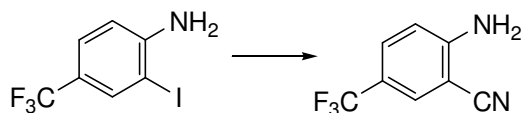


Supporting Information.

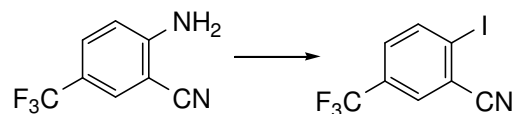
General Methods: ^1H NMR spectra were recorded on a Varian InNova 500 MHz instrument in CDCl_3 or CD_2Cl_2 unless otherwise stated. Analytical thin-layer chromatography (TLC) was carried out using Merck silica gel 60 F_{254} plates. All compounds were visualized as single spots using short wave UV light and/or cerium ammonium molybdate stain. Low resolution mass spectra were obtained using a liquid chromatography mass spectrometer (LCMS) that consisted of an Agilent 1100 series LC coupled to a Waters micromass ZQ (electrospray positive ionization). The LC contained an Xterra C18 3.5 μM column and compounds were analyzed using a gradient of 10% acetonitrile/90% water to 98% acetonitrile/2% water over 3.75 minutes and then 98% acetonitrile/2% water for 1 minute; LC solvents contained 0.1% TFA. Reagents were purchased commercially and used without further purification unless otherwise stated. Final compounds were judged to be analytically pure based on their LCMS and ^1H NMR spectra: compounds gave a single LCMS peak with desired MW and the only signals detected in the NMR corresponded to the final compound.



2-Amino-5-(trifluoromethyl)benzonitrile.

A 2-liter flask was charged with 4-amino-3-iodobenzotrifluoride (100g, 0.348 mol), CuCN (40 g, x mmol) and DMF (750 mL). The mixture was heated to and then

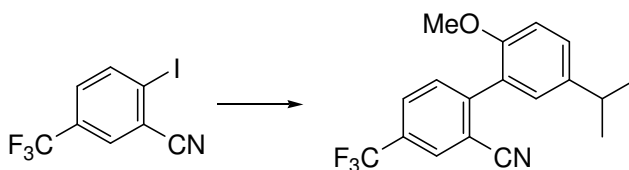
maintained at reflux for 1 hour. The reaction was then cooled and poured into water (3 L) containing concentrated ammonium hydroxide (300 mL). To the mixture was added CH_2Cl_2 (1L). The mixture was then filtered through celite. The layers were separated and the aqueous layer was back extracted with CH_2Cl_2 (1L). The organic extracts were combined and the solvent removed under reduced pressure. The residue was dissolved in ether (1.5L) and the resulting solution was washed with 1N ammonium hydroxide, aqueous sodium bisulfite, 1N aqueous HCl and brine (500 mL each). The solution was dried over anhydrous MgSO_4 and filtered through a silica gel plug containing a layer of MgSO_4 on top. The plug was washed with ether (5L). The ether filtrate was concentrated to 750 mL and let stand at room temperature. After 2 days, the resulting solids were collected, washed with hexanes and dried under reduced pressure to afford 64.8 g (76%) 2-amino-5-(trifluoromethyl)benzonitrile. ^1H NMR (CDCl_3 , 500 MHz) δ 7.68 (s, 1H), 7.58 (d, $J = 8.5$ Hz, 1H), 6.81 (d, $J = 8.5$ Hz, 1H), 4.80 (br s, 2H).



2-Iodo-5-(trifluoromethyl)benzonitrile.

2-Amino-5-(trifluoromethyl)benzonitrile (3.06 g, 16.45 mmol) was suspended in CH_2I_2 (36 mL) and *t*-butyl nitrite (3.9 mL, 32.9 mmol) was added dropwise by syringe. The reaction was heated slowly to 100 °C and was maintained at this temperature for 30 minutes. The reaction was then cooled to room temperature, diluted with hexanes (200

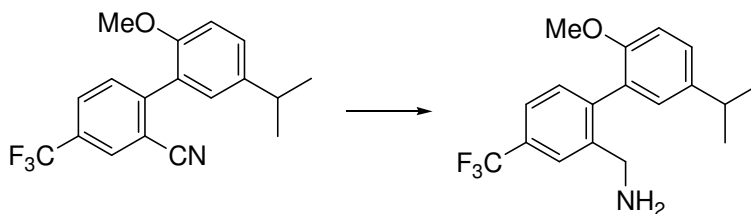
mL), loaded on a silica gel column, and purified with 100% hexanes to 15% EtOAc/hexanes. The resulting product, 2-iodo-5-(trifluoromethyl)benzonitrile was contaminated with minor impurities which were removed by silica gel chromatography with 25% CH₂Cl₂/hexanes. 3.11 grams of 2-iodo-5-(trifluoromethyl)benzonitrile (64%) were obtained as a white solid. *R_f* = 0.44 (15% EtOAc/hexanes). ¹H NMR (CDCl₃, 500 MHz) δ 8.10 (d, *J* = 8.5 Hz, 1H), 7.85 (d, *J* = 1.8 Hz, 1H), 7.52 (dd, *J* = 8.5, 1.8 Hz, 1H).



