Supporting Information

Cross-conjugated Chromophores: Synthesis of *iso*-Polydiacetylenes with Donor/Acceptor Substitution

Catalin Ciulei and Rik R. Tykwinski*

Department of Chemistry, University of Alberta,
Edmonton, Alberta, T6G 2G2 Canada
E-mail: rik.tykwinski@ualberta.ca

1. Experimental and spectroscopic details for compounds **2-4** and **6-13**.
2. ^{1}H and ^{13}C NMR spectra for molecules **4**, **9** and **13**

Experimental

General. Reagents were purchased reagent grade from commercial suppliers and used without further purification. THF was distilled from sodium/benzophenone ketyl. 4-Iodo-*N*,*N*-dimethylaniline,[1] compound **1**,[2] and compound **5**[3] were made as previously reported. Anh. $MgSO_4$ was used as the drying agent after aqueous work-up. Evaporation and concentration *in vacuo* was done at H_2O-aspirator pressure. All reactions were performed in standard, dry glassware under an inert atmosphere of N_2. A positive pressure of N_2 was essential to the success of all Pd-catalyzed reactions. Degassing of solvents was accomplished by vigorously bubbling N_2 through the solution for at least 45 min. Column chromatography: *silica gel-60* (230-400 mesh) from *General Intermediates of Canada*. Thin Layer Chromatography (TLC): aluminum sheets covered with *silica gel-60 F_{254}* from *Macherey-Nagel*; visualization by UV light or $KMnO_4$ stain. M.p.: *Gallenkamp* apparatus; uncorrected. DSC: *Dupont 900 Differential Thermal Analyzer*. UV/VIS Spectra: *Varian Cary 400* at rt; λ_{max} in nm (ε in L M^{-1} cm^{-1}). IR spectra (cm^{-1}): *Nicolet Magna-IR 750* (neat) or *Nic-Plan IR Microscope* (solids). ^{1}H- and ^{13}C-NMR: *Varian Gemini-300* and *Bruker AM-300* or *400* instruments, at rt in $CDCl_3$; solvent peaks (7.24 ppm for ^{1}H and 77.0 ppm for ^{13}C) as reference. EI MS (*m/z*): *Kratos MS50* instrument. Elemental analyses were effected by Spectral Services at the University of Alberta.

For simplicity, the coupling constants of the aryl protons for the *p*-*N*,*N*-dimethylaminophenyl and *p*-nitrophenyl moieties have been reported as pseudo first-order, even though they are second-order spin systems.

Donor-substituted Monomer 2. A mixture of **1** (325 mg, 0.979 mmol) and K_2CO_3 (50 mg, 0.36 mmol) in wet THF (5 mL) and MeOH (25 mL) was stirred for 4 h. Et_2O and H_2O were added, the organic phase separated, washed with saturated aq. NH_4Cl, saturated aq. NaCl, dried ($MgSO_4$) and reduced to 5 mL. Et_3N (50 mL) was added, and the solution was degassed for 2 h. *p*-Iododimethylaniline (250 mg, 1.01 mmol), $PdCl_2(PPh_3)_2$ (59 mg, 0.08 mmol) and CuI (31 mg, 0.16 mmol) were sequentially added. The mixture was stirred at rt for 20 h. Solvent removal and purification by column chromatography (silica gel-H, hexane/CH_2Cl_2 3:1) afforded **2** (229 mg, 63%) as a pale yellow solid. Mp 45-46 ˚C; UV/VIS ($CHCl_3$) 268 (16500), 302 (sh, 15000) 325 (22100) nm; IR (neat) 2942, 2865, 2202, 2150, 1607, 1520, 1365, 809 cm^{-1}; ^{1}H NMR (300 MHz, $CDCl_3$) δ 7.31 (d, *J* = 9.0 Hz, 2H), 6.61 (d, *J* = 9.0 Hz, 2H), 2.95 (s, 6H), 2.063 (s, 3H), 2.059 (s, 3H), 1.09 (s, 21H); ^{13}C NMR (75.5 MHz, $CDCl_3$) δ 152.8, 150.0, 132.5, 111.9, 110.7, 104.2, 102.5, 92.3, 92.0, 84.5, 40.3, 22.8, 22.7, 18.8, 11.4; EIMS *m/z* 379 (M^+, 100); HRMS calcd. for $C_{25}H_{37}NSi$ 379.2695, found 379.2699. X-Ray.

