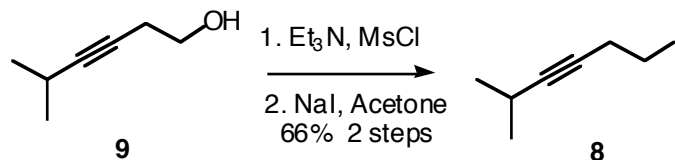


Supporting Information

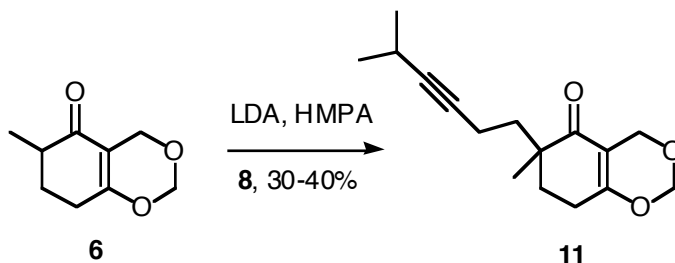
Experimental Procedures and Characterization Data



1-Iodo-5-methylhex-3-yne (8)

To a solution of 5-methylhex-3-yn-1-ol (**9**, 714mg, 6.38 mmol) in 30 mL CH_2Cl_2 and Et_3N (1.25 mL, 8.93 mmol) was added MsCl (0.59 mL, 7.66 mmol) dropwise at -20°C . After 30 min at -20°C , the mixture was diluted with pentane and filtered through a pad of celite and pad was washed with pentane. The pentane was washed with sat'd NaHCO_3 , brine and dried over MgSO_4 . The solvent was removed *in vacuo* and the residue was dissolved in 40 mL acetone and NaI (1.91 g, 12.8 mmol) was added in one portion. The reaction was heated at 55°C . After 12 h, the reaction was cooled to rt and filtered through a pad of celite and pad was washed with pentane. The pentane was washed with sat'd $\text{Na}_2\text{S}_2\text{O}_3$ and brine, dried over MgSO_4 . The solvent was removed *in vacuo* and the residue was purified by chromatography on silica gel eluting with pure pentane to yield 0.93 g (66%) of compound **8** as a colorless oil.

^1H NMR (300 MHz, CDCl_3) δ 3.19 (t, $J = 7.4$ Hz, 2H), 2.71 (dt, $J = 2.1, 7.4$ Hz, 2H), 2.50 (t of sep, $J = 2.1, 6.9$ Hz, 1H), 1.14 (d, $J = 6.9$ Hz, 6H); ^{13}C NMR (75 MHz, CDCl_3) δ 88.1, 78.0, 24.0, 23.1, 20.5, 2.64; IR (neat) 2968, 2931, 2870 cm^{-1} .

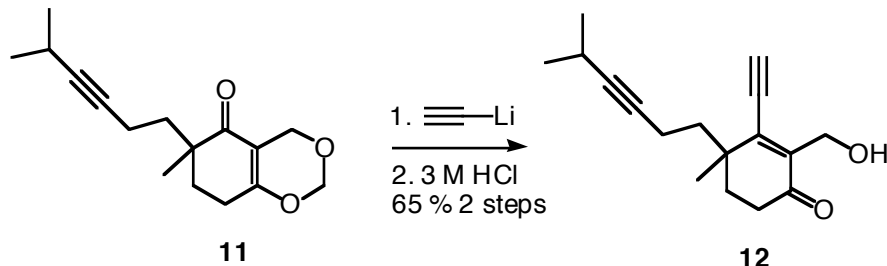


6-Methyl-6-(5-methylhex-3-ynyl)-4,6,7,8-tetrahydrobenzo[1,3]dioxin-5-one (11).