5'-Isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-carbonitrile.

To a solution of 2-iodo-5-(trifluoromethyl)benzonitrile (2.0 g, 6.7 mmol) and (5-isopropyl-2-methoxyphenyl)boronic acid (1.6 g, 8.4 mmol) in dimethyl ethylene glycol (30.4 mL) was added 2M Na₂CO₃ (6.8 mL), ethanol (9.6 mL), and water (10 mL). The solution was degassed with nitrogen for 2 minutes. Pd(PPh₃)₄ (774 mg, 0.67 mmol) was added and the solution was degassed with nitrogen again for 2 minutes. The solution was divided equally into two 40 mL microwave tubes. Each tube was degassed with nitrogen for 1 minute, sealed, and placed in a microwave reactor. The wattage was set for 200 W until the temperature reached 150°C and then the temperature was held at 150°C for ten minutes. The tubes were then cooled to room temperature, combined, poured into H₂O (50 mL), and extracted with EtOAc (100 mL). The organic layer was washed with brine (50 mL), dried over Na₂SO₄, filtered, and concentrated. Purification by flash chromatography with 15% CH₂Cl₂/hexanes afforded 2.14 g (98%) of 5'-isopropyl-2'-

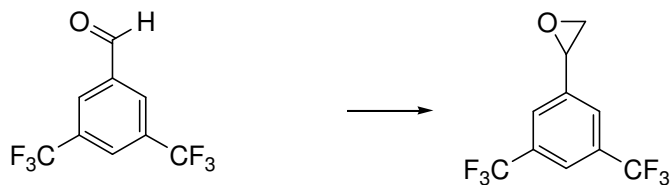
methoxy-4-(trifluoromethyl)biphenyl-2-carbonitrile. $R_f = 0.65$ (25% EtOAc/hexanes). ^1H NMR (CDCl_3 , 500 MHz) δ 7.97 (s, 1H), 7.85 (d, $J = 8.0$ Hz, 1H), 7.63 (d, $J = 8.0$ Hz, 1H), 7.31 (dd, $J = 8.5, 2.0$ Hz, 1H), 7.12 (d, $J = 2.0$ Hz, 1H), 6.97 (d, $J = 8.5$ Hz, 1H), 3.82 (s, 3H), 2.93 (m, 1H), 1.27 (d, $J = 7.0$ Hz, 6H).



1-[5'-Isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methanamine (Compound 3).

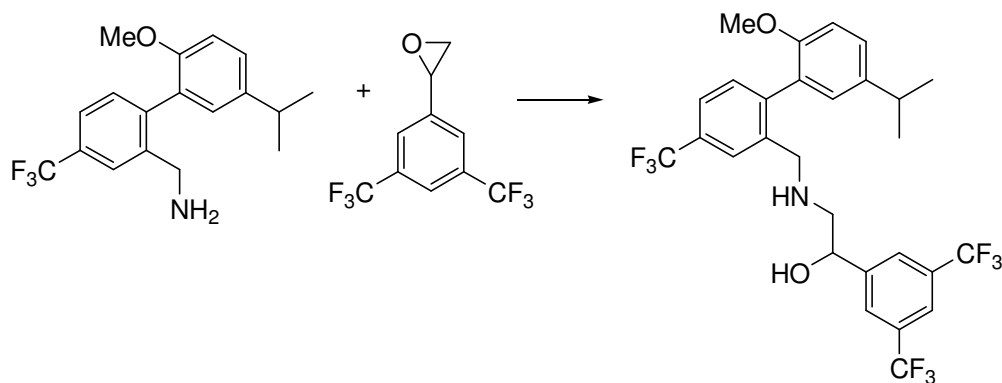
5'-Isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-carbonitrile (996.2 mg, 3.12 mmol) was dissolved in Et_2O (33 mL) and cooled to 0°C . LAH (12.49 mL of a 1 M solution in Et_2O , 12.49 mmol) was added dropwise by syringe. After stirring at 0°C for 10 minutes, the reaction was warmed to room temperature and stirred at room temperature for 6 hours. The reaction was then quenched by slow dropwise addition of 1.5 mL of H_2O (vigorous evolution of gas), followed by 1.5 mL of 30% NaOH, followed by 3.0 mL of H_2O . The resulting gelatinous precipitate was washed with 5 x 20 mL of CH_2Cl_2 ; the organic washes were dried over Na_2SO_4 , filtered and concentrated. Purification of the residue by flash chromatography with 2% MeOH/ CH_2Cl_2 containing 0.1% Et_3N afforded 850.7 mg (84%) of 1-[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methanamine. $R_f = 0.30$ (10% MeOH/ CH_2Cl_2). LCMS = 324.3 ($\text{M}+1$) $^+$. ^1H NMR (CDCl_3 , 500 MHz) δ 7.77 (s, 1H), 7.55 (d, $J = 6.8$ Hz, 1H), 7.32