Acceptor-substituted Monomer 3. A mixture of **1** (256 mg, 0.770 mmol) and K_2CO_3 (58 mg, 0.42 mmol) in wet THF (5 mL) and MeOH (25 mL) was stirred for 4 h. Et_2O and H_2O were added, the organic phase separated, washed with saturated aq. NH_4Cl, saturated aq. NaCl, dried ($MgSO_4$) and reduced to 5 mL. Et_3N (50 mL) was added, and the solution was degassed for 1.5 h. *p*-Iodonitrobenzene (187 mg, 0.751 mmol), $PdCl_2(PPh_3)_2$ (21 mg, 0.03 mmol) and CuI (6 mg, 0.03 mmol) were sequentially added. The mixture was stirred at rt for 19 h. Solvent removal and purification by column chromatography (silica gel, hexane/CH_2Cl_2 3:1) afforded **3** (240 mg, 82%) as a bright yellow solid. Mp 70-72 ˚C; UV/VIS ($CHCl_3$) 268 (16200), 351 (15600) nm; IR (CH_2Cl_2, cast) 2942, 2865, 2206, 2148, 1592, 1520, 1343, 854 cm^{-1}; ^{1}H-NMR (300 MHz, $CDCl_3$) δ 8.16 (d, *J* = 8.8 Hz, 2H), 7.54 (d, *J* = 8.8 Hz, 2H), 2.11 (s, 3H), 2.10 (s, 3H), 1.10 (s, 21H); ^{13}C-NMR (75.5 MHz, $CDCl_3$) δ 157.2, 146.9, 132.0, 130.6, 123.6, 102.8, 101.7, 93.6, 92.1, 89.5, 23.1, 23.0, 18.7, 11.4; EIMS *m/z* 381.2 (M^+, 27), 338.1573 ([M – *i*-Pr]$^+$, 100); HRMS calcd. for $C_{23}H_{31}N_2O_2Si$

381.2124, found 381.2115. Anal. calcd. for $C_{23}H_{31}N_2O_2Si$: C, 72.39; H, 8.19; N, 3.67. Found: C, 72.20; H, 8.20; N, 3.63.

D–A-substituted Monomer 4. A solution of **2** (70 mg, 0.18 mmol) and Bu_4NF (0.7 mL, 1 M in THF) in wet THF (20 mL) was stirred at rt for 1 h. Et_2O and H_2O were added, the organic phase separated, washed with saturated aq. NH_4Cl, saturated aq. NaCl, dried ($MgSO_4$), reduced to 5 mL and added to Et_3N (20 mL) and THF (20 mL). The solution was degassed for 1.5 h, *p*-iodonitrobenzene (48 mg, 0.19 mmol), $PdCl_2(PPh_3)_2$ (5 mg, 0.007 mmol) and CuI (3 mg, 0.02 mmol) were added, and the mixture was stirred at rt for 12 h. Solvent removal and purification by column chromatography (silica gel-H, hexane/CH_2Cl_2 1:1) afforded **4** (44 mg, 70%) as an orange solid. Mp 159-162 ˚C; UV-VIS ($CHCl_3$) 302 (sh, 26300), 325 (34000) nm; IR (CH_2Cl_2, cast) 2903, 2198, 1607, 1518, 1341, 854 cm^{-1}; ^1H NMR (300 MHz, $CDCl_3$) δ 8.16 (d, *J* = 9.0 Hz, 2H), 7.59 (d, *J* = 9.0 Hz, 2H), 7.35 (d, *J* = 8.9 Hz, 2H), 6.63 (d, *J* = 8.9 Hz, 2H), 2.97 (s, 6H), 2.143 (s, 3H), 2.137 (s, 3H); ^{13}C NMR (75.5 MHz, $CDCl_3$) δ 154.9, 150.2, 146.8, 132.6, 132.1, 130.7, 123.6, 111.9, 110.0, 101.5, 93.1, 92.6, 89.2, 83.6, 40.3, 23.03, 23.01; EIMS *m/z* 344 (M^+, 100); HRMS calcd. for $C_{22}H_{20}N_2O_2$ 344.1525, found 344.1522.

Dimer 6. A mixture of **1** (151 mg, 0.455 mmol) and K_2CO_3 (30 mg, 0.22 mmol) in wet THF (5 mL) and MeOH (15 mL) was stirred for 2 h. Et_2O and H_2O were added, the organic phase separated, washed with saturated aq. NH_4Cl, saturated aq. NaCl, dried ($MgSO_4$), reduced to *ca.* 5 mL, and added to a degassed solution of **5** (109 mg, 0.365 mmol) in DMF (10 mL). $Pd(PPh_3)_4$ (21 mg, 0.02 mmol) and Et_2NH (3 mL) were sequentially added, the solution stirred for 5 min, CuI (10 mg, 0.05 mmol) was added and the solution stirred at rt for 2 h. Et_2O and H_2O were added, the organic phase separated, washed with saturated aq. NH_4Cl, saturated aq. NaCl and dried ($MgSO_4$). Purification by column chromatography (silica gel, hexane/CH_2Cl_2 1:1) afforded **6** (118 mg, 63%) as a yellow oil. IR (CH_2Cl_2, cast) 2942, 2149, 1463, 842 cm^{-1}; ^1H NMR (300 MHz, $CDCl_3$) δ 2.04 (s, 3H), 2.02 (s, 3H), 2.01 (s, 3H), 1.99 (s, 3H), 1.07 (s, 21H), 0.17 (s, 9H); ^{13}C NMR (50.5 MHz, $CDCl_3$) δ 154.4, 153.7, 103.6, 102.1, 101.8 (2C), 95.7, 92.2, 88.7, 88.2, 22.7 (2C), 22.5 (2C), 18.6, 11.3, -0.05; EIMS *m/z* 410 (M^+, 100); HRMS calcd. for $C_{26}H_{42}Si_2$ 410.2825, found 410.2823. Anal. calcd. for $C_{26}H_{42}Si_2$: C, 76.02; H, 10.31. Found: C, 76.12; H, 10.58.

