*Electronic Supporting Information*

# Total Synthesis of a Potent Hybrid of the Anticancer Natural Products Dictyostatin and Discodermolide

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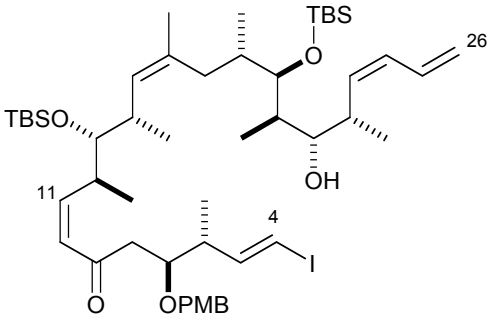
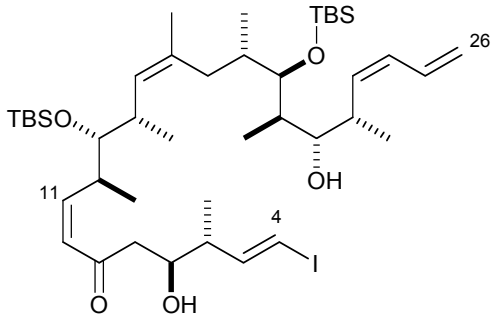
## General Experimental Details

Thin layer chromatography was carried out on commercial glass backed silica gel 60 F254 plates. Visualization of chromatograms was accomplished using ultraviolet light (254 nm) and/or heating the plate after staining with either a solution of 20% ceric ammonium molybdate w/v in $H_2O$ or 20% potassium permanganate w/v in $H_2O$. Optical rotations were measured with a Perkin-Elmer 241 polarimeter at 589 nm (sodium D line) and concentrations (c) are reported in g/100 mL. Infrared (IR) spectra were recorded on a Perkin-Elmer 1620 FT-IR spectrophotometer with internal calibration. Only selected characteristic IR absorption data, in wavenumbers ($cm^{-1}$) are provided for each compound. NMR spectra were recorded using deuteriobenzene ($C_6D_6$) or deuteriochloroform ($CDCl_3$) as the solvent. Chemical shifts (δ) are given in parts per million (ppm) from tetramethylsilane (δ = 0) and were measured relative to the signal of the solvent in which the sample was analyzed ($C_6D_6$: δ 7.16, $^1$H NMR; δ 128.1, $^{13}$C NMR; $CDCl_3$: δ 7.26, $^1$H NMR; δ 77.2, $^{13}$C NMR). Coupling constants (J values) are given in Hertz (Hz) and are reported to the nearest 0.1 Hz. $^1$H NMR spectral data are tabulated in the order: number of protons, multiplicity (br, broad; s, singlet; d, doublet; dd, doublet of doublets; t, triplet; q, quartet; m, multiplet), coupling constant and proton assignment where applicable. High resolution mass specta (HRMS) were recorded by the EPSRC Mass Spectrometry Service (Swansea,

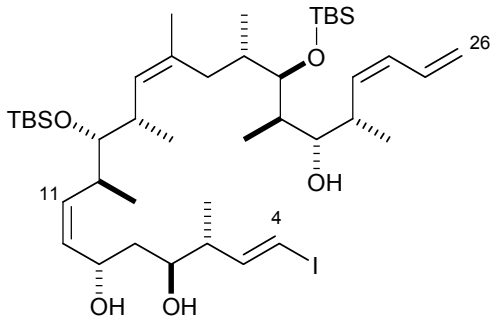
UK) and the Departmental Mass Spectrometry Service (University Chemical Laboratory, Cambridge) using Electron Impact (EI) and electrospray (ESI) techniques. The parent ion $[M+H]^+$, $[M+NH_4]^+$ or $[M+Na]^+$ is quoted.