(d, $J = 7.8$ Hz, 1H), 7.25 (dd, $J = 8.3, 2.1$ Hz, 1H), 7.00 (d, $J = 2.1$ Hz, 1H), 6.92 (d, $J = 8.4$ Hz, 1H), 3.66-3.74 (m, 5H), 2.91 (m, 1H), 1.26 (d, $J = 6.9$ Hz, 6H).



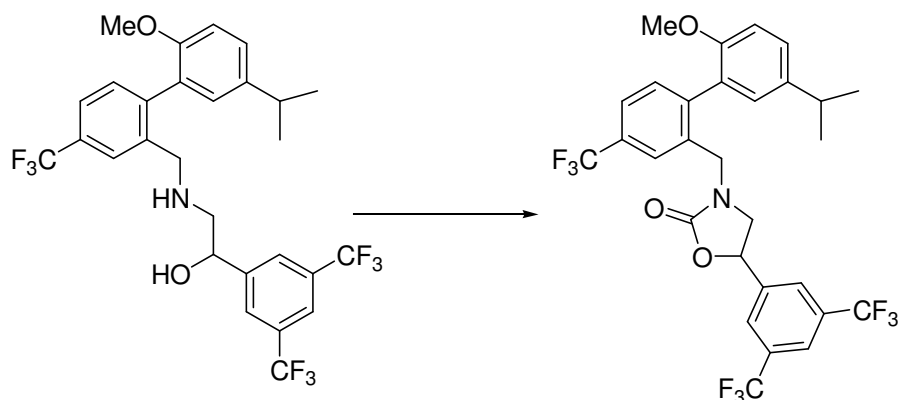
2-[3,5-Bis(trifluoromethyl)phenyl]oxirane (Compound 4).

In a dry flask was placed NaH (1.09 g of 60% NaH, 27.27 mmol). DMSO (90 mL) was added followed by trimethylsulfoxonium iodide (7.0 g, 31.82 mmol). The reaction was stirred for 5 minutes and then 3,5-bis(trifluoromethyl)benzaldehyde (1.5 mL, 9.09 mmol) was added as a solution in DMSO (15 mL). The reaction was stirred at room temperature for 1 hour and then poured into ice/water (300 mL). The mixture was extracted with pentanes (3 x 150 mL). The pentane extracts were combined and filtered through a short plug of silica gel with 10% Et₂O/pentanes. The filtrate was concentrated and the residue was purified by flash chromatography with 10% Et₂O/pentanes to give 787.6 mg (34%) of 2-[3,5-bis(trifluoromethyl)phenyl]oxirane. $R_f = 0.42$ (10% Et₂O/pentanes). ¹H NMR (CDCl₃, 500 MHz) 7.82 (s, 1H), 7.74 (s, 2H), 3.99 (dd, $J = 3.9, 2.5$ Hz, 1H), 3.23 (dd, $J = 5.2, 4.1$ Hz, 1H), 2.79 (dd, $J = 5.5, 2.5$ Hz, 1H).



1-[3,5-Bis(trifluoromethyl)phenyl]-2-({[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}amino)ethanol. (Compound **6**).

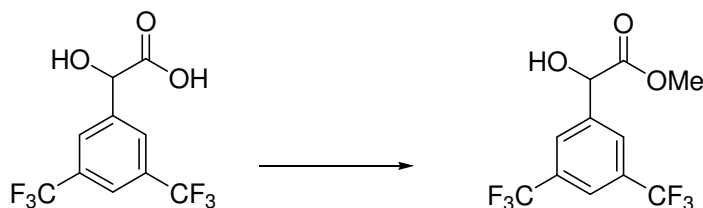
A solution of 1-[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methanamine (300 mg, 0.929 mmol) and 2-[3,5-bis(trifluoromethyl)phenyl]oxirane (297 mg, 1.161 mmol) in 2-propanol (9 mL) was heated at reflux for 15 hours and then cooled to room temperature. The solution was concentrated, and purification of the residue by flash chromatography with 10 to 80% EtOAc/hexanes afforded 387.1 mg (72%) of 1-[3,5-bis(trifluoromethyl)phenyl]-2-({[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}amino)ethanol. $R_f = 0.24$ (25% EtOAc/hexanes). LCMS calc. = 579.2; found = 580.3 ($M+1$)⁺. ¹H NMR (CDCl₃, 500 MHz) δ 7.75-7.76 (m, 3H), 7.69 (s, 1H), 7.58 (d, $J = 7.8$ Hz, 1H), 7.34 (d, $J = 7.7$ Hz, 1H), 7.25 (m, 1H), 6.98 (bs, 1H), 6.92 (d, $J = 8.5$ Hz, 1H), 4.62 (m, 1H), 3.65-3.82 (m, 5H), 2.89 (m, 1H), 2.79 (dd, $J = 12.4, 3.0$ Hz, 1H), 2.48 (m, 1H), 1.23 (d, $J = 6.8$ Hz, 6H).



