Supplementary Information

Synthesis of Alcohol 16

6-benzyloxy-1-hexanol. A solution of hexane-1,6-diol (10.08 g, 85.29 mmol) in DMF (60 mL) was added slowly from a dropping funnel to a suspension of sodium hydride (5.12 g, 128.0 mmol, 60% mineral dispersion, washed with hexane) in DMF (20 mL) at –10 ^{o}C, under nitrogen. The solution was diluted with additional DMF (50 mL) and after 10 minutes benzyl bromide (10.8 mL, 90.80 mmol) was added slowly to the cold solution. The mixture was warmed to room temperature and stirred for 3 ½ hours before saturated $NaHCO_3$ solution (50 mL) was added and the reaction stirred overnight. After the solvent had been removed in vacuo, the residue was taken up in CH_2Cl_2 (150 mL) and the organic solution washed with H_2O (2 x 100 mL) and brine (50 mL), dried over Na_2SO_4 and concentrated *in vacuo*. The crude yellow oil was purified by flash chromatography (1:5 EtOAc:hexane) to afford 6-benzyloxy-1-hexanol (8.32 g, 47%) as a colourless oil. δ_H(500 MHz; $CDCl_3$) 1.31-1.42 (4H, m), 1.54 (2H, pentet, *J* 6.7), 1.61 (2H, pentet, *J* 6.7), 3.45 (2H, t, *J* 6.6), 3.57 (2H, t, *J* 6.7 Hz,), 4.48 (2H, s), 7.24-7.33 (5H, m); δ_C(100 MHz; $CDCl_3$) 25.5, 25.9, 29.6, 32.6, 62.7, 70.3, 72.8, 127.4, 127.6 (2C), 128.3 (2C), 138.5; *m/z* (EI) 208 (M^+, 3.5%), 190 (0.2), 107 (82), 91 (100), 81 (23), 65 (35), 55 (30), 41 (30).

6-benzyloxyhexanal. DMSO (4.26 mL, 60.0 mmol) was added dropwise to a stirred solution of oxalyl chloride (3.14 mL, 36.0 mmol) in dry CH_2Cl_2 (150 mL) at –78 ^{o}C, under nitrogen. After stirring for two minutes, 6-benzyloxy-1-hexanol (5.00 g, 24.00 mmol) in CH_2Cl_2 (20 mL) was added and the reaction stirred at –78 ^{o}C for one hour. The mixture was allowed to warm to –10 ^{o}C for 5 minutes and then re-cooled to –78 ^{o}C. Triethylamine (26.80 mL, 192 mmol) was added and the solution warmed to room temperature. The mixture was washed successively with H_2O (2 x 100 mL), 1M HCl solution (50 mL) and brine (50 mL), dried over Na_2SO_4 and concentrated *in vacuo*. Purification by flash chromatography (1:10 EtOAc:hexane) afforded 6-benzyloxyhexanal (3.29 g, 66%). δ_H(500 MHz; $CDCl_3$) 1.36-1.45 (2H, m), 1.58-1.67 (4H, m), 2.41 (2H, td, *J* 7.4, 1.8), 3.45 (2H, t, *J* 6.5), 4.48 (2H, s), 7.24-7.35 (5H, m), 9.74 (1H, t, *J* 1.8); δ_C(100 MHz; $CDCl_3$) 21.8, 25.7, 29.4, 43.7, 69.9, 72.8, 127.4,

127.5 (2C), 128.3 (2C), 138.5, 202.6; *m/z* (EI) 206 (M^+, 1.0%), 115 (6), 107 (63), 91 (100), 79 (25), 65 (34), 55 (18), 41 (24).