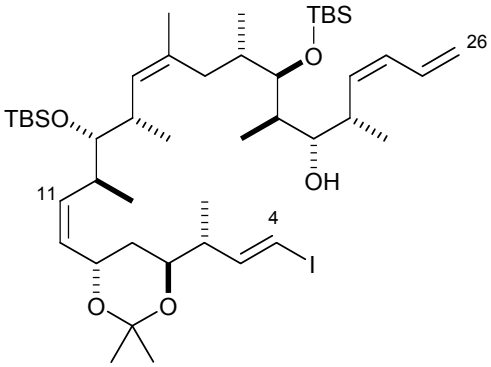

Still-Gennari Adduct **13**: $R_f$ 0.64 (10% EtOAc / PhMe); $[\alpha]_D^{20}$ +46.1 (*c* 0.90, $CHCl_3$); **IR** (neat, $cm^{-1}$) $\upsilon_{max}$ = 2960 (s), 2930 (s), 2857 (s), 1688 (m), 1614 (s), 1585 (w), 1514 (s), 1458 (m); **$^1$H NMR** (500MHz, $CDCl_3$) δ = 7.23 (2H, d, *J* = 8.6 Hz, Ar-H), 6.85 (2H, d, *J* = 8.7 Hz, Ar-H), 6.63 (1H, ddd, *J* = 10.4, 10.6, 16.8 Hz, $C_{25}$-H), 6.50 (1H, dd, *J* = 8.4, 14.4 Hz, $C_5$-H), 6.21 (1H, dd, *J* = 9.5, 11.6 Hz, $C_{11}$-H), 6.14 (1H, *app* t, *J* = 11.1 Hz, $C_{24}$-H), 6.04 (2H, *app* t, *J* = 11.5 Hz, $C_4$-H, $C_{10}$-H), 5.33 (1H, *app* t, *J* = 10.5 Hz, $C_{23}$-H), 5.25 (1H, d, *J* = 16.8 Hz, $C_{26}$-$H_xH_y$), 5.16 (1H, d, *J* = 10.3 Hz, $C_{26}$-$H_xH_y$), 4.92 (1H, d, *J* = 10.2 Hz, $C_{15}$-H), 4.51 (1H, d, *J* = 10.9 Hz, -OC$H_xH_y$Ar), 4.39 (1H, d, *J* = 10.9 Hz, -OC$H_xH_y$Ar), 3.87 (1H, *app* q, *J* = 5.4 Hz, $C_7$-H), 3.70 (3H, s, Ar-OC$H_3$), 3.65 – 3.62 (1H, m, $C_{12}$-H), 3.61 (1H, dd, *J* = 3.2, 5.5 Hz, $C_{19}$-H), 3.44 (1H, dd, *J* = 3.2, 6.7 Hz, $C_{13}$-H), 3.34 (1H, *app* t, *J* = 3.7 Hz, $C_{21}$-H), 2.84 – 2.77 (1H, m, $C_{22}$-H), 2.68 (1H, dd, *J* = 6.8, 16.5 Hz, $C_8$-$H_xH_y$), 2.52 (1H, dd, *J* = 5.4, 16.5 Hz, $C_8$-$H_xH_y$), 2.45 – 2.38 (2H, m, $C_6$-H, $C_{14}$-H), 2.18 (1H, *app* t, *J* = 12.5 Hz, $C_{17}$-$H_xH_y$), 1.91 – 1.84 (1H, m, $C_{18}$-H), 1.80 (1H, *app* dq, *J* = 3.4, 6.3 Hz, $C_{20}$-H), 1.68 (1H, d, *J* = 12.6 Hz, $C_{17}$-$H_xH_y$), 1.57 (3H, s, $C_{16}$-C$H_3$), 1.58 (1H, d, *J* = 2.8 Hz, $C_{21}$-OH), 1.04 (3H, d, *J* = 6.9 Hz, $C_6$-C$H_3$), 1.00 (3H, d, *J* = 6.9 Hz, $C_{22}$-C$H_3$), 0.96 (6H, *app* t, *J* = 7.0 Hz, $C_{16}$-C$H_3$, $C_{20}$-C$H_3$), 0.93 (9H, s, SiC(C$H_3$)$_3$), 0.92 (9H, s, SiC(C$H_3$)$_3$), 0.90 (3H, d, *J* = 6.6 Hz, $C_{14}$-C$H_3$), 0.72 (3H, d, *J* = 6.5 Hz, $C_{18}$-C$H_3$), 0.11 (3H, s, Si(C$H_3$)), 0.10 (6H, s, Si(C$H_3$), Si(C$H_3$)), 0.09 (3H, s, Si(C$H_3$)); **$^{13}$C NMR** (125MHz, $CDCl_3$) δ = 198.9, 159.3, 152.1, 148.0, 134.8, 132.7, 132.3, 131.2, 130.8, 130.7, 129.6, 125.7, 125.6, 118.6, 113.9, 80.6, 78.9, 78.0, 76.3, 75.9, 72.3, 55.4, 46.7, 44.8, 38.4, 38.3, 37.4, 36.6, 36.5, 34.9, 26.4, 26.4, 23.3, 18.6, 18.6, 18.0, 17.7, 17.4, 15.7, 13.5, 9.7, –3.2, –3.3, –3.3, –3.7; **HRMS** (ESI+) Calcd for $C_{50}H_{89}NIO_6Si_2$ $[M+NH_4]^+$: 982.5268. Found: 928.5275.