To a solution of lithium diisopropylamide [prepared from diisopropylamine (0.64 mL, 4.52 mmol) in 5 mL of THF and *n*-butyllithium (2.63 mL of a 1.6 M hexanes solution, 4.45mmol) at -78°C] was added a solution of 6-methyl-4,6,7,8-tetrahydrobenzo[1,3]dioxin-5-one (**6**, 0.47 g, 2.77 mmol) and HMPA (2.4 mL, 13.9 mmol) in 5 mL of THF over 30 min. After an additional 1.5 h at -78°C , 1-iodo-5-methylhex-3-yne (**8**, 1.23 g, 5.54 mmol) was added. The reaction was gradually warmed to rt and after 24 h quenched with sat'd NH_4Cl solution. The aqueous layer was separated and extracted with pentane. The combined organic layers were washed with brine and dried over MgSO_4 .

The solvent was removed *in vacuo* and the residue was purified by chromatography on silica gel eluting with 20 : 80 EtOAc : hexanes to yield 0.26 g (36%) of compound **11** as a yellow oil.

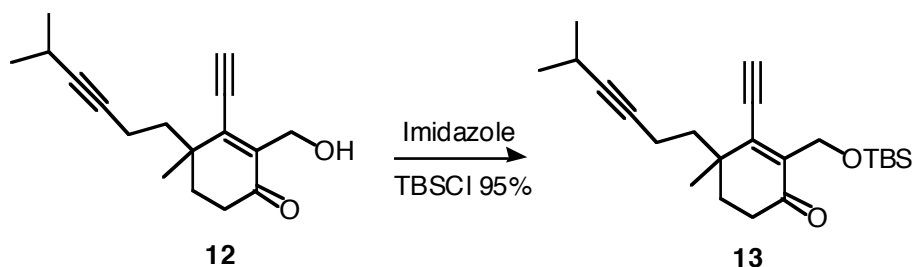
^1H NMR (300 MHz, CDCl_3) δ 5.14 ($^{1/2}$ AB q, $J = 5.5$ Hz, 1H), 5.10 ($^{1/2}$ AB q, $J = 5.5$ Hz, 1H), 4.43 (dt, $J = 14.6, 2.0$ Hz, 1H), 4.36 (dt, $J = 14.6, 2.0$ Hz, 1H), 2.56-2.36 (m, 3H), 2.18-1.93 (m, 3H), 1.83-1.64 (m, 3H), 1.11 (d, $J = 6.9$ Hz, 6H), 1.09 (s, 3H); ^{13}C NMR (75 MHz, CDCl_3) δ 200.2, 168.3, 110.1, 91.5, 86.3, 79.2, 63.3, 43.2, 36.4, 31.6, 24.7, 23.5, 22.1, 20.6, 14.1; IR (neat) 2966, 2932, 2871, 1637 cm^{-1} ; HRMS calcd for $\text{C}_{16}\text{H}_{22}\text{O}_3$ 262.1569, found 262.1560.



3-Ethynyl-2-hydroxymethyl-4-methyl-4-(5-methylhex-3-ynyl)cyclohex-2-enone (**12**).

To a mixture of lithium acetylide ethylenediamine (0.65 g, 7.1 mmol) in 30 mL of THF was added a solution of 6-methyl-6-(5-methylhex-3-ynyl)-4,6,7,8-tetrahydrobenzo[1,3]dioxin-5-one (**11**, 0.19 g, 0.71 mmol) in 5 mL of THF dropwise at -78°C . The reaction was gradually warmed to rt overnight and quenched with a sat'd NH_4Cl solution. The aqueous layer was separated and extracted with Et_2O . The combined organic layers were washed with H_2O , brine and dried over MgSO_4 . The solvent was removed *in vacuo* and the residue was dissolved in 3 mL of THF. Then 0.1 mL of 3 M HCl was added. After 30 min, sat'd NaHCO_3 was added, the aqueous layer was separated and extracted with Et_2O . The combined organic layers were washed with brine and dried over MgSO_4 . The solvent was removed *in vacuo* and the residue was purified by chromatography on silica gel eluting with 20 : 80 EtOAc : hexanes to yield 0.16 g (65% yield for two steps) of compound **12** as a yellow oil.

