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Supporting Information

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A Stereocontrolled, Solid Phase Synthesis of 90 Membered Library of Indoline Alkaloid-like Polycyclics from an *Enantiorich* Aminoindoline Scaffold

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General Methods

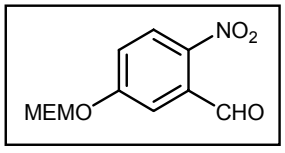
The materials were obtained from commercial suppliers and used without purification. THF, CH_2Cl_2, and DMF were passed through the activated alumina columns to remove impurities prior to use. 2,6-Lutidine was distilled from CaH_2 under N_2. Column chromatography was performed using Silicycle Ultra Pure Silica Gel (230-400 mesh). Reactions were monitored by thin layer chromatography (TLC) using Merck 60 F_{254} 0.25 mm silica gel plates.

Small-scale solid phase reactions (1-50 mg resin) were performed in 2 mL fritted polypropylene Bio-Spin® chromatography columns. Medium-scale solid phase reactions (50-500 mg) were performed in 10 mL polypropylene PD-10 columns. Agitation of solid phase reactions was performed using a Barnstead-Thermolyne™ Labquake shaker. Library synthesis was achieved by use of IRORI Technology (Accutag-100 Combinatorial Chemistry System, MicroKan Reactor Pk96, Radio frequency tag Pk500). The washing was carried out on a Vac-Man®laboratory Vacuum Manifold with 2-way Teflon stopcocks. The linker cleavage reactions (<50 mg of beads) were carried out in 1.5 mL eppendorf tubes. Vacuum removal of solvents for the linker cleavage reactions was accomplished using Genevac HT-4 Atlas Evaporator.

All NMR experiments were recorded on an AC-Bruker instrument (400 MHz). Unless otherwise noted, proton and carbon chemical shifts are reported in parts per million using residual $CHCl_3$ as an internal standard at 7.26 and 77.0 ppm, respectively. Analysis by mass spectrometry was performed on a VG Quattro I (Micromass) mass spectrometer equipped with a pneumatically assisted electrospray ionization source operating in positive mode. The enantiomeric excess (ee%) was determined by chiral HPLC using a Hewlett-Packard (Agilent) 1090 LC equipped with a diode array detector and Chiracel-OD column. The HPLC spectra were recorded on an Agilent 1100 Series HPLC system.

Experimental Section

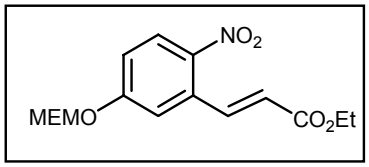
Compound 9a



DIPEA (35.6 mL, 204 mmol) and MEM chloride (17.5 mL, 153 mmol) were added to a solution of 5-hydroxy-2-nitro-benzaldehyde (**9**, 13.9 g, 83.2 mmol) in CH_2Cl_2 (500 mL) at 0 °C. The mixture was warmed to room temperature and stirred for another 4 h. The reaction was quenched with saturated ammonium chloride solution and extracted with

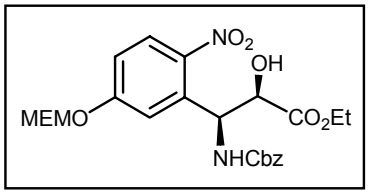
CH_2Cl_2. The organic layer was washed with brine, dried over Na_2SO_4, and concentrated under reduced pressure. The crude product was purified by column chromatography (1:3 ethyl acetate/hexanes) to give the pure product **9a** (20.5 g, 97%) as pale yellow oil. ^{1}H NMR (400 MHz, CDCl3) δ 10.46 (s, 1H), 8.16 (d, *J* = 9.0 Hz, 1H), 7.48 (s, 1H), 7.34 (d, *J* = 8.9 Hz, 1H), 5.40 (s, 2H), 3.84 (d, *J* = 3.0 Hz, 2H), 3.56 (d, *J* = 2.9 Hz, 2H), 3.37 (s, 3H); ^{13}C NMR (100 MHz, CDCl3) δ 188.7, 162.1, 143.3, 134.7, 127.5, 120.2, 116.7, 93.9, 71.8, 68.9, 59.4; MS (ES^+) *m/z* 256.0 (M+1).

Compound 10



To a suspension of 60% NaH (3.0 g, 65 mmol) in THF (200mL) was added triethyl phosphono acetate (11.5 mL, 58 mmol) at 0 ^{o}C. The reaction mixture was stirred for 30 min at 0 ^{o}C. To the reaction mixture was added the above aldehyde **9a** (12.76 g, 50 mmol) at 0 ^{o}C. The reaction mixture was stirred for 6 h at 0 ^{o}C and quenched with water (75 mL). The mixture was extracted with EtOAc twice. The combined organic layers were washed with water and brine, dried over Na_2SO_4. The solvent was evaporated under reduced pressure and the residue was purified by column chromatography (1:1 ethyl acetate/hexanes) to give the compound **10** (15.35 g, 94%) as yellow oil. ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.18 (d, *J* = 15.7 Hz, 1H), 8.11 (d, *J* = 9.0 Hz, 1H), 7.21 (d, *J* = 2.6 Hz, 1H), 7.16 (dd, *J* = 9.0, 2.6 Hz, 1H), 6.32 (d, *J* = 15.7 Hz, 1H), 5.37 (s, 2H), 4.30 (q, *J* = 7.1 Hz, 2H), 3.84 (t, *J* = 4.6 Hz, 2H), 3.38(t, *J* = 4.6 Hz, 2H), 3.38 (s, 3H), 1.36 (t, *J* = 7.1 Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 165.5, 161.5, 142.3, 141.1, 133.9, 127.8, 123.7, 117.4, 116.5, 93.8, 71.8, 68.6, 61.2, 59.4, 14.6; MS (ES^+) *m/z* 326.1 (M+1).

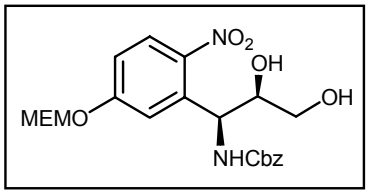
Compound 11



Benzyl carbamate (3.63 g, 24 mmol) was dissolved in *n*-propyl alcohol (32 mL). To this stirred solution at 0 ^{o}C was added a freshly prepared solution of NaOH (NaOH (0.96 g, 24 mmol) in water (60 mL)), followed by a freshly prepared solution of *tert*-butyl hypochlorite (2.60 g, 24 mmol, ca. 2.8 mL). Then a solution of the ligand $(DHQ)_2PHAL$ (312 mg, 0.4 mmol, 5 mol%) in *n*-propyl alcohol (28 mL) was added. The solution was stirred in an ice bath for a few minutes. Then the olefin **10** (2.60 g, 8 mmol) was added, followed by potassium osmate dihydrate (118 mg, 0.32 mmol, 4 mmol%). The reaction was stirred was stirred for 2 h, and the dark green color of the solution have way to dark yellow at the end. After TLC analysis confirmed the absence of starting material, ethyl acetate (60 mL) was added and the phases were separated. The aqueous phase was extracted with ethyl acetate twice. The combined organic extracts were washed with water and brine, dried over Na_2SO_4, filtered, and concentrated to dryness to afford the crude product. Purification by column chromatography (1:1 ethyl acetate/hexanes) afforded the product **11** (2.93 g, 79%) as yellow syrup. ^{1}H NMR (400 MHz, CDCl3) δ 8.13 (d, *J* = 9.1 Hz, 1H), 7.38-7.30 (m, 5H), 7.19 (d, *J* = 2.4 Hz, 1H), 7.11 (dd, *J* = 9.1, 2.4 Hz, 1H), 6.09 (d, *J* = 8.9 Hz, 1H), 5.88 (d, *J* = 8.9 Hz, 1H), 5.33 (s, 2H), 5.11 (d, *J* = 12.1 Hz, 1H), 5.03 (d, *J* = 11.9 Hz, 1H), 4.66(s, 1H), 4.31 (q, *J* = 7.2 Hz, 2H), 3.82 (t, *J* = 4.6 Hz, 2H), 3.54 (t, *J* = 4.7 Hz, 2H) 3.36 (s, 3H), 3.31 (s, 1H), 1.28 (t, *J* = 7.2 Hz, 3H); ^{13}C NMR (100 MHz, CDCl3) δ 173.1, 161.6, 155.7,

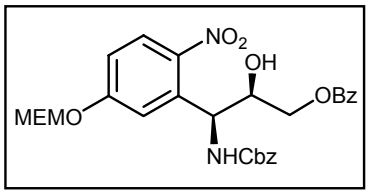
142.1, 138.5, 136.5, 128.9, 128.6, 128.5,128.1, 117.4, 115.4, 93.7, 72.4, 71.8, 68.4, 67.5, 63.2, 59.4,53.3, 14.4; MS (ES^+) *m/z* 493.3 (M+1).

Compound 11a



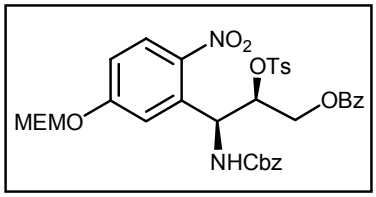
To a solution of the compound **11** (2.83 g, 6.12 mmol) in dry THF (75 mL) was added a solution of 2 M $LiBH_4$ in THF (3.06 mL, 6.12 mmol) under N_2 at 0°C. The solution was allowed to warm to room temperature, and then stirred overnight. The reaction was quenched by saturated ammonium chloride solution. The aqueous phase was extracted with ethyl acetate. The combined organic layer was washed with brine, dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (3:1 ethyl acetate/hexanes) to give the product **11a** (1.81 g, 70%) as yellowish oil. ^{1}H NMR (400 MHz, CDCl3) δ 8.04 (d, J = 9.0 Hz, 1H), 7.42-7.20 (m, 5H), 7.12-6.85 (m, 2H), 6.42 (d, J = 8.1 Hz, 1H), 5.53 (d, J = 5.6 Hz, 1H), 5.32-5.18 (m, 2H), 5.05 (s, 2H), 4.01 (s, 1H), 3.85-3.60 (m, 5H), 3.54 (m, 2H) 3.27 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 161.4, 156.5, 142.1, 140.2, 136.6, 128.9, 128.8, 128.7, 128.6, 128.5, 128.3, 128.2, 127.6, 116.5, 116.0, 115.5, 93.6, 73.8, 71.8, 68.2, 67.5, 64.7, 59.2, 52.5; MS (ES^+) *m/z* 451.2 (M+1).

Compound 11b



To a solution of diol **11a** (1.67 g, 3.71 mmol) in dry CH_2Cl_2 (50 mL) was added dry pyridine (330 μL, 4.08 mmol). The solution was cooled to –25 ^{0}C. Benzoyl chloride (409 μL, 3.52 mmol) in CH_2Cl_2 was added to the solution dropwise. The solution was stirred at –25 ^{0}C for 2 h. The reaction was quenched with methanol (0.5 mL), and washed with 1% HCl, brine, and saturated $NaHCO_3$ solution. The organic layer was dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (1:1 ethyl acetate/hexanes) to give the product **11b** (1.80 g, 88%) as yellow syrup. ^{1}H NMR (400 MHz, CDCl3) δ 8.11 (m, 3H), 7.59 (t, J = 7.4 Hz, 1H), 7.45 (t, J = 7.6 Hz, 1H), 7.40-7.20 (m, 7H), 7.06 (dd, J = 9.0, 2.1 Hz, 1H), 6.17 (d, J = 8.3 Hz, 1H), 5.78 (d, J = 8.3 Hz, 1H), 5.36 (d, J = 7.1 Hz, 1H), 5.31 (d, J = 7.1 Hz, 1H), 5.06 (s, 2H), 4.61 (dd, J = 11.4, 6.8 Hz, 1H), 4.51 (dd, J = 11.4, 4.8 Hz, 1H), 4.38 (m, 1 H), 3.80 (m, 2H), 3.56 (m, 1H), 3.49 (m, 1H), 3.28 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 167.4, 161.3, 156.2, 142.0, 139.9, 136.5, 133.7, 130.2, 130.0, 129.0, 128.9, 128.6, 128.5, 128.3, 116.6, 115.6, 93.4, 71.8, 71.7, 68.0, 67.6, 66.9, 59.2, 52.5; MS (ES^+) *m/z* 555.3.2 (M+1).

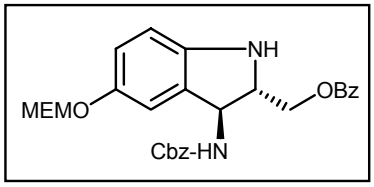
Compound 11c



To a solution of the compound **11b** (1.63 g, 2.98 mmol) in dry CH_2Cl_2 (30 mL) were added TsCl (852 mg, 4.47 mmol) and DMAP (728 mg, 5.96 mmol). The solution was stirred at room temperature for 24 h. The solution was washed with brine. The organic layer was dried over sodium sulfate, filtered, and

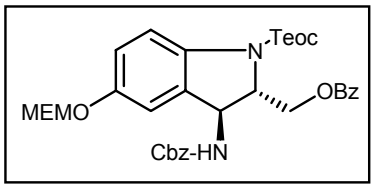
concentrated under reduced pressured. The crude product was purified by column chromatography (1:1 ethyl acetate/hexanes) to give the product **11c** (1.82 g, 87%) as yellow syrup. ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.09 (d, *J* = 9.1 Hz, 1H), 8.02 (d, *J* = 7.6 Hz, 2H), 7.59-7.51 (m, 3H), 7.43 (t, *J* = 7.6 Hz, 2H,), 7.35 (m, 5H), 7.11-7.04 (m, 4H), 6.02 (d, *J* = 9.2 Hz, 1H), 5.96 (d, *J* = 9.2 Hz, 1H), 5.35-5.28 (m, 3H), 5.07 (s, 2H), 4.68 (dd, *J* = 11.8, 5.9 Hz, 1H), 4.52 (dd, *J* = 11.8, 6.2 Hz, 1H), 3.83 (dd, *J* = 9.1, 4.4 Hz, 2H), 3.55 (dd, *J* = 9.1, 4.4 Hz, 2H), 3.36 (s, 3H), 2.30 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 166.2, 162.0, 155.8, 145.4, 141.7, 137.6, 136.2, 133.7, 132.9, 130.3, 130.2, 129.6, 128.8, 128.7, 128.6, 127.9, 93.8, 80.5, 71.8, 68.6, 67.9, 63.3, 59.4, 52.6, 22.0; MS (ES^+) *m/z* 709.3 (M+1).

Compound 12



To a solution of the compound **11c** (1.00 g, 1.41 mmol) in dry THF (25 mL) was added Lindlar catalyst (300 mg, 5% palladium over activated carbon). The reaction mixture was then subjected to hydrogenation under atmospheric pressure until TLC indicated the complete reduction of the nitro group. The mixture was filtered through celite. The organic solution was concentrated under reduced pressure. Then the intermediate was dissolved in dry THF (25 mL). Anhydrous potassium carbonate (390 mg, 2.82 mmol) was added to the solution. The mixture was stirred at 55 ^{o}C for 24 h. The mixture was diluted with ethyl acetate, and washed with brine. The organic layer was dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (1:1 ethyl acetate/hexanes) to give the product **12** (532 mg, 75%) as yellow syrup. ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.00 (d, *J* = 7.6 Hz, 1H), 7.56 (t, *J* = 7.4 Hz, 1H), 7.44-7.28 (m, 7H), 6.99 (s, 1H), 6.86 (dd, *J* = 8.4, 2.0 Hz, 1H), 6.57 (d, *J* = 8.4 Hz, 1H), 5.35 (bs, 1H), 5.21-5.11 (m, 5H), 4.62 (dd, *J* = 11.2, 3.7 Hz, 1H), 4.40 (dd, *J* = 11.0, 7.4 Hz, 1H), 4.10-3.90 (m, 2H), 3.83 (t, *J* = 4.5 Hz, 2H), 3.57 (t, *J* = 4.6 Hz, 2H), 3.38 (s, 3H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 166.8, 156.3, 151.7, 145.4, 136.7, 133.5, 130.3, 130.1, 129.0, 128.8, 128.7, 128.6, 119.0, 114.4, 111.4, 95.1, 72.0, 67.9, 67.4, 67.1, 66.7, 59.4, 56.9; MS (ES+) *m/z* 507.3 (M+1).

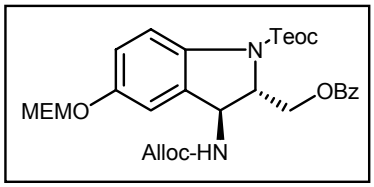
Compound 12a



To a solution of 2-(trimethylsilyl)ethanol (295 μL, 2.06 mmol) and bis(trichloromethyl)carbonate (204 mg, 0.88 mmol) in dichloromethane (10 mL) cooled to 0 ^{o}C was added pyridine (167 μL, 2.06 mmol) dropwise. The solution was stirred at 0 ^{o}C for 2 h. Then a solution of the compound **12** (520 mg, 1.03 mmol) and pyridine (250 μL, 3.09 mmol) in dichloromethane (10 mL) was added dropwise to the solution of 2-trimethylsilylethoxycabonyl chloride. The reaction was continued for 1 h at 0 ^{o}C. The solution was washed with 1% HCl solution, water, and brine. The organic layer was dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (1:2 ethyl acetate/hexanes) to give the product **12a** (604 mg, 98%). ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.76 (bs, 1H), 7.70 (d, *J* = 7.4 Hz, 2H), 7.49 (t, *J* = 7.3 Hz, 1H), 7.38-7.29 (m, 7H), 7.10 (s, 1H), 7.04 (dd, *J* = 8.8, 2.0 Hz, 1H), 5.21-5.10 (m, 6H), 4.65-4.55 (m, 3H), 4.29 (m, 2H), 3.82 (t, *J* = 4.5 Hz, 2H), 3.55 (t, *J* = 4.6

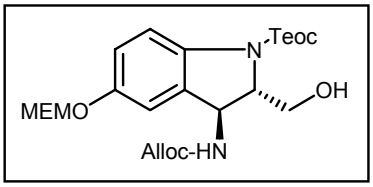
Hz, 2H), 3.36 (s, 3H), 1.09 (m, 2H), 0.06 (s, 9H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 166.5, 155.8, 154.1, 136.5, 134.0, 130.0, 129.0, 128.7, 128.3, 118.9, 116.8, 114.1, 94.7, 72.0, 68.0, 67.5, 66.5, 65.1, 64.8, 59.4, 18.2, 1.1; MS (ES^+) *m/z* 651.4 (M+1).

Compound 13



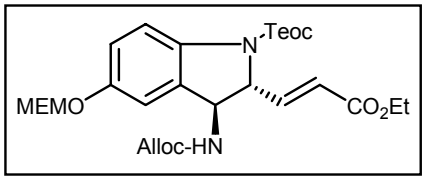
To a solution of the compound **12a** (790 mg, 1.21 mmol) in methanol (20 mL) was added Palladium catalyst (158 mg, 10% palladium over activated carbon). The reaction mixture was then subjected to hydrogenation under atmospheric pressure for 3 h. The mixture was filtered through celite. The organic solution was concentrated under reduced pressure. Then the intermediate was dissolved in dry THF (15 mL). Alloc chloride (161 μL, 1.51 mmol) and pyridine (147 μL, 1.82 mmol) was added to the solution at 0^{o}C. The mixture was stirred at 0^{o}C for 1 h. The mixture was diluted with ethyl acetate, and washed with 1% HCl solution and brine. The organic layer was dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (1:2 ethyl acetate/hexanes) to give the product **13** (617 mg, 85%). ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.76 (bs, 1H), 7.68 (d, *J* = 7.7 Hz, 2H), 7.49 (t, *J* = 7.3 Hz, 1H), 7.33-7.28 (m, 2H), 7.09 (d, *J* = 2.2 Hz, 1H), 7.03 (dd, *J* = 8.8, 2.0 Hz, 1H), 5.92 (m, 1H), 5.34-5.05 (m, 5H), 4.62-4.57 (m, 5H), 4.29 (bs, 2H), 3.83 (t, *J* = 4.6 Hz, 2H), 3.54 (t, *J* = 4.6 Hz, 2H), 3.37 (s, 3H), 1.09 (bs, 2H), 0.05 (s, 9H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 166.5, 155.6, 154.1, 133.3, 132.9, 130.0, 128.6, 118.9, 188.4, 116.8, 114.1, 94.7, 72.0, 68.0, 66.5, 66.3, 65.1, 64.8, 59.4, 18.2, -1.1; MS (ES^+) *m/z* 601.3 (M+1).

Compound 13a



To a solution of the compound **13** (586 mg, 0.98 mmol) in methanol (25 mL) was added potassium carbonate (135 mg, 0.98 mmol). The mixture was stirred at room temperature. After 2h, TLC showed the reaction was complete. The reaction was neutralized with Amberlite H^+ resin to pH = 7. The mixture was then filtered. The filtrate was concentrated under reduced pressure. The crude product was diluted with ethyl acetate, and washed with brine. The organic layer was dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (1:1 ethyl acetate/hexanes) to give the product **13a** (480 mg, 99%); ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.68 (bs, 1H), 7.06 (d, *J* = 2.4 Hz, 1H), 7.03 (dd, *J* = 8.8, 2.4 Hz, 1H), 5.94 (m, 1H), 5.34 (d, *J* = 17.2 Hz, 1H), 5.27-5.23 (m, 3H), 4.99 (d, *J* = 5.6 Hz, 1H), 4.63 (d, *J* = 4.6 Hz, 1H), 4.38-4.30 (m, 2H), 3.98 (bs, 1H), 3.83 (t, *J* = 4.6 Hz, 2H), 3.70 (bs, 1H), 3.58 (t, *J* = 4.6 Hz, 2H), 3.39 (s, 3H), 3.13 (bs, 1H), 1.13 (t, *J* = 8.6 Hz, 2H), 0.08 (s, 9H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 156.3, 154.1, 132.7, 118.9, 118.7, 117.0, 113.9, 94.5, 72.0, 69.9, 68.0, 66.6, 64.8, 63.8, 59.4, 55.2, 18.4, -1.1; MS (ES+) *m/z* 497.4 (M+1).

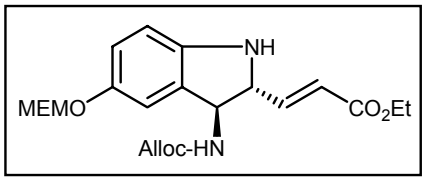
Compound 14



The Dess-Martin periodinane (810 mg, 1.92 mmol) was added to a solution of the compound **13a** (475 mg, 0.96

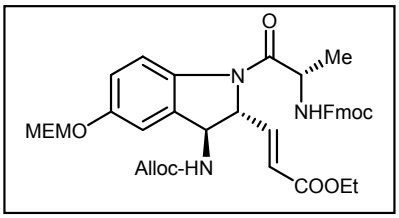
mmol) in dichloromethane (25 mL). The resulting suspension was stirred at room temperature. TLC showed complete conversion to the aldehyde after 1 h. Then (carbethoxymethylene)triphosphorane (836 mg, 2.4 mmol) was added to the reaction. The reaction was stirred for another 1 h. The mixture was washed with saturated sodium bicarbonate solution and brine sequentially. The organic layer was dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (2:3 ethyl acetate/hexanes) to give the product **14** (500 mg, 93%). ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.83 (bs, 1H), 7.07-7.05 (m, 2H), 6.95 (dd, *J* = 15.6, 5.7 Hz, 1H), 5.98-5.89 (m, 2H), 5.33 (d, *J* = 17.2 Hz, 1H), 5.25 (d, *J* = 15.3 Hz, 1H), 5.23 (s, 2H), 5.06 (d, *J* = 6.7 Hz, 1H), 4.92 (bs, 1H), 4.84 (d, *J* = 6.7 Hz, 1H), 4.62 (bs, 2H), 4.30 (bs, 2H), 4.18 (q, *J* = 7.1 Hz, 2H), 3.83 (t, *J* = 4.6 Hz, 2H), 3.58 (t, *J* = 4.6 Hz, 2H), 3.39 (s, 3H), 1.28 (t, *J* = 7.1 Hz, 3H), 1.07 (bs, 2H), 0.07 (s, 9H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 166.3, 155.6, 154.2, 144.2, 132.8, 122.6, 119.3, 118.5, 117.0, 114.4, 94.5, 72.0, 68.3, 68.1, 66.4, 64.8, 61.0, 59.4, 57.2, 18.2, 14.6, -1.1; MS (ES^+) *m/z* 565.4 (M+1).