Donor-substituted Dimer 7. To a solution of **6** (152 mg, 0.370 mmol) in wet THF (3 mL) and MeOH (15 mL) was added K_2CO_3 (27 mg, 0.19 mmol) and the mixture stirred for 5 h. Et_2O and H_2O were added, the organic phase separated, washed with saturated aq. NH_4Cl, saturated aq. NaCl, dried ($MgSO_4$), reduced to *ca.* 5 mL, and added to a degassed solution of *p*-iodo-*N*,*N*-dimethylaniline (106 mg, 0.482 mmol) in Et_3N (40 mL). $PdCl_2(PPh_3)_2$ (27 mg, 0.04 mmol) and CuI (14 mg, 0.07 mmol) were added, and the mixture was stirred at rt for 14 h. Solvent removal and purification by column chromatography (silica gel, hexane/CH_2Cl_2 5:2) afforded **7** (96 mg, 56%) as a pale yellow solid. Mp 68-69 ˚C; UV/VIS ($CHCl_3$) 263 (23800), 295 (sh, 34800), 303 (35700), 325 (sh, 26100); IR (neat) 2942, 2864, 2201, 2142, 1881, 1612, 1523, 1462, 1224, 882, 815 cm^{-1}; ^1H NMR (300 MHz, $CDCl_3$) δ 7.30 (d, *J* = 9.0 Hz, 2H), 6.61 (d, *J* = 9.0 Hz, 2H), 2.95 (s, 6H), 2.08 (s, 3H), 2.05 (s, 3H), 2.04 (s, 6H), 1.08 (s, 21H); ^{13}C NMR (75.5 MHz, $CDCl_3$) δ 153.6, 151.5, 150.0, 132.5, 111.9, 110.7, 103.9, 102.3, 102.0, 92.1, 92.0, 89.0, 88.2, 84.4, 40.3, 22.8, 22.7 (2C), 22.6, 18.7, 11.4; EIMS *m/z* 457 (M^+, 100); HRMS calcd. for $C_{31}H_{43}NSi$ 457.3165, found 457.3164. Anal. calcd. for $C_{31}H_{43}NSi$: C, 81.34; H, 9.47; N, 3.06. Found: C, 80.95; H, 9.59; N, 3.03.

Acceptor-Substituted Dimer 8. A mixture of **6** (113 mg, 0.276 mmol) and K_2CO_3 (17 mg, 0.12 mmol) in wet THF (1.5 mL) and MeOH (7.5 mL) was stirred at rt for 5 h. Et_2O and H_2O were added, the organic phase separated, washed with saturated aq. NH_4Cl, saturated aq. NaCl, dried

($MgSO_4$), and reduced to 5 mL. The solution was diluted with Et_3N (50 mL) and degassed for 1.5 h. *p*-Iodonitrobenzene (60 mg, 0.24 mmol), $PdCl_2(PPh_3)_2$ (16 mg, 0.02 mmol), and CuI (7 mg, 0.04 mmol) were added and the mixture was stirred at rt for 14 h. Solvent removal and purification by column chromatography (silica gel, hexane/CH_2Cl_2 3:2) afforded **8** (117 mg, 92%) as a bright yellow solid. Mp 58-60 ˚C; UV-VIS ($CHCl_3$) 264 (20000), 293 (24600), 303 (sh, 23100), 358 (12500) nm; IR (CH_2Cl_2, cast) 2942, 2209, 2146, 1592, 1520, 1342 cm^{-1}; ^1H NMR (300 MHz, $CDCl_3$) δ 8.16 (d, *J* = 9.0 Hz, 2H), 7.54 (d, *J* = 9.0 Hz, 2H), 2.12 (3H), 2.09 (3H), 2.06 (3H), 2.04 (3H), 1.07 (21H); ^{13}C NMR (75.5 MHz, $CDCl_3$) δ 155.8, 154.3, 146.9, 132.0, 130.6, 123.6, 103.5, 102.0, 101.3, 92.5, 92.1, 89.3, 89.2, 87.7, 23.0, 22.9, 22.8, 22.7, 18.7, 11.4; EIMS *m/z* 459 (M^+, 52), 416 ([M - *i*-Pr]$^+$, 100); HRMS calcd. for $C_{29}H_{37}NO_2Si$ 459.2594, found 459.2591. Anal. calcd. for $C_{29}H_{37}NO_2Si$: C, 75.77; H, 8.11; N, 3.05. Found: C, 75.46; H, 8.21; N, 2.97.

