

### SUPPORTING INFORMATION

**1-Bromo-2-methylbutane, 1.** 2-Methyl-1-butanol (40 g, 0.45 mol) was added dropwise to phosphorous tribromide (70 g, 0.26 mol) at 0°C. The reaction mixture was warmed up to room temperature and left to stir overnight. The product was collected by distillation and washed with water, followed by washing with 10 % aqueous sodium hydrogen carbonate. After drying over calcium chloride, distillation was performed to yield **1** (47 g, 69 %). <sup>1</sup>H NMR spectral data (400 MHz, CDCl<sub>3</sub>): δ (ppm) 0.91 (t, 3H, CH<sub>3</sub>CH<sub>2</sub>-), 1.01 (d, 3H, -CH(CH<sub>3</sub>)-), 1.25–1.54 (m, 2H, CH<sub>3</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)-), 1.71 (m, 1H, -CH(CH<sub>3</sub>)-), 3.37 (m, -CH<sub>2</sub>Br).

**4-(2-Methylbutyl)-4'-methoxybiphenyl, 2.** To magnesium (0.93 g, 38 mmol) in anhydrous THF (20 mL), **1** (5.1 g, 33 mmol) was added dropwise. The reaction mixture was heated to 58 °C and stirred under argon for 1 h. After cooling to room temperature, 2-methylbutyl magnesium bromide in anhydrous THF was transferred to a mixture of 4-bromo-4-methoxy-biphenyl (4.8 g, 18 mmol) and [1,1-bis(diphenylphosphino)ferrocene] dichloropalladium(II) (PdCl<sub>2</sub>(dppf)) (0.10 g, 0.12 mmol). After stirring under argon at room temperature overnight, the reaction was quenched with 50 mL of 1 M aqueous hydrochloric acid and extracted with methylene chloride. The extract was washed with water and brine before drying over anhydrous magnesium sulfate. After evaporation of solvent under reduced pressure, the crude product was purified by flash column chromatography on silica gel using hexanes as the eluent to yield **2** (4.0 g, 86 %). <sup>1</sup>H NMR spectral data (400 MHz, CDCl<sub>3</sub>): δ (ppm) 0.91 (d, 3H, -CH(CH<sub>3</sub>)-), 0.97 (t, 3H, CH<sub>3</sub>CH<sub>2</sub>-), 1.21–1.48 (m, 2H, CH<sub>3</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)-), 1.71 (quartet, 1H, -CH(CH<sub>3</sub>)-), 2.40–2.71 (m, 2H, -CH<sub>2</sub>Ar), 3.88 (s, 3H, CH<sub>3</sub>OAr-), 7.00 (d, 2H, aromatics), 7.22 (d, 2H, aromatics), 7.50 (d, 2H, aromatics), 7.55 (d, 2H, aromatics).

**4-(2-Methylbutyl)-4'-hydroxybiphenyl, 3.** Into a solution of **2** (3.0g, 12 mmol) in anhydrous methylene chloride (50 mL), a 1 M solution of boron tribromide in anhydrous methylene chloride (13 mL, 13 mmol) was added dropwise at -78°C. The reaction mixture was warmed up to room temperature and stirred under argon overnight, followed by dilution with additional methylene chloride for washing with water. The organic portion was further washed with brine before drying over anhydrous magnesium sulfate. After evaporating off the solvent under reduced pressure, the crude product was purified by gradient column chromatography on silica

gel using 0 to 2 % acetone in methylene chloride as the eluent to yield **3** (2.2 g, 78 %). <sup>1</sup>H NMR spectral data (400 MHz, CDCl<sub>3</sub>): δ (ppm) 0.91 (d, 3H, -CH(CH<sub>3</sub>)-), 0.97 (t, 3H, CH<sub>3</sub>CH<sub>2</sub>-), 1.19–1.47 (m, 2H, CH<sub>3</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)-), 1.70 (quartet, 1H, -CH(CH<sub>3</sub>)-), 2.40–2.71 (m, 2H, -CH<sub>2</sub>Ar), 4.77 (s, 1H, HOAr-), 6.93 (d, 2H, aromatics), 7.22 (d, 2H, aromatics), 7.50 (t, 4H, aromatics).