Compound 14a



TBAF solution (1 M, 1.76 mL, 1.76 mmol) was added to the solution of the compound **14** (495 mg, 0.88 mmol) in THF (15 mL). The solution was stirred at room temperature for 2 h. The solution was washed with saturated NH_4Cl solution, dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (2:3 ethyl acetate/hexanes) to give the product **14a** (359 mg, 97%). ^{1}H NMR (400 MHz, $CDCl_3$) δ 6.98 (dd, *J* = 15.6, 6.7 Hz, 1H), 6.92 (d, *J* = 2.1 Hz, 1H), 6.85 (dd, *J* = 2.1, 8.5 Hz, 1H), 6.56 (d, *J* = 8.5 Hz, 1H), 6.05 (d, *J* = 15.6 Hz, 1H), 5.92 (m, 1H), 5.39 (d, *J* = 8.3 Hz, 1H), 5.31 (d, *J* = 15.6 Hz, 1H), 5.22 (d, *J* = 10.7 Hz, 1H), 5.14 (s, 2H), 4.98 (t, *J* = 6.8 Hz, 1H), 4.59 (d, *J* = 5.3 Hz, 1H), 4.20-4.14 (m, 3H), 3.81 (t, *J* = 4.6 Hz, 2 H), 3.56 (t, *J* = 4.6 Hz, 2H), 3.37 (s, 3H), 1.27 (t, *J* = 7.1 Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 166.6, 156.0, 151.7, 147.0, 145.1, 133.0, 128.3, 122.6, 119.0, 118.3, 114.5, 111.3, 95.1, 72.0, 68.5, 67.9, 66.2, 60.9, 59.5, 59.4, 14.6; MS (ES^+) *m/z* 421.3 (M+1).

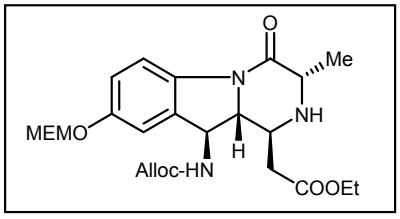
Compound 15



To a solution of the compound **14a** (34 mg, 0.081 mmol) in CH_2Cl_2 (2 mL) were added Fmoc-Ala-Cl (66.8 mg, 0.20 mmol) and pyridine (19.4 μL, 0.24 mmol). The solution was stirred at room temperature for 2h. The solution was diluted with ethyl acetate, washed with 1% HCl solution and brine, dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (1:1 ethyl acetate/hexanes) to give the product **15** (51 mg, 88%). ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.19 (d, *J* = 8.7 Hz, 1H), 7.78 (d, *J* = 7.4 Hz, 2H), 7.66-7.52 (m, 2H), 7.42 (t, *J* = 7.4 Hz, 2H), 7.33 (t, *J* = 7.2 Hz, 2H), 7.18-6.90 (m, 3H), 6.00 (d, *J* = 15.9 Hz, 1H), 5.93 (m, 1H), 5.79 (d, *J* = 7.5 Hz, 1H), 5.37-5.21 (m, 4H), 5.15 (bs, 1H), 4.97 (bs, 1H), 4.85 (bs, 1H), 4.65 (bs, 2H), 4.46-4.30 (m, 3H), 4.28-4.08 (m, 3H), 3.83 (t, *J* = 4.5 Hz, 2H), 3.57 (t, *J* = 4.5 Hz, 2H), 3.39 (s, 3H), 1.43 (d, *J* = 6.2 Hz, 3H),

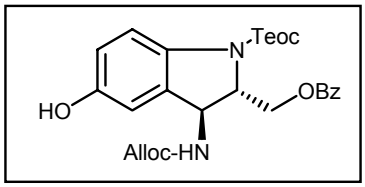
1.23 (t, J = 7.0 Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 171.1, 165.7, 155.7, 155.6, 155.5, 144.4, 144.2, 142.8, 141.7, 137.4, 132.7, 129.4, 128.1, 127.5, 125.6, 123.8, 120.4, 119.6, 119.2, 118.7, 118.3, 114.0, 94.3, 72.0, 68.2, 67.4, 66.5, 61.2, 59.4, 58.1, 49.3, 47.6, 20.3, 14.5; MS (ES^+) *m/z* 714.5 (M+1).

Compound 16



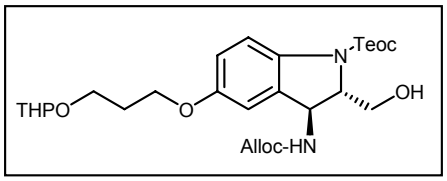
To the compound **15** (45 mg, 0.063 mmol) was added 20% piperidine of CH_2Cl_2 solution (2.5 mL). The solution was stirred at room temperature for 1 h. The solution was concentrated under reduced pressure. The crude product was purified by column chromatography (ethyl acetate) to give the mixture of two diastereomers **16** and **17** (>10:1, the ratio was judged by ^{1}H NMR) (30 mg, 96%). Compound **16**: ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.00 (d, J = 8.6 Hz, 1H), 7.00-6.93 (m, 2H), 5.95 (m, 1H), 5.49 (d, J = 9.7 Hz, 1H), 5.36 (dd, J = 17.2, 1.1 Hz, 1H), 5.29 (t, J = 9.4 Hz, 1H), 5.27 (dd, J = 10.4, 1.1 Hz, 1H), 5.21 (s, 2H), 4.66 (d, J = 4.5 Hz, 2H), 4.17 (m, 2H), 3.90 (t, J = 9.4 Hz, 1H), 3.80 (dd, J = 5.6, 3.6 Hz, 2H), 3.70 (q, J = 7.1 Hz, 1H), 3.55 (dd, J = 5.6, 3.6 Hz, 2H), 3.48 (dt, J = 9.1, 3.0 Hz, 1H), 3.38 (s, 3H), 2.88 (dd, J = 16.6, 2.9 Hz, 1H), 2.57 (dd, J = 16.6, 8.2 Hz, 1H), 1.43 (d, J = 7.1 Hz, 3H), 1.35 1.28 (t, J = 7.1 Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 171.8, 169.9, 156.4, 155.1, 136.3, 132.8, 132.0, 118.6, 118.4, 117.8, 112.4, 94.2, 71.9, 70.5, 68.1, 66.7, 61.2, 59.4, 56.5, 53.3, 50.6, 36.3, 19.2, 14.6; MS (ES^+) *m/z* 492.2 (M+1).

Compound 13b



To a solution of the compound **13** (2.65g, 4.41 mmol) in EtOH (265 mL) was added *p*-TSA (840 mg, 4.41 mmol). The solution was stirred at 50 ^{0}C for 24 h. The solution was diluted with ethyl acetate (50 mL), and washed with sodium bicarbonate solution and brine. The organic layer was dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (2:3 ethyl acetate/hexanes) to give the product **13b** (2.12 g, 94%). ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.69 (d, J = 7.5 Hz, 2H), 7.47 (t, J = 7.1 Hz, 1H), 7.31 (dd, J = 8.6, 7.5 Hz, 2H), 6.86 (s, 1H), 6.81 (d, J = 8.6 Hz, 1H), 5.90 (m, 1H), 5.50 (d, J = 6.7 Hz, 1H), 5.31 (d, J = 17.1 Hz, 1H), 5.22 (d, J = 10.4 Hz, 1H), 5.06 (d, J = 7.2 Hz, 1H), 4.64-4.55 (m, 4H), 4.49 (d, J = 8.4 Hz, 1H), 4.26 (bs, 2H), 1.07 (bs, 2H), 0.04 (s, 9H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 166.8, 156.0, 153.5, 153.1, 133.4, 132.8, 130.0, 129.9, 128.7, 118.5, 117.0, 112.8, 66.4, 66.3, 65.1, 64.9, 55.0, 18.2, -1.1; MS (ES^+) *m/z* 513.3 (M+1).

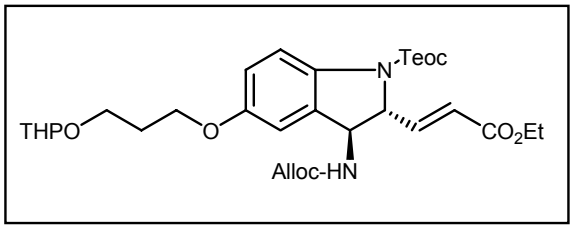
Compound 13c



The compound **13b** (2.10 g, 4.10 mmol), 3-(tetrahydro-*2H*-pyran-2-yloxy)propyl 4-methylbenzenesulfonate (1.61 g, 5.13 mmol), and cesium carbonate (2.00g, 6.15 mmol) were added to DMF (30 mL). The mixture was stirred at 40 ^{0}C for 12 h. Then DMF was removed under reduced

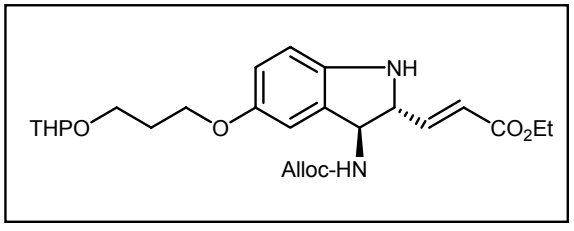
pressure. The mixture was diluted with ethyl acetate (50 mL) and washed with brine. The organic layer was dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (1:2 ethyl acetate/hexanes). The intermediate was directly used in the next step. To a solution of this intermediate in methanol (50 mL) was added potassium carbonate (567 mg, 4.10 mmol). The mixture was stirred at room temperature for 2 h. The solution was diluted with ethyl acetate and washed with brine. The organic layer was dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (2:3 ethyl acetate/hexanes) to give the product **13c** (1.91 g, 85%). ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.70 (bs, 1H), 6.91-6.63 (m, 2H), 5.92 (m, 1H), 5.35-5.13 (m, 3H), 4.98 (bs, 1H), 4.60 (m, 3H), 4.31 (m, 3H), 4.10-3.47 (m, 8H), 2.74 (bs, 1H), 2.04 (m, 2H), 1.86-1.48 (m, 6H), 0.94 (t, *J* = 7.4 Hz, 2H), 0.07 (s, 9H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 156.3, 156.0, 155.7, 132.8, 118.6, 116.9, 116.8, 116.7, 111.8, 99.3, 66.8, 66.5, 66.0, 64.4, 64.3, 62.7, 60.5, 55.2, 31.1, 30.1, 25.8, 20.0, 18.3, -1.1; MS (ES^+) *m/z* 551.3 (M+1).

Compound 13d



Sodium bicarbonate (2.27g, 27.04 mmol) and the Dess-Martin periodinane (2.86 g, 6.76 mmol) were added to a solution of the compound **13c** (1.86 g, 3.38 mmol) in dichloromethane (50 mL). The resulting suspension was stirred at room temperature. TLC showed complete conversion to the aldehyde after 5h. Then (carbethoxymethylene)triphosphorane (2.94 g, 8.45 mmol) was added to the mixture. The mixture was stirred for another 2h. The mixture was washed with brine. The organic layer was dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (1:3 ethyl acetate/hexanes) to give the product **13d** (1.52 g, 73%). ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.81 (bs, 1H), 6.97-6.88 (m, 3H), 5.97-5.89 (m, 2H), 5.33 (d, *J* = 17.2 Hz, 1H), 5.19 (d, *J* = 10.3 Hz, 1H), 5.12 (d, *J* = 6.7 Hz, 1H), 4.90 (bs, 1H), 4.84 (d, *J* = 7.1 Hz, 1H), 4.61 (m, 3H), 4.29 (bs, 2H), 4.17 (q, *J* = 7.2 Hz, 2H), 4.05 (t, *J* = 6.2 Hz, 2H), 3.95 –3.83 (m, 2H), 3.60-3.49 (m, 2H), 2.06 (t, *J* = 6.2 Hz, 2H), 1.83-1.47 (m, 6H), 1.27 (t, *J* = 7.2 Hz, 3H), 0.06 (s, 9H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 166.3, 156.1, 155.6, 144.3, 132.8, 122.5, 118.5, 117.2, 117.1, 117.0, 112.2, 99.4, 68.2, 66.4, 66.0, 64.7, 64.3, 62.7, 60.9, 57.4, 31.1, 30.1, 25.8, 20.0, 18.2, 14.6, -1.1; MS (ES^+) *m/z* 619.5 (M+1).

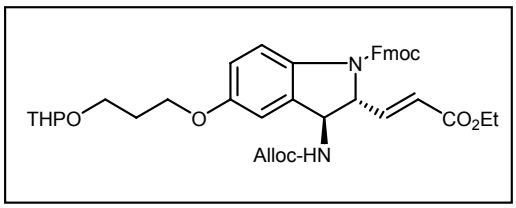
Compound 13e



TBAF solution (1 M, 4.76 mL, 4.76 mmol) was added to the solution of the compound **13d** (1.47 g, 2.38 mmol) in THF (20 mL). The solution was stirred at room temperature for 1 h. The organic solution was washed with brine, dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (1:2 ethyl acetate/hexanes) to give the product **13e** (0.97 g, 86%). ^{1}H

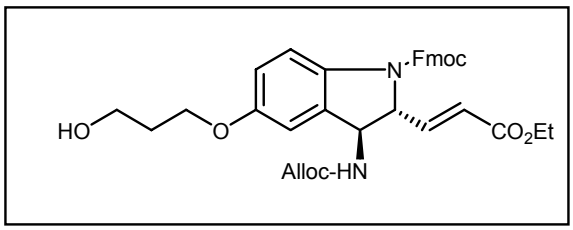
NMR (400 MHz, $CDCl_3$) δ 6.97 (dd, *J* = 15.6, 6.7 Hz, 1H), 6.77 (s, 1H), 6.70 (dd, *J* = 8.4, 2.1 Hz, 1H), 6.56 (d, *J* = 8.4 Hz, 1H), 6.04 (d, *J* = 15.6 Hz, 1H), 5.92 (m, 1H), 5.48 (d, *J* = 8.4 Hz, 1H), 5.32 (d, *J* = 17.2 Hz, 1H), 5.21 (d, *J* = 10.4 Hz, 1H), 4.97 (t, *J* = 7.0 Hz, 1H), 4.58 (m, 3H), 4.16 (q, *J* = 7.1 Hz, 3H), 3.97 (t, *J* = 6.3 Hz, 2H), 3.92-3.78 (m, 3H), 3.57-3.45 (m, 2H), 2.01 (t, *J* = 6.3 Hz, 2H), 1.85-1.43 (m, 6H), 1.26 (t, *J* = 7.1 Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 166.5, 156.0, 146.0, 133.0, 129.1, 123.2, 118.4, 117.0, 112.8, 112.6, 99.4, 68.4, 66.9, 66.3, 64.5, 62.8, 61.0, 59.6, 31.1, 30.1, 25.8, 20.0, 14.6; MS (ES^+) *m/z* 475.4 (M+1).

Compound 13f



To a solution of the compound **13e** (940 mg, 1.98 mmol) in ethyl acetate (20 mL) was added 5% sodium bicarbonate solution (20 mL) and Fmoc-chloride (640 mg, 2.48 mmol). The mixture was stirred at room temperature for 3h. The mixture was separated. The organic phase was washed with brine, dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (1:2 ethyl acetate/hexanes) to give the product **13f** (1.20 g, 87%). ^1H NMR (400 MHz, $CDCl_3$) δ 7.79 (m, 3H), 7.57 (d, *J* = 6.1 Hz, 2H), 7.41 (t, *J* = 7.3 Hz, 2H), 7.32 (t, *J* = 7.3 Hz, 2H), 6.95-6.50 (m, 3H), 5.96 (m, 1H), 5.79 (m, 1H), 5.43-5.22 (m, 2H), 5.03 (m, 1H), 4.92-4.50 (m, 7H), 4.28 (m, 1H), 4.18 (q, *J* = 7.1 Hz, 2H), 4.03 (m, 2H), 3.94-3.82(m, 2H), 3.61-3.48 (m, 2H), 2.06 (t, *J* = 6.3 Hz, 2H), 1.90-1.48 (m, 6H), 1.29 (t, *J* = 7.1 Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 166.2, 155.6, 144.0, 141.9, 132.8, 128.2, 127.6, 125.3, 125.1, 122.6, 120.5, 118.6, 117.2, 117.0, 112.1, 99.4, 68.3, 67.8, 66.4, 66.0, 64.3, 62.8, 60.9, 57.6, 47.6, 31.1, 30.1, 25.8, 20.0, 14.6; MS (ES^+) *m/z* 697.3 (M+1).

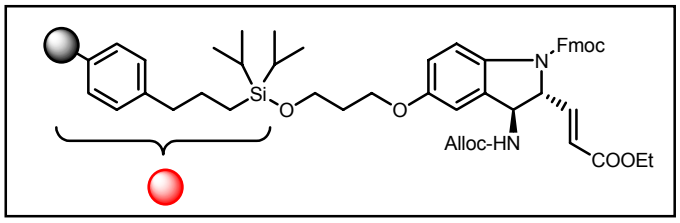
Compound 21a



PPTS (42.2 mg, 0.168 mmol) was added to a solution of the compound **13f** (1.17 g, 1.68 mmol) in ethanol (20 mL). The solution was stirred at 55 ^oC for 8 h. The solution was diluted with ethyl acetate (40 mL), washed with brine, dried over sodium sulfate, filtered, and concentrated under reduced pressure. The crude product was purified by column chromatography (1:1 ethyl acetate/hexanes) to give the product **21a** (1.01 g, 98%). ^1H NMR (400 MHz, $CDCl_3$) δ 7.79 (m, 3H), 7.57 (d, *J* = 6.2 Hz, 2H), 7.42 (t, *J* = 7.3 Hz, 2H), 7.30 (t, *J* = 7.3 Hz, 2H), 6.97-6.50 (m, 3H), 5.96 (m, 1H), 5.78 (m, 1H), 5.44-5.18 (m, 2H), 4.95-4.50 (m, 6H), 4.28 (m, 1H), 4.18 (q, *J* = 7.1 Hz, 2H), 4.07 (m, 2H), 3.86 (t, *J* = 6.0 Hz, 2H), 2.03 (m, 2H), 1.78 (s, 1H), 1.29 (t, *J* = 7.1 Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 166.2, 156.0, 155.6, 152.9, 144.1, 141.9, 132.8, 128.2, 127.6, 125.3, 125.1, 122.6, 120.5, 120.4, 118.6, 117.2, 117.0, 112.1, 68.3, 67.8, 66.6, 66.4, 61.0, 60.7, 57.5, 47.6, 32.4, 14.6; MS (ES^+) *m/z* 613.3 (M+1).

Solid-Phase Synthesis

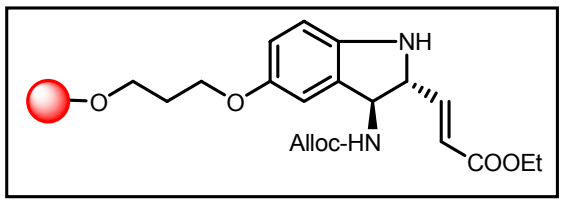
Compound 21b



Loading: 3-[Diisopropyl(*p*-methoxyphenyl) silyl] propyl functionalized resin (110 mg, 0.157 mmol) was swollen in CH_2Cl_2 (1.5 mL) under N_2 for 30 min. The solvent was then drained under positive N_2 pressure. A solution of trifluoromethanesulfonic acid in CH_2Cl_2 (4%, 2.1 mL) was added by syringe. The resin was then gently agitated for 30 min under N_2. The acid solvent was drained under positive N_2 pressure.The activated resin was treated with 2,6-lutidine 0.15 mL) for 15 min and followed by addition of a solution of compound **21a** (254 mg, 0.415 mmol) in CH_2Cl_2 (1.5 mL). The resin was gently shaken overnight. The resin was washed with DMF (3 x), THF (3 x), and CH_2Cl_2 (3 x). The resin was then dried under vacuum overnight to give 183 mg of the loaded resin **21b**.

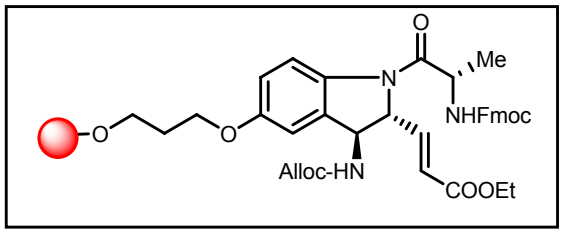
Cleavage: The loaded resin (20 mg) in Eppendorf® tube was swelled in THF (0.5 mL) for 30 min, and treated with HF-pyridine solution (15 μL). The reaction tube was shaken for 3 h. Methoxytrimethylsilane (100 μL) was added and the tube was shaken for another 30 min. The solution was removed and the resin was washed with THF. All solvents were combined and concentrated. The crude sample was purified by column chromatography (1:1 ethyl acetate/hexanes) to give the product (8.5 mg, 81% loading).

Compound 21c



The resin (163 mg) **21b** was swelled in DMF (1.6 mL) for 30 min. Piperidine (0.4 mL) was added the mixture. The mixture was shaken for 0.5 h. The resin was washed with DMF (3 x), THF (3 x), and CH_2Cl_2 (3 x). The resin was then dried under vacuum overnight to give 137 mg of the resin **21c**. The dried resin (5 mg) was cleaved as the above method using HF-pyridine solution. The resulting compound was checked by MS. LRMS (MS ES^+) calcd for $C_{20}H_{27}N_2O_6$ 391.2 *m/z* $(M+1)^+$; observed 391.2.

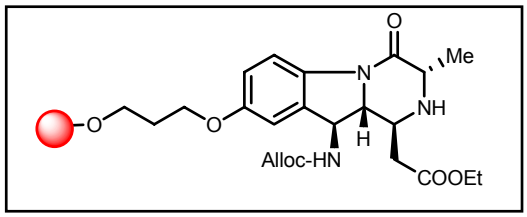
Compound 22a



The resin **21c** (163 mg) was swelled in CH_2Cl_2 (2.5 mL) under N_2 for 30 min. Collidine (145 μL, 1.1 mmol) and Fmoc-Ala-Cl (181 mg, 0.55 mmol) were added to the mixture. The mixture was shaken for 24 h. The resin was washed with DMF (3 x), THF (3 x), and CH_2Cl_2 (3 x). The resin was

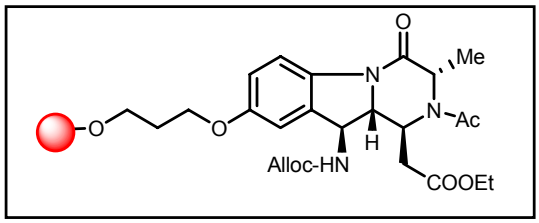
then dried under vacuum overnight to give 163 mg of the resin **22a**. The dried resin (10 mg) was cleaved as the above method using HF-pyridine solution. The resulting compound was checked by MS. LRMS (MS ES^+) calcd for $C_{38}H_{42}N_3O_9$ 684.3 *m/z* $(M+1)^+$; observed 684.2.

Compound 23a



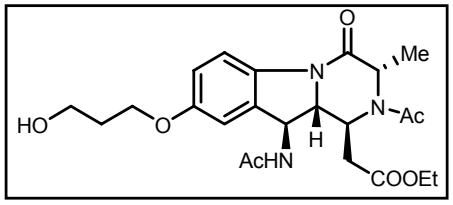
The resin **22a** (153 mg) was swelled in DMF (1.6 mL) for 30 min. Piperidine (0.4 mL) was added to the mixture. The mixture was shaken for 24 h. The resin was washed with DMF (3 x), THF (3 x), and CH_2Cl_2 (3 x). The resin was then dried under vacuum overnight to give 128 mg of the resin **23a**. The dried resin (5 mg) was cleaved as the above method using HF-pyridine solution. The resulting compound was checked by MS. LRMS (MS ES^+) calcd for $C_{23}H_{32}N_3O_7$ 462.2 *m/z* $(M+1)^+$; observed 462.3.

Compound 24a



The resin **23a** (123 mg) was swelled in DMF (1.6 mL) for 30 min. Pyridine (162 μL, 2 mmol) and acetic anhydride (95 μL, 1mmol) were added to the mixture. The mixture was shaken for 24 h. The resin was washed with DMF (3 x), THF (3 x), and CH_2Cl_2 (3 x). The resin was then dried under vacuum overnight to give 125 mg of the resin **24a**. The dried resin (10 mg) was cleaved as the above method using HF-pyridine solution. The resulting compound was checked by MS. LRMS (MS ES^+) calcd for $C_{25}H_{34}N_3O_8$ 504.2 *m/z* $(M+1)^+$; observed 504.2.