Donor–Acceptor-Substituted Dimer 9. A solution of **7** (66 mg, 0.15 mmol) and Bu_4NF (0.3 mL, 1.0 M in THF) in wet THF (25 mL) was stirred at rt for 15 min. Et_2O and H_2O were added, the organic phase was separated, washed with saturated aq. NH_4Cl, saturated aq. NaCl, dried ($MgSO_4$), reduced to 5 mL and added to a mixture of Et_3N (20 mL) and THF (20 mL). The solution was degassed for 1.5 h, *p*-iodonitrobenzene (37 mg, 0.15 mmol), $PdCl_2(PPh_3)_2$ (5 mg, 0.007 mmol) and Cu I (4 mg, 0.02 mmol) were added, and the mixture was stirred at rt for 6 h. Solvent removal and purification by column chromatography (silica gel, hexane/CH_2Cl_2 1:1) afforded **9** (33 mg, 76%) as an orange solid. Mp 154-156 ˚C; UV-VIS ($CHCl_3$) 291 (43500), 325 (sh, 31300) nm; IR ($CHCl_3$, cast) 2924, 2202, 1608, 1519, 1342 cm^{-1}; ^1H NMR (300 MHz, $CDCl_3$) δ 8.16 (d, *J* = 9.0 Hz, 2H), 7.57 (d, *J* = 9.0 Hz, 2H), 7.32 (d, *J* = 8.9 Hz, 2H), 6.61 (d, *J* = 8.9 Hz, 2H), 2.95 (s, 6 H), 2.12 (s, 6H), 2.10 (s, 3H), 2.08 (s, 3H); ^{13}C NMR (75.5 MHz, C_6D_6) δ 155.4, 151.9, 150.3, 147.1, 133.0, 132.0, 130.0, 123.4, 112.2, 111.0, 103.0, 102.3, 93.6, 92.2, 90.5, 90.0, 87.9, 85.1, 39.6, 22.8, 22.7 (3C); EIMS *m/z* 422 (M^+, 100); HRMS calcd. for $C_{28}H_{26}N_2O_2$ 422.1994, found 422.1987.

Trimer 10. A mixture of **6** (274 mg, 0.668 mmol) and K_2CO_3 (28 mg, 0.20 mmol) in wet THF (10 mL) and MeOH (10 mL) was stirred for 3 h. Et_2O and H_2O were added, the organic phase separated, washed with saturated aq. NH_4Cl, saturated aq. NaCl, dried ($MgSO_4$), reduced to *ca.* 5 mL, added to a degassed solution of **5** (193 mg, 0.643 mmol) in DMF (30 mL), and degassed for 0.5 h. $Pd(PPh_3)_4$ (37 mg, 0.03) d and Et_2NH (5 mL) were sequentially added, the solution stirred for 5 min, CuI (17 mg, 0.09 mmol) was added, and the solution stirred at rt for 15 h. Et_2O and H_2O were added, the organic phase separated, washed with saturated aq. NH_4Cl, saturated aq. NaCl and dried ($MgSO_4$). Elution on a silica gel column with hexane afforded **10** (171 mg , 52%) as a yellow solid; Mp 48-50 ˚C; UV/VIS ($CHCl_3$) 255 (25600), 284 (27600) nm; IR (neat) 2946, 2148, 1602, 840 cm^{-1}; ^1H NMR (300 MHz, $CDCl_3$) δ 2.04 (s, 3H), 2.03 (s, 3H), 2.02 (s, 6H), 2.01 (s, 3H), 1.99 (s, 3H), 1.07 (s, 3H), 1.06 (s, 18H), 0.17 (s, 9H); ^{13}C NMR (50.5 MHz, $CDCl_3$) δ 154.4, 153.8, 152.7, 103.6, 102.1, 101.8, 101.7, 95.7 (2C), 92.1, 88.6, 88.5, 88.3, 87.9, 22.7 (3C), 22.5 (3C), 18.7, 11.3, -0.04; EIMS *m/z* 488 (M^+, 100); HRMS calcd. for $C_{32}H_{48}Si_2$ 488.3295, found 488.3292. Anal. calcd. for $C_{32}H_{48}Si_2$: C, 78.62; H, 9.90. Found: C, 78.27, H,10.09.

Donor-substituted Trimer 11. A mixture of **10** (115 mg, 0.236 mmol) and K_2CO_3 (25 mg, 0.18 mmol) in wet THF (2 mL) and MeOH (10 mL) was stirred for 4.5 h. Et_2O and H_2O were added, the organic phase separated, washed with saturated aq. NH_4Cl, saturated aq. NaCl, dried ($MgSO_4$) and reduced to *ca.* 5 mL. Et_3N (15 mL) was added and the solution was degassed for 1.5 h. *p*-Iodo-*N*,*N*-dimethylaniline (58 mg, 0.23 mmol), $PdCl_2(PPh_3)_2$ (15 mg, 0.02 mmol) and CuI (7 mg, 0.04 mmol) were sequentially added. The mixture was stirred at rt for 16 h. Solvent removal and purification by column chromatography (silica gel, hexane/CH_2Cl_2 4:1) afforded **11** (96 mg,