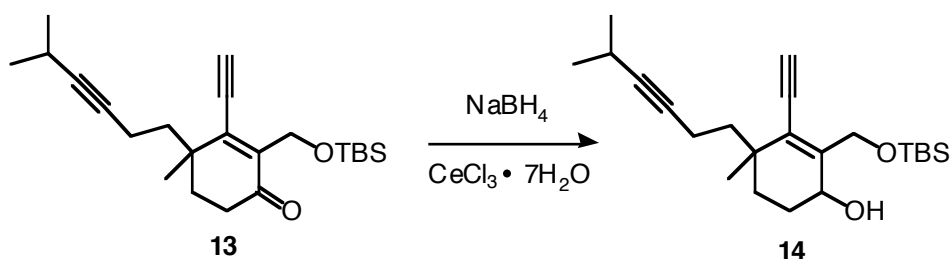
^1H NMR (300 MHz, CDCl_3) δ 4.47 (s, 2H), 3.85 (s, 1H), 2.52-2.46 (m, 2H), 2.17-1.73 (m, 7H), 1.23 (s, 3H), 1.09 (d, $J = 6.8$ Hz, 6H); ^{13}C NMR (75 MHz, CDCl_3) δ 199.4, 146.3, 141.4, 93.8, 86.6, 78.8, 78.6, 60.4, 38.8, 38.3, 34.0, 31.9, 25.0, 23.3, 20.5, 14.1; IR (neat) 3444, 2932, 2871, 2086, 1660 cm^{-1} ; HRMS calcd for $\text{C}_{17}\text{H}_{22}\text{O}_2$ 258.1620, found 258.1615.



2-(*tert*-Butyldimethylsilyloxymethyl)-3-ethynyl-4-methyl-4-(5-methylhex-3-ynyl)-cyclo-hex-2-enone (13).

To a solution of 3-ethynyl-2-hydroxymethyl-4-methyl-4-(5-methylhex-3-ynyl)-cyclohex-2-enone (**12**, 120 mg, 0.47 mmol) in 1.0 mL DMF were added imidazole (89 mg, 1.3 mmol) and TBSCl (98 mg, 0.65 mmol) at rt. After 30 min, the reaction was complete and the solution was directly loaded to a column eluting with 30 : 70 EtOAc : hexanes to yield 848 mg (<95%, the NMR is contaminated with extra silyl peaks) **13** as a yellow oil.

^1H NMR (300 MHz, CDCl_3) δ 4.41 (s, 2H), 3.78 (s, 1H), 2.46-2.41 (m, 3H), 2.12-1.69 (m, 6H), 1.20 (s, 3H), 1.06 (d, $J = 6.9$ Hz, 6H), 0.81 (s, 9H), 0.10 (s, 6H); ^{13}C NMR (75 MHz, CDCl_3) δ 196.8, 146.7, 142.5, 93.0, 86.6, 79.7, 79.0, 58.7, 39.3, 38.6, 34.3, 32.3, 26.2, 26.0, 25.3, 23.6, 20.7, 18.7, 14.3, -4.9.



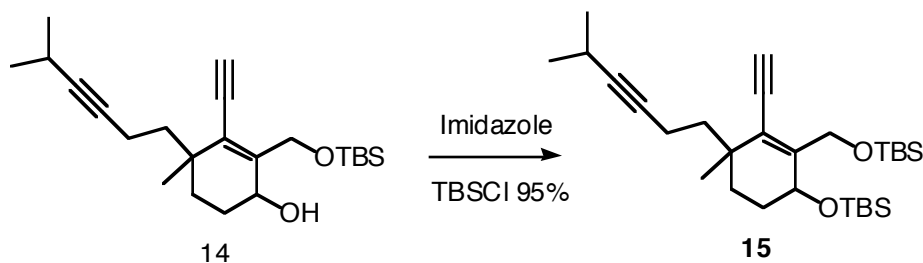
2-(*tert*-Butyldimethylsilyloxymethyl)-3-ethynyl-4-methyl-4-(5-methylhex-3-ynyl)-cyclohex-2-enol (14).

