Supporting Information for

First Cobalt(I)-catalyzed [6+2] Cycloadditions of Cycloheptatriene with Alkynes.

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General:

All reactions were carried out under argon atmosphere. Solvents (DCE and TFE) were stored under nitrogen and used as received. ¹H NMR spectra were recorded on a Bruker Avance (200 MHz) spectrometer and reported in ppm from CDCl₃ internal standard (7.26 ppm). Data are reported as follows: s=singlet, d=doublet, t=triplet, m=multiplet, dt=doublet of triplets; coupling constants are reported in Hz. ¹³C NMR spectra were recorded at 50 MHz on the same spectrometer and reported in ppm from CDCl₃ internal standard (77.0 ppm).

Cycloadducts can be stored under argon at -10°C to minimize polymerization. Polymers are easily removed by filtration over Celite[®] with pentane as solvent.

General procedure for the [6+2] cycloaddition of terminal alkynes. (Method A)

Zinc powder (8.2 mg, 0.126 mmol, 15 mol %) was added to a solution of CoI₂(dppe) (30 mg, 4.22*10⁻² mmol, 5 mol %) in dichloro-1,2-ethane (1.5 mL) in a 15 mL Schlenk tube and the mixture was stirred at room temperature for two minutes. Then 1,3,5-cycloheptatriene (93 mg, 1 mmol) in dichloro-1,2-ethane (0.75 mL), phenylacetylene (86 mg, 0.843 mmol) in dichloro-1,2-ethane (0.75 mL) and dry zinc iodide (27 mg, 8.43*10⁻² mmol, 10 mol%) were successively added and the resultant mixture was stirred at 40°C for 20 hours. The reaction was stopped by addition of pentane or petroleum ether and by stirring in air for ten minutes to deactivate the catalyst. The crude product obtained after filtration on a short pad of silica and concentration *in vacuo* was purified by flash chromatography (silica gel) or distillation.

Typical procedure for improved [6+2] cycloaddition of terminal alkynes. (Method B)

Zinc powder (13 mg, 0.198 mmol, 5.9 mol %), 1,3,5-cycloheptatriene (373 mg, 4 mmol) in dichloro-1,2-ethane (3.5 mL) and dry zinc iodide (80 mg, 0.250 mmol, 7.5 mol%) were successively added to a solution of $\text{CoI}_2(\text{dppe})$ (60mg, 8.43×10^{-2} mmol, 2.5 mol %) in dichloro-1,2-ethane (1.5 mL) in a 15 mL Schlenk tube and the resultant mixture was stirred at 40°C. dimethyl prop-2-yn-1-ylmalonate (574 mg, 3.37 mmol) in dichloro-1,2-ethane (4 mL) was added via a syringe pump over four hours and the resultant mixture was stirred at 40°C for 20 hours. The reaction was stopped by addition of pentane or petroleum ether and stirring in air for two minutes to deactivate the catalyst. The crude product obtained after filtration over silica (dichloromethane as eluent) and concentration *in vacuo* was purified by Kugelrohr distillation ($\approx 140^\circ\text{C}$ at 0.1 mbar).

7-phenylbicyclo[4.2.1]nona-2,4,7-triene, **3a**

Method A : **75 %** (purification by Chromatography, petroleum ether as eluent)

Method B : **86 %** using 2 mol% of $\text{CoI}_2(\text{dppe})$

Prepared from phenylacetylene **2a** (1.075 g, 10.53 mmol), and 1,3,5-cycloheptatriene (1.165 g, 12.64 mmol). Kugelrohr distillation ($\approx 105^\circ\text{C}$ at 0.1 mbar) afforded 1.752 g (**86 %**) of **3a** as a colorless oil: ^1H NMR (200 MHz, CDCl_3) δ 7.55-7.49 (m, 2H), 7.37-7.28 (m, 2H), 7.22-7.18 (m, 1H), 6.39-6.22 (m, 2H), 5.98-5.85 (m, 2H), 5.83 (d, $J=3.0$ Hz, 1H), 3.81 (t, $J=7.0$ Hz, 1H), 3.28 (td, $J=6.9, 3.0$ Hz, 1H), 2.46-2.34 (dt, $J=11.3, 6.9, 1.0$ Hz, 1H), 1.70 (d, $J=11.3$ Hz, 1H); ^{13}C NMR (50 MHz, CDCl_3) δ 139.13, 138.29, 137.55, 134.87, 128.26, 126.80, 126.73, 124.72, 124.03, 120.06, 44.49, 43.68, 31.18. IR (CCl_4): ν (cm^{-1}) 3071, 3043, 3020, 2922, 1491, 1434, 1383, 1314. Anal. Calcd for $\text{C}_{15}\text{H}_{14}$: C, 92.74; H, 7.26. Found: C, 92.61; H, 7.35.