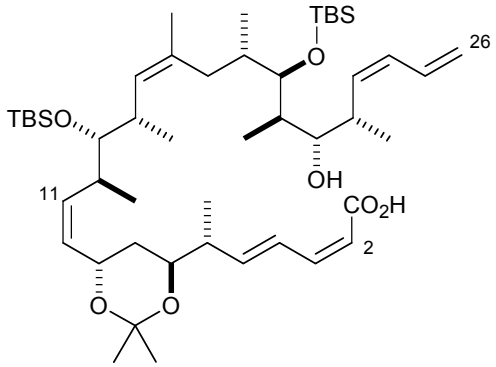

β-Hydroxy Ketone **13a**: $R_f$ 0.52 (20% EtOAc / P.E.); $[\alpha]_D^{20}$ +31.3 (*c* 0.52, $CHCl_3$); **IR** (neat, $cm^{-1}$) $\upsilon_{max}$ = 3432 (*br*), 2930 (s), 2856 (s), 1688 (w), 1614 (m), 1462 (m); **$^1$H NMR** (500MHz, $CDCl_3$) δ = 6.63 (1H, ddd, *J* = 10.7, 10.9, 17.0 Hz, $C_{25}$-H), 6.57 (1H, dd, *J* = 8.4, 14.4 Hz, $C_5$-H), 6.30 (1H, dd, *J* = 9.6, 11.5 Hz, $C_{11}$-H), 6.14 (1H, *app* t, *J* = 10.8 Hz, $C_{24}$-H), 6.08 (1H, d, *J* = 14.5 Hz, $C_4$-H), 6.05 (1H, d, *J* = 11.4 Hz, $C_{10}$-H), 5.35 (1H, *app* t, *J* = 10.6 Hz, $C_{23}$-H), 5.25 (1H, d, *J* = 16.4 Hz, $C_{26}$-$H_xH_y$), 5.16 (1H, d, *J* = 10.1 Hz, $C_{26}$-$H_xH_y$), 4.88 (1H, d, *J* = 10.2 Hz, $C_{15}$-H), 3.95 (1H, *app* qn, *J* = 4.5 Hz, $C_7$-H), 3.62 (1H, *app* d, *J* = 6.9 Hz, $C_{19}$-H), 3.58 (1H, dd, *J* = 3.5, 5.5 Hz, $C_{12}$-H), 3.39 (1H, dd, *J* = 2.8, 7.3 Hz, $C_{13}$-H), 3.35 (1H, dd, *J* = 3.4, 7.2 Hz, $C_{21}$-H), 3.27 (1H, s, $C_7$-OH), 2.86 – 2.77 (1H, m, $C_{22}$-H), 2.60 – 2.46 (2H, m, $C_8$-$H_xH_y$, $C_8$-$H_xH_y$), 2.36 – 2.25 (2H, m, $C_6$-H, $C_{14}$-H), 2.12 (1H, *app* t, *J* = 12.3 Hz, $C_{17}$-$H_xH_y$), 1.88 – 1.82 (1H, m, $C_{18}$-H), 1.77 (1H, *app* q, *J* = 5.8 Hz, $C_{20}$-H), 1.63 (1H, d, *J* = 11.6 Hz, $C_{17}$-$H_xH_y$), 1.57 (3H, s, $C_{16}$-$CH_3$), 1.55 (1H, s, $C_{21}$-OH), 1.07 (3H, d, *J* = 6.9 Hz, $C_6$-$CH_3$), 1.00 (3H, d, *J* = 7.1 Hz, $C_{12}$-$CH_3$), 0.98 (3H, d, *J* = 6.8 Hz, $C_{22}$-$CH_3$), 0.96 (3H, d, *J* = 6.9 Hz, $C_{20}$-$CH_3$), 0.93 (18H, s, $SiC(CH_3)_3$, $SiC(CH_3)_3$), 0.89 (3H, d, *J* = 6.5 Hz, $C_{14}$-$CH_3$), 0.70 (3H, d, *J* = 6.8 Hz, $C_{18}$-$CH_3$), 0.10 (6H, s, $Si(CH_3)$, $Si(CH_3)$), 0.09 (3H, s, $Si(CH_3)$), 0.08 (3H, s, $Si(CH_3)$); **$^{13}$C NMR** (125MHz, $CDCl_3$) δ = 201.3, 152.9, 147.8, 134.7, 133.0, 132.3, 131.1, 130.5, 125.5, 118.6, 80.7, 78.7, 76.3, 76.0, 70.5, 47.7, 45.9, 38.5, 38.3, 38.0, 36.6, 36.4, 34.7, 26.4, 26.4, 23.2, 18.7, 18.6, 18.3, 18.0, 17.4, 15.8, 13.6, 9.7, –3.2, –3.3, –3.6; **HRMS** (ESI+) Calcd. for $C_{42}H_{81}NIO_5Si_2$ $[M+NH_4]^+$: 862.4692. Found: 862.4677.