5-[3,5-Bis(trifluoromethyl)phenyl]-3-{{[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}-1,3-oxazolidin-2-one (Compound 9).

A solution of 1-[3,5-bis(trifluoromethyl)phenyl]-2-({[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}amino)ethanol (30.1 mg, 0.052 mmol) in CH_2Cl_2 (5 mL) was cooled to 0 °C. DIPEA (54 μL , 0.312 mmol) was added, followed by triphosgene (7.7 mg, 0.026 mmol). The reaction was stirred at 0 °C for 45 minutes. The reaction was then poured into saturated NaHCO_3 (15 mL) and the mixture was extracted with EtOAc (50 mL). The organic layer was washed with brine (15 mL), dried over Na_2SO_4 , filtered, and concentrated. Purification of the residue by flash chromatography (25% EtOAc/hexanes) afforded 31.4 mg (99%) of 5-[3,5-bis(trifluoromethyl)phenyl]-3-{{[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}-1,3-oxazolidin-2-one. $R_f = 0.32$ (25% EtOAc/hexanes). LCMS calc. = 605.2; found = 606.3 ($\text{M}+1$)⁺. ^1H NMR (CD_2Cl_2 , 500 MHz) (atropisomers present in 1:1 ratio, doubling of some peaks) δ 7.90 (s, 1H), 7.77 (s, 2H), 7.57-7.62 (m, 2H), 7.37 (d, $J = 8.0$ Hz, 1H), 7.27 (m, 1H), 6.98 (s, 1H), 6.93 (dd, $J = 8.4, 3.2$ Hz, 1H), 5.42-5.53 (m, 1H), 4.15-4.59 (m, 2H), 3.72 & 3.73 (2 singlets, 3H), 3.05-3.65 (m, 2H), 2.88 (m, 1H), 1.19-1.23 (m, 6H).

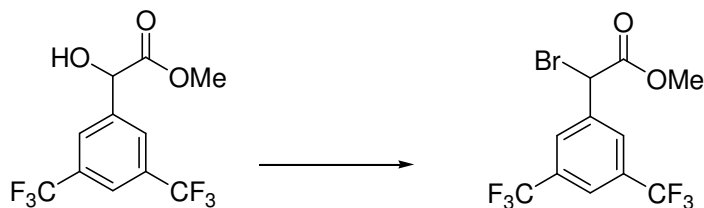
The 2 enantiomers of **9** were separated using chiral HPLC. Preparative chiral HPLC was performed using a 20 x 250 mm Chiralpak AD column manufactured by Daicel Chemical Industries, Ltd. The flow rate was 9 mL/min and the solvent was 15% IPA/heptanes. Enantiomer **9A** elutes first (9.0 minutes) and **9B** second (12.2 minutes). Optical purity was characterized by analytical chiral HPLC with a 4.6 x 250 mm AD Chiralpak column manufactured by Daicel Chemical Industries, Ltd using a Shimadzu analytical HPLC system equipped with a Jasco CD-1595 detector. Baseline separation was achieved, and compounds **9A** and **9B** reported in Table 1 are enantiopure. The NMR is included at the end of this experimental section. Note that many of the peaks are doubled due to atropisomerism.



Methyl [3,5-bis(trifluoromethyl)phenyl](hydroxy)acetate.