7-butylbicyclo[4.2.1]nona-2,4,7-triene, **3b**

Method A: **74 %** (purification by Chromatography, petroleum ether as eluent)

Method B: **95 %**

Prepared from hex-1-yne **2b** (277 mg, 3.37 mmol), and 1,3,5-cycloheptatriene (373 mg, 4 mmol). Kugelrohr distillation ($\approx 95^\circ\text{C}$ at 0.1 mbar) afforded 558 mg (**95 %**) of **3b** as a colorless oil: ^1H NMR (200 MHz, CDCl_3) δ 6.23-6.07 (m, 2H), 5.88-5.73 (m, 2H), 5.02 (br s, 1H), 3.12 (t, $J=6.8$ Hz, 1H), 2.97 (td, $J=7.0, 2.7$ Hz, 1H), 2.20-2.07 (m, 3H), 1.46 (d, $J=10.8$ Hz, 1H), 1.48-1.17 (m, 4H), 0.87 (t, $J=7.0$ Hz, 3H); ^{13}C NMR (50 MHz, CDCl_3) δ 141.18, 139.25, 139.02, 124.28, 123.35, 118.97, 46.14, 43.11, 31.47, 30.83, 28.25, 22.46, 13.89. IR (CCl_4): ν (cm^{-1}) 3015, 2964, 2916, 2874, 2852, 1465, 1440, 1384, 1375, 1315. Anal. Calcd for $\text{C}_{13}\text{H}_{18}$: C, 89.59; H, 10.41. Found: C, 89.44; H, 10.52.

bicyclo[4.2.1]nona-2,4,7-trien-7-yl(trimethyl)silane, 3c

Prepared from trimethylsilylethyne **2c** (82 mg, 0.834 mmol) and 1,3,5-cycloheptatriene (93 mg, 1 mmol). Chromatography (silica gel, petroleum ether) afforded 146 mg (**92 %**) of **3c** as a colorless oil: ^1H NMR (200 MHz, CDCl_3) δ 6.14-6.03 (m, 2H), 5.88-5.73 (m, 2H), 5.40 (d, $J=2.5$ Hz, 1H), 3.21 (t, $J=6.8$ Hz, 1H), 3.12 (td, $J=7.0, 2.7$ Hz, 1H), 2.03-1.90 (dt, $J=11.3, 7.0, 1.0$ Hz, 1H), 1.41 (d, $J=11.3$ Hz, 1H), 0.0 (s, 9H); ^{13}C NMR (50 MHz, CDCl_3) δ 138.42, 138.42, 136.51, 130.74, 124.15, 123.56, 46.77, 45.27, 31.18, -0.472. IR (CCl_4): ν (cm^{-1}) 3033, 3015, 2959, 2903, 1647, 1592, 1438, 1415, 1392, 1266, 1243. Anal. Calcd for $\text{C}_{12}\text{H}_{18}\text{Si}$: C, 75.71; H, 9.53; Si, 14.75. Found: C, 75.61; H, 9.65.