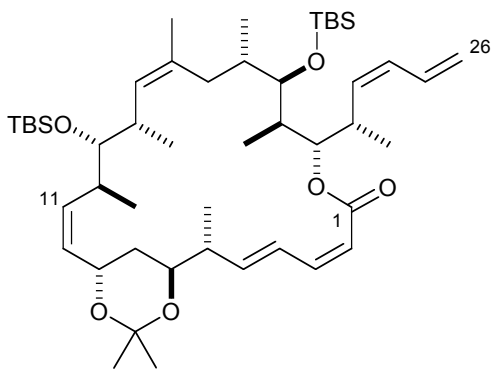

1,3-*Anti* Diol **13b**: $R_f$ 0.17 (20% EtOAc / P.E.); $[\alpha]_D^{20}$ +24.1 (*c* 0.39, $CHCl_3$); **IR** (neat, $cm^{-1}$) $\upsilon_{max}$ = 3432 (*br*), 2959 (s), 2929 (s), 2856 (s), 1692 (m), 1462 (m), 1378 (m); **$^1$H NMR** (500MHz, $CDCl_3$) δ = 6.63 (1H, ddd, *J* = 10.8, 11.0, 17.0 Hz, $C_{25}$-H), 6.54 (1H, dd, *J* = 8.4, 14.4 Hz, $C_5$-H), 6.15 (1H, *app* t, *J* = 11.0 Hz, $C_{24}$-H), 6.10 (1H, d, *J* = 14.4 Hz, $C_4$-H), 5.51 (1H, *app* t, *J* = 10.6 Hz, $C_{11}$-H), 5.43 (1H, dd, *J* = 7.8, 11.3 Hz, $C_{10}$-H), 5.33 (1H, *app* t, *J* = 10.5 Hz, $C_{23}$-H), 5.25 (1H, d, *J* = 16.6 Hz, $C_{26}$-$H_xH_y$), 5.16 (1H, d, *J* = 10.3 Hz, $C_{26}$-$H_xH_y$), 5.04 (1H, d, *J* = 9.8 Hz, $C_{15}$-H), 4.67 (1H, ddd, *J* = 3.4, 3.9, 7.8 Hz, $C_9$-H), 3.81 – 3.75 (1H, m, $C_7$-H), 3.61 (1H, dd, *J* = 3.1, 5.9 Hz, $C_{19}$-H), 3.34 (1H, *app* d, *J* = 7.5 Hz, $C_{21}$-H), 3.29 (1H, dd, *J* = 5.0, 5.3 Hz, $C_{13}$-H), 2.85 – 2.75 (2H, m, $C_{12}$-H, $C_{22}$-H), 2.58 (1H, d, *J* = 2.7 Hz, $C_7$-OH), 2.47 (1H, ddq, *J* = 6.1, 10.2, 12.1 Hz, $C_{14}$-H), 2.35 – 2.24 (2H, m, $C_6$-H, $C_9$-OH), 2.18 (1H, *app* t, *J* = 12.4 Hz, $C_{17}$-$H_xH_y$), 1.93 – 1.84 (1H, m, $C_{18}$-H), 1.84 – 1.77 (1H, m, $C_{20}$-H), 1.73 (1H, d, *J* = 12.5 Hz, $C_{17}$-$H_xH_y$), 1.69 – 1.60 (2H, m, $C_8$-$H_xH_y$, $C_8$-$H_xH_y$), 1.62 (3H, *obs* s, $C_{16}$-$CH_3$), 1.04 (3H, d, *J* = 6.9 Hz, $C_6$-$CH_3$), 1.00 (3H, d, *J* = 6.9 Hz, $C_{22}$-$CH_3$), 0.97 (3H, d, *J* = 6.6 Hz, $C_{12}$-$CH_3$), 0.96 (3H, d, *J* = 6.9 Hz, $C_{20}$-$CH_3$), 0.93 (9H, s, $SiC(CH_3)_3$), 0.92 (9H, s, $SiC(CH_3)_3$), 0.90 (3H, d, *J* = 6.9 Hz, $C_{14}$-$CH_3$), 0.74 (3H, d, *J* = 6.7 Hz, $C_{18}$-$CH_3$), 0.09 (3H, s, $Si(CH_3)$), 0.09 (3H, s, $Si(CH_3)$), 0.04 (6H, s, $Si(CH_3)$, $Si(CH_3)$); **$^{13}$C NMR** (125MHz, $CDCl_3$) δ = 148.2, 135.7, 134.8, 132.5, 132.2, 131.4, 131.3, 131.0, 118.7, 80.7, 78.9, 76.3, 76.1, 71.5, 66.6, 47.1, 40.3, 38.2, 37.2, 36.6, 36.5, 36.3, 34.9, 26.4, 23.4, 19.2, 18.6, 17.3, 16.8, 16.1, 13.4, 9.7, –2.9, –3.1, –3.3, –3.7; **HRMS** (ESI+) Calcd. for $C_{42}H_{79}O_5NaSi_2I$ $[M+Na]^+$: 869.4409. Found: 869.4441.