Compound 25a



The resin **24a** (43 mg) was swelled in CH_2Cl_2 (1.6 mL) for 30 min. Morpholine (70 μL, 0.8 mmol) and tetrakis(triphenylphosphine) palladium (0) (46 mg, 0.04mmol) were added the mixture. The mixture was shaken for 2 h. The resin was washed with DMF (3 x), THF (3 x), and CH_2Cl_2 (3 x). The resin was then dried under vacuum for 4 h. The resin was then swelled in CH_2Cl_2 (1.5 mL) for 30 min. Pyridine (65 μL, 0.80 mmol) and acetic anhydride (38 μL, 0.40 mmol) were added to the mixture. The mixture was shaken for 24 h. The resin was washed with DMF (3 x), THF (3 x), and CH_2Cl_2 (3 x). The resin was then dried under vacuum overnight. The dried resin was cleaved as the above method using HF-pyridine solution. The crude product was purified by column chromatography (ethyl acetate) to give the mixture of two diastereomers (13.2 mg, overall yield: ~84%) (4.5:1, the ratio was judged by ^1H NMR). LRMS (MS ES^+) calcd for $C_{23}H_{32}N_3O_7$ 462.2 *m/z* $(M+1)^+$; observed 462.3;

Compound **25** (major product): ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.78 (d, *J* = 8.7 Hz, 1H), 7.13 (d, *J* = 9.6 Hz, 1H), 6.78 (dd, *J* = 8.7, 2.3 Hz, 1H), 6.74 (d, *J* = 1.7 Hz, 1H), 5.55 (t, *J* = 9.6 Hz, 1H), 4.43 (q, *J* = 7.1 Hz, 1H), 4.20-4.00 (m, 5H), 3.93 (dt, *J* = 10.4, 4.7 Hz, 1H), 3.85 (t, *J* = 5.8 Hz, 2H), 3.66 (dd, *J* = 16.6, 10.4 Hz, 1H), 2.94 (dd, *J* = 16.6, 4.7 Hz, 1H), 2.53 (bs, 1H), 2.15 (s, 3H), 2.02 (t, *J* = 5.9 Hz, 2H), 1.90 (s, 3H), 1.63 (d, *J* = 7.1 Hz, 3H), 1.27 (t, *J* = 7.1 Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 171.9, 170.9, 170.8, 166.8, 157.5, 134.3, 133.5, 119.0, 115.2, 110.4, 67.8, 66.4, 61.2, 60.2, 57.7, 54.0, 53.4, 33.6, 32.4, 23.6, 23.5, 17.1, 14.6.

Library Synthesis (90 compounds/2 diastereomers per well) by Parallel and IRORI Split-and-Mix Approach

Loading of Compound 21a. The *p*-methoxyphenylsilane beads (500 mg, 1.29 mmol/g of silane, ICCB batch MX-19) were swollen in CH_2Cl_2 (2 mL) under N_2 for 30 min. The solvent was then drained under positive N_2 pressure. A solution of trifluoromethanesulfonic acid in CH_2Cl_2 (4%, 8.5 mL, 3.87 mmol) was added by syringe. The resin was then left to sit for 2 h under N_2. The acid solvent was drained under positive N_2 pressure. The activated resin was treated with 2,6-lutidine (0.60 mL, 5.16 mmol) for 30 min and followed by addition of a solution of compound **21a** (790 mg, 1.29 mmol) in CH_2Cl_2 (1.5 mL). The resin was gently shaken overnight. The resin was washed with CH_2Cl_2 (3 x), THF (3 x), and CH_2Cl_2 (3 x). The beads were then dried on the lyophilizer overnight to give the loaded beads (776 mg, 87% loading).

Fmoc Removal. The beads (776 mg, 0.56 mmol) were swelled in DMF (4 mL) for 30 min. The solvent was then drained. A solution of 20% piperidine in DMF (6 mL) was added to the beads. The beads were shaken for 0.5 h. The resin was washed with CH_2Cl_2 (3 x), THF (3 x), CH_2Cl_2 (3 x) and then dried on the lyophilizer overnight.

Amino acid coupling (1st Diversity Point). The beads from above were split into 5 parts (each 0.112 mmol), each of which was mixed with dry CH_2Cl_2 (5 mL), collidine (291 μL, 2.20 mmol), and 5 different Fmoc amino acid chlorides (0.825 mmol, Fmoc-Gly-Cl, Fmoc-Ala-Cl, Fmoc-Val-Cl, Fmoc-Leu-Cl, and Fmoc-Phe-Cl) respectively. The mixturs were shaken independently at room temperature overnight. Each reaction mixture was washed with CH_2Cl_2 (3 x), THF (3 x) CH_2Cl_2 (3 x) and the beads were then dried on the lyophilizer overnight.

Fmoc Removal and Cyclization. To each portion of the dried beads was added a solution of 20% piperidine in DMF (4 mL). All the reaction mixtures were shaken for 24 h. After filtration, the beads were washed with CH_2Cl_2 (3 x), THF (3 x), CH_2Cl_2 (3 x) and then finally dried on the lyophilizer overnight respectively.

Acid Coupling (2nd Diversity Point). The beads resulted from the above reactions were distributed into 45 Microkans (9 Microkans for each amino acid, about 16 mg beads in each Kan) and encoded with 45 RF tags. The 45 MicroKans were sorted into 3 pools (15 Kans in each pool). Each of these 3 pools was mixed with pyridine (40 equiv.) and one of the 3 corresponding acid chloride (20 equiv., phenylacetyl chloride, 4-methoxyphenylacetyl chloride, and hydrocinnamoyl chloride) in CH_2Cl_2 (50 mL). Each reaction mixture was gently stirred overnight. After filtration, the MicroKans were washed with CH_2Cl_2 (3 x), THF (3 x), CH_2Cl_2 (3 x) and then dried under high vacuum overnight.

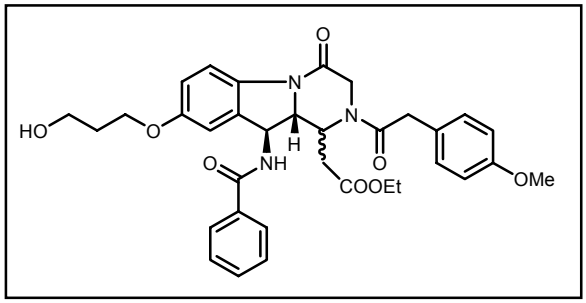
Alloc Removal. The 45 MicroKans were mixed with morpholine (1.91 mL, 22 mmol) in CH_2Cl_2 (150 mL). Tetrakis(triphenylphosphine) pallidum(0) (1.27 g, 1.10 mmol) was added, and the mixture was allowed to stir gently overnight. After filtration, the MicroKans were washed with CH_2Cl_2 (3 x), THF (3 x), CH_2Cl_2 (3 x) and then dried under high vacuum overnight.

Acid Coupling (3rd Diversity Point). The 45 MicroKans were sorted into 3 pools (15 Kans in each pool). Each of these 3 pools was mixed with pyridine (40 equiv.) and one of the 3 corresponding acid chloride (20 equiv., 3,4-dimethoxybenzoyl chloride, isobutyryl chloride, and benzoyl chloride) in CH_2Cl_2 (50 mL). Each reaction mixture was gently stirred overnight. After filtration, the MicroKans were washed with CH_2Cl_2 (3 x), THF (3 x), CH_2Cl_2 (3 x) and then dried under high vacuum overnight.

Cleavage. The beads in each MicroKan were transferred into Eppendorf® tube respectively, and cleaved under the similar conditions using HF-pyridine solution.

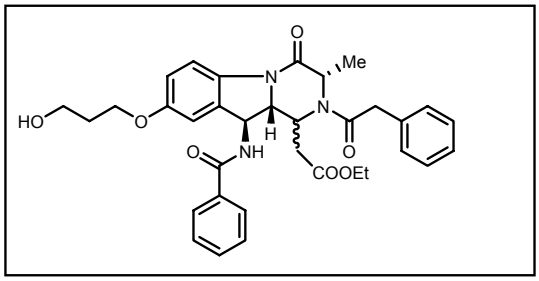
All the library members were analyzed by HPLC, MS and the following compounds were purified by column chromatography:

Gly1 (Mixture of Two Diastereomers)



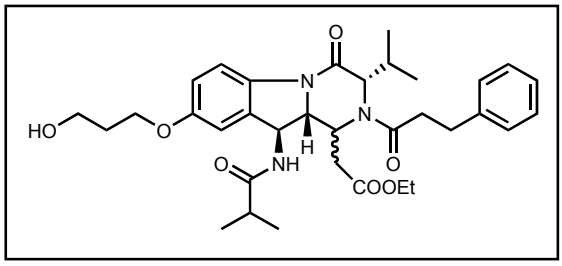
^{1}H NMR (400 MHz, $CDCl_3$) δ 8.07-6.37 (m, 13H), 5.83 (t, J = 8.4 Hz, 0.52H), 5.52 (t, J = 8.4 Hz, 0.48H), 5.14 (m, 0.52H), 4.78 (m, 0.48H), 4.45-3.40 (m, 14H), 3.19-2.65 (m, 2H), 2.03 (t, J = 5.3 Hz, 2H), 1.32 (t, J = 7.2 Hz, 3H); LRMS (ES^+) for $C_{34}H_{37}N_3O_8$: 616.4 (M+1).

Ala7 (Mixture of Two Diastereomers)



^{1}H NMR (400 MHz, $CDCl_3$) δ 8.02–6.69 (m, 14H), 5.83 (t, J = 8.7 Hz, 0.83H), 5.54 (t, J = 8.7 Hz, 0.17H), 4.58 (q, J = 7.0 Hz, 1H), 4.45 (t, J = 10.1Hz, 1H), 4.18–3.56 (m, 10H), 3.40-2.65 (m, 2H), 1.99 (t, J = 5.6 Hz, 2H), 1.42 (d, J =7.1 Hz, 3H), 1.16 (t, J = 7.1 Hz, 3H); LRMS (ES^+) for $C_{34}H_{37}N_3O_7$: 600.3 (M+1).

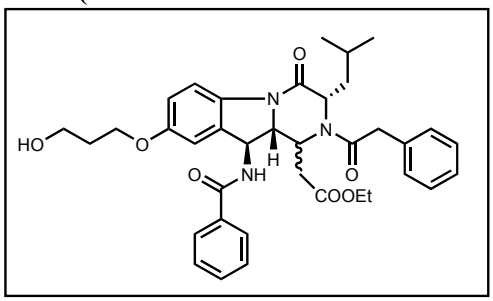
Val2 (Mixture of Two Diastereomers)



^{1}H NMR (400 MHz, $CDCl_3$) δ 8.11 (d, J = 8.8 Hz, 0.22H), 7.90 (d, J = 8.8 Hz, 0.78H), 7.30-7.13 (m, 4H), 6.99-6.79 (m, 2H), 6.71 (s, 1H), 6.05 (d, J =

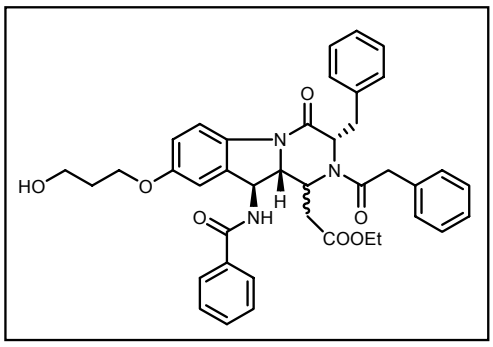
9.2 Hz, 0.78H), 5.94 (d, *J* = 9.2 Hz, 0.22H), 5.59 (t, *J* = 7.1 Hz, 0.78H), 5.33 (t, *J* = 7.1 Hz, 0.22H), 4.21-3.83 (m, 10H), 3.54 (bs, 1H), 3.06-2.34 (m, 7H), 2.02 (m, 2H), 1.29-0.96 (m, 15H); LRMS (ES^+) for $C_{34}H_{45}N_3O_7$: 608.2 (M+1).

Leu8 (Mixture of Two Diastereomers)

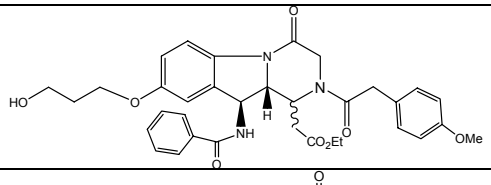
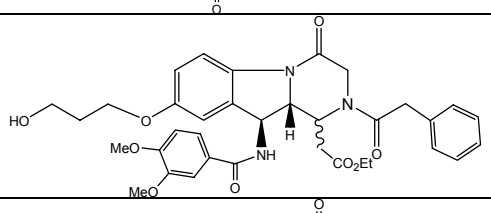
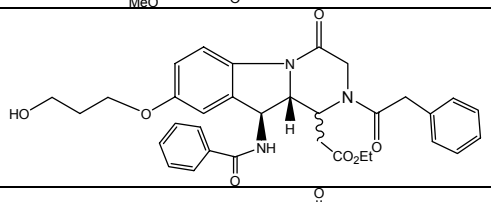
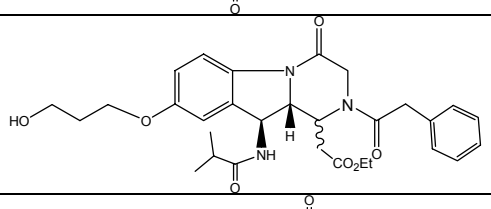
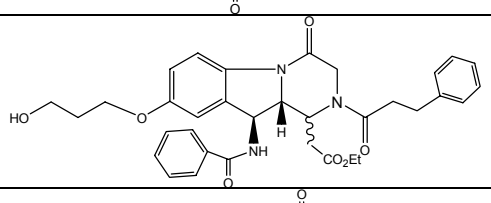
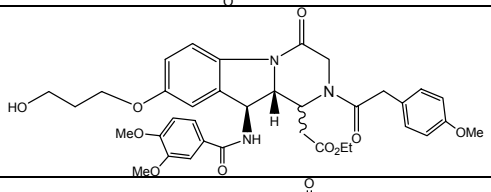
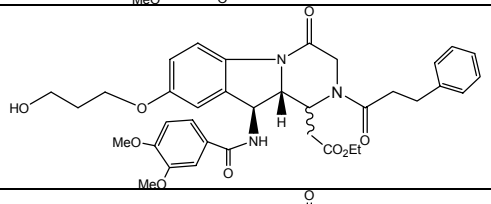
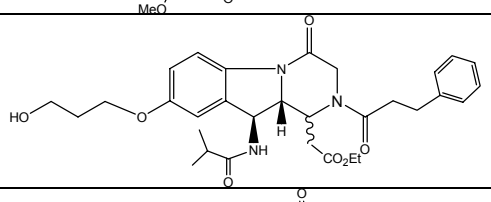
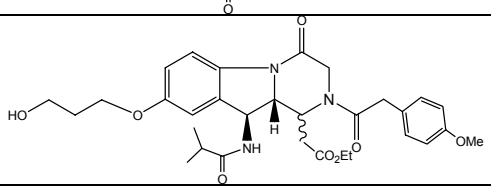


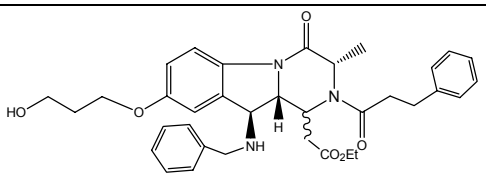
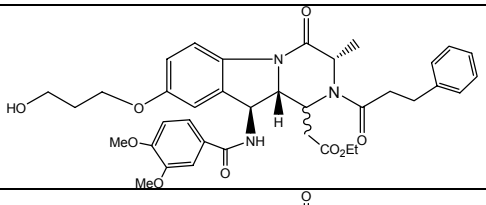
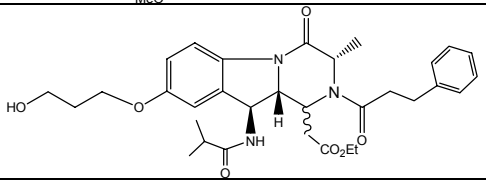
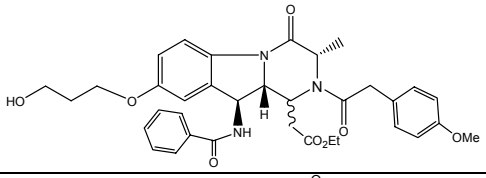
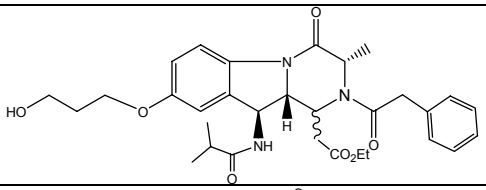
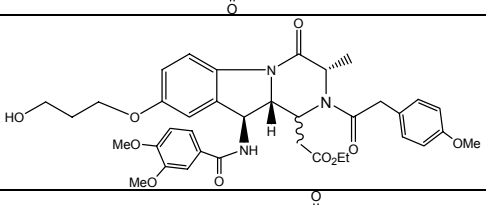
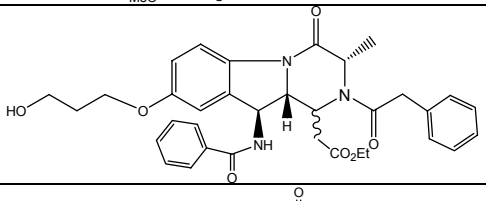
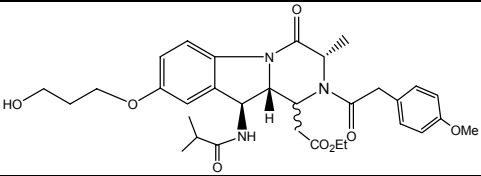
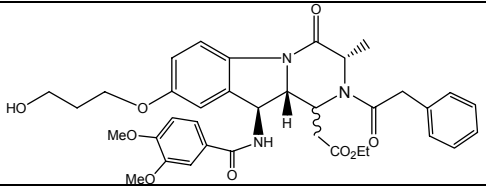
^{1}H NMR (400 MHz, $CDCl_3$) δ 8.03-6.69 (m, 14H), 5.80 (t, *J* = 8.7 Hz, 0.75H), 5.52 (t, *J* = 8.7 Hz, 0.25H), 4.55-3.60 (m, 12H), 3.32-2.73 (m, 2H), 2.09-1.88 (m, 5H), 1.38-0.95 (m, 9H); LRMS (ES^+) for $C_{37}H_{43}N_3O_7$: 642.4 (M+1).

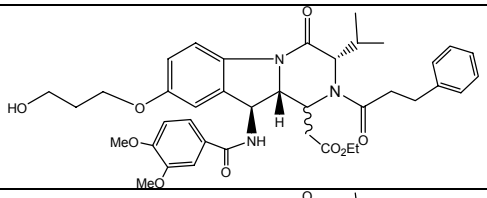
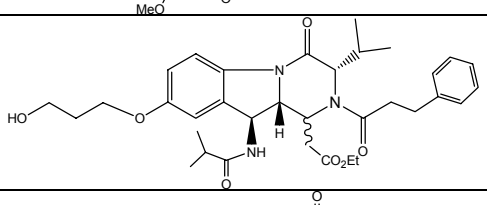
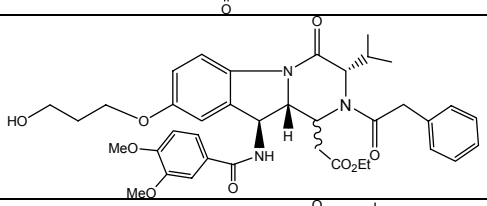
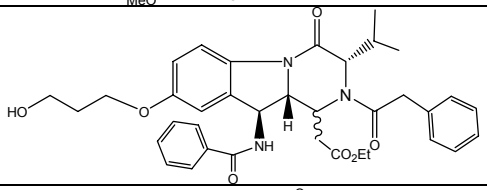
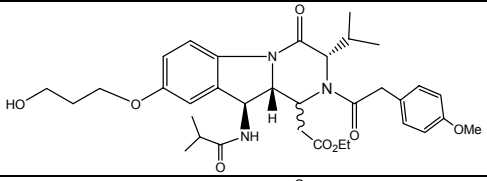
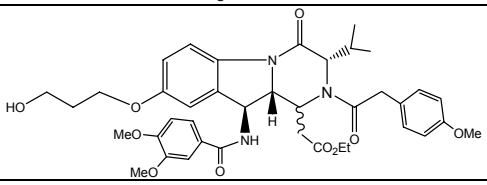
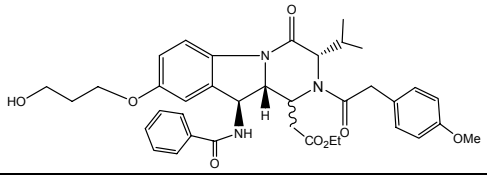
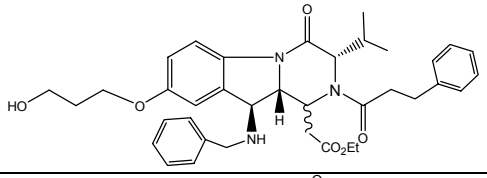
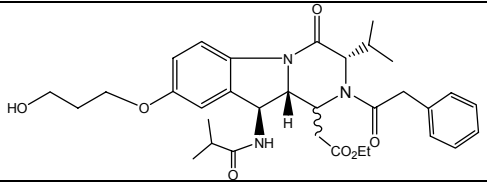
Phe5 (Mixture of Two Diastereomers)

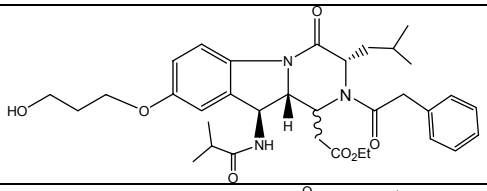
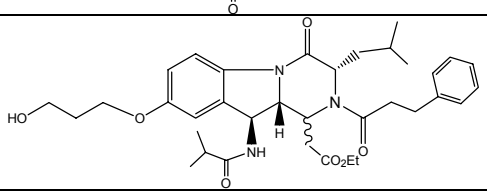
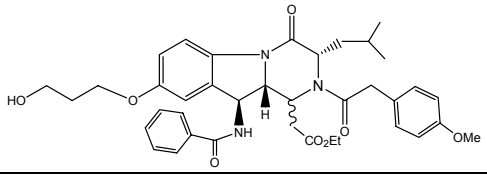
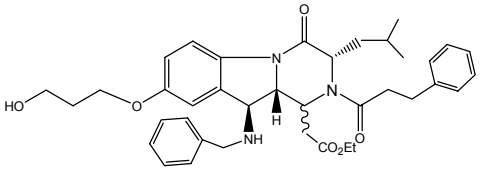
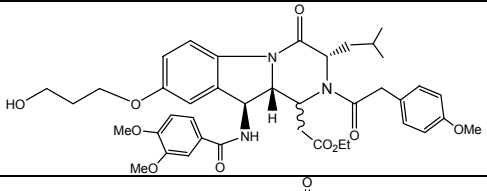
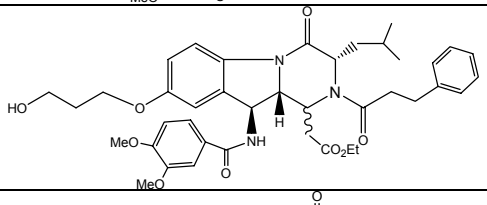
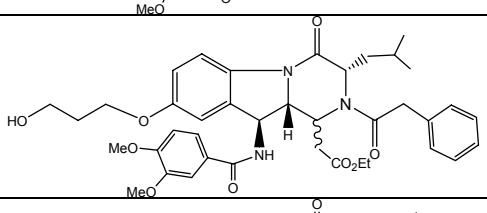
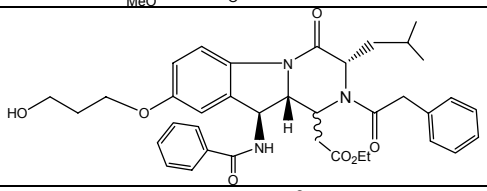
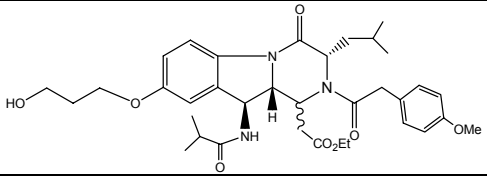


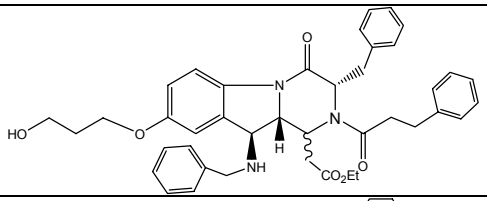
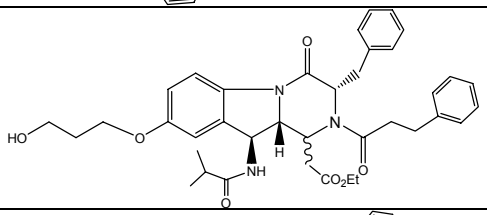
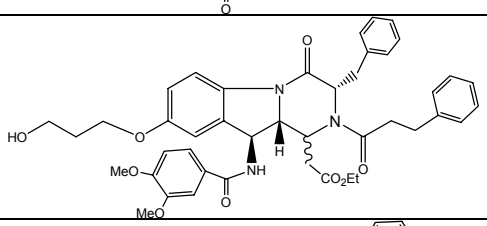
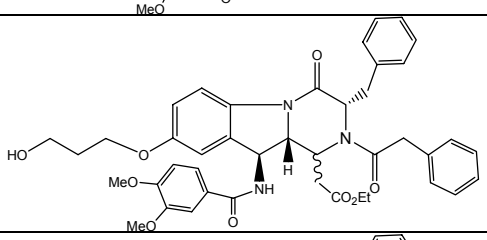
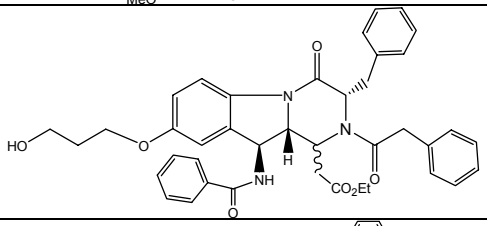
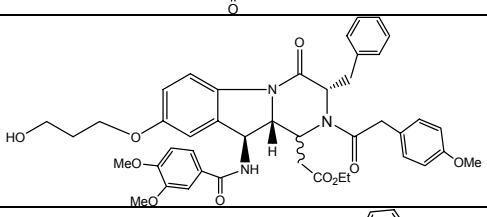
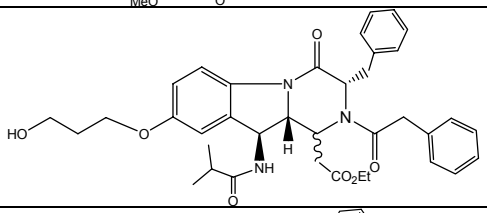
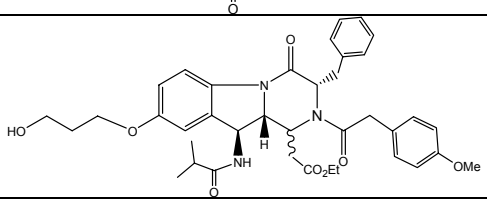
^{1}H NMR (400 MHz, $CDCl_3$) δ 8.03-6.64 (m, 19H), 5.88 (t, *J* = 8.4 Hz, 0.77H), 5.53 (*J* = 8.4 Hz, 0.23H), 4.57-2.76 (m, 15H), 2.01 (t, *J* = 5.8 Hz, 2H), 1.15 (t, *J* = 7.1 Hz, 3H); LRMS (ES^+) for $C_{40}H_{41}N_3O_7$: 676.3 (M+1).