76%) as a pale yellow solid. Mp 111-113 ˚C; UV/VIS ($CHCl_3$) 294 (38600), 325 (sh, 24800) nm; IR ($CHCl_3$, cast) 2940, 2196, 2145, 1609, 1520, 1347 cm^{-1}; ^1H NMR (300 MHz, $CDCl_3$) δ 7.30 (d, *J* = 8.9 Hz, 2H), 6.61 (d, *J* = 8.9 Hz, 2H), 2.95 (s, 6H), 2.08 (s, 3H), 2.06 (s, 3H), 2.05 (s, 6H), 2.03 (s, 3H), 2.02 (s, 3H), 1.07 (s, 21H); ^{13}C NMR (75.5 MHz, $CDCl_3$) δ 153.8, 152.5, 151.5, 150.0, 132.5, 111.9, 110.7, 103.8, 102.2, 102.0, 101.9, 92.2, 92.0, 88.7, 88.7, 88.3, 88.1, 84.5, 40.3, 22.8 (2C), 22.7, 22.65 (2C), 22.60, 18.7, 11.4; EIMS *m/z* 535 (M^+, 100); HRMS calcd. for $C_{37}H_{49}NSi$ 535.3634, found 535.3616. Anal. calcd. for $C_{37}H_{49}NSi$: C, 82.93; H, 9.22; N, 2.61. Found C, 82.44; H, 9.32; N, 2.54.

Acceptor-substituted Trimer 12. A mixture of **10** (14 mg, 0.03 mmol) and K_2CO_3 (3 mg, 0.02 mmol) in wet THF (0.5 mL) and MeOH (1.5 mL) was stirred at rt for 4 h. Et_2O and H_2O were added, the organic phase separated, washed with saturated NH_4Cl, saturated NaCl, dried ($MgSO_4$) and reduced to 5 mL. The solution was diluted with Et_3N (10 mL) and degassed for 1.5 h. *p*-Iodonitrobenzene (7 mg, 0.03 mmol), $PdCl_2(PPh_3)_2$ (2 mg, 0.002 mmol), and CuI (0.85 mg, 0.004 mmol) were added and the mixture was stirred at rt, under nitrogen, for 15 h. Solvent removal and purification by column chromatography (silica gel, hexane/CH_2Cl_2 1:2) afforded **12** (13 mg, 84%) as a bright yellow solid. Mp 77-79 ˚C; UV-VIS ($CHCl_3$) 287 (26600), 307 (sh, 22900), 352 (9770) nm; IR (CH_2Cl_2, cast) 2941, 2206, 2145, 1592, 1519, 1342 cm^{-1}; ^1H NMR (300 MHz, $CDCl_3$) δ 8.16 (d, *J* = 9.0 Hz, 2H), 7.55 (d, *J* = 9.0 Hz, 2H), 2.12 (s, 3H), 2.09 (s, 3H), 2.06 (s, 3H), 2.05 (s, 6H), 2.02 (s, 3H), 1.06 (s, 21H); ^{13}C NMR (100.5 MHz, APT, $CDCl_3$) δ 155.8, 153.9, 153.2, 146.8, 132.0, 130.6, 123.6, 103.6, 102.1, 101.6, 101.2, 92.3, 92.1, 89.2, 89.1, 88.5, 88.3, 87.3, 23.0, 22.9, 22.8 (2C), 22.6 (2C), 18.6, 11.3; EIMS *m/z* 537 (M^+, 81), 494 ([M - *i*-Pr]$^+$, 100); HRMS calcd. for $C_{35}H_{43}O_2NSi$ 537.3063, found 537.3062. Anal. calcd. for $C_{35}H_{43}O_2NSi$: C, 78.16; H, 8.06; N, 2.60. Found: C, 77.48; H, 7.91; N, 1.57.

D–A-Substituted Trimer 13. A solution of **11** (22 mg, 0.04 mmol) and Bu_4NF (0.2 mL, 1 M in THF) in wet THF (10 mL) was stirred at rt, for 45 min. Et_2O and H_2O were added, the organic phase was separated, washed with saturated aq. NH_4Cl, saturated aq. NaCl, dried ($MgSO_4$), reduced to 5 mL and added to Et_3N (10 mL) and THF (10 mL). The solution was degassed for 1.5 h, *p*-iodonitrobenzene (10 mg, 0.04 mmol), $PdCl_2(PPh_3)_2$ (4 mg, 0.005 mmol) and CuI (1 mg, 0.006 mmol) were added, and the mixture was stirred at rt for 19 h. Solvent removal and purification by column chromatography (silica gel, hexane/CH_2Cl_2 1:1) afforded **12** (17 mg, 83%) as an orange solid. Mp 144-146 ˚C; UV/VIS ($CHCl_3$) 297 (46600), 325 (sh, 35500), 372 (sh, 9560) nm; IR (film) 2906, 2201, 1611, 1521, 1344 cm^{-1}; ^1H NMR (300 MHz, $CDCl_3$) δ 8.10 (d, *J* = 9.0 Hz, 2H), 7.53 (d, *J* = 9.0 Hz, 2H), 7.30 (d, *J* = 8.8 Hz, 2H), 6.59 (d, *J* = 8.8 Hz, 2H), 2.95 (s, 6H), 2.12 (s, 3H), 2.11 (s, 3H), 2.08 (s, 6H), 2.07 (s, 3H), 2.06 (s, 3H); ^{13}C NMR (75.5, $CDCl_3$) δ 155.7, 152.9, 151.6, 150.0, 146.9, 132.5, 132.0, 130.7, 123.6, 111.9, 102.6, 101.8, 101.4, 92.23, 92.18, 89.4 (2C), 89.0, 88.0, 87.9, 87.4, 84.4, 40.2, 23.0 (2C), 22.85 (2C), 22.76, 22.73; EIMS *m/z* 500 (M^+, 100); HRMS calcd. for $C_{34}H_{32}O_2N_2$ 500.2464, found 500.2458. Anal. calcd. for $C_{34}H_{32}O_2N_2$: C, 81.36; H, 7.02; N, 5.42. Found: C, 81.39; H, 7.07; N, 5.23.