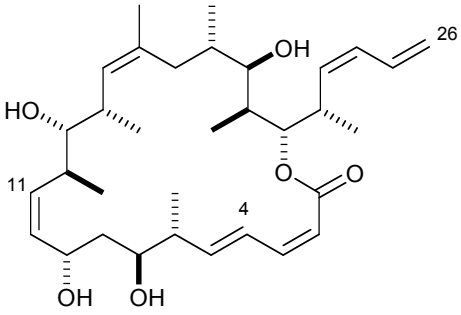

Vinyl Iodide **14**: $R_f$ 0.49 (10% EtOAc / P.E.); $[\alpha]_D^{20}$ +18.6 (*c* 0.30, $CHCl_3$); **IR** (neat, $cm^{-1}$) $\upsilon_{max}$ = 2958 (s), 2929 (s), 2854 (s), 1732 (w), 1461 (s), 1377 (s); **$^1$H NMR** (500MHz, $CDCl_3$) δ = 6.63 (1H, ddd, *J* = 10.6, 10.9, 16.8 Hz, $C_{25}$-H), 6.55 (1H, dd, *J* = 8.0, 14.6 Hz, $C_5$-H), 6.15 (1H, *app* t, *J* = 10.9 Hz, $C_{24}$-H), 6.04 (1H, d, *J* = 14.6 Hz, $C_4$-H), 5.66 (1H, *app* t, *J* = 10.3 Hz, $C_{11}$-H), 5.35 – 5.27 (2H, m, $C_{10}$-H, $C_{23}$-H), 5.25 (1H, d, *J* = 16.8 Hz, $C_{26}$-$H_xH_y$), 5.16 (1H, d, *J* = 10.2 Hz, $C_{26}$-$H_xH_y$), 4.99 (1H, d, *J* = 10.2 Hz, $C_{15}$-H), 4.46 (1H, *app* dd, *J* = 6.5, 8.6 Hz, $C_9$-H), 3.65 (1H, ddd, *J* = 5.9, 6.1, 9.4 Hz, $C_7$-H), 3.59 (1H, dd, *J* = 3.1, 5.9 Hz, $C_{19}$-H), 3.35 (1H, *app* d, *J* = 7.8 Hz, $C_{21}$-H), 3.27 (1H, dd, *J* = 3.3, 6.9 Hz, $C_{13}$-H), 2.81 (1H, ddq, *J* = 6.6, 7.0, 9.9 Hz, $C_{22}$-H), 2.66 – 2.61 (1H, m, $C_{12}$-H), 2.40 (1H, ddq, *J* = 6.6, 9.9, 11.9 Hz, $C_{14}$-H), 2.25 (1H, *app* q, *J* = 6.9 Hz, $C_6$-H), 2.19 (1H, *app* t, *J* = 12.4 Hz, $C_{17}$-$H_xH_y$), 1.92 – 1.85 (1H, m, $C_{18}$-H), 1.79 (1H, ddq, *J* = 3.0, 6.4, 7.4 Hz, $C_{20}$-H), 1.69 – 1.58 (3H, m, $C_8$-$H_xH_y$, $C_8$-$H_xH_y$, $C_{17}$-$H_xH_y$), 1.63 (3H, *obs* s, $C_{16}$-$CH_3$), 1.37 (3H, s, C($CH_3$)($CH_3$)), 1.32 (3H, s, C($CH_3$)($CH_3$)), 1.01 (3H, d, *J* = 7.0 Hz, $C_6$-$CH_3$), 0.99 (3H, d, *J* = 7.1 Hz, $C_{12}$-$CH_3$), 0.97 (3H, d, *J* = 6.7 Hz, $C_{22}$-$CH_3$), 0.95 (3H, d, *J* = 7.0 Hz, $C_{20}$-$CH_3$), 0.92 (9H, s, SiC($CH_3$)$_3$), 0.91 (9H, s, SiC($CH_3$)$_3$), 0.86 (3H, d, *J* = 6.6 Hz, $C_{14}$-$CH_3$), 0.72 (3H, d, *J* = 6.9 Hz, $C_{18}$-$CH_3$), 0.09 (3H, s, Si($CH_3$)), 0.08 (3H, s, Si($CH_3$)), 0.05 (6H, s, Si($CH_3$), Si($CH_3$)); **$^{13}$C NMR** (125MHz, $CDCl_3$) δ = 148.3, 136.7, 134.8, 132.5, 132.2, 131.3, 131.0, 129.3, 118.7, 100.7, 81.0, 78.9, 76.2, 75.5, 69.3, 63.3, 45.0, 38.3, 37.4, 37.1, 36.6, 36.5, 34.6, 26.4, 26.4, 25.1, 24.5, 23.4, 19.1, 18.6, 18.0, 17.3, 15.5, 13.5, 9.7, –3.0, –3.1, –3.3, –3.5; **HRMS** (ESI+) Calcd. for $C_{45}H_{83}O_5NaSi_2I$ $[M+Na]^+$: 909.4722. Found: 909.4750.