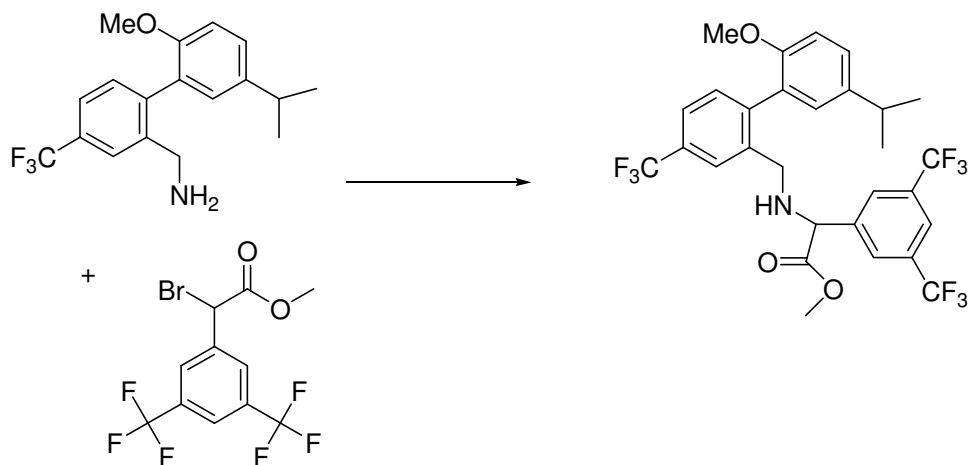
To solution of [3,5-bis(trifluoromethyl)phenyl](hydroxy)acetic acid (510 mg, 1.77 mmol) in benzene (10 mL) was added MeOH (1.5 mL) followed by (trimethylsilyl)diazomethane (1.06 mL of a 2M solution in hexanes, 2.12 mmol). After 10 minutes, the reaction was quenched with several drops of HOAc (add until yellow color disappears). The reaction was concentrated and purified by flash chromatography with 10 to 80% EtOAc/hexanes to afford 534 mg (quantitative) of methyl [3,5-

bis(trifluoromethyl)phenyl](hydroxy)acetate. ^1H NMR (CDCl_3 , 500 MHz) δ 7.94 (s, 2H), 7.85 (s, 1H), 5.32(s, 1H), 3.83 (s, 3H), 3.68 (bs, 1H).



Methyl [3,5-bis(trifluoromethyl)phenyl](bromo)acetate (Compound 7).

Methyl [3,5-bis(trifluoromethyl)phenyl](hydroxy)acetate (300 mg, 0.993 mmol) was dissolved in CH_2Cl_2 (10 mL). The solution was cooled to 0 °C and CBr_4 (659 mg, 1.986 mmol) was added followed by PPh_3 (521 mg, 1.986 mmol). After 1 hour, the reaction was warmed to room temperature and stirred at room temperature for 1 hour. The reaction was filtered through a short plug of silica gel with CH_2Cl_2 . The filtrate was concentrated and the residue was purified by flash chromatography with 5% EtOAc/hexanes to afford 243.0 mg (67%) of methyl [3,5-bis(trifluoromethyl)phenyl](bromo)acetate. $R_f = 0.24$ (5% EtOAc/hexanes). ^1H NMR (CDCl_3 , 500 MHz) δ 8.02 (s, 2H), 7.87 (s, 1H), 5.41 (s, 1H), 3.83 (s, 3H).



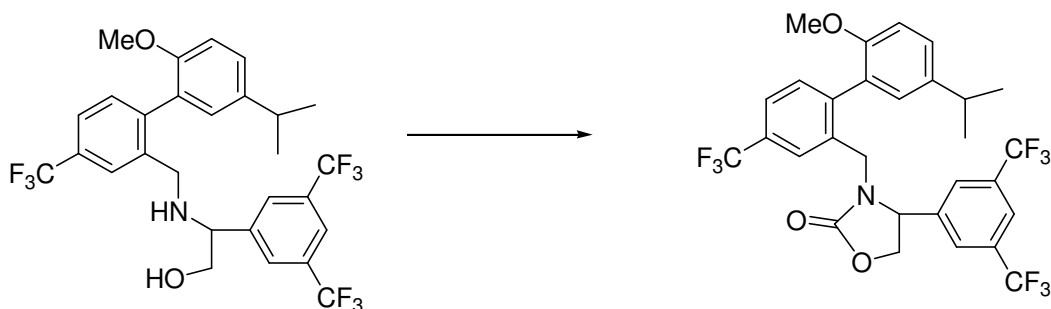
Methyl [3,5-bis(trifluoromethyl)phenyl]({[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}amino)acetate (Compound 8).

To a flask containing methyl [3,5-bis(trifluoromethyl)phenyl](bromo)acetate (237.7 mg, 0.651 mmol) was added 1-[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methanamine (102.1 mg, 0.316 mmol) in CH₂Cl₂ (4 mL). The reaction was stirred at room temperature for 5 hours and then diluted with EtOAc (50 ml). The organic solution was washed with water and brine (15 mL each). The organic extract was dried over Na₂SO₄, filtered, and concentrated. Purification of the residue by flash chromatography (5 to 15% EtOAc/hexanes) afforded 48.0 mg (25%) of methyl[3,5-bis(trifluoromethyl)phenyl]({[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}amino)acetate. *R_f* = 0.33 (15% EtOAc/hexanes). LCMS calc. = 607.2; found = 608.4 (M+1)⁺. ¹H NMR (CDCl₃, 500 MHz) δ 7.76-7.79 (m, 3H), 7.62 (s, 1H), 7.56 (d, *J* = 7.8 Hz, 1H), 7.31 (d, *J* = 7.8 Hz, 1H), 7.23 (dd, *J* = 8.2, 1.9 Hz, 1H), 6.96 (m, 1H), 6.89 (d, *J* = 8.5 Hz, 1H), 4.30 (m, 1H), 3.54-3.70 (m, 8H), 2.87 (m, 1H), 1.21-1.23 (m, 6H).