To a solution of 2-(*tert*-butyldimethylsilyloxymethyl)-3-ethynyl-4-methyl-4-(5-methylhex-3-ynyl)cyclohex-2-enone (**13**, 65 mg, 0.17 mmol) dissolved in 0.5 mL of methanolic 0.4 M $\text{CeCl}_3 \cdot 7\text{H}_2\text{O}$ solution was added sodium borohydride (8 mg, 0.19 mmol) in one portion at -30°C . After 30 min, the reaction was quenched with 3 mL of H_2O and diluted with CH_2Cl_2 . The aqueous layer was separated and extracted with CH_2Cl_2 . The combined organic layers were dried over MgSO_4 . The solvent was removed *in vacuo* and the residue was purified by chromatography on silica gel eluting with 20 : 80 EtOAc : hexanes to yield 59 mg (91%) of compound **14** as two diastereomers (3 : 1) as a yellow oil. HRMS calcd for $\text{C}_{23}\text{H}_{38}\text{O}_2\text{Si}$ 374.2641, found 374.2646

Major diastereomer: R_f 0.4 (EtOAc: hexanes 1 : 9); ^1H NMR (300 MHz, CDCl_3) δ 4.75 ($^{1/2}$ AB q, $J = 12.6$ Hz, 1H), 4.37 ($^{1/2}$ AB q, $J = 12.6$ Hz, 1H), 4.28 (t, $J = 4.0$ Hz, 1H), 3.28 (bs, 1H), 3.23 (s, 1H), 2.51 (t of sep, $J = 2.1, 6.8$ Hz, 1H), 2.24-2.03 (m, 2H), 1.98-1.62 (m, 5H), 1.30-1.23 (m, 1H), 1.13 (d, $J = 6.9$ Hz, 6H), 1.06 (s, 3H), 0.91 (s, 9H), 0.12

(s, 6H); ^{13}C NMR (75 MHz, CDCl_3) δ 144.9, 125.9, 85.8, 84.6, 79.8, 66.1, 65.7, 40.3, 37.4, 28.1, 26.2, 26.0, 25.5, 23.6, 20.7, 18.3, 14.1, -5.2, -5.3; IR (neat) 3461, 3311, 2957, 2931, 2858, 1463 cm^{-1} .

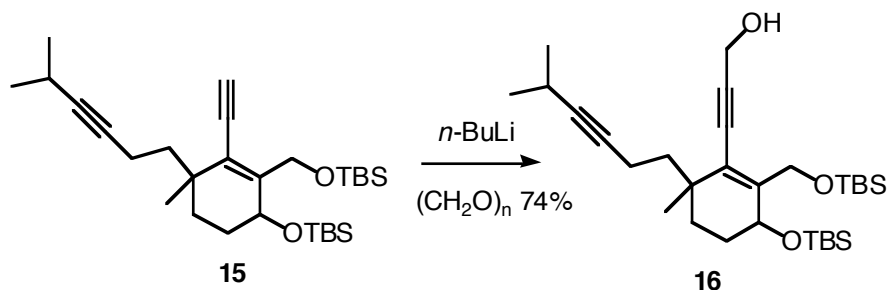
Minor diastereomer: R_f 0.3 (EtOAc: hexanes 1 : 9); ^1H NMR (300 MHz, CDCl_3) δ 4.72 ($^{1/2}$ AB q, $J = 13.0$ Hz, 1H), 4.50 ($^{1/2}$ AB q, $J = 13.1$ Hz, 1H), 4.33 (t, $J = 5.3$ Hz, 1H), 3.60 (bs, 1H), 3.22 (s, 1H), 2.51 (t of sep, $J = 2.1, 6.8$ Hz, 1H), 2.19-2.01 (m, 2H), 1.94-1.50 (m, 6H), 1.14 (s, 3H), 1.13 (d, $J = 6.7$ Hz, 6H), 0.92 (s, 9H), 0.12 (s, 6H); ^{13}C NMR (75 MHz, CDCl_3) δ 145.6, 125.2, 85.9, 84.3, 79.6, 79.4, 66.9, 65.4, 39.1, 37.3, 29.3, 26.6, 26.1, 25.8, 23.3, 20.6, 18.1, 14.0, -5.4, -5.5; IR (neat) 3472, 3311, 2932, 2858, 1463 cm^{-1} .