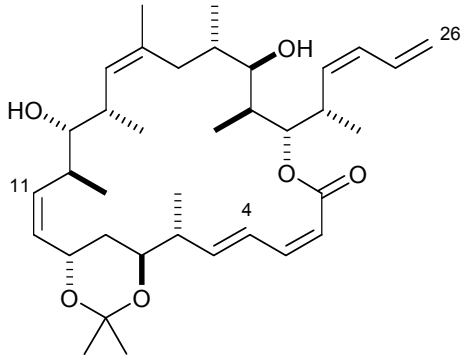

*Seco*-Acid **14a**: $R_f$ 0.23 (20% EtOAc / P.E.); $[\alpha]_D^{20}$ –18.3 (*c* 0.49, $CHCl_3$); **IR** (neat, $cm^{-1}$) $\upsilon_{max}$ = 2928 (s), 2856 (s), 1692 (m), 1636 (m), 1462 (m); **$^1$H NMR** (500MHz, $C_6D_6$) δ = 7.58 (1H, dd, *J* = 11.2, 15.4 Hz, $C_4$-H), 6.62 (1H, ddd, *J* = 10.4, 10.8, 16.9 Hz, $C_{25}$-H), 6.32 (1H, *app* t, *J* = 11.3 Hz, $C_3$-H), 6.09 (2H, *app* t, *J* = 11.1 Hz, $C_{11}$-H, $C_{24}$-H), 5.98 (1H, dd, *J* = 8.7, 15.3 Hz, $C_5$-H), 5.66 (1H, dd, *J* = 9.0, 10.6 Hz, $C_{10}$-H), 5.60 (1H, d, *J* = 11.3 Hz, $C_2$-H), 5.25 (1H, *app* t, *J* = 10.4 Hz, $C_{23}$-H), 5.13 (1H, d, *J* = 16.7 Hz, $C_{26}$-$H_xH_y$), 5.03 (2H, *app* t, *J* = 9.0 Hz, $C_{15}$-H, $C_{26}$-$H_xH_y$), 4.64 (1H, *app* dd, *J* = 6.9, 8.4 Hz, $C_9$-H), 3.85 (1H, dd, *J* = 2.0, 7.9 Hz, $C_{19}$-H), 3.78 (1H, ddd, *J* = 3.2, 5.5, 9.5 Hz, $C_7$-H), 3.56 (1H, dd, *J* = 2.1, 8.6 Hz, $C_{21}$-H), 3.29 (1H, dd, *J* = 1.4, 5.2 Hz, $C_{13}$-H), 2.88 (1H, *app* t, *J* = 7.4 Hz, $C_{12}$-H), 2.79 (1H, *app* dq, *J* = 7.3, 8.4 Hz, $C_{22}$-H), 2.64 (1H, *app* dq, *J* = 7.1, 9.2 Hz, $C_{14}$-H), 2.59 (1H, *app* t, *J* = 12.3 Hz, $C_{17}$-$H_xH_y$), 2.23 – 2.16 (2H, m, $C_6$-H, $C_{18}$-H), 1.96 – 1.89 (2H, m, $C_8$-$H_xH_y$, $C_{20}$-H), 1.83 (1H, d, *J* = 13.6 Hz, $C_{17}$-$H_xH_y$), 1.80 (3H, s, $C_{16}$-$CH_3$), 1.63 – 1.55 (1H, m, $C_8$-$H_xH_y$), 1.45 (3H, s, $C(CH_3)(CH_3)$), 1.38 (3H, s, $C(CH_3)(CH_3)$), 1.19 (3H, d, *J* = 7.1 Hz, $C_{12}$-$CH_3$), 1.16 (3H, d, *J* = 6.6 Hz, $C_{14}$-$CH_3$), 1.12 (9H, s, $SiC(CH_3)_3$), 1.11 (3H, d, *J* = 6.9 Hz, $C_{20}$-$CH_3$), 1.10 (3H, d, *J* = 6.9 Hz, $C_{18}$-$CH_3$), 1.05 (9H, s, $SiC(CH_3)_3$), 0.97 (3H, d, *J* = 6.8 Hz, $C_6$-$CH_3$), 0.78 (3H, d, *J* = 6.8 Hz, $C_{18}$-$CH_3$), 0.26 (3H, s, $Si(CH_3)$), 0.22 (3H, s, $Si(CH_3)$), 0.14 (3H, s, $Si(CH_3)$), 0.11 (3H, s, $Si(CH_3)$); **$^{13}$C NMR** (125MHz, $C_6D_6$) δ = 168.7, 146.4, 145.7, 134.8, 134.4, 133.6, 132.4, 131.9, 131.3, 130.5, 118.8, 116.8, 100.6, 81.0, 79.2, 75.7, 70.1, 63.6, 50.3, 41.8, 38.8, 38.3, 36.9, 36.7, 34.6, 26.7, 26.5, 25.1, 24.8, 23.5, 20.6, 19.6, 19.0, 16.9, 16.8, 10.4, –2.5, –2.5, –2.9, –3.1; **HRMS** (ESI+) Calcd. for $C_{48}H_{86}O_7NaSi_2$ $[M+Na]^+$: 853.5810. Found: 853.5848.




Macrolactone **14b**: $R_f$ 0.31 (100% PhMe); $[\alpha]_D^{20}$ +55.6 (*c* 0.28, $CHCl_3$); **IR** (neat, $cm^{-1}$) $\upsilon_{max}$ = 2928 (s), 2856 (s), 1715 (m), 1642 (m), 1461 (m); **$^1$H NMR** (500MHz, $C_6D_6$) δ = 7.88 – 7.78 (1H, m, $C_4$-H), 6.70 (1H, ddd, *J* = 10.4, 10.6, 16.9 Hz, $C_{25}$-H), 6.24 (1H, *app* t, *J* = 11.2 Hz, $C_3$-H), 6.14 (1H, dd, *J* = 8.6, 10.6 Hz, $C_{11}$-H), 5.98 (1H, *app* t, *J* = 10.6 Hz, $C_{24}$-H), 5.66 (1H, dd, *J* = 5.7, 15.7 Hz, $C_5$-H), 5.61 (1H, *obs* d, *J* = 11.2 Hz, $C_2$-H), 5.60 (1H, *obs* d, *J* = 10.1 Hz, $C_{10}$-H), 5.28 – 5.21 (2H, m, $C_{21}$-H, $C_{23}$-H), 5.11 (1H, d, *J* = 16.5 Hz, $C_{26}$-$H_xH_y$), 5.06 (1H, d, *J* = 9.9 Hz, $C_{26}$-$H_xH_y$), 4.96 (1H, d, *J* = 10.3 Hz, $C_{15}$-H), 4.61 (1H, *app* dq, *J* = 4.7, 5.2 Hz, $C_9$-H), 3.95 (1H, ddd, *J* = 3.8, 7.0, 10.6 Hz, $C_7$-H), 3.32 (1H, d, *J* = 9.2 Hz, $C_{19}$-H), 3.26 (1H, d, *J* = 9.3 Hz, $C_{13}$-H), 3.06 – 2.97 (1H, m, $C_{22}$-H), 2.86 (1H, *app* qn, *J* = 7.5 Hz, $C_{12}$-H), 2.75 – 2.69 (1H, m, $C_6$-H), 2.67 – 2.56 (3H, m, $C_{14}$-H, $C_{17}$-$H_xH_y$, $C_{18}$-H), 2.11 (1H, *app* t, *J* = 7.2 Hz, $C_{20}$-H), 2.05 (3H, s, $C_{16}$-$CH_3$), 1.59 (1H, d, *J* = 10.5 Hz, $C_{17}$-$H_xH_y$), 1.49 (3H, s, C($CH_3$)($CH_3$)), 1.43 (3H, s, C($CH_3$)($CH_3$)), 1.40 – 1.37 (1H, *obs* m, $C_8$-$H_xH_y$), 1.31 (3H, d, *J* = 6.9 Hz, $C_6$-$CH_3$), 1.18 (3H, d, *J* = 7.3 Hz, $C_{12}$-$CH_3$), 1.15 (3H, d, *J* = 7.1 Hz, $C_{20}$-$CH_3$), 1.12 (3H, d, *J* = 5.6 Hz, $C_{18}$-$CH_3$), 1.10 (9H, s, SiC($CH_3$)$_3$), 1.05 (9H, s, SiC($CH_3$)$_3$), 1.00 (3H, d, *J* = 6.0 Hz, $C_{14}$-$CH_3$), 0.78 (3H, *br* s, $C_{22}$-$CH_3$), 0.15 (3H, s, Si($CH_3$)), 0.13 (3H, s, Si($CH_3$)), 0.12 (3H, s, Si($CH_3$)), 0.10 (3H, s, Si($CH_3$)); **$^{13}$C NMR** (125MHz, $C_6D_6$) δ = 165.7, 145.2, 144.3, 135.2, 133.8, 133.0, 132.7, 130.9, 130.3, 129.8, 129.7, 117.7, 116.5, 100.6, 81.3, 78.2, 75.4, 66.9, 64.1, 39.6, 38.8, 37.8, 36.3, 34.7, 32.2, 26.8, 26.6, 25.5, 24.7, 23.3, 21.4, 20.4, 18.9, 16.8, 16.6, 10.8, 10.1, –2.2, –2.8, –3.0, –3.1; **HRMS** (ESI+) Calcd. for $C_{48}H_{84}O_6NaSi_2$ $[M+Na]^+$: 835.5704. Found: 835.5731.




