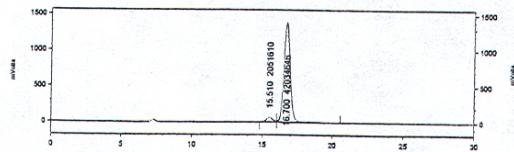
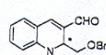
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Data File: C:\EZStart\Projects\WeiWang\xls0587-2.dat  
Date Acquired: 7/30/2006 11:50:55 AM Data Printed: 07/31/2006 10:07:41 AM  
Sample ID: hlo84e



SPD-10Avp Ch1-254nm Results			
Pk #	RT	Area	Area %
1	15.510	53052279	50.244
2	16.710	52537865	49.756
<b>Totals</b>		<b>105590144</b>	<b>100.000</b>

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Method Name: C:\EZStart\Projects\WeiWang\xls0587-2.met  
Data File: C:\EZStart\Projects\WeiWang\xls0587-2.dat  
Date Acquired: 7/30/2006 3:48:26 PM Data Printed: 07/31/2006 10:10:22 AM  
Sample ID: hlo88e



SPD-10Avp Ch1-254nm Results			
Pk #	RT	Area	Area %
1	15.510	2051510	4.554
2	16.700	42034646	95.346
<b>Totals</b>		<b>44086256</b>	<b>100.000</b>