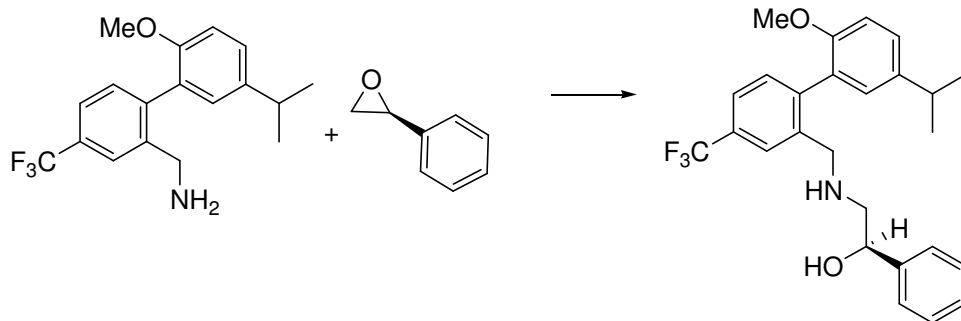
2-[3,5-Bis(trifluoromethyl)phenyl]-2-({[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}amino)ethanol (Compound 5).

A solution of methyl[3,5-bis(trifluoromethyl)phenyl]({[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}amino)acetate (13.2 mg, 0.0217 mmol) in Et₂O (1.5 mL) was cooled to 0 °C. LAH (108.5 μL of a 1 M solution in Et₂O, 0.1085 mmol) was added dropwise by syringe. The reaction was warmed to room temperature and stirred at room temperature for 1 hour. The reaction was then quenched by addition of H₂O (100 μL) followed by 1 N NaOH (100 μL), followed by H₂O (300 μL). The gelatinous precipitate was washed several times with CH₂Cl₂. The organic washes were filtered through a plug of silica gel with 2% MeOH/CH₂Cl₂ and the filtrate was concentrated. Purification of the residue by PTLC with 25% EtOAc/hexanes afforded 6.5 mg (52%) of 2-[3,5-bis(trifluoromethyl)phenyl]-2-({[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}amino)ethanol. *R_f* = 0.27 (25% EtOAc/hexanes). LCMS calc. = 579.2; found = 580.4 (M+1)⁺. ¹H NMR (CD₂Cl₂, 500 MHz) δ 7.79 (s, 1H), 7.75 (s, 2H), 7.63-7.68 (m, 1H), 7.55 (d, *J* = 7.8 Hz, 1H), 7.31 (d, *J* = 7.8 Hz, 1H), 7.23 (m, 1H), 6.94 (m, 1H), 6.89 (m, 1H), 3.43-3.76 (m, 9H), 2.86 (m, 1H), 1.90 (bs, 1H), 1.20 (d, *J* = 6.8 Hz, 6H).



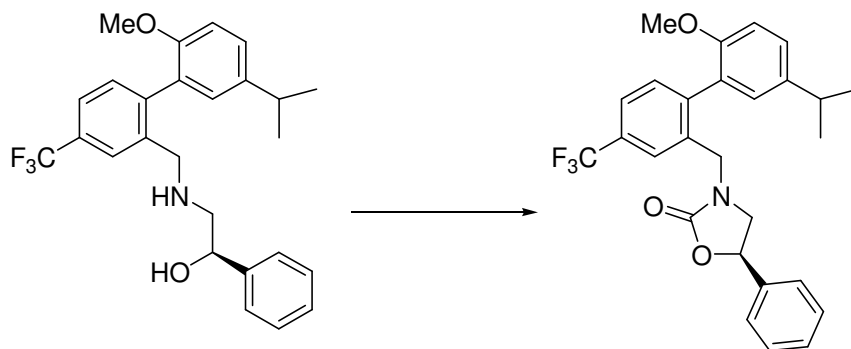
4-[3,5-Bis(trifluoromethyl)phenyl]-3-([5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl)-1,3-oxazolidin-2-one (Compound 2).