8-benzyloxy-3-octanol. Ethylmagnesium bromide was prepared from bromoethane (0.85 mL, 11.34 mmol) and magnesium (0.60 g, 25.00 mmol) in dry THF (40 mL) under nitrogen, in the usual manner. The Grignard solution was cooled to 0 ^oC and 6-benzyloxyhexanal (1.95 g, 9.45 mmol) in dry THF (15 mL) slowly added. The reaction was allowed to warm to room temperature and was stirred for one hour before being quenched by the careful addition of saturated NH_4Cl solution (100 mL). The two layers were separated and the aqueous phase extracted with Et_2O (3 x 20 mL). The combined organic extracts were washed with saturated NH_4Cl solution (50 mL), H_2O (50 mL) and brine (50 mL), dried over Na_2SO_4 and concentrated *in vacuo*. Purification of the crude product by flash chromatography (1:5 EtOAc:hexane) afforded the colourless oil 8-benzyloxy-3-octanol (1.78 g, 80%). Anal. Found: C, 76.3; H, 10.4. Calc. for $C_{15}H_{24}O_2$: C, 76.2; H, 10.2%; δ_H(500 MHz; $CDCl_3$) 0.91 (3H, t, *J* 7.5), 1.28-1.53 (8H, m), 1.57-1.65 (2H, m), 3.45 (2H, t, *J* 6.6), 3.47-3.52 (1H, m), 4.48 (2H, s), 7.24-7.35 (5H, m); δ_C(125 MHz; $CDCl_3$) 9.8, 25.4, 26.2, 29.7, 30.1, 36.8, 70.3, 72.8, 73.2, 127.5, 127.6 (2C), 128.3 (2C), 138.6; *m/z* (EI) 236 (M^+, 0.1%), 207 (0.2), 145 (1), 127 (6), 107 (52), 91 (100), 59 (21), 41 (23).

(8-(benzyloxy)octan-3-yloxy)(*tert*-butyl)dimethylsilane. Imidazole (0.60 g, 8.78 mmol) was added to a stirred solution of 8-(benzyloxy)octan-3-ol (1.73 g, 7.32 mmol) in acetonitrile (30 mL). After 10 minutes TBS-Cl (1.21 g, 8.05 mmol) was added and the solution stirred for 48 hours. Et_2O (30 ml) was added to the reaction and the white precipitate filtered off. The organic filtrate was washed with H_2O (30 mL) and saturated NaCl solution (30 mL), dried over Na_2SO_4 and concentrated *in vacuo*. Purification by flash chromatography (hexane) yielded (8-(benzyloxy)octan-3-yloxy)(tert-butyl)dimethylsilane (1.92 g, 75%) as a colourless oil Anal. Found: C, 72.0; H, 11.1. Calc. for $C_{21}H_{38}O_2Si$: C, 71.9; H, 10.9%; δ_H(500 MHz; $CDCl_3$) 0.02 (3H, s), 0.03 (3H, s), 0.85 (3H, t, *J* 7.4), 0.88 (9H, s), 1.22-1.50 (8H, m), 1.57-1.65 (2H, m), 3.46 (2H, t, *J* 6.7), 3.55 (1H, pentet, *J* 5.7), 4.49 (2H, s), 7.24-7.35 (5H, m); δ_C(125 MHz; $CDCl_3$) -4.5, -4.4, 9.6, 18.2, 25.2, 25.9 (3C), 26.42, 29.7, 29.8, 36.5,

70.4, 72.9, 73.4, 127.4, 127.6 (2C), 128.3 (2C), 138.7; *m/z* (EI) 349 (M^+-1, 0.01%), 321 (0.05), 293 (0.1), 173 (2), 131 (2), 91 (100), 75 (16), 73 (11).

6-(*tert*-butyldimethylsilyloxy)octan-1-ol (16). Pd/C (0.19 g, 10% wt Pd) was added to a stirred solution of (8-(benzyloxy)octan-3-yloxy)(tert-butyl)dimethylsilane (1.86 g, 5.30 mmol) in dry THF (50 mL) and was subjected to two evacuation/H_2 cycles. The reaction was stirred at room temperature, under an ambient pressure of hydrogen (balloon) for 6 hours and was then filtered through a celite plug and the filtrate concentrated *in vacuo*. The crude product was purified by flash chromatography (1:5 EtOAc:hexane) to afford alcohol **16** (1.22 g, 88%) as a pale yellow oil. Anal. Found: C, 64.6; H, 12.8. Calc. for $C_{14}H_{32}O_2Si$: C, 64.55; H, 12.4%; δ_H(500 MHz; $CDCl_3$) 0.01 (6H, s), 0.83 (3H, t, *J* 7.5), 0.86 (9H, s), 1.22-1.60 (10H, m), 3.51-3.58 (1H, m), 3.61 (2H, t, *J* 6.6); δ_C(125 MHz; $CDCl_3$) -4.52, -4.47, 9.6, 18.1, 25.1, 25.88 (3C), 25.95, 29.7, 32.7, 36.5, 62.9, 73.4; *m/z* (EI) 259 (M^+-1, 0.2%), 231 (1), 173 (14), 133 (22), 111 (22), 75 (100), 73 (65), 69 (100), 55 (65).