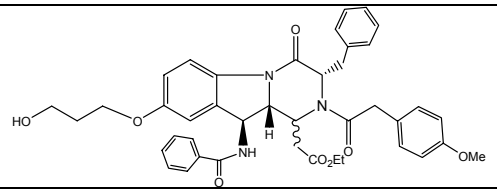
Compound Code	Compound Structure	Molecular Formula	Exact Mass	Found (M^++1)
Gly1		$C_{34}H_{37}N_3O_8$	615.3	616.5
Gly2		$C_{35}H_{39}N_3O_9$	645.3	646.4
Gly3		$C_{33}H_{35}N_3O_7$	585.3	586.3
Gly4		$C_{30}H_{37}N_3O_7$	551.3	552.4
Gly5		$C_{34}H_{37}N_3O_7$	599.3	600.4
Gly6		$C_{36}H_{41}N_3O_{10}$	675.3	676.4
Gly7		$C_{36}H_{41}N_3O_9$	659.3	660.4
Gly8		$C_{31}H_{39}N_3O_7$	565.3	566.4
Gly9		$C_{31}H_{39}N_3O_8$	581.3	582.4

Ala1		$C_{35}H_{39}N_3O_7$	613.3	614.4
Ala2		$C_{37}H_{43}N_3O_9$	673.3	674.4
Ala3		$C_{32}H_{41}N_3O_7$	579.3	580.4
Ala4		$C_{35}H_{39}N_3O_8$	629.3	630.4
Ala5		$C_{31}H_{39}N_3O_7$	565.3	566.4
Ala6		$C_{37}H_{43}N_3O_{10}$	689.3	690.4
Ala7		$C_{34}H_{37}N_3O_7$	599.3	600.4
Ala8		$C_{32}H_{41}N_3O_8$	595.3	596.4
Ala9		$C_{36}H_{41}N_3O_9$	659.3	660.4

Val1		$C_{39}H_{47}N_3O_9$	701.3	702.5
Val2		$C_{34}H_{45}N_3O_7$	607.3	608.4
Val3		$C_{38}H_{45}N_3O_9$	687.3	688.5
Val4		$C_{36}H_{41}N_3O_7$	627.3	628.5
Val5		$C_{34}H_{45}N_3O_8$	623.3	624.4
Val6		$C_{39}H_{47}N_3O_{10}$	717.3	718.4
Val7		$C_{37}H_{43}N_3O_8$	657.3	658.4
Val8		$C_{37}H_{45}N_3O_6$	627.3	628.4
Val9		$C_{33}H_{43}N_3O_7$	593.3	594.4

Leu1		$C_{34}H_{45}N_3O_7$	607.3	608.4
Leu2		$C_{35}H_{47}N_3O_7$	621.3	622.5
Leu3		$C_{38}H_{45}N_3O_8$	671.3	672.4
Leu4		$C_{38}H_{47}N_3O_6$	641.3	642.4
Leu5		$C_{40}H_{49}N_3O_{10}$	731.3	732.5
Leu6		$C_{40}H_{49}N_3O_9$	715.3	716.4
Leu7		$C_{39}H_{47}N_3O_9$	701.3	702.4
Leu8		$C_{37}H_{43}N_3O_7$	641.3	642.4
Leu9		$C_{35}H_{47}N_3O_8$	637.3	638.5

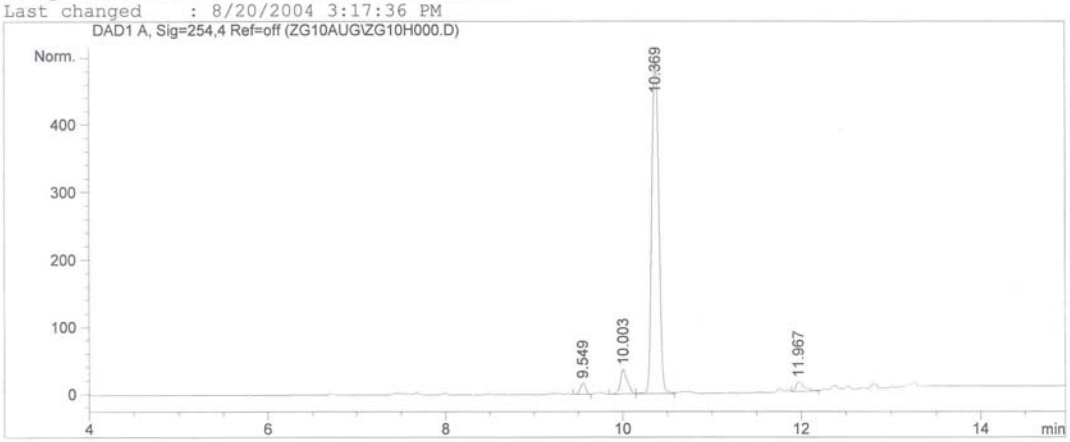
Phe1		$C_{41}H_{45}N_3O_6$	675.3	676.4
Phe2		$C_{38}H_{45}N_3O_7$	655.3	656.5
Phe3		$C_{43}H_{47}N_3O_9$	749.3	750.5
Phe4		$C_{42}H_{45}N_3O_9$	735.3	736.4
Phe5		$C_{40}H_{41}N_3O_7$	675.3	676.4
Phe6		$C_{43}H_{47}N_3O_{10}$	765.3	766.3
Phe7		$C_{37}H_{43}N_3O_7$	641.3	642.5
Phe8		$C_{38}H_{45}N_3O_8$	671.3	672.5

Phe9		$C_{41}H_{43}N_3O_8$	705.3	706.4

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H000.D Sample Name: Gly 1

Zorbax SB-C18 60A, 4.6x50 mm, 3.5um
1-50% MeCN/water/0.1% TFA in 10 min,
1mL/min

```
==========================================================================
Injection Date  : 8/10/2004 2:29:43 PM
Sample Name     : Gly 1                          Location : P1-A-01
Acq. Operator   : Malgosia
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 2:29:43 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:17:36 PM
```

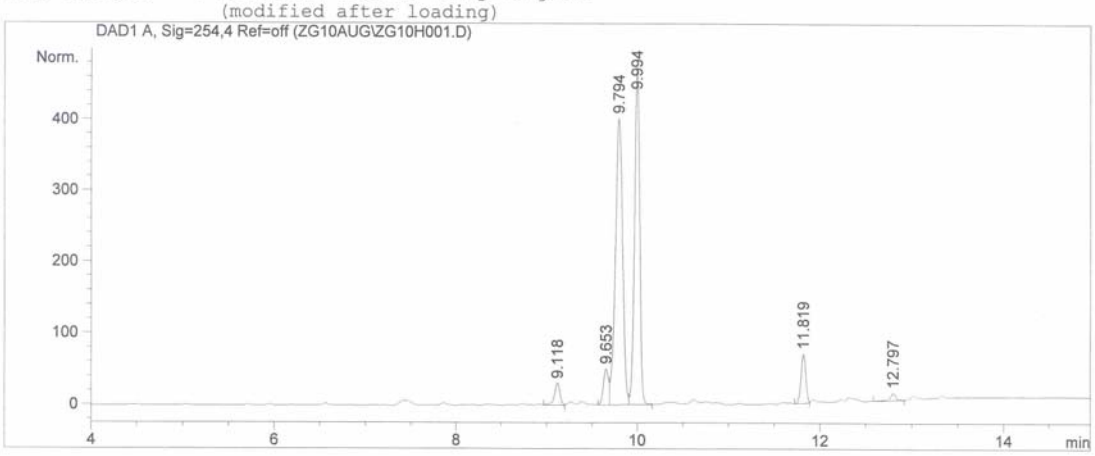



```
==========================================================================
                        Area Percent Report
==========================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.549 VV    0.0639   70.02956   17.06966   2.2600
   2  10.003 VV    0.0774  199.65639   36.75245   6.4433
   3  10.369 VV    0.0887 2730.58081  492.14438  88.1206
   4  11.967 VB    0.0920   98.41796   14.71386   3.1761

Totals :                  3098.68472  560.68034

 Results obtained with enhanced integrator!
==========================================================================
                        *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H001.D Sample Name: Gly 2

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/10/2004 3:44:27 PM          Seq. Line :   2
Sample Name     : Gly 2                        Location : P1-A-02
Acq. Operator   : Malgosia                         Inj :   1
                                               Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:33:50 PM by Malgosia
                  (modified after loading)
```

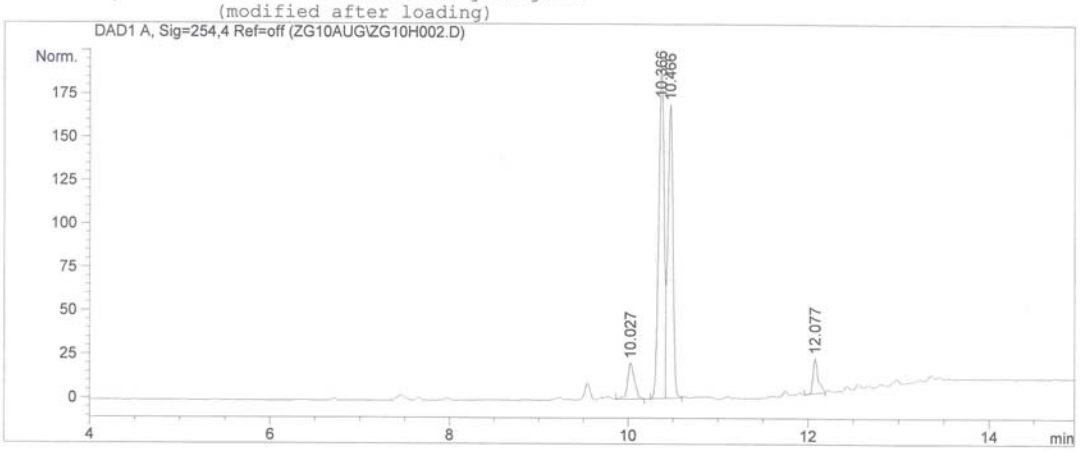



```
                          Area Percent Report

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]    [mAU*s]    [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.118 VV    0.0654  129.58182   30.62739   2.7325
   2   9.653 BV    0.0595  196.92184   50.44310   4.1525
   3   9.794 VV    0.0866 2231.70361  403.03238  47.0601
   4   9.994 VB    0.0623 1884.28503  475.03201  39.7341
   5  11.819 VV    0.0580  248.96083   69.20084   5.2499
   6  12.797 VV    0.0668   50.78490   10.80781   1.0709

Totals :                  4742.23804 1039.14352

 Results obtained with enhanced integrator!

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

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H002.D Sample Name: Gly 3

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

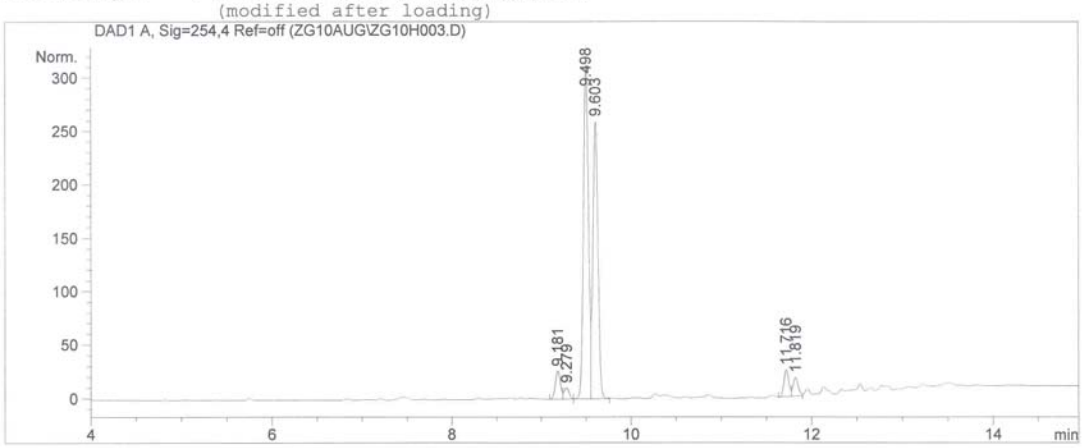
```
==========================================================================
Injection Date  : 8/10/2004 4:08:32 PM          Seq. Line :   3
Sample Name     : Gly 3                          Location : P1-A-03
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:34:11 PM by Malgosia
                  (modified after loading)
```




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

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  10.027 VB    0.0774  108.38375   20.58184   6.5174
   2  10.366 PV    0.0647  797.32721  190.96729  47.9457
   3  10.466 VB    0.0628  678.94470  169.09985  40.8270
   4  12.077 VV    0.0577   78.32435   19.99950   4.7099

Totals :                  1662.98001  400.64848

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/10/2004 4:32:37 PM          Seq. Line :   4
Sample Name     : Gly 4                         Location : P1-A-04
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:34:31 PM by Malgosia
                  (modified after loading)
```

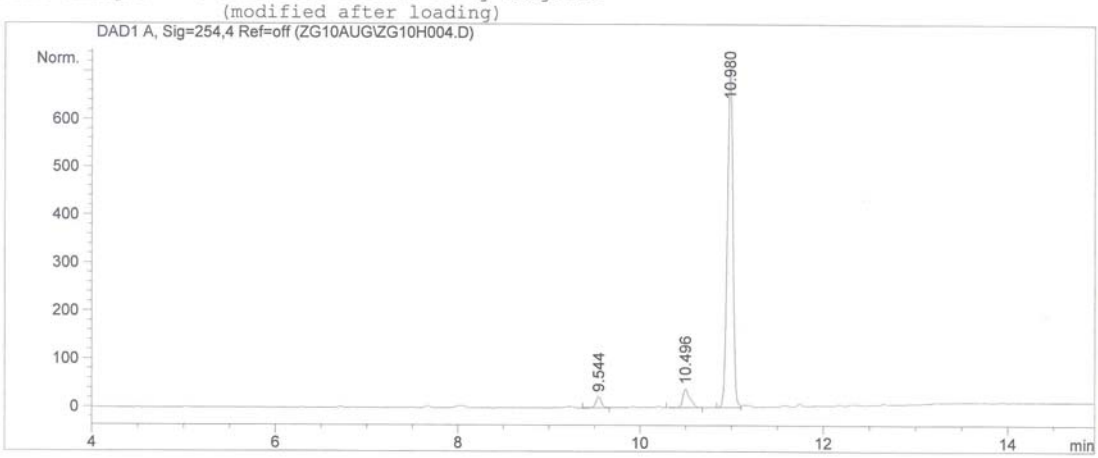



```
                          Area Percent Report

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.181 PV    0.0626  103.88903   26.03044   4.0699
   2   9.279 VV    0.0591   40.90902   10.57800   1.6026
   3   9.498 VV    0.0597 1227.06641  312.91394  48.0708
   4   9.603 VB    0.0598 1018.12238  259.61212  39.8853
   5  11.716 VV    0.0577   93.45545   24.94477   3.6612
   6  11.819 VV    0.0601   69.18102   17.51953   2.7102

Totals :                  2552.62329  651.59880

 Results obtained with enhanced integrator!

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

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H004.D Sample Name: Gly 5

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==========================================================================
Injection Date  : 8/10/2004 4:56:41 PM          Seq. Line :   5
Sample Name     : Gly 5                          Location : P1-A-05
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:34:53 PM by Malgosia
                  (modified after loading)
```

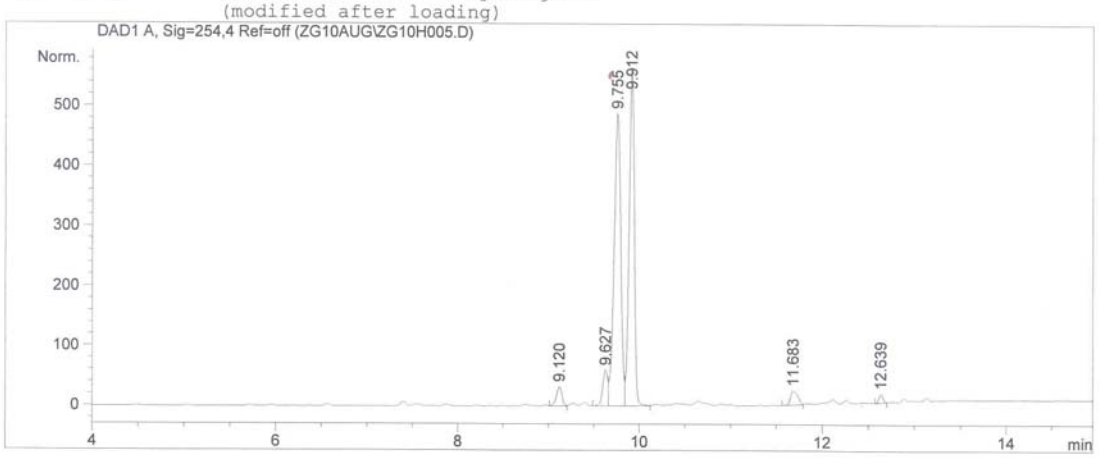



```
==========================================================================
                          Area Percent Report
==========================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.544 VV    0.0660  100.20441   23.39717   3.0328
   2  10.496 VP    0.0767  207.99893   38.70428   6.2953
   3  10.980 VV    0.0673 2995.84570  708.27527  90.6720

Totals :                  3304.04905  770.37673

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H005.D Sample Name: Gly 6

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==========================================================================
Injection Date  : 8/10/2004 5:20:48 PM          Seq. Line :   6
Sample Name     : Gly 6                          Location : P1-A-06
Acq. Operator   : Malgosia                           Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:15 PM by Malgosia
                  (modified after loading)
```

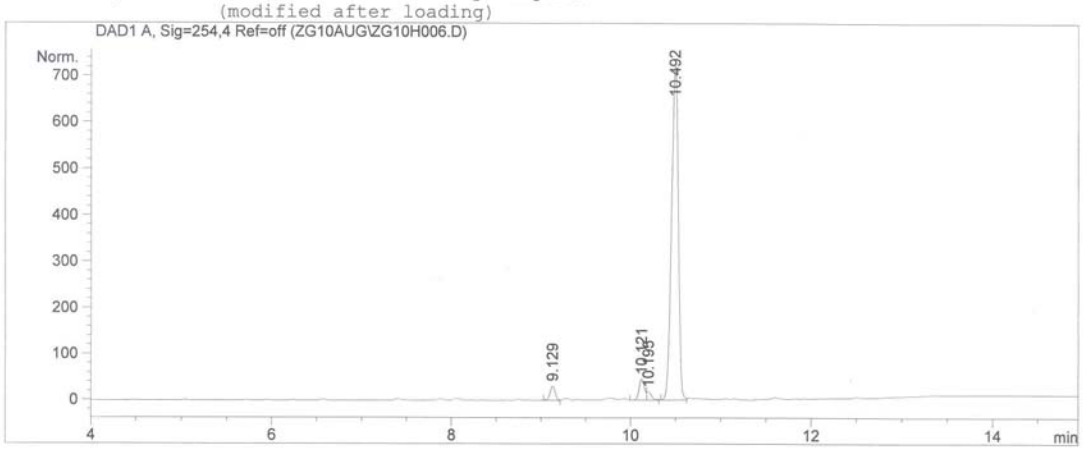



```
==========================================================================
                          Area Percent Report
==========================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.120 VV    0.0632  137.92001   32.71040   2.6133
   2   9.627 VV    0.0589  231.48347   60.09352   4.3862
   3   9.755 VV    0.0796 2493.55298  488.37338  47.2482
   4   9.912 VB    0.0620 2237.95093  567.36273  42.4050
   5  11.683 PV    0.0760  132.09290   24.06330   2.5029
   6  12.639 VV    0.0474   44.56087   14.70423   0.8443

Totals :                  5277.56116 1187.30756

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H006.D Sample Name: Gly 7

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

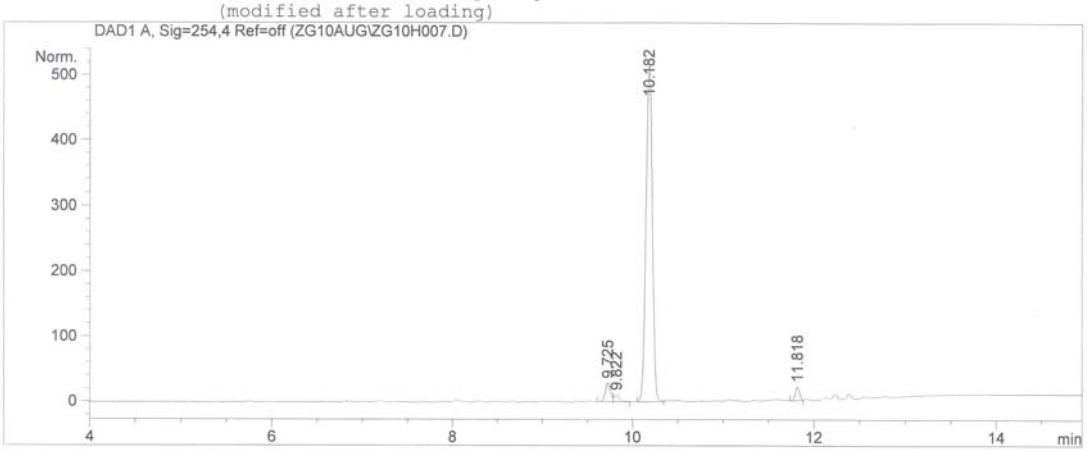
```
==========================================================================
Injection Date  : 8/10/2004 5:44:54 PM          Seq. Line :   7
Sample Name     : Gly 7                          Location : P1-A-07
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:30 PM by Malgosia
                  (modified after loading)
```




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

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.129 BV    0.0604  125.04546   31.45512   2.9951
   2  10.121 VV    0.0652  194.02309   45.98740   4.6473
   3  10.195 VB    0.0536   65.19171   18.26244   1.5615
   4  10.492 BV    0.0831 3790.74219  724.21503  90.7962

Totals :                  4175.00245  819.91998

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==================================================================
Injection Date  : 8/10/2004 6:09:00 PM          Seq. Line :   8
Sample Name     : Gly 8                          Location : P1-A-08
Acq. Operator   : Malgosia                           Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




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

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

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

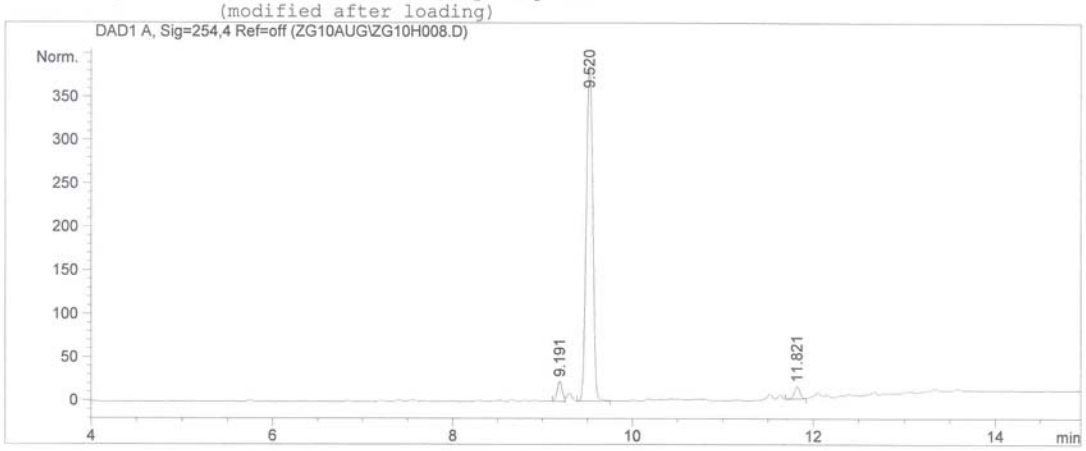
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	9.725	VV	0.0642	118.47385	28.69500	4.2902
2	9.822	VB	0.0643	46.83952	10.87446	1.6962
3	10.182	BB	0.0770	2525.45923	516.80145	91.4519
4	11.818	VV	0.0533	70.74353	21.00987	2.5618
Totals :				2761.51614	577.38078	