(bicyclo[4.2.1]nona-2,4,7-trien-7-yl methyl)(trimethyl)silane, 3d

Prepared from prop-2-ynyl-trimethyl silane **2d** (94 mg, 0.837 mmol), and 1,3,5-cycloheptatriene (93 mg, 1 mmol). Kugelrohr distillation ($\approx 60^\circ\text{C}$ at 0.1 mbar) afforded 111 mg (**65 %**) of **3d** as a colorless oil: ^1H NMR (200 MHz, CDCl_3) δ 6.24-6.08 (m, 2H), 5.90-5.74 (m, 2H), 4.86 (br s, 1H), 3.04 (t, $J=7.0$ Hz, 1H), 2.97 (td, $J=6.8, 2.5$ Hz, 1H), 2.21-2.09 (dt, $J=11.1, 7.0, 1.0$ Hz, 1H), 1.59 (s, 2H), 1.48 (d, $J=11.1$ Hz, 1H), 0.0 (s, 9H); ^{13}C NMR (50 MHz, CDCl_3) δ 139.72, 138.82, 137.40, 124.70, 123.07, 117.94, 48.06, 43.45, 31.49, 18.61, -1.41. IR (CCl_4): ν (cm^{-1}) 3013, 2958, 2928, 1681, 1614, 1444, 1407, 1383, 1243. Anal. Calcd for $\text{C}_{13}\text{H}_{20}\text{Si}$: C, 76.40; H, 9.86; Si, 13.74. Found: C, 76.29; H, 9.97.

7-cyclohex-1-en-1-ylbicyclo[4.2.1]nona-2,4,7-triene, 3e

Method A : **43 %**

Method B : **68 %**

Prepared from 1-ethynylcyclohexene **2e** (380 mg, 3.58 mmol) and 1,3,5-cycloheptatriene (397 mg, 4.30 mmol). Kugelrohr distillation ($\approx 95^\circ\text{C}$ at 0.1 mbar) afforded 480 mg (**68 %**) of **3e** as a colorless oil: ^1H NMR (200 MHz, CDCl_3) δ 6.21-6.10 (m, 2H), 5.95 (t, $J=3.8$ Hz, 1H), 5.85-5.70 (m, 2H), 5.36 (d, $J=2.9$ Hz, 1H), 3.56 (t, $J=6.8$ Hz, 1H), 3.09 (td, $J=7.0, 2.9$ Hz, 1H), 2.31-2.18 (m, $J=6.8, 7.0, 11.3$ Hz, 1H), 2.17-2.07 (m, 4H), 1.62 (d, $J=11.3$ Hz, 1H), 1.70-1.50 (m, 4H); ^{13}C NMR (50 MHz, CDCl_3) δ 142.18, 140.55, 138.37, 131.17, 127.05, 123.77, 123.64, 119.86, 43.95, 43.55, 31.50, 25.82, 25.81, 22.57, 22.23. IR (CCl_4): ν (cm^{-1}) 3025, 2934, 2854, 1680, 1446, 1429. Anal. Calcd for $\text{C}_{15}\text{H}_{18}$: C, 90.85; H, 9.15. Found: C, 90.72; H, 9.23.

bicyclo[4.2.1]nona-2,4,7-trien-7-yl methylphenylsulfone, 3f

Prepared from (prop-2-ynylsulfonyl)benzene **2f** (152 mg, 0.843 mmol), and 1,3,5-cycloheptatriene (93 mg, 1 mmol). Chromatography (silica gel petroleum ether/diethyl ether 70/30) afforded 114 mg (**50 %**) of **3f** as a white solid. mp 82-83°C: ¹H NMR (200 MHz, CDCl₃) δ 7.87-7.83 (m, 2H), 7.68-7.49 (m, 3H), 6.10-6.00 (m, 2H), 5.89-5.74 (m, 2H), 5.08 (br s, 1H), 4.07 (d, *J*=14.2 Hz, 1H), 3.76 (d, *J*=14.2 Hz, 1H), 3.30 (t, *J*=6.9 Hz, 1H), 2.97 (td, *J*=6.8, 2.7 Hz, 1H), 2.14-2.01 (dt, *J*=11.6, 6.9, 1.2 Hz, 1H), 1.40 (d, *J*=11.6 Hz, 1H); ¹³C NMR (50 MHz, CDCl₃) δ 138.26, 137.11, 137.09, 133.49, 128.78, 128.21, 127.44, 125.51, 124.95, 124.11, 56.04, 44.47, 42.94, 30.50. IR (CCl₄): ν (cm⁻¹) 3066, 3024, 2931, 1443, 1327, 1155. Anal. Calcd for C₁₆H₁₆O₂S: C, 70.56; H, 5.92; O, 11.75; S, 11.77. Found: C, 70.55; H, 5.90.