***R**<sub>f</sub>* 0.48 (100% EtOAc); **R<sub>t</sub>** 15 mins (10% IPA / hexane); $[\alpha]_D^{20}$ –106.9 (*c* 0.38, $CHCl_3$); **IR** (neat, $cm^{-1}$) $\upsilon_{max}$ = 3406 (*br*, OH), 2965 (s), 2931 (s), 1687 (s), 1638 (m), 1453 (m); **$^1$H NMR** (500MHz, $C_6D_6$) δ = 7.51 (1H, dd, *J* = 11.2, 15.6 Hz, $C_4$-H), 6.64 (1H, ddd, *J* = 10.5, 10.6, 16.8 Hz, $C_{25}$-H), 6.25 (1H, *app* t, *J* = 11.6 Hz, $C_3$-H), 6.02 (1H, *app* t, *J* = 11.0 Hz, $C_{24}$-H), 5.88 (1H, dd, *J* = 7.7, 15.5 Hz, $C_5$-H), 5.63 (1H, d, *J* = 11.7 Hz, $C_2$-H), 5.64 – 5.53 (2H, m, $C_{10}$-H, $C_{11}$-H), 5.40 (1H, *app* t, *J* = 10.5 Hz, $C_{23}$-H), 5.30 (1H, dd, *J* = 3.0, 8.6 Hz, $C_{21}$-H), 5.12 (1H, d, *J* = 17.0 Hz, $C_{26}$-$H_xH_y$), 5.00 (2H, *app* t, *J* = 12.0 Hz, $C_{15}$-H, $C_{26}$-$H_xH_y$), 4.66 (1H, *app* dq, *J* = 4.0, 7.8 Hz, $C_9$-H), 4.01 (1H, *app* d, *J* = 10.6 Hz, $C_7$-H), 3.27 (1H, dd, *J* = 2.4, 8.6 Hz, $C_{19}$-H), 3.13 – 3.04 (2H, m, $C_{13}$-H, $C_{22}$-H), 2.78 – 2.65 (2H, m, $C_{12}$-H, $C_{14}$-H), 2.38 – 2.30 (2H, m, $C_6$-H, $C_{18}$-H), 2.18 – 2.00 (3H, m, $C_{17}$-$H_xH_y$, $C_{17}$-$H_xH_y$, $C_{20}$-H), 1.79 (3H, s, $C_{16}$-$CH_3$), 1.67 (1H, ddd, *J* = 3.8, 10.4, 14.3 Hz, $C_8$-$H_xH_y$), 1.46 (1H, ddd, *J* = 2.3, 7.8, 14.1 Hz, $C_8$-$H_xH_y$), 1.25 (3H, d, *J* = 6.7 Hz, $C_{20}$-$CH_3$), 1.17 (3H, d, *J* = 6.8 Hz, $C_6$-$CH_3$), 1.07 (3H, d, *J* = 6.9 Hz, $C_{12}$-$CH_3$), 1.05 (3H, d, *J* = 7.0 Hz, $C_{14}$-$CH_3$), 0.96 (3H, d, *J* = 6.6 Hz, $C_{18}$-$CH_3$), 0.87 (3H, d, *J* = 6.6 Hz, $C_{22}$-$CH_3$); **$^{13}$C NMR** (125MHz, $C_6D_6$) δ = 166.2 ($C_1$), 144.9 ($C_5$), 143.2 ($C_3$), 134.8 ($C_{23}$), 134.5 ($C_{10}$), 134.0 ($C_{11}$), 132.7 ($C_{25}$), 132.6 ($C_{16}$), 130.4 ($C_{24}$), 128.6 ($C_{15}$), 127.9 ($C_4$), 118.1 ($C_2$), 118.0 ($C_{26}$), 79.5 ($C_{13}$), 76.8 ($C_{21}$), 74.8 ($C_{19}$), 71.1 ($C_7$), 66.0 ($C_9$), 43.3 ($C_6$), 40.8 ($C_8$), 37.8 ($C_{14}$), 37.6 ($C_{17}$), 37.2 ($C_{20}$), 35.4 ($C_{22}$), 35.2 ($C_{12}$), 31.8 ($C_{18}$), 23.2 ($C_{16}$-Me), 20.0 ($C_{12}$-Me), 19.3 ($C_{14}$-Me), 17.2 ($C_{22}$-Me), 15.6 ($C_6$-Me), 12.7 ($C_{18}$-Me), 10.8 ($C_{20}$-Me); **HRMS** (ESI+) Calcd. for $C_{33}H_{53}O_6$ $[M+H]^+$: 545.3842. Found: 545.3864.