References:

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2) Zhao, Y.; Tykwinski, R. R. *J. Am. Chem. Soc.* **1999**, *121*, 458-459.
3) Stang, P. J.; Fisk, T. E. *Synthesis* **1979**, 438-440

INDEX	FREQUENCY	PPM	HEIGHT
1	2453.828	8.180	18.8
2	2444.791	8.150	19.9
3	2281.630	7.606	20.8
4	2272.593	7.576	17.9
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6	2199.317	7.332	18.2
7	2171.472	7.239	24.8
8	1991.213	6.638	14.7
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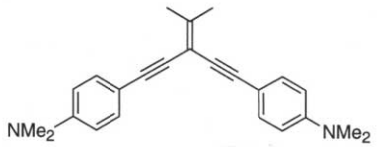

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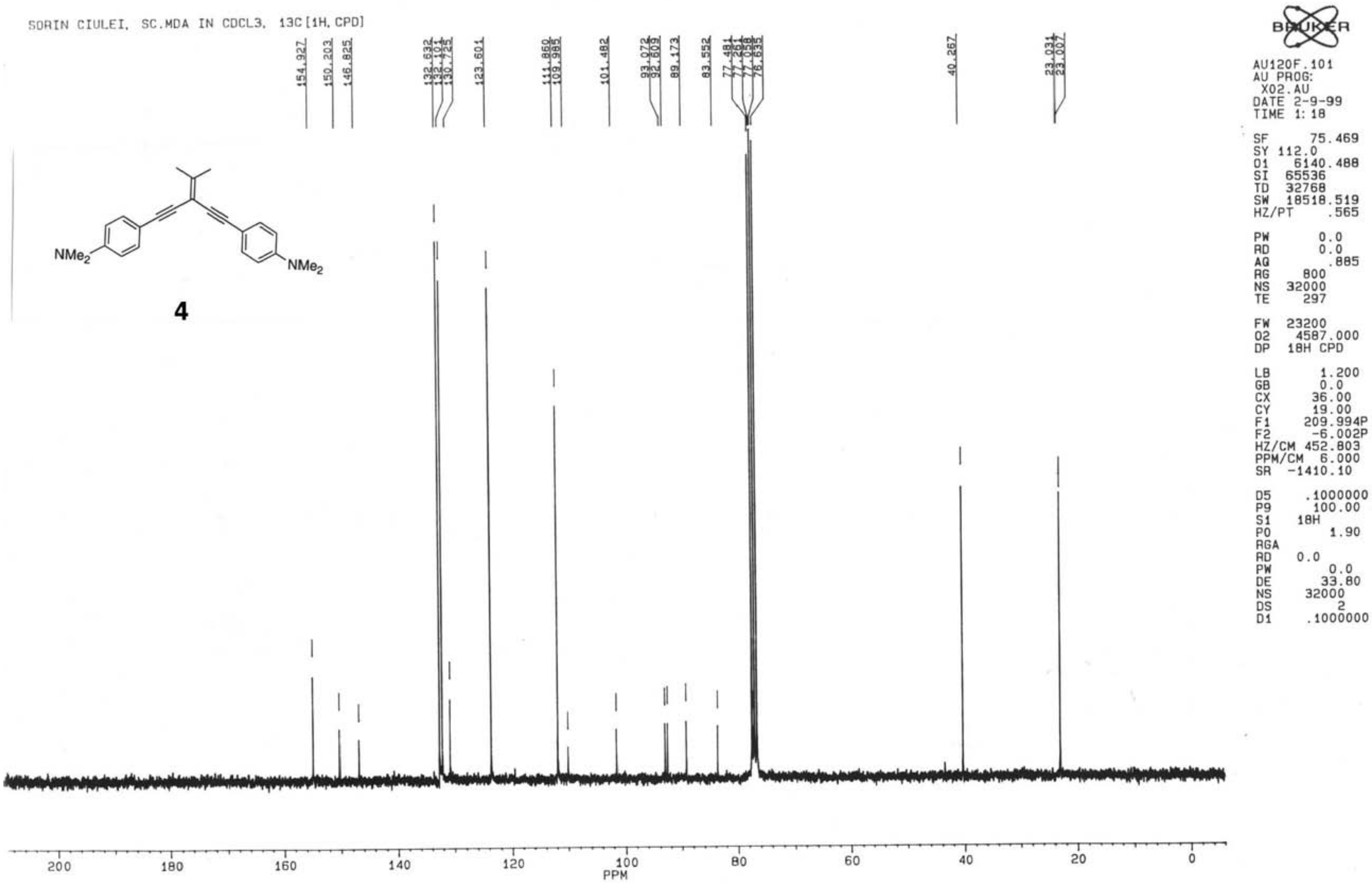
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CY 19.00
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PPM/CM 6.000
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PO 1.90
RGA
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PW 0.0
DE 33.80
NS 32000
DS 2
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1	2453.340	8.179	4.2
2	2451.142	8.172	21.4
3	2448.943	8.164	6.4
4	2444.058	8.148	8.9
5	2442.104	8.141	24.2
6	2277.233	7.592	4.8
7	2275.035	7.584	25.3
8	2274.302	7.582	8.7
9	2273.081	7.578	6.6
10	2268.196	7.562	8.2
11	2265.998	7.554	20.8
12	2201.026	7.338	17.8
13	2199.072	7.331	5.3
14	2194.187	7.315	7.6
15	2191.989	7.308	18.1
16	2171.227	7.238	103.0
17	1988.526	6.629	10.5
18	1979.733	6.600	9.7
19	886.455	2.955	183.0
20	637.073	2.124	118.0
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22	624.127	2.081	45.9
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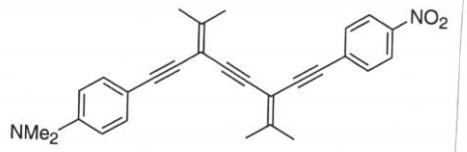