**4-[3-[(*tert*-Butyldimethylsilyl)oxy]propoxy]benzoic acid [4-(2-methylbutyl)biphenyl-4-yl] ester, 4.** 4-[3-[(*tert*-butyldimethylsilyl)oxy]propoxy]benzoic acid (3.6 g, 12 mmol), **3** (2.9 g, 12 mmol), and *p*-toluenesulfonic acid/4-(dimethylamino)pyridine complex (DPTS) (0.24 g, 0.81 mmol) were dissolved in anhydrous methylene chloride (50 mL). *N,N*-dicyclohexylcarbodiimide (DCC) (2.86 g, 14 mmol) was quickly added to the reaction mixture, which was stirred under argon at room temperature overnight. Upon filtering off white solid, the filtrate was diluted with methylene chloride. The organic solution was washed with 1 M aqueous hydrochloric acid, water, and brine consecutively for drying over magnesium sulfate before evaporation of solvent under reduced pressure. The crude product was purified by flash column chromatography on silica gel using methylene chloride as the eluent to afford **4** (4.8 g, 78 %). <sup>1</sup>H NMR spectral data (400 MHz, CDCl<sub>3</sub>): δ (ppm) 0.03 (s, 6H, -Si(CH<sub>3</sub>)<sub>2</sub>O-), 0.88 (s, 9H, -SiC(CH<sub>3</sub>)<sub>3</sub>), 0.91 (d, 3H, -CH(CH<sub>3</sub>)-), 0.97 (t, 3H, CH<sub>3</sub>CH<sub>2</sub>-), 1.14–1.48 (m, 2H, CH<sub>3</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)-), 1.68 (quartet, 1H, -CH(CH<sub>3</sub>)-), 2.10 (quintet, 2H, HOCH<sub>2</sub>CH<sub>2</sub>-), 2.38–2.69 (m, 2H, -CH<sub>2</sub>Ar), 3.89 (quintet, 2H, HOCH<sub>2</sub>-), 4.22 (t, 2H, -CH<sub>2</sub>OAr-), 6.99 (d, 2H, aromatics), 7.21 (d, 2H, aromatics), 7.26 (d, 2H, aromatics), 7.49 (d, 2H, aromatics), 7.60 (d, 2H, aromatics), 8.16 (d, 2H, aromatics).

**4-[3-(Hydroxy)propoxy]benzoic acid [4-(2-methylbutyl)biphenyl-4-yl] ester, 5.** Intermediate **4** (4.0 g, 7.5 mmol) was hydrolyzed in a mixture of acetic acid:THF:water (60 mL:20 mL:20 mL) at 40°C for 2 h. The reaction mixture was extracted with methylene chloride, and the organic portion was washed with water and then brine for drying over anhydrous magnesium sulfate. Upon evaporating off methylene chloride, the solid residue was purified by gradient column chromatography with 0 to 2 % acetone in methylene chloride as the eluent to afford **5** (3.6 g, 94 %). <sup>1</sup>H NMR spectral data (400 MHz, CDCl<sub>3</sub>): δ (ppm) 0.91 (d, 3H, -CH(CH<sub>3</sub>)-), 0.97 (t, 3H, CH<sub>3</sub>CH<sub>2</sub>-), 1.15–1.47 (m, 2H, CH<sub>3</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)-), 1.69 (quartet, 1H, -CH(CH<sub>3</sub>)-), 2.11 (quintet, 2H, HOCH<sub>2</sub>CH<sub>2</sub>-), 2.38–2.69 (m, 2H, -CH<sub>2</sub>Ar), 3.90 (quintet, 2H, HOCH<sub>2</sub>-), 4.21 (t,

2H,  $-\text{CH}_2\text{OAr}-$ ), 6.99 (d, 2H, aromatics), 7.20 (d, 2H, aromatics), 7.26 (d, 2H, aromatics), 7.50 (d, 2H, aromatics), 7.60 (d, 2H, aromatics), 8.15 (d, 2H, aromatics).

**1,3,5-Benzenetricarboxylic acid, 1,3-bis[3-[4-[(4-(2-methylbutyl)biphenyl-4-yl)oxy]carbonyl]phenoxy]propyl] ester, 6.** To a solution of 1,3,5-benzene-tricarboxylic acid, 1-*tert*-butyl ester (0.32 g, 1.2 mmol), **5** (1.1 g, 2.5 mmol), and triphenylphosphine (TPP) (0.66 g, 2.5 mmol) in anhydrous THF (20 mL), diethyl azodicarboxylate (DEADC) (0.44 g, 2.5 mmol) was added dropwise. The reaction was stirred under argon at room temperature overnight. The solvent was removed under reduced pressure, and the residue was purified by gradient column chromatography with 0 to 1 % acetone in methylene chloride. The *tert*-butyl ester was then hydrolyzed in anhydrous methylene chloride (20 mL) with 20 mL of trifluoroacetic acid. After stirring under argon at room temperature for 3 h, the reaction mixture was diluted with methylene chloride and washed with water. The solution was further washed with brine and dried over magnesium sulfate before evaporating off the solvent under reduced pressure. The crude product was purified by gradient column chromatography on silica gel with 0 to 1 % methanol in chloroform. The product was collected by precipitation from methylene chloride solution into hexanes to yield **6** (0.70 g, 58 %).  $^1\text{H}$  NMR spectral data (400 MHz,  $\text{CDCl}_3$ ):  $\delta$  (ppm) 0.89 (d, 6H,  $-\text{CH}(\text{CH}_3)-$ ), 0.97 (t, 6H,  $\text{CH}_3\text{CH}_2-$ ), 1.18–1.48 (m, 4H,  $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)-$ ), 1.70 (quartet, 2H,  $-\text{CH}(\text{CH}_3)-$ ), 2.36 (s, 4H,  $-\text{COOCH}_2\text{CH}_2-$ ), 2.38–2.71 (m, 4H,  $-\text{CH}_2\text{Ar}$ ), 4.26 (s, 4H,  $-\text{CH}_2\text{OAr}-$ ), 4.64 (s, 4H,  $-\text{COOCH}_2\text{CH}_2-$ ), 7.01 (d, 4H, aromatics), 7.24 (d, 4H, aromatics), 7.28 (d, 4H, aromatics), 7.50 (d, 4H, aromatics), 7.62 (d, 4H, aromatics), 8.17 (d, 4H, aromatics), 8.94 (s, 3H, aromatics).