Synthesis of Alkyne 21

hept-6-yn-3-ol. To a stirred solution of oxalyl chloride (913 μL, 10.5 mmol) in anhydrous THF (25 mL) at –78 °C was added dry, freshly distilled DMSO (774 μL, 11 mmol). The solution was allowed to warm to –35 °C for 3 minutes and was then recooled to –78 °C. A solution of pent-4-yn-1-ol (840 mg, 10 mmol) in dry THF (10 mL) was then added to the mixture. The resulting solution was then allowed to warm to –35 °C and after 15 min was treated with triethylamine (6.9 mL, 50 mmol). The reaction mixture was allowed to warm briefly to room temperature and was then recooled to –78 °C. An ethereal solution of ethylmagnesium bromide (17 mL, 50 mmol) was then added dropwise to the vigorously stirred reaction mixture. The temperature of the solution was allowed to warm to –50 °C over one hour and then quenched by addition of NH_4Cl. The aqueous layer was extracted with ether, the organic phase dried over $MgSO_4$ and the solvent removed under vacuum. The residue was purified by flash chromatography using 5% ether in hexane to afford 255mg (23%) of the product as a colourless liquid. δ_H(400 MHz; $CDCl_3$) 0.93 (3H, t, *J* 7.4),

1.16-1.70 (5H, m), 1.94 (1H, t, *J* 2.7), 2.30 (1H, dd, *J* 2.7and 6.8), 2.32 (1H, dd, *J* 2.7 and 6.8), 3.65 (1H, dddd, *J* 3.7, 5.0, 7.6 and 8.7); δ_C(125 MHz; $CDCl_3$) 9.8, 15.0, 30.1, 35.2, 68.6, 72.1, 84.3; *m/z* (EI) 225 ($M^{+\cdot}$, 2%), 97 (3), 83 (67), 79 (21), 59 (70), 55 (100).

***tert*-butyl-(hept-6-yn-3-yloxy)dimethylsilane (21).** Hept-6-yn-3-ol (220 mg, 2 mmol) was added to a solution of CH_3CN (5 mL) and TBS-Cl (315 mg, 2.1 mmol). Imidazole (161 mg, 2.4 mmol) was then added and the reaction mixture left to stir under nitrogen overnight. The reaction was diluted with DCM (20 mL), washed with brine (20 mL) and dried over $MgSO_4$. The organic layer was concentrated cautiously by rotary-evaporation to afford an oil which was purified by flash chromatography, eluting with hexane to yield alkyne **21** (312 mg, 70 %) as a colourless oil. δ_H(400 MHz; $CDCl_3$) 0.035 (3H s), 0.045 (3H s), 0.85 (1H, t, *J* 7.5), 0.87 (9H, s), 1.42-1.50 (2H, m), 1.60-1.66 (2H, m), 1.91 (1H, t, *J* 2.7), 2.19-2.24 (2H, m), 3.70 (1H, quintet, *J* 6.1); δ_C(100 MHz; $CDCl_3$) –4.6, -4.4, 9.3, 14.6, 18.1, 22.6, 25.9, 29.7, 35.0, 68.1, 71.8, 84.8; *m/z* (EI): 198 ($M^{+\cdot}$-1, 0.1%), 197 (4), 169 (19), 151 (5), 93 (10), 75 (100).

Synthesis of Alcohol 26

7-Benzyloxy-2-heptanol. Methylmagnesium bromide (4.5 mL, 2.5 M solution in ether, 11.34 mmol) was added slowly to a stirred solution of 6-benzyloxyhexanal (1.95 g, 9.45 mmol) in dry Et_2O (60 mL) at 0 ^oC, under nitrogen. The solution was warmed to room temperature and stirred for 45 minutes. After re-cooling to 0 ^oC, the reaction was quenched by the addition of saturated NH_4Cl solution (100 mL) and the two layers were separated. The aqueous phase was extracted with Et_2O (2 x 50 mL) and the combined organic extracts washed with saturated NH_4Cl solution (50 mL) and brine (50 mL), dried over Na_2SO_4 and concentrated *in vacuo*. The crude oil was purified by flash chromatography (1:5 EtOAc:hexane) to afford 7-benzyloxy-2-heptanol (1.87 g, 89%) as a colourless oil. Anal. Found: C, 75.5; H, 10.1. Calc. for $C_{14}H_{22}O_2$: C, 75.6; H, 10.0%; δ_H(500 MHz; $CDCl_3$) 1.15 (3H, d, *J* 6.2), 1.28-1.49 (6H, m), 1.56-1.65 (3H, m), 3.45 (2H, t, *J* 6.6), 3.72-3.80 (1H, m), 4.48 (2H, s), 7.23-7.35 (5H, m); δ_C(125 MHz; $CDCl_3$) 23.4, 25.5, 26.2, 29.7, 39.2, 68.0, 70.3, 72.8,