dimethyl(bicyclo[4.2.1]nona-2,4,7-trien-7-ylmethyl)malonate, 3g

Method A : **55 %**

Method B : **83 %**

Prepared from dimethylprop-2-yn-1-ylmalonate **2g** (143 mg, 0.840 mmol), and 1,3,5-cycloheptatriene (93 mg, 1 mmol). Chromatography (silica gel petroleum ether/ethyl acetate 90/10) afforded 120 mg (**55 %**) of **3g** as a colorless oil: ¹H NMR (500 MHz, CDCl₃) δ 6.18-6.04 (m, 2H), 5.89-5.72 (m, 2H), 5.07 (br s, 1H), 3.71 (s, 3H), 3.69 (s, 3H), 3.58 (t, *J*=7.8 Hz, 1H), 3.12 (t, *J*=7.0 Hz, 1H), 2.96 (td, *J*=6.8, 2.5 Hz, 1H), 2.74 (d, *J*=7.8 Hz, 2H), 2.16-2.04 (dt, *J*=11.3, 7.0, 1.0 Hz, 1H), 1.44 (d, *J*=11.3 Hz, 1H); ¹³C NMR (50 MHz, CDCl₃) δ 169.23, 169.11, 138.61, 138.01, 135.54, 124.88, 123.50, 121.21, 52.34, 52.28, 51.02, 45.77, 42.96, 30.94, 27.61. IR (CCl₄): ν (cm⁻¹) 3024, 2959, 2936, 2848, 1754, 1736, 1434, 1336, 1257, 1224, 1145. Anal. Calcd for C₁₅H₁₈O₄: C, 68.69; H, 6.92; O, 24.40. Found: C, 68.68; H, 6.98.

5-bicyclo[4.2.1]nona-2,4,7-trien-7-yl-4,4-dimethylpentan-2-one, 3h

Prepared from 4,4-dimethylhept-6-yn-2-one **2h** (116 mg, 0.839 mmol), and 1,3,5-cycloheptatriene (93 mg, 1 mmol). Chromatography (silica gel, petroleum ether/ethyl acetate 90/10) afforded 186 mg (**96 %**) of **3h** as a colorless oil: ¹H NMR (200 MHz, CDCl₃) δ 6.20-6.06 (m, 2H), 5.90-5.75 (m, 2H), 4.94 (d, *J*= 2.52 Hz, 1H), 3.16 (t, *J*=6.95 Hz, 1H), 3.0 (td, *J*=7.0, 2.52 Hz, 1H), 2.34 (s, 2H), 2.28 (d, *J*= 13.9 Hz, 1H), 2.18-2.11 (m, 5H), 1.46 (d, *J*= 11.24 Hz, 1H), 1.02 (s, 6H); ¹³C NMR (50 MHz, CDCl₃) δ 208.68, 138.88, 138.58, 137.06, 124.60, 123.46, 121.83, 53.51, 47.46, 43.13, 39.81, 34.35, 32.37, 30.88, 27.64, 27.44. IR (CCl₄): ν (cm⁻¹) 3015, 2954, 2922, 2871, 1717, 1610, 1582, 1471, 1438, 1378, 1354. Anal. Calcd for C₁₆H₂₂O: C, 83.43; H, 9.63; O, 6.95 found: C, 83.28; H, 9.78.

methylbicyclo[4.2.1]nona-2,4,7-triene-7-carboxylate, 3i

Method A: **21 %**

Method B: **43 %** (TFE as solvent)