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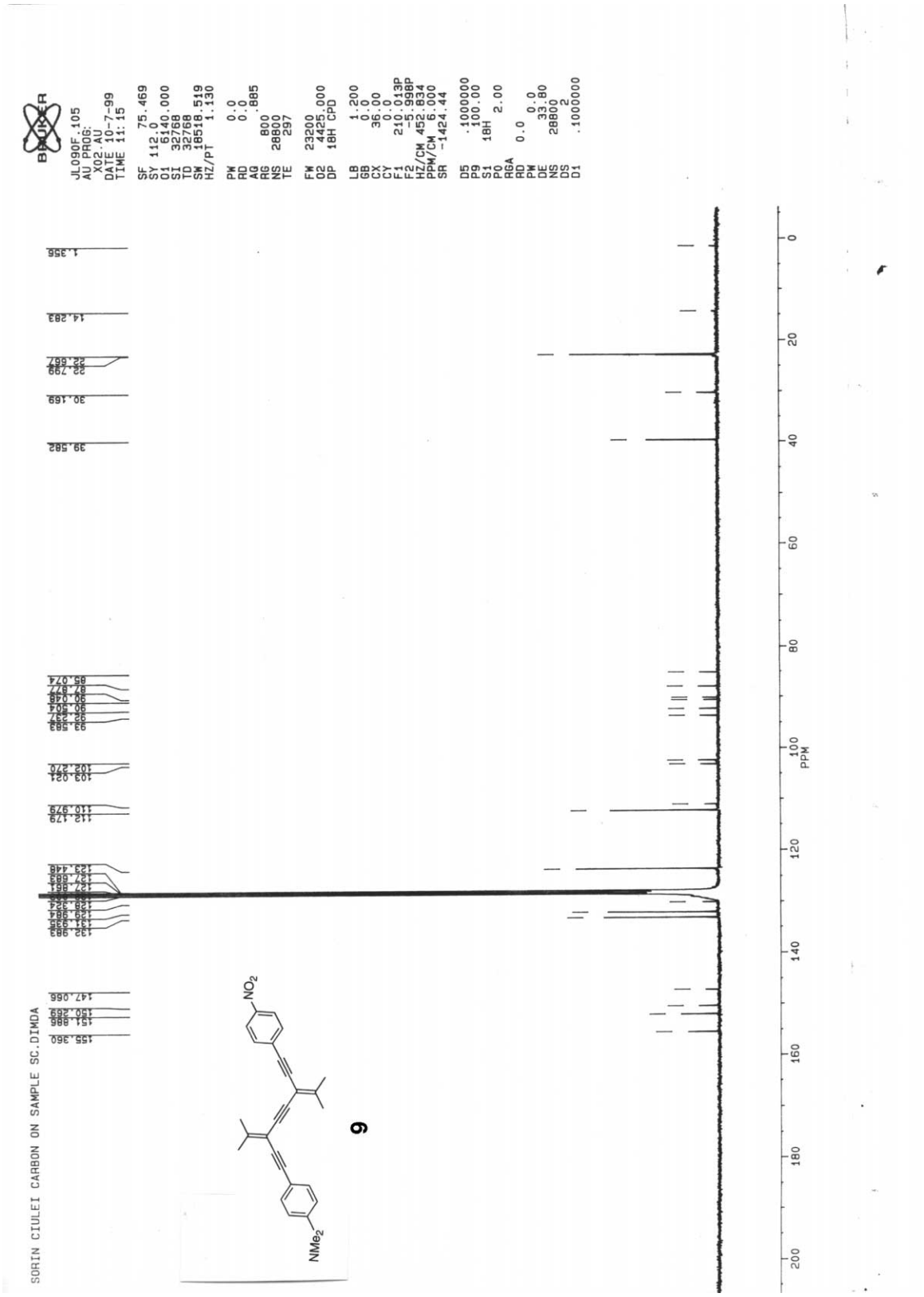
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NO2
NMe2
6