```
 Results obtained with enhanced integrator!
==================================================================
                        *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H008.D Sample Name: Gly 9

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==========================================================================
Injection Date  : 8/10/2004 6:33:06 PM          Seq. Line :   9
Sample Name     : Gly 9                          Location : P1-A-09
Acq. Operator   : Malgosia                          Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```

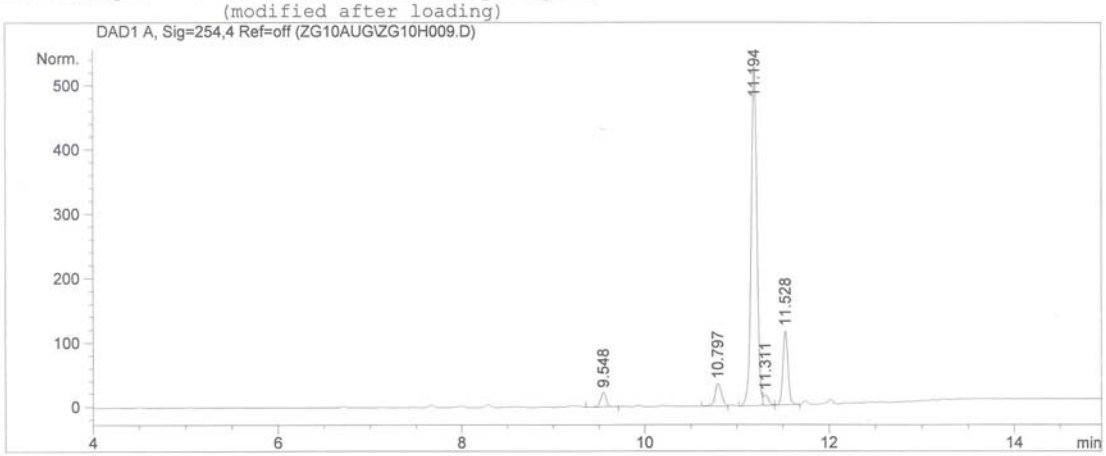



```
==========================================================================
                          Area Percent Report
==========================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.191 BV    0.0612   88.64692   22.88506   4.2029
   2   9.520 VB    0.0812 1958.55115  386.16025  92.8583
   3  11.821 VV    0.0669   61.98492   14.22009   2.9388

Totals :                  2109.18299  423.26540

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H009.D Sample Name: Ala 1

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==========================================================================
Injection Date  : 8/10/2004 6:57:09 PM          Seq. Line :  10
Sample Name     : Ala 1                          Location : P1-B-01
Acq. Operator   : Malgosia                           Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```

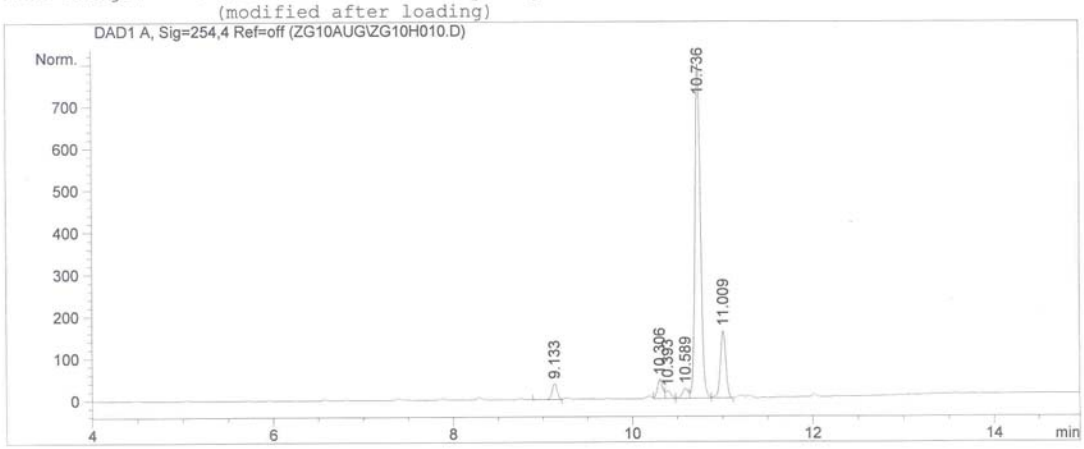



```
==========================================================================
                          Area Percent Report
==========================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.548 VB    0.0653   96.76212   22.88712   3.1432
   2  10.797 BV    0.0749  177.50027   35.15320   5.7659
   3  11.194 VV    0.0667 2295.42456  528.72522  74.5638
   4  11.311 VV    0.0585   63.09015   16.53822   2.0494
   5  11.528 VV    0.0589  445.69263  115.81772  14.4777

Totals :                  3078.46973  719.12148

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H010.D Sample Name: Ala 2

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==================================================================
Injection Date  : 8/10/2004 7:21:13 PM          Seq. Line :  11
Sample Name     : Ala 2                          Location : P1-B-02
Acq. Operator   : Malgosia                          Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```

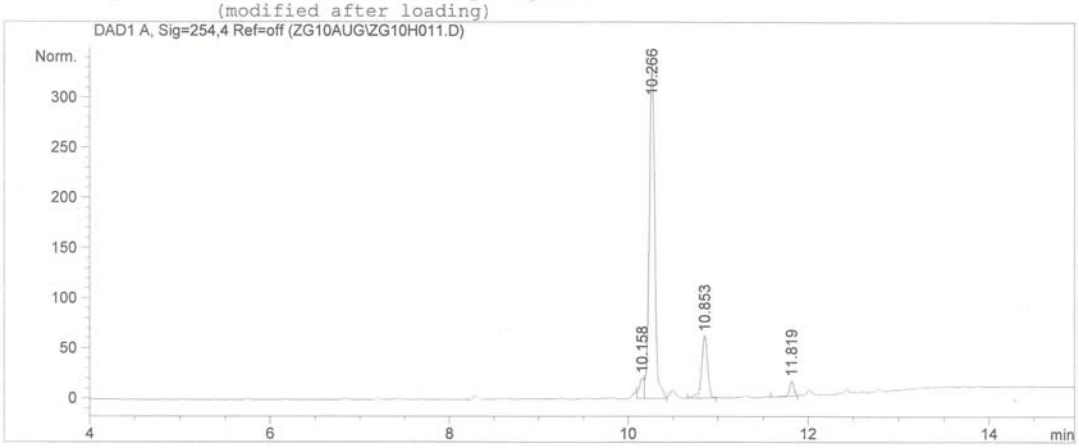



```
==================================================================
                        Area Percent Report
==================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.133 VV    0.0607  155.26125   38.82611   3.3820
   2  10.306 VV    0.0626  191.05287   45.85803   4.1616
   3  10.393 VV    0.0598   72.89963   18.55335   1.5879
   4  10.589 VV    0.0686  109.58826   24.32212   2.3871
   5  10.736 VV    0.0653 3385.40723  800.68982  73.7426
   6  11.009 VV    0.0650  676.63678  161.12260  14.7388

Totals :                  4590.84602 1089.37203

 Results obtained with enhanced integrator!
==================================================================
                        *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H011.D Sample Name: Ala 3

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==================================================================
Injection Date  : 8/10/2004 7:45:17 PM          Seq. Line :  12
Sample Name     : Ala 3                          Location : P1-B-03
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```

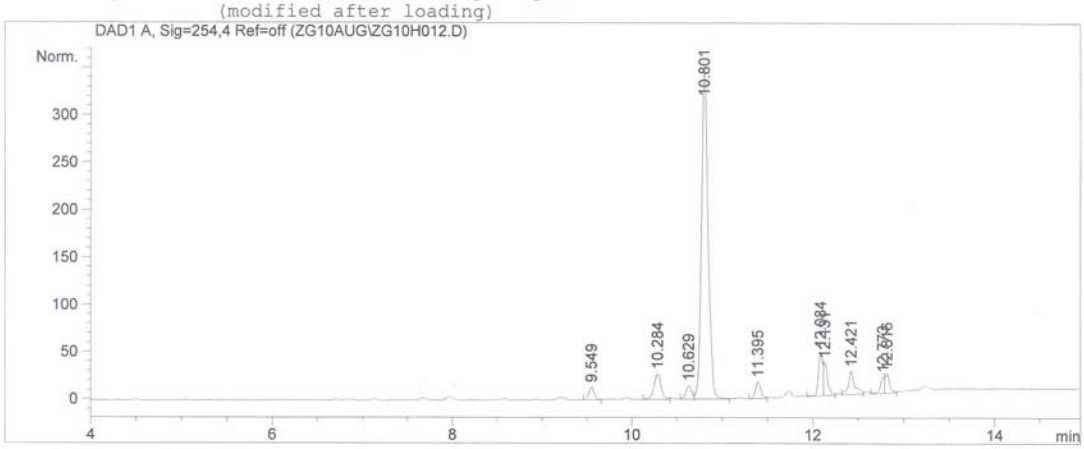



```
==================================================================
                        Area Percent Report
==================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  10.158 VV    0.0545   75.46846   20.71795   4.0593
   2  10.266 VV    0.0662 1440.06873  334.78223  77.4576
   3  10.853 BB    0.0730  291.49664   61.86292  15.6789
   4  11.819 VV    0.0522   52.13573   15.13500   2.8042

Totals :                  1859.16956  432.49810

 Results obtained with enhanced integrator!
==================================================================
                        *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H012.D Sample Name: Ala 4

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==========================================================================
Injection Date  : 8/10/2004 8:09:24 PM          Seq. Line :  13
Sample Name     : Ala 4                          Location : P1-B-04
Acq. Operator   : Malgosia                           Inj :  1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```

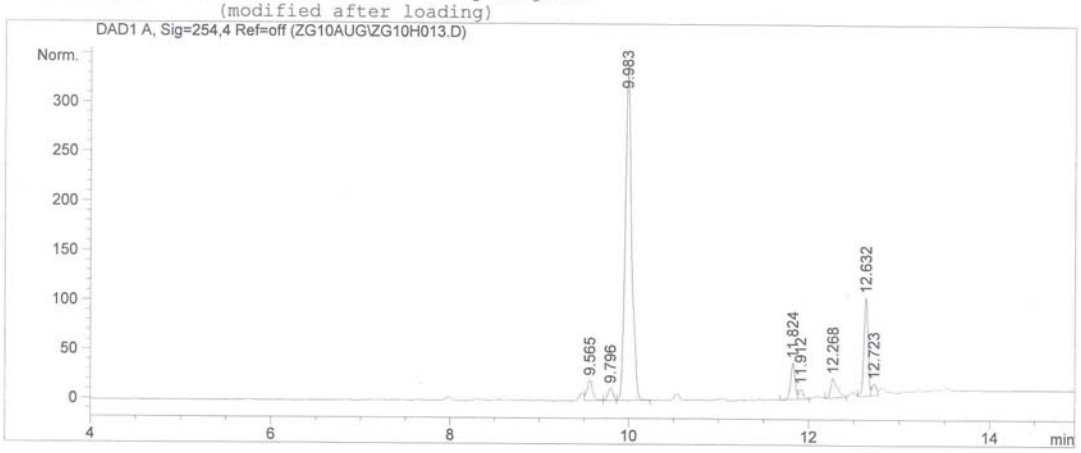



```
==========================================================================
                          Area Percent Report
==========================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.549 BB    0.0643   56.22199   13.57302   2.1431
   2  10.284 BB    0.0839  147.95401   27.03072   5.6397
   3  10.629 BV    0.0659   60.81625   14.23206   2.3182
   4  10.801 VB    0.0748 1780.04285  353.17493  67.8515
   5  11.395 VV    0.0641   71.59211   17.37978   2.7289
   6  12.084 BV    0.0481  150.30034   46.01387   5.7291
   7  12.131 VB    0.0467  109.52878   34.84853   4.1750
   8  12.421 BV    0.0697  121.79704   24.62722   4.6426
   9  12.773 VV    0.0457   52.23829   17.15676   1.9912
  10  12.816 VB    0.0536   72.94880   20.44430   2.7807

Totals :                  2623.44044  568.48120

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H013.D Sample Name: Ala 5

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

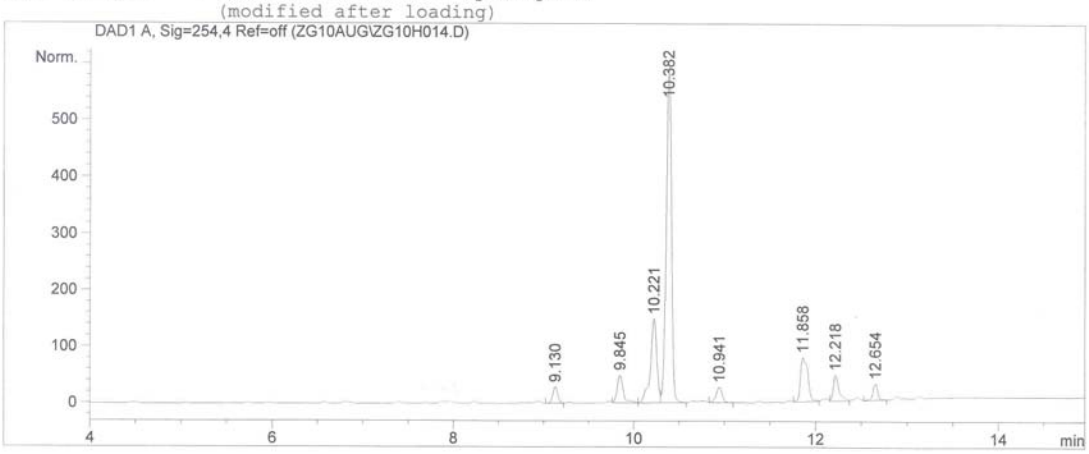
```
==========================================================================
Injection Date  : 8/10/2004 8:33:31 PM          Seq. Line :  14
Sample Name     : Ala 5                          Location : P1-B-05
Acq. Operator   : Malgosia                           Inj :  1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




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

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

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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.565 VV    0.0648   90.73383   20.84722   3.7204
   2   9.796 VV    0.0626   50.88973   12.72773   2.0867
   3   9.983 VP    0.0737 1680.13574  339.54532  68.8922
   4  11.824 VV    0.0546  128.86581   37.04315   5.2840
   5  11.912 VV    0.0531   36.07967   10.23720   1.4794
   6  12.268 VV    0.0721   99.81856   19.36242   4.0930
   7  12.632 VV    0.0503  310.76953   99.86330  12.7428
   8  12.723 VV    0.0515   41.49717   12.26344   1.7015

Totals :                  2438.79004  551.88978

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/10/2004 8:57:38 PM          Seq. Line :  15
Sample Name     : Ala 6                        Location : P1-B-06
Acq. Operator   : Malgosia                         Inj :   1
                                              Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```



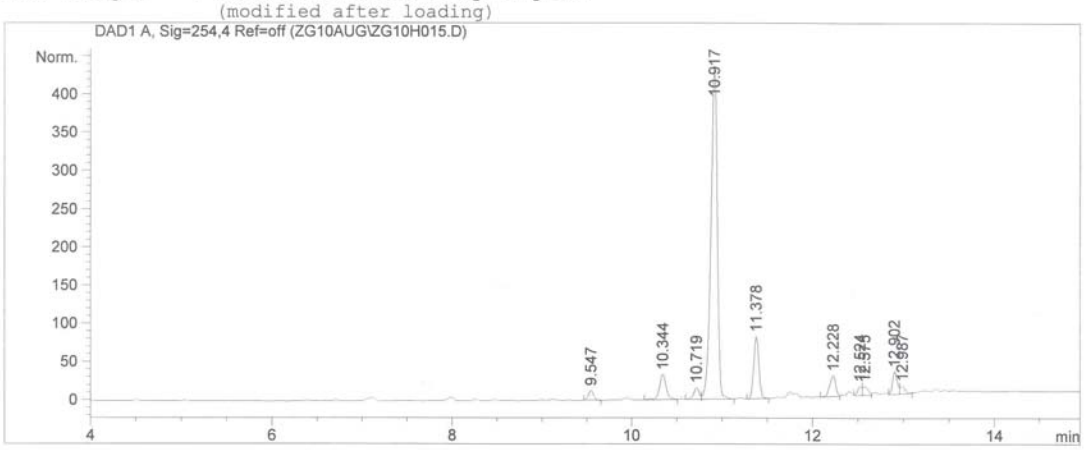

```
                        Area Percent Report

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

Signal 1: DAD1 A, Sig=254,4 Ref=off
```

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	9.130	VV	0.0610	112.36643	29.12068	2.5855
2	9.845	VV	0.0706	231.83678	49.55153	5.3346
3	10.221	VV	0.0732	731.78845	149.21597	16.8384
4	10.382	VV	0.0629	2390.20923	594.29803	54.9987
5	10.941	VP	0.0719	125.83982	27.22087	2.8956
6	11.858	VV	0.0780	446.22485	78.92790	10.2676
7	12.218	VV	0.0654	202.42863	45.99020	4.6579
8	12.654	VV	0.0564	105.24555	28.96079	2.4217
Totals :				4345.93975	1003.28598	

```
 Results obtained with enhanced integrator!

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

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/10/2004 9:21:43 PM          Seq. Line :  16
Sample Name     : Ala 7                        Location : P1-B-07
Acq. Operator   : Malgosia                         Inj :   1
                                              Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```



Area Percent Report

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

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

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	9.547	BP	0.0625	51.43306	12.90779	1.6512
2	10.344	BV	0.0815	173.84550	32.95494	5.5810
3	10.719	VV	0.0642	67.01646	15.58866	2.1515
4	10.917	VB	0.0728	2136.90405	438.74176	68.6020
5	11.378	VB	0.0624	323.25006	81.19262	10.3774
6	12.228	VV	0.0694	124.60268	27.24085	4.0002
7	12.524	VV	0.0518	41.00568	12.01957	1.3164
8	12.575	VV	0.0617	45.96645	11.23927	1.4757
9	12.902	VV	0.0565	107.95164	29.60454	3.4656
10	12.987	VB	0.0555	42.95488	11.00528	1.3790
Totals :				3114.93046	672.49528	

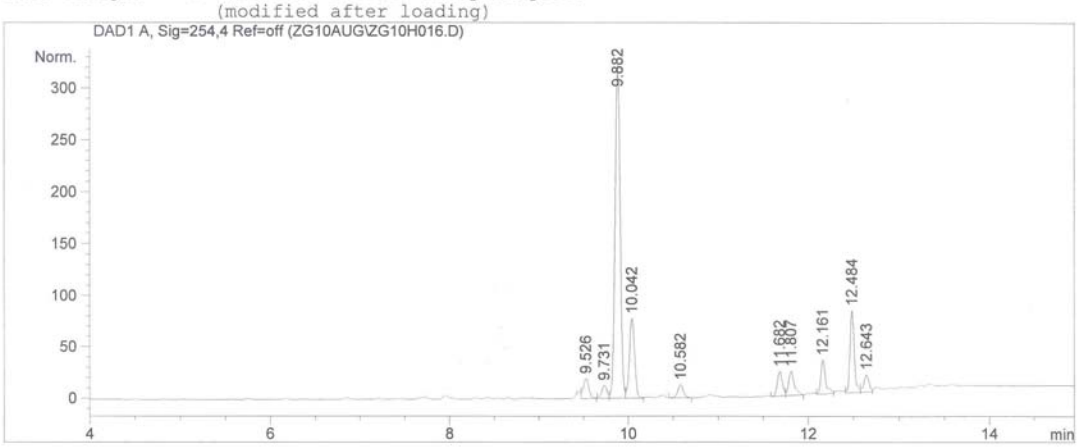
Results obtained with enhanced integrator!

*** End of Report ***

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H016.D Sample Name: Ala 8

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

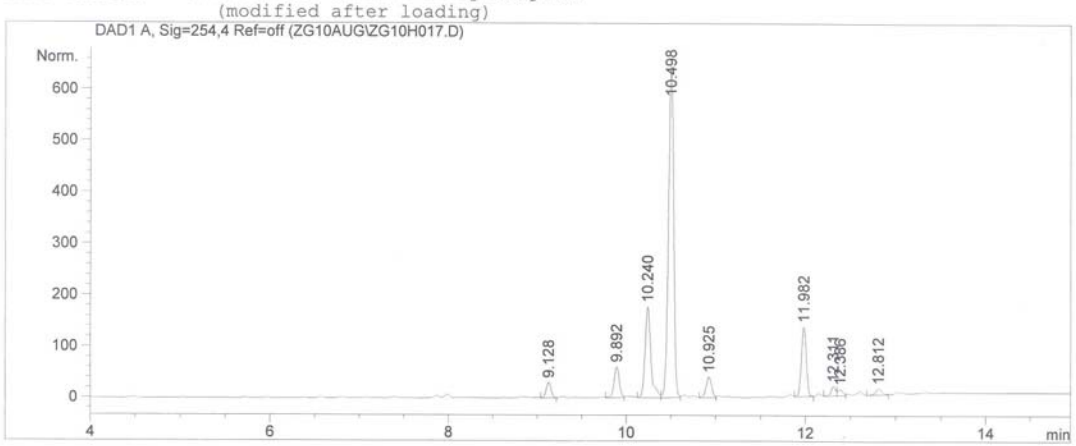
```
==========================================================================
Injection Date  : 8/10/2004 9:45:48 PM          Seq. Line :  17
Sample Name     : Ala 8                          Location : P1-B-08
Acq. Operator   : Malgosia                          Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




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

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.526 VB    0.0664   84.82645   19.64726   3.4584
   2   9.731 BV    0.0611   51.95520   12.86605   2.1183
   3   9.882 VV    0.0626 1293.51672  323.49792  52.7377
   4  10.042 VB    0.0635  316.93207   77.86670  12.9216
   5  10.582 VB    0.0675   56.48164   12.78326   2.3028
   6  11.682 VV    0.0616   93.36176   23.91072   3.8064
   7  11.807 VV    0.0653  103.34872   23.51532   4.2136
   8  12.161 VV    0.0556  124.11214   33.20705   5.0602
   9  12.484 VV    0.0501  262.47272   80.32182  10.7012
  10  12.643 VV    0.0580   65.72768   16.66154   2.6798

Totals :                  2452.73509  624.27762

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/10/2004 10:09:52 PM          Seq. Line :  18
Sample Name     : Ala 9                          Location : P1-B-09
Acq. Operator   : Malgosia                           Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```



Area Percent Report

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

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

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	9.128	VV	0.0612	117.59017	30.32862	2.5131
2	9.892	VV	0.0640	250.91589	60.92342	5.3625
3	10.240	VV	0.0690	809.04297	177.92598	17.2908
4	10.498	VV	0.0632	2625.24072	648.28192	56.1063
5	10.925	VV	0.0669	175.90619	40.30844	3.7594
6	11.982	VV	0.0605	519.15149	135.98509	11.0952
7	12.311	VV	0.0563	71.23461	18.75966	1.5224
8	12.386	VV	0.0581	49.01361	12.39562	1.0475
9	12.812	VV	0.0783	60.95170	12.19308	1.3027
Totals :				4679.04736	1137.10183	

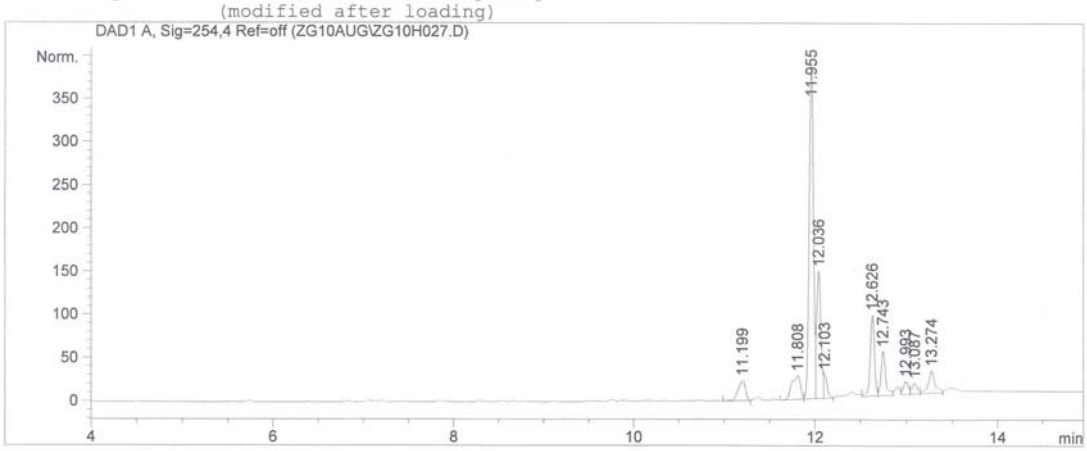
Results obtained with enhanced integrator!