Prepared from methylpropynoate **2i** (283 mg, 3.36 mmol) and 1,3,5-cycloheptatriene (373 mg, 4.04 mmol). Kugelrohr distillation afforded 256 mg (**43 %**) of **3i** as a colorless oil: ^1H NMR (200 MHz, CDCl_3) δ 6.25-6.19 (m, 1H), 6.10 (d, J = 2.6 Hz, 1H), 6.10-6.09 (m, 1H), 5.94-5.85 (m, 2H), 3.67 (s, 3H), 3.55 (t, J = 7.1 Hz, 1H), 3.21 (td, J = 6.9, 2.8 Hz, 1H), 2.16-2.08 (ddt, J = 11.7, 7.1, 1.0 Hz, 1H), 1.41 (d, J =11.7 Hz, 1H); ^{13}C NMR (50 MHz, CDCl_3) δ 164.91, 138.94, 134.40, 131.83, 129.16, 125.47, 124.40, 51.27, 43.49, 42.31, 29.93. Anal. Calcd for $\text{C}_{11}\text{H}_{12}\text{O}_2$: C, 74.98; H, 6.86; O, 18.16. Found: C, 74.84; H, 6.99.

7-(diethoxymethyl)bicyclo[4.2.1]nona-2,4,7-triene, 3j

Method A: **43 %**

Method B: **59 %**

Prepared from 3,3-diethoxyprop-1-yne **2j** (432 mg, 3.37 mmol), and 1,3,5-cycloheptatriene (373 mg, 4.04 mmol). Kugelrohr distillation afforded 441 mg (**59 %**) of **3j** as a colorless oil: ^1H NMR (200 MHz, CDCl_3) δ 6.19-6.08 (m, 2H), 5.89-5.77 (m, 2H), 5.40 (d, J = 2.14 Hz, 1H), 5.03 (s, 1H), 3.68-3.37 (m, 4H), 3.30 (t, J =6.9 Hz, 1H), 3.06 (td, J =6.9, 2.7 Hz, 1H), 2.24-2.12 (ddt, J =11.3, 6.9, 1.0 Hz, 1H), 1.49 (d, J =11.3 Hz, 1H), 1.18 (t, J =7.0 Hz, 6H); ^{13}C NMR (50 MHz, CDCl_3) δ 138.87, 138.19, 137.52, 124.16, 123.96, 122.46, 97.94, 61.56, 59.92, 42.93, 42.91, 31.06, 15.13, 15.02. IR (CCl_4): ν (cm^{-1}) 3025, 2974, 2934, 2871, 1446, 1383, 1366, 1337, 1150, 1131, 1091, 1045. Anal. Calcd for $\text{C}_{14}\text{H}_{20}\text{O}_2$: C, 76.33; H, 9.15; O, 14.52. Found: C, 76.19; H, 9.28.

bicyclo[4.2.1]nona-2,4,7-trien-7-yl methanol, 3k

Prepared from propargyl alcohol **2k** (48 mg, 0.856 mmol) and 1,3,5-cycloheptatriene (93 mg, 1 mmol) and trifluoroethanol as solvent. Chromatography (silica gel petroleum ether/ethyl acetate 80/20) afforded 76 mg (**60 %**) of **3k** as a colorless oil: ^1H NMR (200 MHz, CDCl_3) δ 6.24-6.09 (m, 2H), 5.91-5.76 (m, 2H), 5.26 (br s, 1H), 4.31-4.06 (m, 2H), 3.31 (t, J =6.8 Hz, 1H), 3.05 (td, J =7.0, 2.7 Hz, 1H), 2.25-2.12 (ddt, J =11.6, 7.0, 1.0 Hz, 1H), 1.51 (d, J =11.6 Hz, 1H), 1.35 (b, 1H); ^{13}C NMR (50 MHz, CDCl_3) δ 140.06, 138.66, 138.44, 124.62, 123.77, 120.39, 59.68, 43.64, 42.81, 31.13. IR (CCl_4): ν (cm^{-1}) 3500, 3019, 2954, 2936, 2852, 1633, 1438, 1382, 1155, 1001. Anal. Calcd for $\text{C}_{10}\text{H}_{12}\text{O}$: C, 81.04; H, 8.16; O, 10.80. Found: C, 80.90; H, 8.20.