INDEX	FREQUENCY	PPM	HEIGHT
1	2435.265	8.119	19.9
2	2426.716	8.090	17.5
3	2426.228	8.088	18.1
4	2264.776	7.550	19.9
5	2255.739	7.520	16.0
6	2195.164	7.318	17.9
7	2186.615	7.290	17.7
8	2171.960	7.241	38.2
9	1979.733	6.600	16.3
10	1970.940	6.571	13.9
11	883.524	2.945	168.1
12	635.852	2.120	57.4
13	632.188	2.108	56.8
14	624.860	2.083	87.2
15	621.685	2.073	65.7
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17	615.334	2.051	15.2
18	613.625	2.046	14.3
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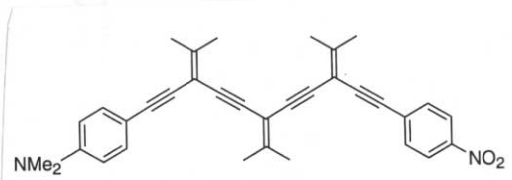

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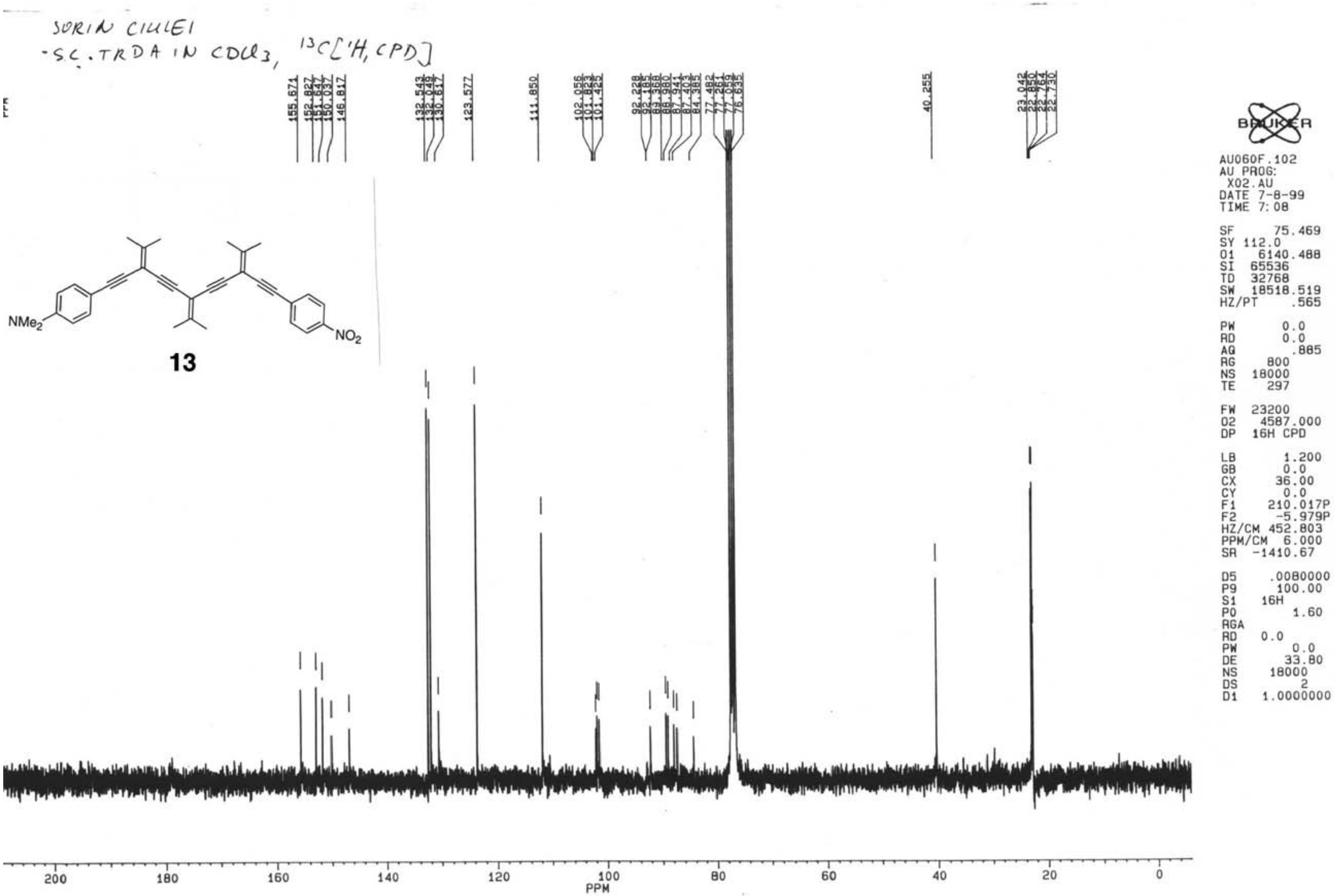
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140
120
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PPM
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0