*** End of Report ***

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H027.D Sample Name: Leu 1

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==================================================================
Injection Date  : 8/11/2004 2:10:44 AM          Seq. Line :  28
Sample Name     : Leu 1                          Location : P1-D-01
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




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

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

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

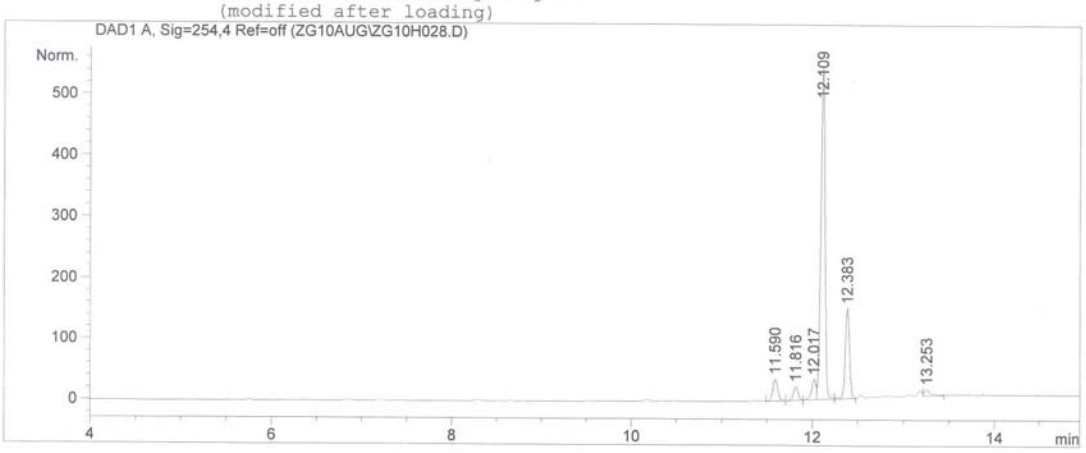
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	11.199	BV	0.0833	132.07397	23.61199	4.6235
2	11.808	VV	0.0917	181.07794	27.17311	6.3389
3	11.955	VV	0.0499	1264.29199	389.60019	44.2586
4	12.036	VV	0.0479	480.03339	147.59726	16.8044
5	12.103	VV	0.0406	71.77789	27.37761	2.5127
6	12.626	VV	0.0496	301.88156	93.74487	10.5679
7	12.743	VV	0.0539	182.85159	50.90263	6.4010
8	12.993	VV	0.0547	56.67868	15.47900	1.9841
9	13.087	VV	0.0608	50.41922	12.56709	1.7650
10	13.274	VV	0.0729	135.51331	25.96420	4.7439
Totals :				2856.59954	814.01794	

```
 Results obtained with enhanced integrator!
==================================================================
                        *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H028.D Sample Name: Leu 2

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/11/2004 2:34:51 AM          Seq. Line :  29
Sample Name     : Leu 2                        Location : P1-D-02
Acq. Operator   : Malgosia                        Inj :   1
                                               Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




```
                        Area Percent Report

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

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

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	11.590	VV	0.0584	135.74805	35.64218	5.2356
2	11.816	VP	0.0549	78.84872	22.51501	3.0411
3	12.017	VV	0.0527	116.16936	33.30010	4.4805
4	12.109	VV	0.0512	1732.51538	543.88379	66.8208
5	12.383	VV	0.0519	482.50562	148.54759	18.6096
6	13.253	VB	0.0630	46.99184	10.74885	1.8124
Totals :				2592.77897	794.63752	

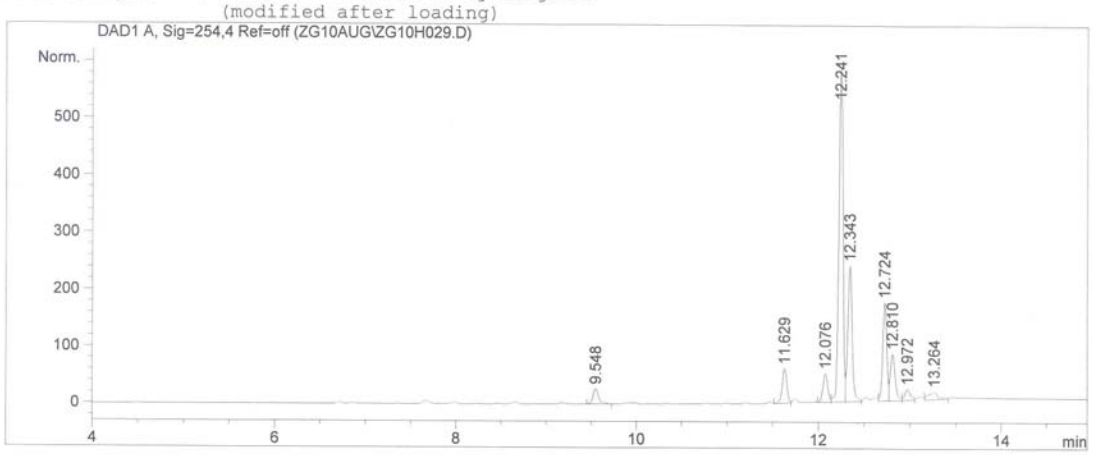
Results obtained with enhanced integrator!

*** End of Report ***

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H029.D Sample Name: Leu 3

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==================================================================================
Injection Date  : 8/11/2004 2:58:54 AM          Seq. Line :  30
Sample Name     : Leu 3                          Location : P1-D-03
Acq. Operator   : Malgosia                           Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```

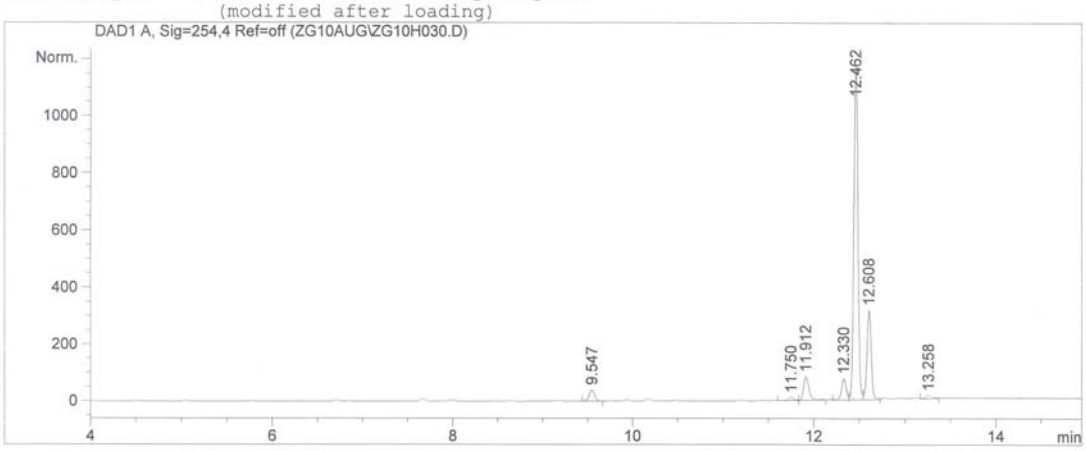



```
==================================================================================
                              Area Percent Report
==================================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.548 BB    0.0677  118.48042   26.73413   2.8160
   2  11.629 VV    0.0566  222.91714   61.10519   5.2983
   3  12.076 VV    0.0571  187.39674   50.72004   4.4540
   4  12.241 VV    0.0484 1841.92310  589.70233  43.7785
   5  12.343 VV    0.0533  806.96387  239.68605  19.1798
   6  12.724 VV    0.0499  534.29645  173.58124  12.6991
   7  12.810 VV    0.0571  307.00146   83.05581   7.2968
   8  12.972 VV    0.0659   84.54302   19.00002   2.0094
   9  13.264 VV    0.0987  103.84311   13.96640   2.4681

Totals :                  4207.36532 1257.55120

 Results obtained with enhanced integrator!
==================================================================================
                              *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H030.D Sample Name: Leu 4

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==========================================================================
Injection Date  : 8/11/2004 3:22:59 AM          Seq. Line :  31
Sample Name     : Leu 4                          Location : P1-D-04
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```

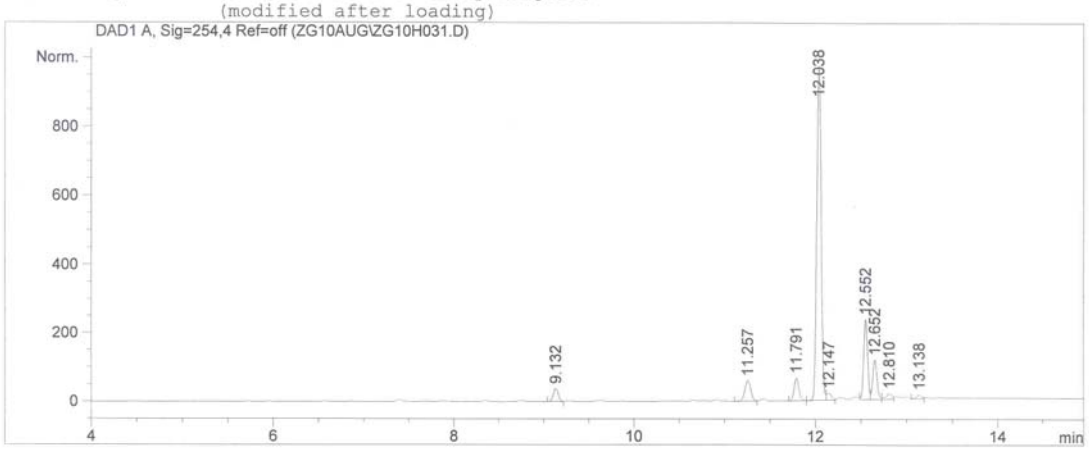



```
==========================================================================
                          Area Percent Report
==========================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]    [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.547 BB    0.0612  163.15477   40.31819   2.9024
   2  11.750 VV    0.0662   53.31617   11.92685   0.9484
   3  11.912 VV    0.0659  358.22882   83.76402   6.3725
   4  12.330 VV    0.0543  270.41675   74.65365   4.8104
   5  12.462 VV    0.0484 3674.85962 1177.24463  65.3721
   6  12.608 VV    0.0519 1026.30249  315.86118  18.2569
   7  13.258 VV    0.0856   75.17248   11.91678   1.3372

Totals :                  5621.45110 1715.68529

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H031.D Sample Name: Leu 5

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==================================================================
Injection Date  : 8/11/2004 3:47:06 AM          Seq. Line :  32
Sample Name     : Leu 5                          Location : P1-D-05
Acq. Operator   : Malgosia                           Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```



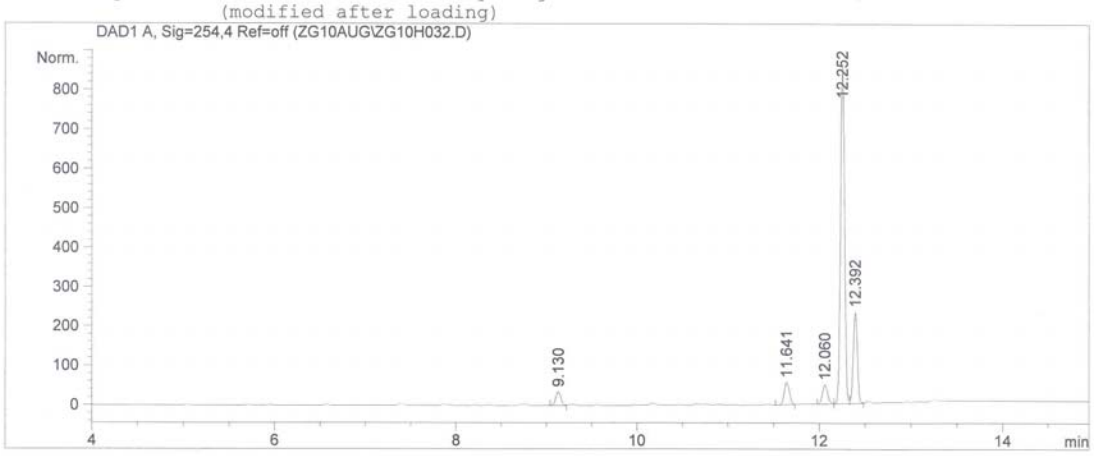

```
==================================================================
                        Area Percent Report
==================================================================

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


Signal 1: DAD1 A, Sig=254,4 Ref=off
```

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	9.132	BV	0.0609	149.18658	38.72206	2.8592
2	11.257	BV	0.0720	279.38953	60.39709	5.3546
3	11.791	PV	0.0558	237.07278	66.14194	4.5436
4	12.038	VV	0.0532	3282.22900	976.87482	62.9051
5	12.147	VV	0.0535	73.64734	20.71803	1.4115
6	12.552	VV	0.0470	704.42468	234.91624	13.5006
7	12.652	VV	0.0516	372.89740	115.74183	7.1467
8	12.810	VV	0.0628	73.91893	16.96847	1.4167
9	13.138	VV	0.0556	44.97823	12.02390	0.8620
Totals :				5217.74448	1542.50439	

```
 Results obtained with enhanced integrator!
==================================================================
                        *** End of Report ***
```

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==========================================================================
Injection Date  : 8/11/2004 4:11:10 AM          Seq. Line :  33
Sample Name     : Leu 6                          Location : P1-D-06
Acq. Operator   : Malgosia                           Inj :  1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```

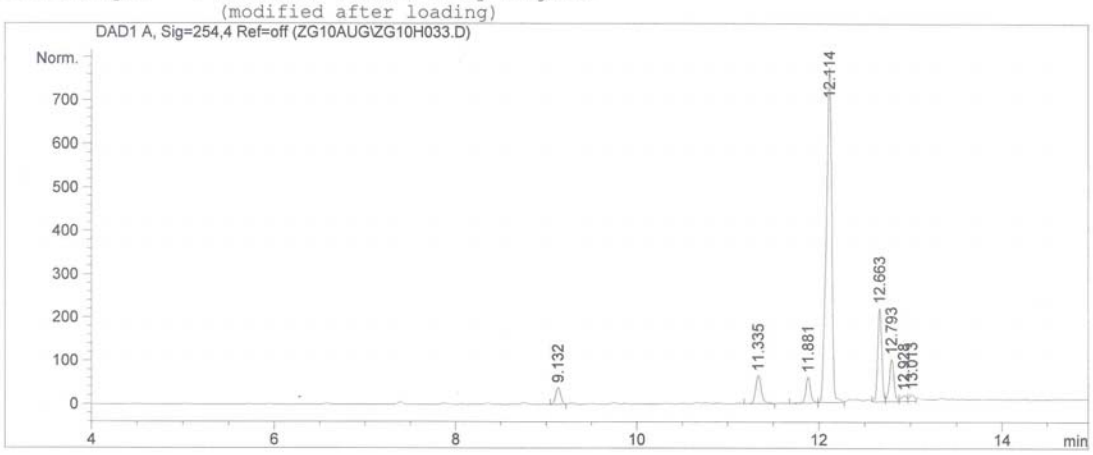



```
==========================================================================
                          Area Percent Report
==========================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]    [mAU*s]    [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.130 BV    0.0616  135.48473   34.66608   3.4359
   2  11.641 VV    0.0650  228.11041   56.57514   5.7850
   3  12.060 VV    0.0628  193.74406   48.30569   4.9134
   4  12.252 VV    0.0480 2659.53564  861.45544  67.4467
   5  12.392 VV    0.0483  726.29193  233.22002  18.4190

Totals :                  3943.16678 1234.22236

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H033.D Sample Name: Leu 7

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/11/2004 4:35:17 AM          Seq. Line :  34
Sample Name     : Leu 7                        Location : P1-D-07
Acq. Operator   : Malgosia                         Inj :   1
                                               Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```



Area Percent Report

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

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

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	9.132	BV	0.0613	151.65341	39.09852	3.0911
2	11.335	VP	0.0667	279.59772	64.29184	5.6989
3	11.881	VV	0.0554	210.89502	59.39983	4.2985
4	12.114	VV	0.0616	3162.27002	775.30872	64.4544
5	12.663	VV	0.0493	655.62811	216.61996	13.3632
6	12.793	VV	0.0519	336.58127	98.31401	6.8603
7	12.928	VV	0.0560	53.10948	14.08821	1.0825
8	13.013	VV	0.0532	56.47400	15.99573	1.1511
Totals :				4906.20902	1283.11682	

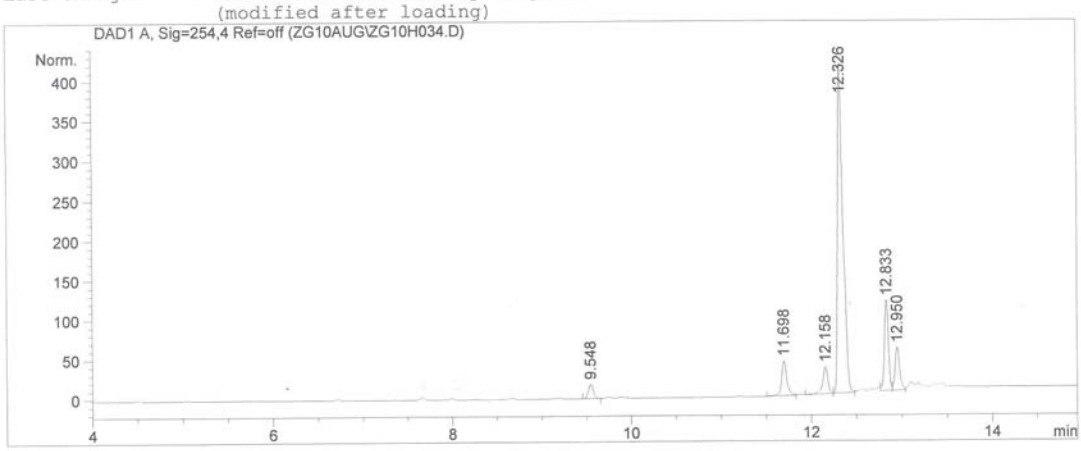
Results obtained with enhanced integrator!

*** End of Report ***

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H034.D Sample Name: Leu 8

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==========================================================================
Injection Date  : 8/11/2004 4:59:23 AM          Seq. Line :  35
Sample Name     : Leu 8                          Location : P1-D-08
Acq. Operator   : Malgosia                           Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```

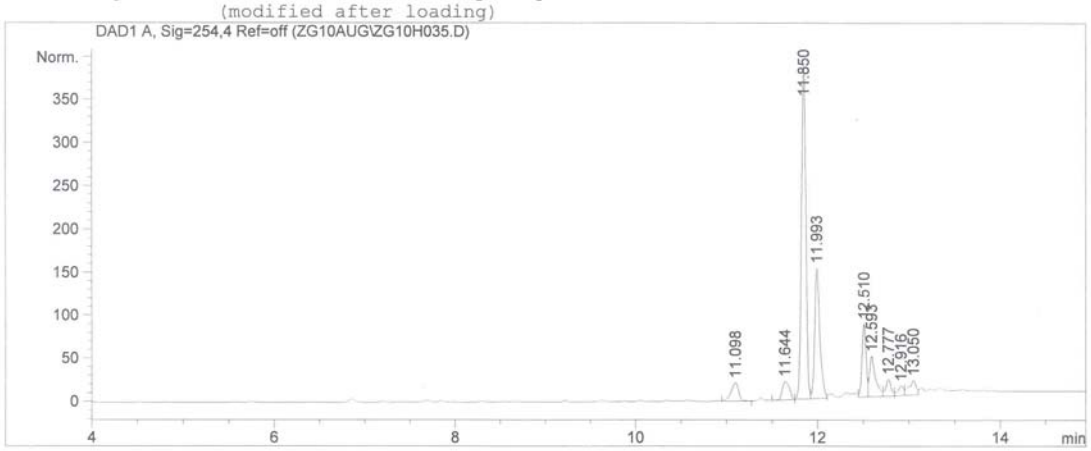



```
==========================================================================
                        Area Percent Report
==========================================================================

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

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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.548 BB    0.0625   73.24783   18.36710   2.7901
   2  11.698 PB    0.0589  175.36244   43.64214   6.6797
   3  12.158 VV    0.0596  132.01231   33.80830   5.0285
   4  12.326 VV    0.0599 1703.65039  414.89273  64.8934
   5  12.833 VV    0.0498  350.18765  114.15073  13.3389
   6  12.950 VV    0.0530  190.84584   54.26984   7.2695

Totals :                  2625.30647  679.13083

 Results obtained with enhanced integrator!
==========================================================================
                        *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H035.D Sample Name: Leu 9

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==================================================================
Injection Date  : 8/11/2004 5:23:30 AM          Seq. Line :  36
Sample Name     : Leu 9                          Location : P1-D-09
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