To a solution of phosgene (21 μL of a 20% solution in toluene, ~ 0.0535 mmol) in CH_2Cl_2 (0.5 mL) was added 2-[3,5-bis(trifluoromethyl)phenyl]-2-([5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl)amino)ethanol (3.1 mg, 0.00535 mmol) in CH_2Cl_2 (0.5 mL), followed by DIPEA (19 μL , 0.107 mmol). After stirring for 5 minutes, the reaction was poured into water (1 mL) and the mixture was extracted with EtOAc (20 mL). The organic extract was washed with H_2O , saturated NaHCO_3 , and brine (5 mL each). The organic layer was then dried over Na_2SO_4 , filtered, and concentrated. The residue was purified by PTLC with 20% EtOAc/hexanes to afford 1.7 mg (52%) of 4-[3,5-bis(trifluoromethyl)phenyl]-3-([5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl)-1,3-oxazolidin-2-one. $R_f = 0.27$ (25% EtOAc/hexanes). LCMS calc. = 605.2; found = 606.3 ($\text{M}+1$)⁺. ^1H NMR (CD_2Cl_2 , 500 MHz) (Doubling of some peaks observed; atropisomers present in 1:1 ratio) δ 7.84 (s, 1H), 7.19-7.60 (m, 6H), 6.80-6.87 (m, 2H), 3.84-4.68 (m, 5H), 3.68 & 3.64 (2 singlets, 3H), 2.82 (m, 1H), 1.17-1.21 (m, 6H).



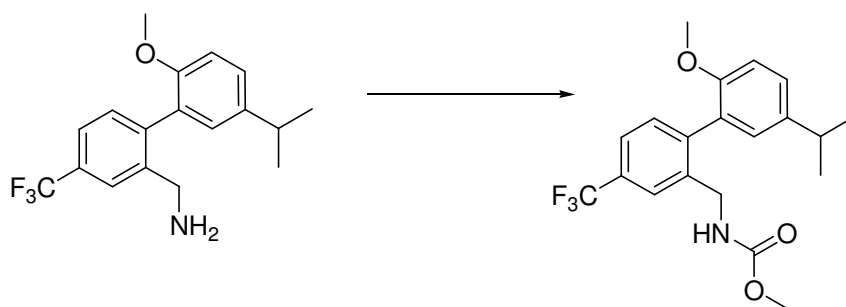
(1R)-2-((5-isopropyl-2-methoxy-4-(trifluoromethyl)biphenyl-2-yl)methyl)amino)-1-phenylethanol.

A solution of 1-[5-isopropyl-2-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methanamine (88.3 mg, 0.273 mmol) and (*R*)-(+)-styrene oxide (30 μ L, 0.262 mmol) in 2-propanol (3 mL) was heated at 75 $^{\circ}$ C in a sealed tube for 15 hours and then cooled to room temperature. The solution was concentrated, and purification of the residue by flash chromatography with 10 to 80% EtOAc/hexanes afforded 29.5 mg (24%) of (*1R*)-2-((5-isopropyl-2-methoxy-4-(trifluoromethyl)biphenyl-2-yl)methyl)amino)-1-phenylethanol R_f = 0.12 (25% EtOAc/hexanes). LCMS calc. = 443.2; found = 444.3 ($M+1$)⁺. ¹H NMR (CDCl₃, 500 MHz) δ 7.72 (s, 1H), 7.56 (d, J = 7.8 Hz, 1H), 7.23-7.32 (m, 7H), 6.98 (s, 1H), 6.90 (d, J = 8.2 Hz, 1H), 4.57 (m, 1H), 3.60-3.78 (m, 5H), 2.89 (m, 1H), 2.75 (m, 1H), 2.59 (m, 1H), 1.24 (d, J = 6.8 Hz, 6H).



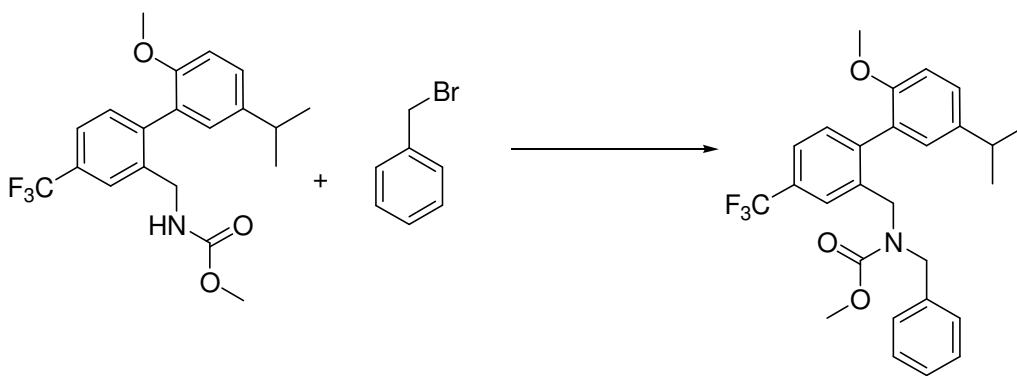
(5R)-3-{[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}-5-phenyl-1,3-oxazolidin-2-one (Compound **11**).