6-(*tert*-Butyldimethylsilyloxymethyl)-1-(*tert*-butyldimethylsilyloxymethyl)-2-ethynyl-3-methyl-3-(5-methylhex-3-ynyl)cyclohexene (15).

The same procedure used for the conversion of **12** to **13** was used for the conversion of **14** to **15** to give a 95% yield of compound **15** as a 3 : 1 mixture of two diastereomers. Prepared from compound **14** (890 mg, 2.38 mmol), imidazole (453 mg, 6.67 mmol), TBSCl (502 mg, 3.33 mmol) and DMF (1 mL).

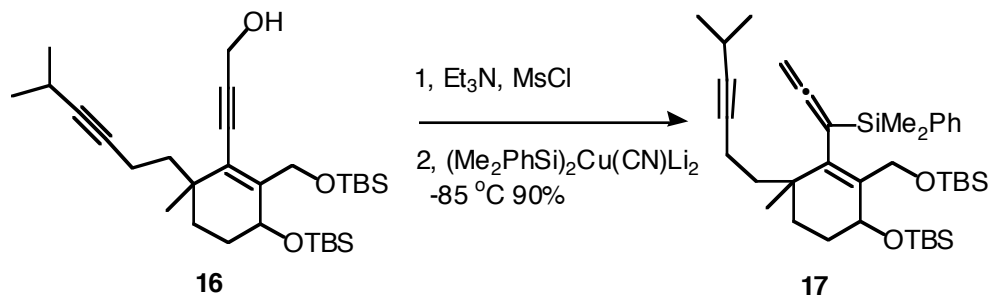
^1H NMR (300 MHz, CDCl_3), (mixture of two diastereomers, * denotes minor diastereomer) δ *4.66 ($^{1/2}$ AB q, $J = 12.0$ Hz, 1H), 4.63 ($^{1/2}$ AB q, $J = 11.5$ Hz, 1H), 4.42-4.38 (m, 1H, diastereomer overlap), 4.28 ($^{1/2}$ AB q, $J = 11.6$ Hz, 1H), *4.17 ($^{1/2}$ AB q, $J = 12.0$ Hz, 1H), 3.13 (s, 1H), 2.52 (t of sep, $J = 1.9, 6.9$ Hz, 1H), 2.18-2.02 (m, 2H), 1.94-1.50 (m, 6H), 1.14 (d, $J = 6.9$ Hz, 6H), *1.13 (d, $J = 6.9$ Hz, 6H), 1.12 (s, 3H), *1.07 (s, 3H), 0.90 (s, 9H), 0.89 (s, 9H), 0.11 (s, 3H), *0.09 (s, 3H), *0.08 (s, 3H), 0.07 (s, 3H), 0.05 (s, 3H), *0.02 (s, 3H); ^{13}C NMR (75 MHz, CDCl_3) δ 147.9, 126.2, 86.0, *85.8, 83.0, 81.1, 80.0, 64.6, 62.1, 41.0, 39.2, *37.4, 37.2, 29.3, 28.7, *28.0, 26.3, 26.2, 23.7, 20.8, 18.5, 18.4, 14.2, -4.3, -4.5, -4.6, -4.9.



3-[3-(*tert*-Butyldimethylsiloxy)-2-(*tert*-butyldimethylsiloxymethyl)-6-methyl-6-(5-methyl-hex-3-ynyl)cyclohex-1-enyl]prop-2-yn-1-ol (16).

To a solution of 6-(*tert*-butyldimethylsiloxy)-1-(*tert*-butyldimethylsiloxymethyl)-2-ethynyl-3-methyl-3-(5-methylhex-3-ynyl)cyclohexene (**15**, 3 : 1 mixture of two diastereomers, 114 mg, 0.23 mmol) in 1.0 mL of THF was added *n*-butyllithium (0.22 mL of a 1.6 M hexanes solution, 0.35 mmol) at -78 °C. After 30 min, paraformaldehyde powder (35 mg, 1.2 mmol) was added in one portion. The reaction was allowed to gradually warm to rt and after 24 h was quenched with sat'd NH₄Cl solution. The aqueous layer was separated and extracted with Et₂O. The combined organic layers were washed with brine and dried over MgSO₄. The solvent was removed *in vacuo* and the residue was purified by chromatography on silica gel eluting with 20 : 80 EtOAc : hexanes to yield 88 mg (74%) of compound **16** as a mixture of two diastereomers (3 : 1) as a yellow oil.