***R**<sub>f</sub>* 0.66 (100% EtOAc); **R<sub>t</sub>** 16 mins (25% EtOAc / hexane); $[\alpha]_D^{20}$ –20.0 (*c* 0.06, $CHCl_3$); **IR** (neat, $cm^{-1}$) $\upsilon_{max}$ = 3395 (*br*, OH), 2923 (s), 2853 (m), 1713 (m), 1641 (w), 1456 (m); **$^1$H NMR** (500MHz, $C_6D_6$) δ = 7.60 (1H, dd, *J* = 11.0, 15.0 Hz, $C_4$-H), 6.67 (1H, ddd, *J* = 9.5, 10.6, 16.5 Hz, $C_{25}$-H), 6.24 (1H, *app* t, *J* = 11.0 Hz, $C_3$-H), 5.99 (1H, *app* t, *J* = 10.9 Hz, $C_{24}$-H), 5.77 (1H, dd, *J* = 7.0, 15.9 Hz, $C_5$-H), 5.68 – 5.53 (3H, m, $C_2$-H, $C_{10}$-H, $C_{11}$-H), 5.31 (1H, *app* t, *J* = 10.9 Hz, $C_{23}$-H), 5.23 (1H, dd, *J* = 2.3, 9.1 Hz, $C_{21}$-H), 5.10 (1H, d, *J* = 16.8 Hz, $C_{26}$-$H_xH_y$), 5.03 (1H, d, *J* = 10.5 Hz, $C_{26}$-$H_xH_y$), 4.95 (1H, d, *J* = 10.5 Hz, $C_{15}$-H), 4.58 (1H, *app* dq, *J* = 6.4, 9.9 Hz, $C_9$-H), 3.87 (1H, ddd, *J* = 3.2, 6.4, 9.0 Hz, $C_7$-H), 3.08 (1H, *app* d, *J* = 9.5 Hz, $C_{19}$-H), 3.03 (1H, *app* dq, *J* = 6.4, 14.9 Hz, $C_{22}$-H), 2.95 (1H, dd, *J* = 3.7, 7.8 Hz, $C_{13}$-H), 2.74 – 2.66 (1H, m, $C_{12}$-H), 2.62 (1H, *app* q, *J* = 8.2 Hz, $C_{14}$-H), 2.56 – 2.50 (1H, m, $C_6$-H) 2.50 – 2.43 (1H, m, $C_{18}$-H), 2.28 (1H, *app* t, *J* = 12.3 Hz, $C_{17}$-$H_xH_y$), 1.98 (1H, ddd *J* = 2.8, 7.3, 9.6 Hz, $C_{20}$-H), 1.95 – 1.89 (1H, m, $C_{17}$-$H_xH_y$), 1.86 (3H, s, $C_{16}$-$CH_3$), 1.79 (1H, ddd, *J* = 5.9, 9.1, 14.9 Hz, $C_8$-$H_xH_y$), 1.41 (3H, s, $C(CH_3)(CH_3)$), 1.38 (3H, s, $C(CH_3)(CH_3)$), 1.35 – 1.28 (1H, m, $C_8$-$H_xH_y$), 1.24 (3H, d, *J* = 6.8 Hz, $C_6$-$CH_3$), 1.15 (3H, d, *J* = 7.2 Hz, $C_{20}$-$CH_3$), 1.06 (3H, d, *J* = 6.9 Hz, $C_{12}$-$CH_3$), 1.03 (3H, d, *J* = 6.9 Hz, $C_{14}$-$CH_3$), 0.95 (3H, d, *J* = 6.8 Hz, $C_{18}$-$CH_3$), 0.80 (3H, d, *J* = 7.3 Hz, $C_{22}$-$CH_3$); **$^{13}$C NMR** (125MHz, $C_6D_6$) δ = 165.8, 144.3, 143.8, 135.0, 134.6, 132.9, 132.8, 131.9, 130.3, 127.8, 117.8, 117.7, 100.6, 79.9, 76.0, 75.2, 68.2, 67.9, 63.9, 40.6, 37.6, 37.5, 36.2, 35.1, 34.2, 31.3, 25.9, 25.2, 24.7, 23.3, 19.5, 19.3, 17.0, 11.6, 10.4; **HRMS** (ESI+) Calcd. for $C_{36}H_{56}O_6Na$ $[M+Na]^+$: 607.3975. Found: 607.3994.