2-bicyclo[4.2.1]nona-2,4,7-trien-7-yl ethanol, **3l**

Prepared from but-3-yn-1-ol **2l** (59 mg, 0.841 mmol), and 1,3,5-cycloheptatriene (93 mg, 1 mmol) and trifluoroethanol as solvent. Chromatography (silica gel, petroleum ether/ethylacetate 90/10) afforded 91 mg (**67 %**) of **3l** as a colorless oil: ^1H NMR (200 MHz, CDCl_3) δ 6.24-6.11 (m, 2H), 5.92-5.75 (m, 2H), 5.17 (br s, 1H), 3.63 (t, $J=6.8$ Hz, 2H), 3.12 (t, $J=7.0$ Hz, 1H), 3.02 (td, $J=6.8, 2.7$ Hz, 1H), 2.49-2.24 (2dt, $J=6.8, 13.1$ Hz, 2H), 2.22-2.09 (dt, $J=11.5, 6.8, 1.0$ Hz, 1H), 1.54 (br s, 1H), 1.44 (d, $J=11.6$ Hz, 1H); ^{13}C NMR (50 MHz, CDCl_3) δ 139.29, 138.47, 136.19, 124.72, 123.33, 122.38, 61.40, 45.99, 43.18, 32.53, 31.10. Anal. Calcd for $\text{C}_{11}\text{H}_{14}\text{O}$: C, 81.44; H, 8.70; O, 9.86. Found: C, 81.36; H, 8.68.

2-bicyclo[4.2.1]nona-2,4,7-trien-7-ylethyl acetate, **3m**

Prepared from but-3-yl acetate **2m** (94 mg, 0.838 mmol) and 1,3,5-cycloheptatriene (93 mg, 1 mmol). Chromatography (silica gel, petroleum ether/ethylacetate 90/10) afforded 142 mg (**83 %**) of **3m** as a colorless oil: ^1H NMR (200 MHz, CDCl_3) δ 6.21-6.06 (m, 2H), 5.90-5.74 (m, 2H), 5.09 (br s, 1H), 4.22-4.02 (2dt, $J=7.0, 10.8$ Hz, 2H), 3.14 (t, $J=7.0$ Hz, 1H), 3.00 (td, $J=6.8, 2.7$ Hz, 1H), 2.45 (t, $J=7.0$ Hz, 2H), 2.19-2.07 (dt, $J=11.3, 6.8, 1.0$ Hz, 1H), 2.02 (s, 3H), 1.45 (d, $J=11.3$ Hz, 1H); ^{13}C NMR (50 MHz, CDCl_3) δ 170.84, 138.76, 138.15, 135.43, 124.78, 123.55, 121.00, 63.30, 45.94, 43.09, 31.08, 27.91, 20.85. IR (CCl_4): ν (cm^{-1}) 3025, 2962, 2928, 1738, 1446, 1383, 1366, 1240, 1028. Anal. Calcd for $\text{C}_{13}\text{H}_{16}\text{O}_2$: C, 76.44; H, 7.90; O, 15.67. Found: C, 76.38; H, 7.96.

2-(4-Bicyclo[4.2.1]nona-2,4,7-trien-7-ylbutyl)-1H-isoindole-1,3(2H)-dione, **3n**

Prepared from 2-hex-5-ynyl-isoindole-1,3-dione **2n** (191 mg, 0.840 mmol), and 1,3,5-cycloheptatriene (93 mg, 1 mmol). Chromatography (silica gel, petroleum ether/ethyl acetate 90/10) afforded 220 mg (**82 %**) of **3n** as a colorless oil: ^1H NMR (200 MHz, CDCl_3) δ 7.85-7.79 (m, 2H), 7.74-7.68 (m, 2H), 6.20-6.04 (m, 2H), 5.85-5.71 (m, 2H), 5.02 (br s, 1H), 3.66 (t, $J=7.0$ Hz, 2H), 3.10 (t, $J=7.0$ Hz, 1H), 2.95 (td, $J=6.9, 2.7$ Hz, 1H), 2.29-2.04 (m, 3H), 1.71-1.38 (m, 5H); ^{13}C NMR (50 MHz, CDCl_3) δ 168.11, 139.91, 138.98, 138.61, 133.62, 131.99, 124.27, 123.22, 122.90, 119.46, 45.84, 42.92, 37.65, 31.25, 28.02, 27.92, 25.75. IR (CCl_4): ν (cm^{-1}) 3020, 2934, 2860, 1766, 1720, 1612, 1469, 1434, 1394, 1360, 1033. Anal. Calcd for $\text{C}_{21}\text{H}_{21}\text{NO}_2$: C, 78.97; H, 6.63; N, 4.39; O, 10.02. Found: C, 78.95; H, 6.68.