¹H NMR (300 MHz, CDCl₃), (mixture of two diastereomers, * denotes minor diastereomer) δ 4.60 (¹/₂ AB q, *J* = 11.9 Hz, 1H), 4.58 (¹/₂ AB q, *J* = 11.4 Hz, 1H), 4.43 (s, 2H), 4.43-4.37 (m, 3H), 4.27 (¹/₂ AB q, *J* = 11.5 Hz, 1H), *4.16 (¹/₂ AB q, *J* = 11.9 Hz, 1H), 2.52 (t of sep, *J* = 1.8, 6.8 Hz, 1H), 2.16-2.00 (m, 2H), 1.91-1.45 (m, 6H), 1.14 (d, *J* = 6.9 Hz, 6H), *1.13 (d, *J* = 6.8 Hz, 6H), 1.10 (s, 3H), 1.05 (s, 3H), 0.89 (s, 9H), 0.88 (s, 9H), *0.87 (s, 9H), 0.10 (s, 3H), 0.08 (s, 6H), 0.05 (s, 3H), *0.02 (s, 3H); ¹³C NMR (75 MHz, CDCl₃) δ 146.6, *146.2, 126.3, 92.7, 85.9, 83.2, 79.9, 64.6, 62.0, 51.8, 39.1, 37.3, 29.2, 28.5, 26.5, 26.1, 26.0, 23.5, 20.7, 18.4, 18.2, 14.1, -4.4, -4.6, -4.8, -5.0; IR (neat) 3431, 2930, 2857, 2214, 1727 cm⁻¹; HRMS calcd for C₃₀H₅₄O₃Si₂ 518.3612, found 518.3627.



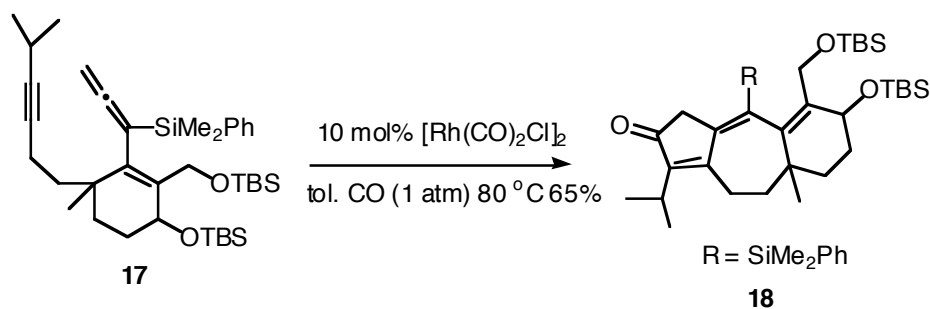
({1-[3-(*tert*-Butyldimethylsiloxy)-2-(*tert*-butyldimethylsiloxymethyl)-6-methyl-ethylhex-3-ynyl)cyclohex-1-enyl]propa-1,2-dienyl}dimethylsilanyl)benzene (17).

To a solution of 3-[3-(*tert*-butyldimethylsiloxy)-2-(*tert*-butyldimethylsiloxy-methyl)-6-methyl-6-(5-methylhex-3-ynyl)cyclohex-1-enyl]prop-2-yn-1-ol (**16**, 3 : 1 mixture of two diastereomers), (126 mg, 0.24 mmol) in 2 mL of CH₂Cl₂ were added Et₃N (69 μ L, 0.49 mmol) and MsCl (28 μ L, 0.37 mmol) dropwise at -20 °C. After 30 min at -20 °C, the mixture was diluted with pentane and filtered through a pad of celite and pad was washed

with pentane. The pentane was washed with sat'd NaHCO₃, brine and dried over MgSO₄. The solvent was removed *in vacuo* and the residue (propargyl mesylate) was used without purification.