127.5, 127.6 (2C), 128.3 (2C), 138.6; *m/z* (EI) 222 (M^+, 0.3%), 204 (1), 131 (1), 107 (53), 91 (100), 65 (23), 45 (29).

(7-(Benzyloxy)heptan-2-yloxy)(*tert*-butyl)dimethylsilane. Imidazole (0.65 g, 9.50 mmol) was added to a stirred solution of 7-benzyloxy-2-heptanol (1.76 g, 7.92 mmol) in acetonitrile (30 mL). After 10 minutes TBS-Cl (1.31 g, 8.71 mmol) was added and the solution stirred for 48 hours. Et_2O (30 mL) was added to the reaction and the white precipitate filtered off. The organic filtrate was washed with H_2O (30 mL) and saturated NaCl solution (30 mL), dried over Na_2SO_4 and concentrated *in vacuo*. Purification by flash chromatography (hexane) yielded (7-(benzyloxy)heptan-2-yloxy)(*tert*-butyl)dimethylsilane (1.77 g, 67%) as a colourless oil. Anal. Found: C, 71.6; H, 11.1. Calc. for $C_{20}H_{36}O_2Si$: C, 71.4; H, 10.8%; δ_H(500 MHz; $CDCl_3$) 0.029 (3H, s), 0.035 (3H, s), 0.87 (9H, s), 1.10 (3H, d, *J* 6.1), 1.22-1.47 (6H, m), 1.57-1.65 (2H, m), 3.45 (2H, t, *J* 6.6), 3.72-3.80 (1H, m), 4.49 (2H, s), 7.24-7.34 (5H, m); δ_C(125 MHz; $CDCl_3$) -4.7, -4.4, 18.1, 23.8, 25.6, 25.9 (3C), 26.2, 29.8, 39.6, 68.6, 70.4, 72.8, 127.4, 127.6 (2C), 128.3 (2C), 138.7; *m/z* (EI) 335 (M^+-1, 0.02%), 187 (3), 159 (3), 131 (2), 91 (100), 75 (14).

6-(*tert*-Butyldimethylsilyloxy)heptan-1-ol (26). Pd/C (0.18 g, 10% wt Pd) was added to a stirred solution of (7-(benzyloxy)heptan-2-yloxy)(*tert*-butyl)dimethylsilane (1.72 g, 5.11 mmol) in dry THF (50 mL) and was subjected to two evacuation/H_2 cycles. The reaction was stirred at room temperature, under an ambient pressure of hydrogen (balloon) for 6 hours and was then filtered through a celite plug and the filtrate concentrated *in vacuo*. The crude product was purified by flash chromatography (1:5 EtOAc:hexane) to afford alcohol **26** (1.19 g, 95%) as a pale yellow oil. Anal. Found: C, 63.2; H, 12.7. Calc. for $C_{13}H_{30}O_2Si$: C, 63.4; H, 12.3%; δ_H(500 MHz; $CDCl_3$) -0.01 (3H, s), 0.00 (3H, s), 0.83 (9H, s), 1.06 (3H, d, *J* 6.1), 1.20-1.44 (6H, m), 1.51 (2H, pentet, *J* 6.9), 3.57 (2H, t, *J* 6.7), 3.69-3.76 (1H, m); δ_C(125 MHz; $CDCl_3$) -4.8, -4.5, 18.1, 23.7, 25.5, 25.76, 25.84 (3C), 32.7, 39.6, 62.7, 68.5; *m/z* (EI) 245 (M^+-1, 0.2%),189 (2), 159 (13), 119 (28), 97 (56), 75 (100), 73 (55), 55 (98).