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

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

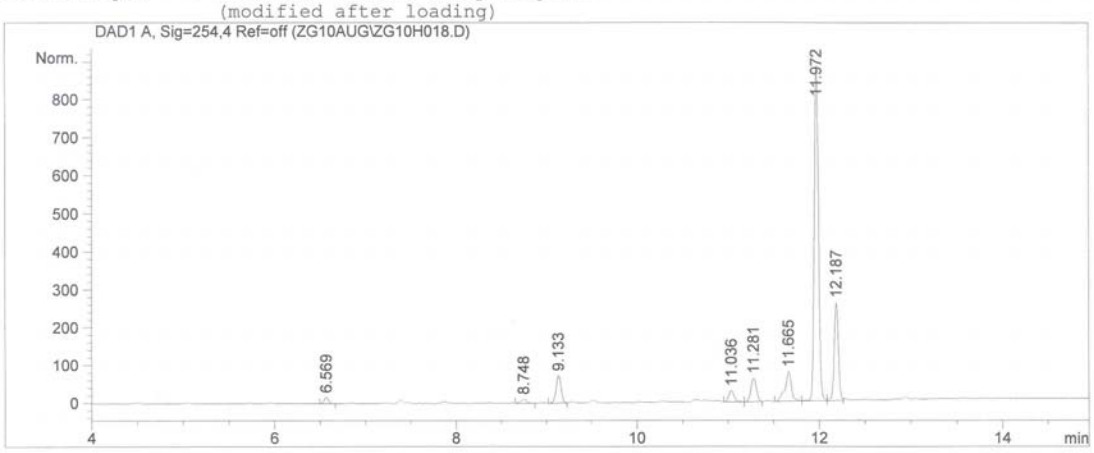
Signal 1: DAD1 A, Sig=254,4 Ref=off

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	11.098	BP	0.0899	123.30206	21.17747	4.3468
2	11.644	VV	0.0895	114.42693	21.02774	4.0339
3	11.850	VV	0.0536	1311.52673	386.74081	46.2356
4	11.993	VV	0.0573	590.85443	152.03613	20.8296
5	12.510	VV	0.0503	263.19016	84.64189	9.2783
6	12.593	VV	0.0646	210.88676	46.76837	7.4344
7	12.777	VV	0.0611	78.38555	19.42210	2.7633
8	12.916	VV	0.0628	48.20404	11.06828	1.6994
9	13.050	VV	0.0779	95.83968	16.97755	3.3787
Totals :				2836.61634	759.86036	

```
 Results obtained with enhanced integrator!
==================================================================
                        *** End of Report ***
```

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/10/2004 10:33:56 PM          Seq. Line :  19
Sample Name     : Val 1                          Location : P1-C-01
Acq. Operator   : Malgosia                           Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




```
                          Area Percent Report

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

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

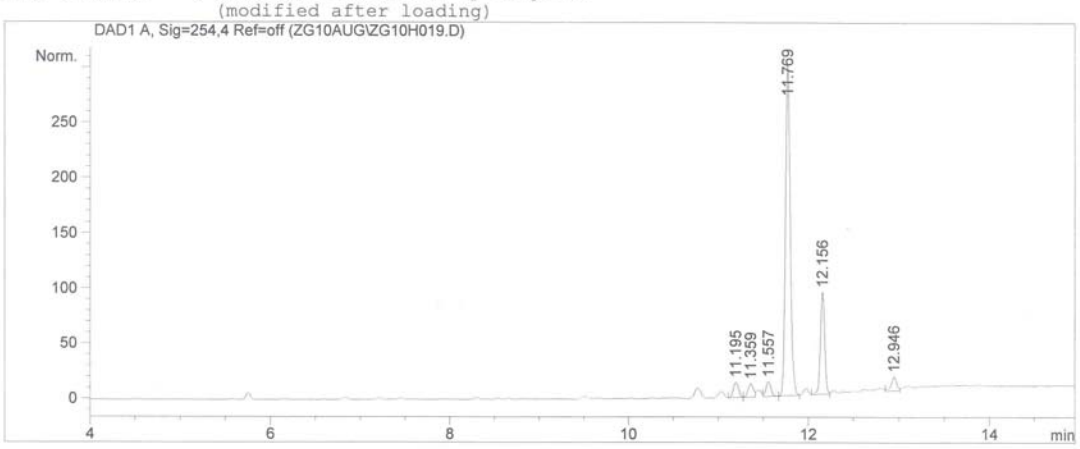
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	6.569	BB	0.0531	56.48395	16.84506	1.1680
2	8.748	VV	0.0641	47.04040	10.95423	0.9727
3	9.133	VV	0.0593	282.36530	72.76206	5.8387
4	11.036	VP	0.0639	122.21551	29.78621	2.5272
5	11.281	VV	0.0663	259.69742	62.69995	5.3700
6	11.665	VV	0.0709	383.20380	78.55480	7.9239
7	11.972	VV	0.0516	2855.16455	886.83215	59.0391
8	12.187	VV	0.0511	829.89014	260.98032	17.1605
Totals :				4836.06105	1419.41478	

```
 Results obtained with enhanced integrator!

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

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H019.D Sample Name: Val 2

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

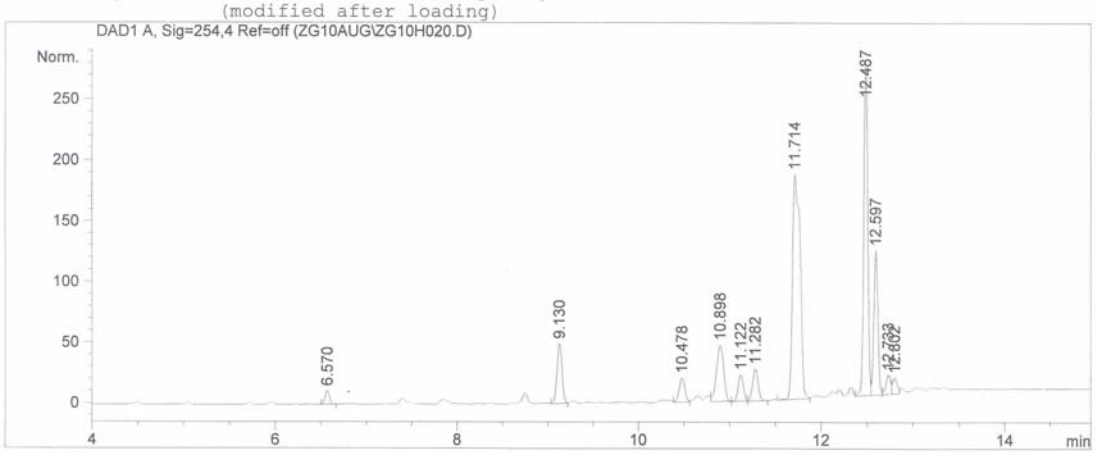
```
==================================================================
Injection Date  : 8/10/2004 10:58:02 PM          Seq. Line :  20
Sample Name     : Val 2                           Location : P1-C-02
Acq. Operator   : Malgosia                            Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




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

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  11.195 VV    0.0626   56.16360   14.07022   3.4712
   2  11.359 VV    0.0620   49.49796   12.02201   3.0593
   3  11.557 VP    0.0585   52.04745   13.63344   3.2168
   4  11.769 VV    0.0568 1100.23474  299.66940  68.0011
   5  12.156 VV    0.0525  306.56320   93.01751  18.9475
   6  12.946 VV    0.0612   53.45824   12.67004   3.3040

Totals :                  1617.96520  445.08262

 Results obtained with enhanced integrator!
==================================================================
                          *** End of Report ***
```

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

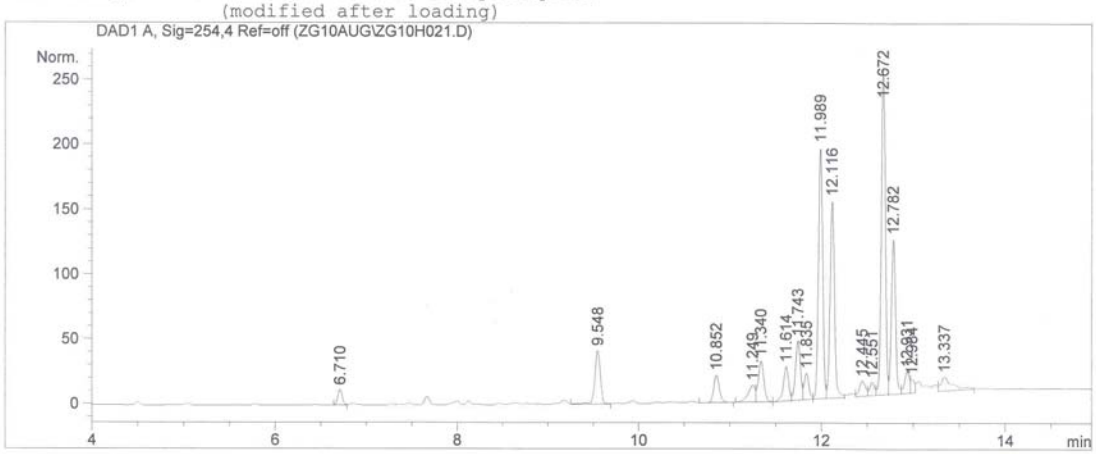
```
==========================================================================
Injection Date  : 8/10/2004 11:22:07 PM          Seq. Line :  21
Sample Name     : Val 3                           Location : P1-C-03
Acq. Operator   : Malgosia                           Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




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

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]      [min]    [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   6.570 BP    0.0527   37.58251   11.32343   1.1973
   2   9.130 BV    0.0592  191.29089   49.32756   6.0940
   3  10.478 VV    0.0695   88.06834   19.96274   2.8056
   4  10.898 VP    0.0859  255.04140   46.57156   8.1250
   5  11.122 VV    0.0630   88.28615   21.90060   2.8126
   6  11.282 VP    0.0650  110.43542   26.28268   3.5182
   7  11.714 VV    0.0795 1072.17175  185.33948  34.1566
   8  12.487 VV    0.0472  828.32013  274.44122  26.3881
   9  12.597 VV    0.0496  364.24060  119.40856  11.6038
  10  12.733 VV    0.0534   56.79278   16.00327   1.8093
  11  12.802 VV    0.0509   46.75917   13.35042   1.4896

Totals :                  3138.98913  783.91152

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==========================================================================
Injection Date  : 8/10/2004 11:46:13 PM          Seq. Line :  22
Sample Name     : Val 4                           Location : P1-C-04
Acq. Operator   : Malgosia                           Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```



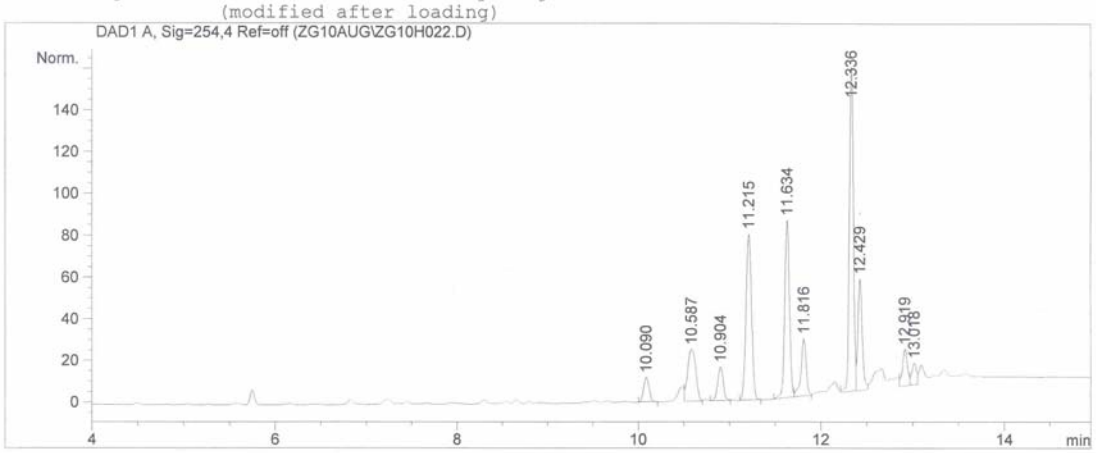

```
==========================================================================
                          Area Percent Report
==========================================================================

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

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

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	6.710	BV	0.0534	39.82188	11.79706	1.1629
2	9.548	VB	0.0666	179.90872	41.45250	5.2537
3	10.852	VB	0.0660	90.91088	21.21736	2.6548
4	11.249	BV	0.0769	71.20436	13.20817	2.0793
5	11.340	VP	0.0652	133.49580	31.66972	3.8984
6	11.614	VV	0.0601	104.47399	26.41590	3.0509
7	11.743	VV	0.0575	171.69504	46.00222	5.0138
8	11.835	VV	0.0538	73.62534	20.55972	2.1500
9	11.989	VV	0.0495	624.97247	194.41766	18.2505
10	12.116	VB	0.0509	507.58783	152.35880	14.8226
11	12.445	VV	0.0729	55.26421	11.74286	1.6138
12	12.551	VV	0.0560	38.22228	10.13382	1.1162
13	12.672	VV	0.0494	768.49866	253.14821	22.4417
14	12.782	VV	0.0487	378.33554	120.23834	11.0482
15	12.931	VV	0.0553	62.53636	16.83182	1.8262
16	12.984	VV	0.0405	30.02151	10.77663	0.8767
17	13.337	VB	0.1164	93.84051	10.89988	2.7403

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

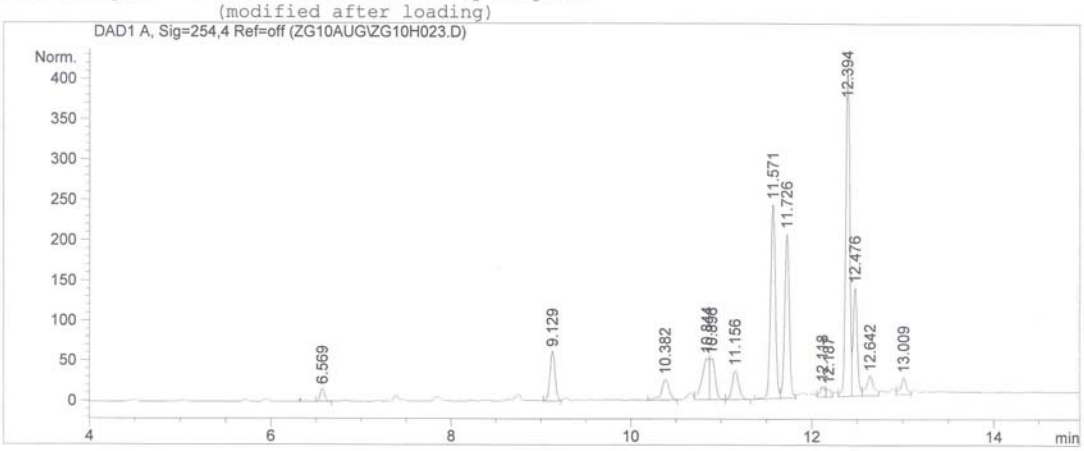
```
Injection Date  : 8/11/2004 12:10:18 AM          Seq. Line :  23
Sample Name     : Val 5                          Location : P1-C-05
Acq. Operator   : Malgosia                          Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




```
                          Area Percent Report

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  10.090 PP    0.0652   49.32955   11.70509   2.7673
   2  10.587 VV    0.1001  153.52362   24.85683   8.6124
   3  10.904 VB    0.0652   68.27924   16.18014   3.8303
   4  11.215 PP    0.0653  336.84558   79.77705  18.8964
   5  11.634 PV    0.0563  308.20163   85.09615  17.2896
   6  11.816 VV    0.0580  108.92026   27.61339   6.1102
   7  12.336 VV    0.0476  477.57327  156.51382  26.7910
   8  12.429 VV    0.0502  176.09044   53.80845   9.8784
   9  12.919 VV    0.0557   66.55541   17.76235   3.7336
  10  13.018 VV    0.0532   37.26761   10.56170   2.0906

Totals :                  1782.58661  483.87496

 Results obtained with enhanced integrator!

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

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==========================================================================
Injection Date  : 8/11/2004 12:34:25 AM          Seq. Line :  24
Sample Name     : Val 6                           Location : P1-C-06
Acq. Operator   : Malgosia                            Inj :  1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




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

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

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

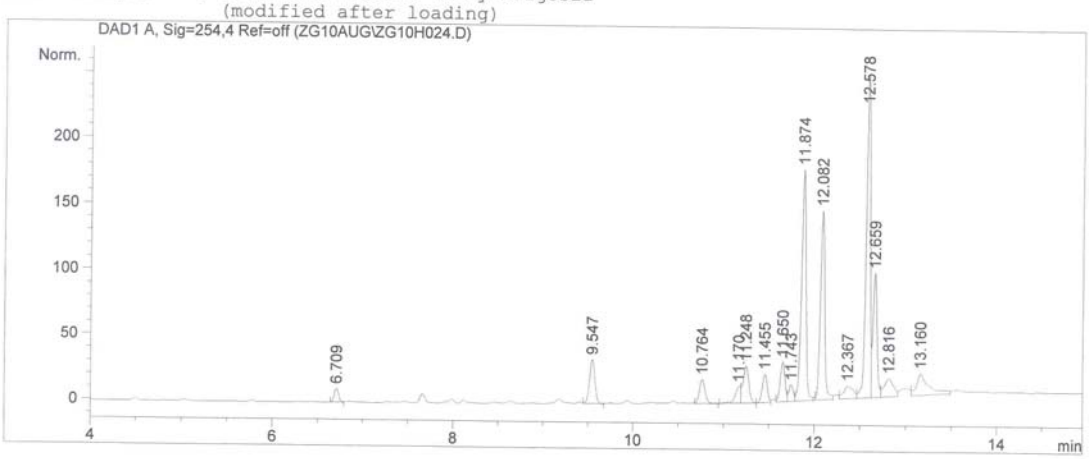
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	6.569	BB	0.0531	53.01356	15.83399	1.1224
2	9.129	BV	0.0599	243.50172	61.84081	5.1555
3	10.382	BV	0.0876	150.32268	25.93875	3.1827
4	10.844	VV	0.0780	285.22284	52.00510	6.0388
5	10.896	VV	0.0608	203.75783	50.78392	4.3140
6	11.156	VB	0.0763	179.41197	35.91370	3.7985
7	11.571	PV	0.0570	892.69672	242.39584	18.9003
8	11.726	VV	0.0527	717.86365	205.54945	15.1987
9	12.118	VV	0.0561	50.59891	13.39499	1.0713
10	12.187	VV	0.0506	35.38861	10.15692	0.7493
11	12.394	VV	0.0478	1257.16565	410.22025	26.6169
12	12.476	VV	0.0490	428.78204	135.36388	9.0782
13	12.642	VV	0.0775	135.26405	24.85947	2.8638
14	13.009	VV	0.0618	90.19321	21.11224	1.9096
Totals :				4723.18344	1305.36929	

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H024.D

Sample Name: Val 7

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

Injection Date	: 8/11/2004 12:58:31 AM	Seq. Line	: 25
Sample Name	: Val 7	Location	: P1-C-07
Acq. Operator	: Malgosia	Inj	: 1
		Inj Volume	: 1 µl
Acq. Method	: C:\HPCHEM\1\METHODS\ZG01.M		
Last changed	: 8/10/2004 3:55:50 PM by Malgosia (modified after loading)		
Analysis Method	: C:\HPCHEM\1\METHODS\ZG01.M		
Last changed	: 8/20/2004 3:35:49 PM by Malgosia (modified after loading)		



Area Percent Report

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

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

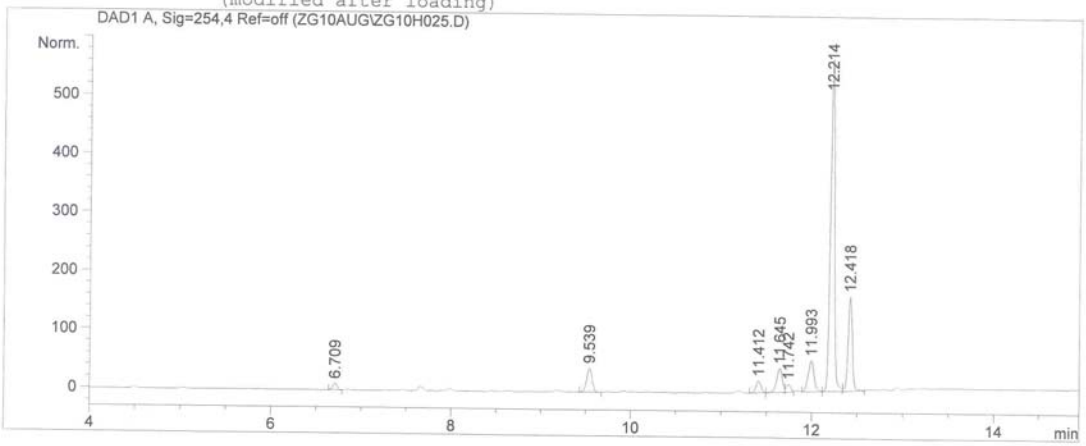
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	6.709	BV	0.0535	35.54205	10.49449	1.1146
2	9.547	VB	0.0639	140.67128	34.23788	4.4113
3	10.764	BP	0.0664	80.83566	18.71599	2.5349
4	11.170	BV	0.0628	53.41060	12.77990	1.6749
5	11.248	VP	0.0679	127.37429	28.62568	3.9943
6	11.455	VV	0.0603	82.73176	21.76798	2.5944
7	11.650	VV	0.0563	111.24227	30.67770	3.4884
8	11.743	VV	0.0519	43.68406	12.76275	1.3699
9	11.874	VB	0.0550	620.78308	176.73744	19.4670
10	12.082	BV	0.0529	482.94009	144.93358	15.1444
11	12.367	VV	0.0960	72.71994	10.09654	2.2804
12	12.578	VV	0.0483	777.15820	249.65233	24.3707
13	12.659	VV	0.0486	300.24640	95.63408	9.4153
14	12.816	VV	0.0962	101.01217	14.33323	3.1676
15	13.160	VV	0.1220	158.55237	16.81430	4.9720
Totals :				3188.90423	878.26386	

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H025.D

Sample Name: Val 8

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/11/2004 1:22:36 AM          Seq. Line :  26
Sample Name     : Val 8                        Location : P1-C-08
Acq. Operator   : Malgosia                         Inj :   1
                                               Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```



Area Percent Report

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

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

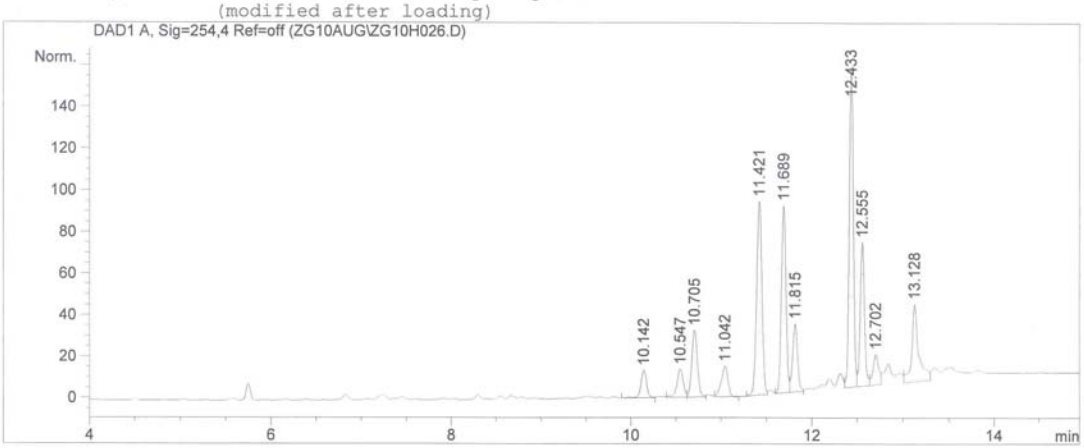
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	6.709	BV	0.0534	36.75970	10.87261	1.1871
2	9.539	BB	0.0651	171.46045	40.70677	5.5372
3	11.412	VP	0.0611	77.54405	20.06119	2.5042
4	11.645	VV	0.0673	179.18158	40.71922	5.7866
5	11.742	VV	0.0549	47.43760	13.54222	1.5320
6	11.993	VV	0.0704	247.09482	53.02968	7.9798
7	12.214	VV	0.0489	1812.13721	572.61578	58.5218
8	12.418	VV	0.0499	524.90076	161.62784	16.9513
Totals :				3096.51616	913.17531	

Results obtained with enhanced integrator!