To a mixture of Li (17 mg, 2.4 mmol, washed with hexanes and dried with N₂) in 2 mL of THF was added dropwise dimethylphenylsilyl chloride (83 mg, 0.49 mmol) at 0 °C, and the mixture was warmed to rt. After 24 h, the red solution was added dropwise to a suspension of CuCN (24 mg, 0.27 mmol) in 4 mL of THF at 0 °C, and the mixture was stirred for 30 min. A solution of propargyl mesylate in 1.0 mL of THF was added dropwise to the mixture at -85 °C. After 30 min, the reaction was complete and poured into 10 mL of saturated aqueous NH₄Cl solution. The mixture was stirred for 2 h during this time the aqueous layer became cobalt blue. The aqueous layer was separated and extracted with Et₂O. The combined organic layers were washed with brine, dried over MgSO₄, and concentrated *in vacuo*. The residue was purified by flash chromatography on silica gel, eluting with 20 : 80 EtOAc : hexanes to produce 139 mg in 90% yield of compound **17** as a mixture of two diastereomers (3 : 1) as a yellow oil.

¹H NMR (300 MHz, CDCl₃), (mixture of two diastereomers, * denotes minor diastereomer) δ 7.67-7.61 (m, 2H), 7.39-7.35 (M, 3H), *4.55 (¹/₂ AB q, *J* = 11.5 Hz, 1H), 4.46 (¹/₂ AB q, *J* = 11.6 Hz, 1H), 4.48-4.44 (m, 2H), 4.19-4.08 (m, 1H), 4.09 (¹/₂ AB q, *J* = 10.8 Hz, 1H), 2.54 (t of sep, *J* = 1.9, 6.8 Hz, 1H), 2.08 (bs, 2H), 1.77-1.49 (m, 6H), *1.19 (d, *J* = 6.6 Hz, 3H), *1.18 (d, *J* = 6.7 Hz, 3H), 1.17 (d, *J* = 6.8 Hz, 6H), 1.10 (s, 3H), 0.95 (s, 18H), *0.94 (s, 18H), 0.89 (s, 3H), *0.86 (3, 3H), 0.44 (s, 3H), 0.42 (s, 3H), 0.14 (s, 3H), 0.12 (s, 3H), *-0.03 (s, 3H), *-0.04 (s, 3H); ¹³C NMR (75 MHz, CDCl₃) δ 208.2, 138.8, 137.9, 134.7, 134.5, 134.3, 134.2, *133.9, 129.3, *128.7, *128.2, *128.1, 128.0, 94.1, 85.8, 80.3, 68.6, 64.0, 62.5, 41.3, 39.4, 39.1, 37.9, 28.9, 28.4, 27.0, 26.3, 26.2, 23.8, 20.9, 18.4, 18.3, 14.4, *-2.05, *-2.23, *-3.59, -4.1, -4.7, -5.0; IR (neat) 2955, 1922, 1463 cm⁻¹; HRMS calcd for C₃₆H₆₄O₂Si₃ 636.4214, found 636.4221.



6-(*tert*-Butyldimethylsiloxy)-5-(*tert*-butyldimethylsiloxymethyl)-4-(dimethylphenylsil)-1-isopropyl-8a-methyl-6, 7, 8, 8a, 9, 10-hexahydro-3*H*-benzo[*f*]azulen-2-one (18).

To a flame-dried test tube (16 x 100 mm) equipped with a magnetic stir bar was added ({1-[3-(*tert*-butyldimethylsiloxy)-2-(*tert*-butyldimethylsiloxymethyl)-6-methyl-6-(5-methylhex-3-ynyl)cyclohex-1-enyl]prop-1,2-dienyl}dimethylsil)benzene (**17**, 3 : 1 mixture of two diastereomers), (93 mg, 0.15 mmol) in toluene (1.5 mL). The test tube was evacuated and charged with CO three times, then [Rh(CO)₂Cl]₂ (5.7 mg, 0.015 mmol) was added. The mixture was heated at 80 °C under CO balloon (1 atm) for 5 h,