To a 0 °C solution of (1R)-2-({[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}amino)-1-phenylethanol (29.5 mg, 0.067 mmol) in CH₂Cl₂ (8.4 mL) was added DIPEA (70 μL, 0.40 mmol) followed by triphosgene (40 mg, 0.133 mmol) in CH₂Cl₂ (1 mL). The reaction was stirred at 0 °C for 45 minutes. The reaction was then poured into saturated NaHCO₃ (15 mL) and the mixture was extracted with EtOAc (50 mL). The organic layer was washed with brine (15 mL), dried over Na₂SO₄, filtered, and concentrated. Purification of the residue by flash chromatography (10 to 80% EtOAc/hexanes) afforded 19.0 mg (61%) of 3-{{[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}-5-phenyl-1,3-oxazolidin-2-one. $R_f = 0.23$ (25% EtOAc/hexanes). LCMS calc. = 469.2; found = 470.2 (M+1)⁺. ¹H NMR (CDCl₃, 500 MHz) (atropisomers present in 1:1 ratio, doubling of some peaks) δ 7.58-7.63 (m, 2H), 7.23-7.38 (m, 7H), 6.95 (s, 1H), 6.90 (d, $J = 8.5$ Hz, 1H), 5.41 (t, $J = 8.1$ Hz, 0.5H), 5.33 (t, $J = 8.0$ Hz, 0.5H), 4.55 (d, $J = 15.5$ Hz, 0.5H), 4.43 (s, 1H), 4.22 (d, $J = 15.5$ Hz, 0.5H), 3.73 (s, 3H), 3.56 (m, 1H), 3.12 (t, $J = 8.1$ Hz, 1H), 2.88 (m, 1H), 1.21-1.26 (m, 6H).



methyl {[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}carbamate.

To a solution of 1-[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methanamine (166 mg, 0.51 mmol) and methyl chloroformate (107 μ L, 1.39 mmol) in CH_2Cl_2 (5 mL) was added DIPEA (485 μ L, 2.79 mmol). The reaction was stirred at room temperature for twenty minutes and then was poured into H_2O (50 mL). The mixture was extracted with EtOAc (100 mL), and the organic layer was washed with brine (50 mL), dried over Na_2SO_4 , filtered, and concentrated. Purification by flash chromatography with 2% to 20% EtOAc/hexanes afforded 153 mg (78%) of methyl {[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}carbamate. $R_f = 0.29$ (15% EtOAc/hexanes). LCMS = 382 (M+1)⁺. ¹H NMR (CDCl_3 , 500 MHz) δ 7.68 (s, 1H), 7.57 (d, $J = 8.0$ Hz, 1H), 7.31 (d, $J = 8.0$ Hz, 1H), 7.25 (dd, $J = 8.5, 2.5$ Hz, 1H), 6.97 (d, $J = 2.5$ Hz, 1H), 6.91 (d, $J = 8.5$ Hz, 1H), 4.17 (m, 2H), 3.75 (s, 3H), 3.65 (s, 3H), 2.89 (m, 1H), 1.25 (d, $J = 7.0$ Hz, 6H).



Methyl benzyl {[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}carbamate (Compound 12).

Methyl {[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}carbamate (19 mg, 0.050 mmol) was dissolved in THF (1 mL). Benzyl bromide (30 μ L, 0.250

mmol) was added followed by KHMDS (150 μ L of a 0.5 M solution in toluene, 0.075 mmol). The reaction was stirred for two hours and then poured into H₂O (10 mL). The mixture was extracted with EtOAc (50 mL), and the organic extracts were washed with brine (10 mL), dried over Na₂SO₄, filtered, and concentrated. Purification by flash chromatography with 5% to 15% EtOAc/hexanes afforded 12 mg (51%) of methyl benzyl{[5'-isopropyl-2'-methoxy-4-(trifluoromethyl)biphenyl-2-yl]methyl}carbamate. R_f = 0.56 (25% EtOAc/hexanes). LCMS = 472.4 (M+1)⁺. ¹H NMR (CDCl₃, 500 MHz,) δ 7.48-7.59 (m, 2H), 7.31(d, J = 7.9 Hz, 1H), 7.16-7.24 (m, 4H), 7.03 (bs, 1H), 6.95 (d, J = 2.2 Hz, 1H), 6.91 (bs, 1H), 6.84 (m, 1H), 4.10-4.51 (m, 4H), 3.61-3.76 (m, 6H), 2.89 (m, 1H), 1.24, (bs, 6H).

NMR of 9B in CD₂Cl₂,
500 MHz.

Proton NMR Spectrum
Date: 4/11/00
Solvent: CD₂Cl₂ Temp: 25.0