4-bicyclo[4.2.1]nona-2,4,7-trien-7-ylbutanenitrile, **3o**

Prepared from hex-5-ynenitrile **2o** (79 mg, 0.848 mmol), and 1,3,5-cycloheptatriene (93 mg, 1 mmol). Chromatography (silica gel, petroleum ether/diethyl ether 90/10) afforded 142 mg (**90** %) of **3o** as a colorless oil: ^1H NMR (200 MHz, CDCl_3) δ 6.19-6.059 (m, 2H), 5.87-5.75 (m, 2H), 5.09 (br s, 1H), 3.09 (t, $J=6.9$ Hz, 1H), 2.99 (td, $J=6.9, 2.6$ Hz, 1H), 2.28-2.10 (m, 5H), 1.85-1.71 (m, 2H), 1.47 (d, $J=11.3$ Hz, 1H); ^{13}C NMR (50 MHz, CDCl_3) δ 139.02, 138.12, 137.39, 124.71, 123.37, 121.01, 119.61, 45.93, 43.01, 31.16, 27.46, 24.55, 16.11. IR (CCl_4): ν (cm^{-1}) 3019, 2959, 2940, 2247, 1624, 1457, 1443, 1429, 1387. Anal. Calcd for $\text{C}_{13}\text{H}_{15}\text{N}$: C, 84.28; H, 8.16; N, 7.56. Found: C, 84.32; H, 8.23.

3a

7.555
7.495
7.378
7.188

6.393
6.219
5.984
5.838

3.813

3.283

2.463
2.340

1.704

3a

138.145
137.305
136.560
133.884
127.274
125.809
125.743
123.737
123.044
119.076

43.508
42.692
30.190

3a

1.0

2.0

3.0

4.0

5.0

6.0

7.0

8.0
ppm (t1)

8.0
ppm (t2)

S10

3b

3c

3c

S14

3d

S15

3d

3e

3e

3f

7.879
7.830
7.689
7.506

6.109
6.014
5.896
5.747

5.084

4.093

3.763

3.304

2.970

2.141
2.016

1.435

S19

3f

500 MHz
3g

6.207
6.069
5.902
5.749

4.953

3.161
3.007

2.345
2.284
2.114
2.060

1.429

1.023

3h

S23

3h

200

175

150

125

100

S24

75

50

25

0

3i

3i

S26

3j

3j

S28

6.223

6.109

5.909

5.766

5.266

4.313

4.121

3.311

3.059

2.257

2.128

1.541

1.358

3k

S29

3k

31

S31

3l

S32

3m

3m

3n

3n

3o

30

S38

D-7000 HPLC System Manager Report

Analyzed: 05/07/04 17:55 Processed: 05/07/04 18:23 Reported: 05/10/04 17:41

Data Path: C:\Win32App\HSM\Bicyclo[4\DATA\0197\

Processing Method: OJ-H

System(acquisition): Sys 1

Series:0197

Application: Bicyclo[4.2.1] phenyl

Vial Number: 2

Sample Name: SabinolPNPh2 40°C 18h

Vial Type: UNK

Injection from this vial: 1 of 1

Volume: 10,0 ul

Sample Description:

Chrom Type: HPLC Channel : 1

Acquisition Method: OJ-H

Column Type: Chiralcel OJ (JMB)

Developed by: mathieu achard

Method Description: OJ-H 97/3 H/I 254nM 1mL/min

Pump A Type: L-7100

Solvent A:

Chrom Type: HPLC Channel : 1

Peak Quantitation: AREA

Calculation Method: AREA%

No.	RT	Area	Conc 1	BC
1	17,78	6493877	12,940	MC
2	19,27	43688905	87,060	MC
		50182782	100,000	

Peak rejection level: 0