during this time the solution changed from light yellow to brown. By TLC, the starting material had been consumed and the mixture was taken out of the oil bath and cooled to rt. Most of the solvent was evaporated *in vacuo* and the residue was filtered through a pad of celite and the pad was washed with ether. The ether was removed *in vacuo* and the residue was purified by chromatography on silica gel eluting with 5 : 95 EtOAc : hexanes to yield 61 mg (65%) of compound **18** as a mixture of two diastereomers (3 : 1) as a yellow oil. IR (neat) 2930, 2857, 1698 cm^{-1} ; HRMS calcd for $\text{C}_{39}\text{H}_{64}\text{O}_3\text{Si}_3$ 664.4163, found 664.4200. The diastereomers were separated using HPLC (Microsorb silica gel column, 5 μ , 100Å) eluting with 5 : 95 EtOAc : hexanes.

Major diastereomer: R_f 0.4 (EtOAc: hexanes 1 : 9); ^1H NMR (300 MHz, CDCl_3) δ 7.59-7.56 (m, 2H), 7.35-7.33 (m, 3H), 4.50 (bs, 1H), 4.15 ($^{1/2}$ AB q, J = 11.5 Hz, 1H), 4.04 ($^{1/2}$ AB q, J = 11.6 Hz, 1H), 2.90 (d, J = 20.3 Hz, 1H), 2.80 (q, J = 6.9 Hz, 1H), 2.79 (d, J = 20.3 Hz, 1H), 2.67 (dd, J = 15.8, 6.8 Hz, 1H), 2.43 (dd, J = 15.7, 11.4 Hz, 1H), 2.11 (dt, J = 2.8, 13.5 Hz, 1H), 1.78-1.57 (m, 3H), 1.44-1.24 (m, 2H), 1.18 (d, J = 7.0 Hz, 3H), 1.16 (d, J = 7.0 Hz, 3H), 1.07 (s, 3H), 0.90 (s, 9H), 0.89 (s, 9H), 0.57 (s, 3H), 0.38 (s, 3H), 0.12 (s, 3H), 0.11 (s, 3H), 0.086 (s, 3H), 0.016 (s, 3H); ^{13}C NMR (75 MHz, CDCl_3) δ 204.5, 170.2, 148.3, 146.7, 141.5, 138.3, 136.8, 135.3, 134.4, 128.9, 127.9, 63.5, 60.6, 41.8, 40.6, 40.1, 31.2, 28.1, 26.9, 26.0, 25.9, 24.7, 24.0, 20.4, 20.3, 18.2, 18.1, -0.53, -0.61, -3.74, -4.60, -4.67, -4.98. **Minor diastereomer:** R_f 0.35 (EtOAc: hexanes 1 : 9); ^1H NMR (300 MHz, CDCl_3) δ 7.61-7.56 (m, 2H), 7.38-7.34 (m, 3H), 4.44 (t, J = 5.9 Hz, 1H), 4.21 ($^{1/2}$ AB q, J = 9.8 Hz, 1H), 4.14 ($^{1/2}$ AB q, J = 9.7 Hz, 1H), 2.86 (s, 2H), 2.83-2.67 (m, 2H), 2.36 (t, J = 12.8 Hz, 1H), 1.93-1.83 (m, 1H), 1.73-1.48 (m, 4H), 1.36 (t, J = 12.9 Hz, 1H), 1.16 (d, J = 7.0 Hz, 6H), 1.13 (s, 3H), 0.92 (s, 9H), 0.76 (s, 9H), 0.48 (s, 3H), 0.36 (s, 3H), 0.11 (s, 3H), 0.10 (s, 3H), -0.10 (s, 3H), -0.20 (s, 3H); ^{13}C NMR (75 MHz, CDCl_3) δ 204.5, 169.2, 147.1, 146.6, 141.3, 138.4, 137.5, 136.0, 134.6, 129.1, 128.0, 65.9, 61.8, 41.0, 40.4, 39.5, 34.8, 29.2, 28.6, 25.9, 25.8, 24.8, 24.8, 20.5, 20.3, 18.2, 18.1, -0.92, -0.99, -4.10, -5.00, -5.15, -5.48.