*** End of Report ***

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/11/2004 1:46:40 AM          Seq. Line :  27
Sample Name     : Val 9                         Location : P1-C-09
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```



Area Percent Report

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

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

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	10.142	VB	0.0666	57.83676	13.33506	2.7099
2	10.547	BV	0.0748	66.62510	13.68512	3.1217
3	10.705	VB	0.0687	140.44400	32.31869	6.5805
4	11.042	BP	0.0751	74.56674	14.71864	3.4938
5	11.421	PV	0.0634	379.31808	93.44712	17.7729
6	11.689	VV	0.0554	320.58743	90.45161	15.0211
7	11.815	VV	0.0580	124.16922	32.92220	5.8179
8	12.433	VV	0.0502	479.90634	154.61864	22.4859
9	12.555	VV	0.0500	226.79257	69.67086	10.6263
10	12.702	VV	0.0650	65.09702	14.90108	3.0501
11	13.128	VV	0.0759	198.91031	37.47134	9.3199
Totals :				2134.25359	567.54036	

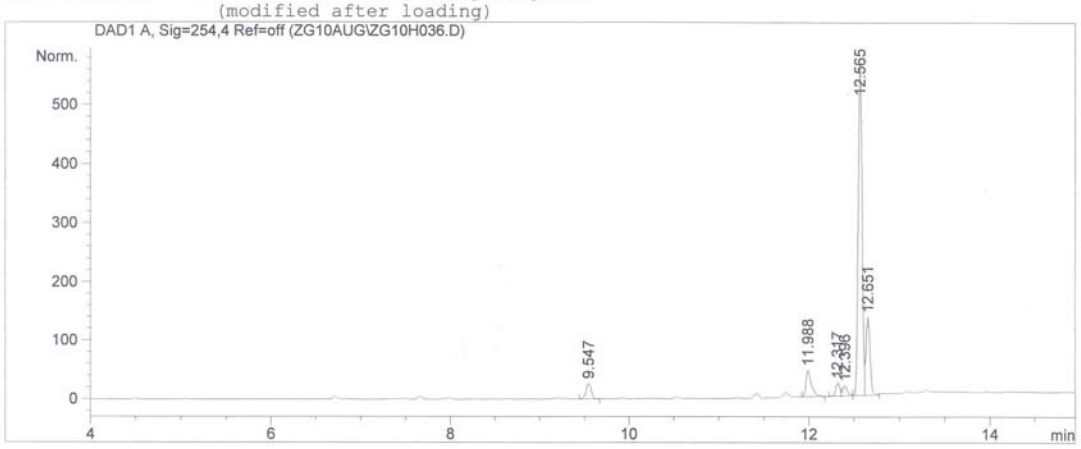
Results obtained with enhanced integrator!

*** End of Report ***

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H036.D Sample Name: Phe 1

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==========================================================================
Injection Date  : 8/11/2004 5:47:35 AM          Seq. Line :  37
Sample Name     : Phe 1                          Location : P1-E-01
Acq. Operator   : Malgosia                          Inj :   1
                                                 Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```

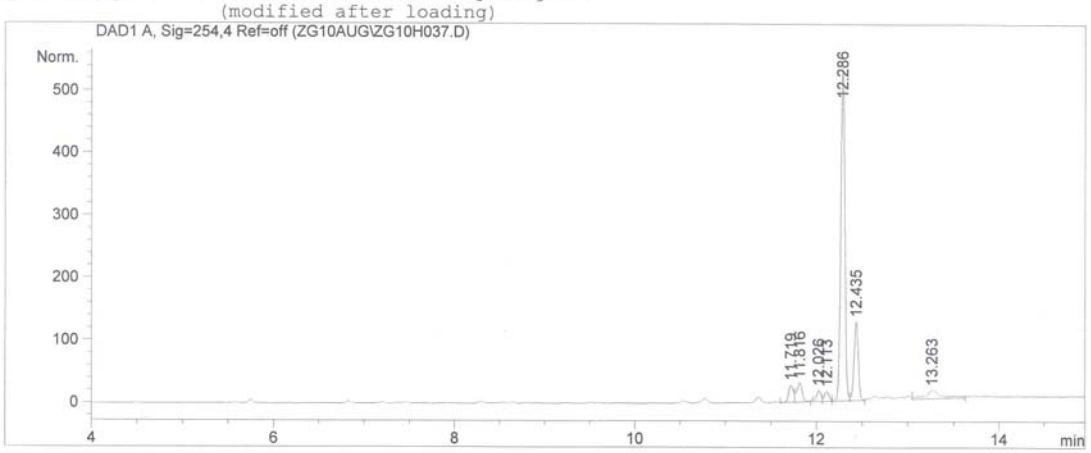



```
==========================================================================
                          Area Percent Report
==========================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.547 BB    0.0625  106.08964   26.59242   4.1439
   2  11.988 BB    0.0615  192.12000   45.26096   7.5043
   3  12.317 BV    0.0497   70.86447   21.93745   2.7680
   4  12.396 VV    0.0534   62.26489   17.53522   2.4321
   5  12.565 VV    0.0494 1708.27515  562.77350  66.7258
   6  12.651 VV    0.0506  420.52747  133.88492  16.4259

Totals :                  2560.14161  807.98447

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H037.D Sample Name: Phe 2

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

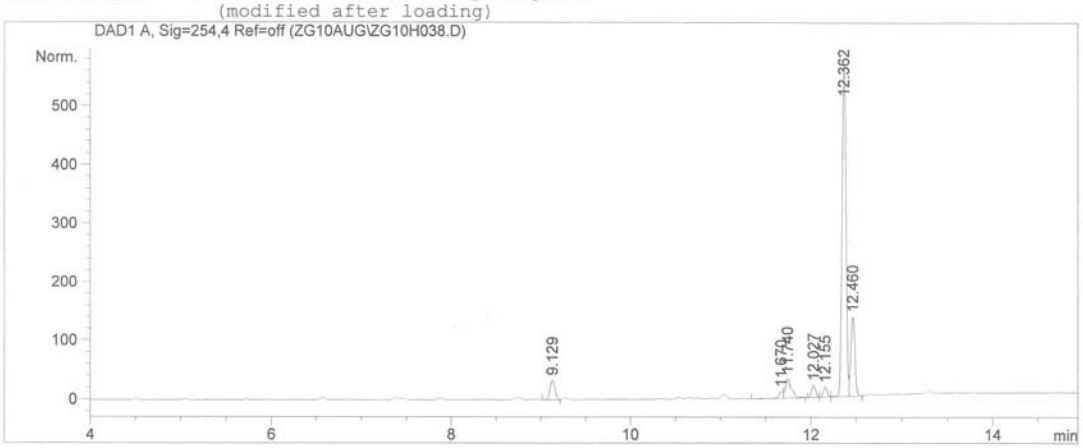
```
==========================================================================
Injection Date  : 8/11/2004 6:11:40 AM          Seq. Line :  38
Sample Name     : Phe 2                          Location : P1-E-02
Acq. Operator   : Malgosia                           Inj :  1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




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

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  11.719 VV    0.0534   98.33421   27.68604   3.7838
   2  11.816 VB    0.0645  130.46387   30.15449   5.0201
   3  12.026 BV    0.0530   60.39660   18.07776   2.3240
   4  12.113 VV    0.0509   53.74779   16.11356   2.0681
   5  12.286 VV    0.0504 1669.73120  534.89520  64.2489
   6  12.435 VV    0.0496  408.22049  126.70089  15.7077
   7  13.263 VB    0.1755  177.95453   13.70429   6.8474

Totals :                  2598.84868  767.33223

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

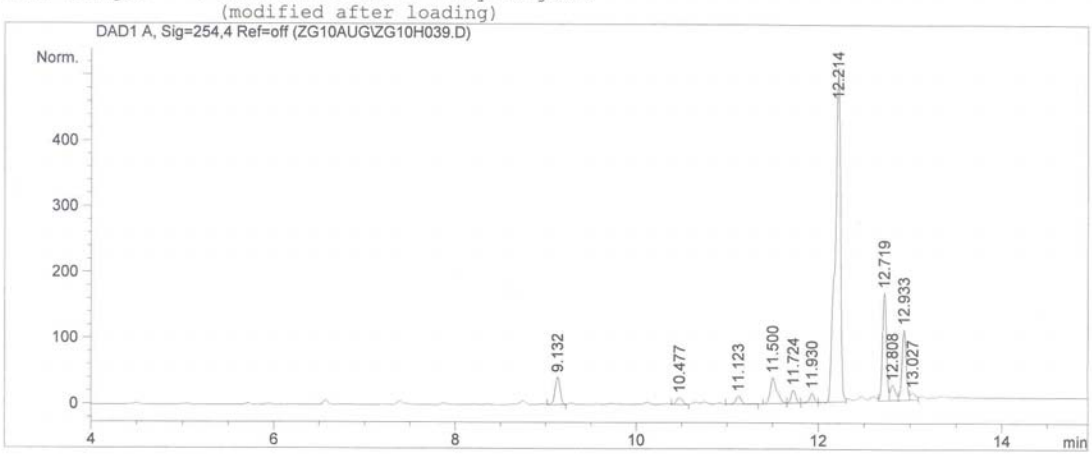
```
Injection Date  : 8/11/2004 6:35:44 AM          Seq. Line :  39
Sample Name     : Phe 3                         Location : P1-E-03
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




```
                          Area Percent Report

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]      [min]    [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.129 VV    0.0614  128.28217   32.96026   4.9575
   2  11.670 VV    0.0520   40.49026   11.24190   1.5648
   3  11.740 VB    0.0672  155.28490   32.79556   6.0010
   4  12.027 BV    0.0485   65.37354   20.88184   2.5264
   5  12.155 VV    0.0490   52.98052   16.72101   2.0474
   6  12.362 VV    0.0475 1730.13074  567.84918  66.8615
   7  12.460 VB    0.0477  415.09290  135.73886  16.0414

Totals :                  2587.63503  818.18861

 Results obtained with enhanced integrator!

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

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/11/2004 6:59:47 AM          Seq. Line :  40
Sample Name     : Phe 4                         Location : P1-E-04
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```



Area Percent Report

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

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

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	9.132	VV	0.0597	163.86299	41.87284	4.5296
2	10.477	VV	0.0704	47.77705	10.63588	1.3207
3	11.123	VB	0.0635	49.15244	12.08106	1.3587
4	11.500	PV	0.0737	199.36897	38.96297	5.5111
5	11.724	VV	0.0543	67.85409	19.66646	1.8757
6	11.930	VV	0.0542	49.40593	14.33948	1.3657
7	12.214	VV	0.0593	2071.95093	511.24939	57.2744
8	12.719	VV	0.0470	492.47156	164.14851	13.6133
9	12.808	VV	0.0569	89.05878	23.14269	2.4618
10	12.933	VV	0.0491	341.11298	107.34164	9.4293
11	13.027	VV	0.0586	45.56918	11.40068	1.2597
Totals :				3617.58488	954.84161	

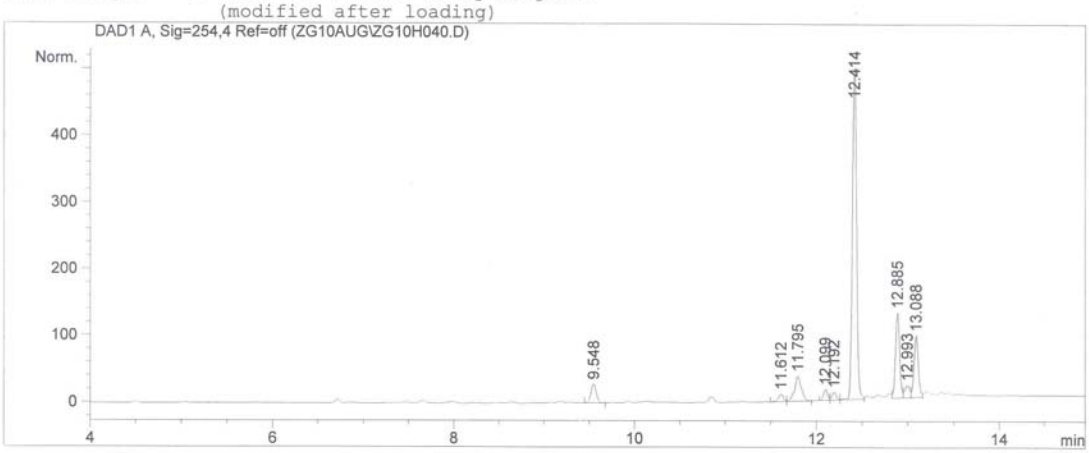
Results obtained with enhanced integrator!

*** End of Report ***

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H040.D Sample Name: Phe 5

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
==========================================================================
Injection Date  : 8/11/2004 7:23:54 AM          Seq. Line :  41
Sample Name     : Phe 5                          Location : P1-E-05
Acq. Operator   : Malgosia                           Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```

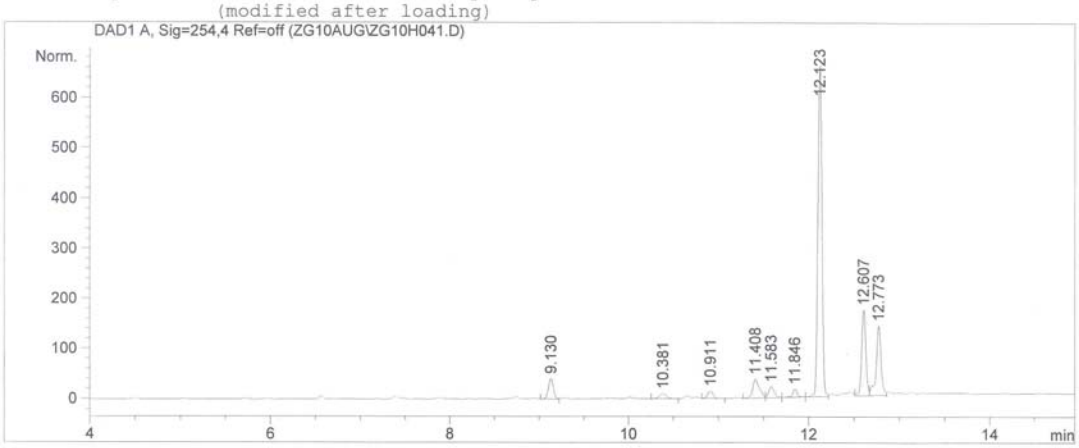



```
==========================================================================
                          Area Percent Report
==========================================================================

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.548 BB    0.0635  114.63654   28.13693   4.1028
   2  11.612 VV    0.0599   42.79906   10.87987   1.5317
   3  11.795 VB    0.0722  193.44675   37.48305   6.9233
   4  12.099 BV    0.0490   50.44863   15.91154   1.8055
   5  12.192 VV    0.0512   39.39475   11.72768   1.4099
   6  12.414 VV    0.0490 1586.86560  500.66327  56.7927
   7  12.885 VV    0.0483  398.03973  127.83804  14.2455
   8  12.993 VV    0.0557   69.32121   18.51730   2.4810
   9  13.088 VV    0.0500  299.18619   91.83815  10.7076

Totals :                  2794.13846  842.99583

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H041.D Sample Name: Phe 6

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

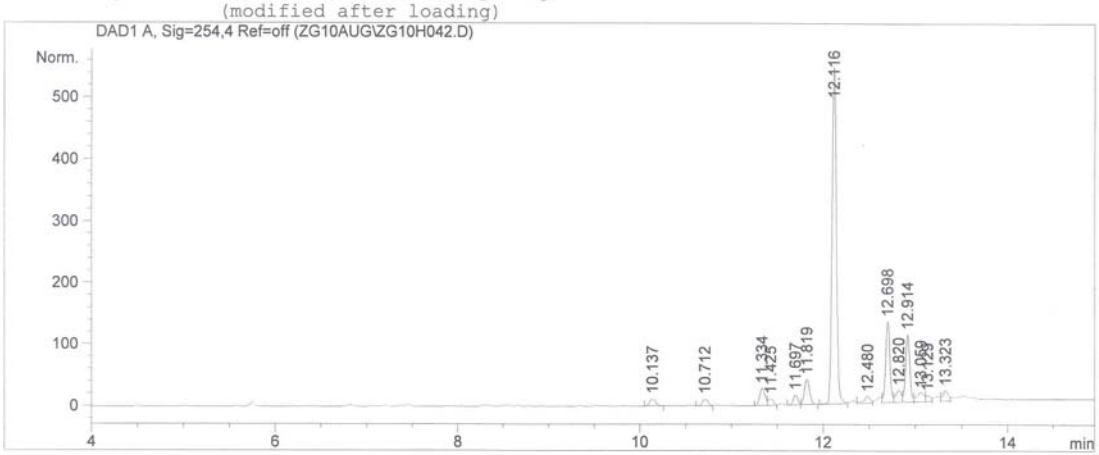
```
==========================================================================
Injection Date  : 8/11/2004 7:47:58 AM          Seq. Line :  42
Sample Name     : Phe 6                          Location : P1-E-06
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/10/2004 3:55:50 PM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




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

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1   9.130 VV    0.0596  159.20345   40.75895   4.2520
   2  10.381 BP    0.0835   54.74224   10.38008   1.4621
   3  10.911 VB    0.0657   64.67771   15.17095   1.7274
   4  11.408 VV    0.0745  194.42311   37.47285   5.1927
   5  11.583 VV    0.0670   94.87312   21.70265   2.5339
   6  11.846 VV    0.0528   57.37926   16.41315   1.5325
   7  12.123 VV    0.0501 2044.34070  660.30365  54.6004
   8  12.607 VV    0.0498  555.84882  171.67789  14.8457
   9  12.773 VV    0.0555  518.69568  139.24294  13.8534

Totals :                  3744.18407 1113.12310

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/11/2004 8:12:03 AM          Seq. Line :  43
Sample Name     : Phe 7                         Location : P1-E-07
Acq. Operator   : Malgosia                          Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/11/2004 8:21:24 AM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```



Area Percent Report

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

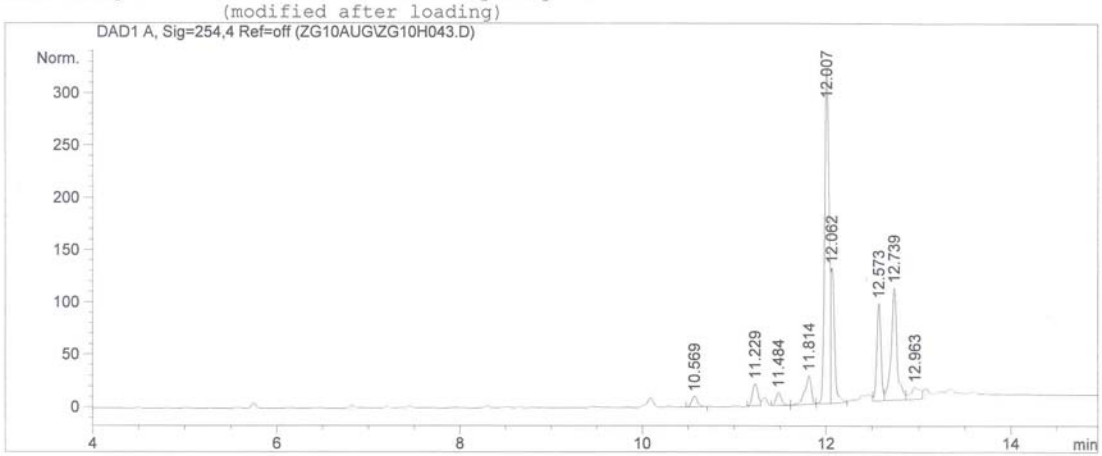
Signal 1: DAD1 A, Sig=254,4 Ref=off

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	10.137	PB	0.0652	52.10426	12.34519	1.5487
2	10.712	VV	0.0649	48.89508	11.67382	1.4533
3	11.334	PV	0.0630	113.99520	28.29391	3.3882
4	11.425	VV	0.0577	41.15327	10.98063	1.2232
5	11.697	VV	0.0544	55.91812	16.14967	1.6620
6	11.819	VB	0.0620	161.24541	40.88228	4.7926
7	12.116	BV	0.0521	1788.70642	547.04895	53.1648
8	12.480	VV	0.0694	52.72071	11.09317	1.5670
9	12.698	VV	0.0491	421.54895	132.63889	12.5295
10	12.820	VV	0.0602	83.79563	20.26530	2.4906
11	12.914	VV	0.0518	357.93091	110.41520	10.6386
12	13.059	VV	0.0769	79.74725	15.28870	2.3703
13	13.129	VV	0.0525	36.71564	10.08673	1.0913
14	13.323	VV	0.0606	69.97810	17.51849	2.0799
Totals :				3364.45496	984.68093	

Data File C:\HPCHEM\1\DATA\ZG10AUG\ZG10H043.D Sample Name: Phe 8

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

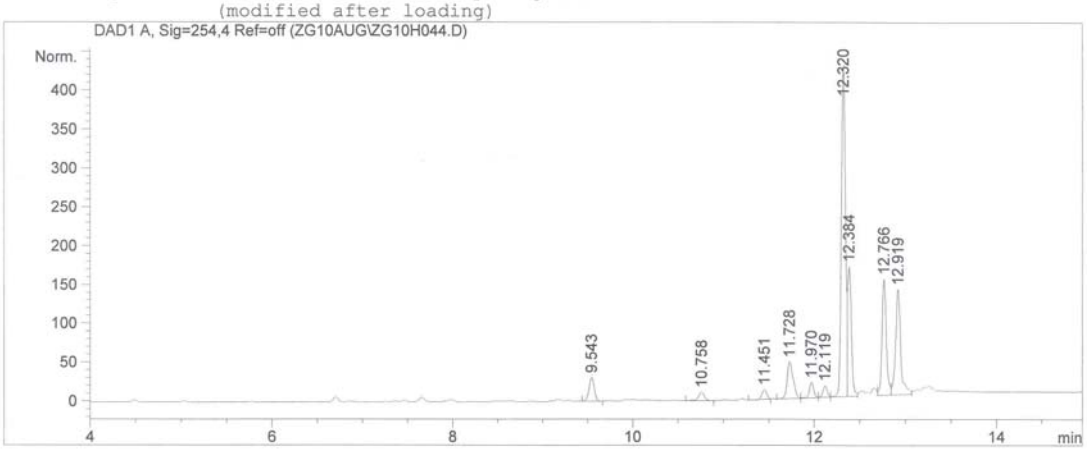
```
==================================================================
Injection Date  : 8/11/2004 8:36:09 AM          Seq. Line :  44
Sample Name     : Phe 8                          Location : P1-E-08
Acq. Operator   : Malgosia                           Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/11/2004 8:21:24 AM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```




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

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


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

Peak RetTime Type  Width     Area      Height     Area
  #   [min]       [min]    [mAU*s]     [mAU]       %
----|-------|----|-------|----------|----------|--------|
   1  10.569 PB    0.0691   44.31501   10.11504   1.7114
   2  11.229 PV    0.0619   87.34206   21.26828   3.3730
   3  11.484 VP    0.0639   50.73627   12.34955   1.9593
   4  11.814 VV    0.0691  132.00662   26.96475   5.0978
   5  12.007 VV    0.0510 1079.43079  322.49768  41.6855
   6  12.062 VB    0.0446  345.15503  128.95168  13.3292
   7  12.573 VV    0.0484  291.95001   93.52307  11.2745
   8  12.739 VV    0.0637  476.25388  107.52427  18.3920
   9  12.963 VV    0.0954   82.27461   11.50961   3.1773

Totals :                  2589.46428  734.70393

 Results obtained with enhanced integrator!
==================================================================
                        *** End of Report ***
```

Zorbax SB-C18, 4.6x50mm, 3.5um
grd. 1-50% MeCN/water/0.1% TFA in 10min., 1mL/min

```
Injection Date  : 8/11/2004 9:00:15 AM          Seq. Line :  45
Sample Name     : Phe 9                         Location : P1-E-09
Acq. Operator   : Malgosia                         Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/11/2004 8:21:24 AM by Malgosia
                  (modified after loading)
Analysis Method : C:\HPCHEM\1\METHODS\ZG01.M
Last changed    : 8/20/2004 3:35:49 PM by Malgosia
                  (modified after loading)
```



Area Percent Report

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

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

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	9.543	BB	0.0633	123.71336	30.51867	3.6430
2	10.758	VP	0.0688	49.47570	10.93832	1.4569
3	11.451	VV	0.0588	47.78798	12.43223	1.4072
4	11.728	VV	0.0673	216.08466	47.26445	6.3630
5	11.970	VV	0.0522	67.69629	19.64822	1.9935
6	12.119	VV	0.0522	49.30229	15.07061	1.4518
7	12.320	VV	0.0487	1341.26282	426.94598	39.4961
8	12.384	VV	0.0455	481.24567	167.74873	14.1712
9	12.766	VV	0.0526	496.20767	149.93745	14.6118
10	12.919	VV	0.0590	523.15936	135.64822	15.4055
Totals :				3395.93579	1016.15289	

Results obtained with enhanced integrator!

*** End of Report ***