

Supporting Information

5a. Dark red oil; IR (Neat) ν_{\max} 749, 1151, 1201, 1250, 1320, 1358, 1567, 1640, 3053, 3381 cm^{-1} ; ^1H NMR (CD_3COCD_3 , 400 MHz) δ 0.87 (t, 3H, $J = 7.0$ Hz), 1.10-1.93 (m, 6H), 4.92 (dt, 1H, $J = 8.1, 2.6$ Hz), 6.32-6.44 (bs, 1H), 6.58-6.68 (m, 1H), 6.74 (d, 1H, $J = 8.1$ Hz), 7.12-7.23 (m, 1H), 7.26 (d, 1H, $J = 7.7$ Hz), 7.90 (s, 1H); ^{13}C NMR (CD_3COCD_3 , 100 MHz) δ 14.3, 23.0, 27.1, 35.7, 51.6, 114.8, 116.6, 118.3, 131.8, 132.1, 134.5, 141.9, 147.0; EIMS m/z 232, 215, 175 (100), 129. Anal. Calcd. for $\text{C}_{13}\text{H}_{16}\text{N}_2\text{O}_2$ (232.28): C, 67.22; H, 6.94; N, 12.06; Found: C, 67.47; H, 7.15; N, 11.88.

5b. Dark red oil; IR (Neat) ν_{\max} 747, 1155, 1204, 1252, 1318, 1365, 1570, 1636, 3060, 3389 cm^{-1} ; ^1H NMR (CD_3COCD_3 , 400 MHz) δ 0.86 (t, 3H, $J = 6.6$ Hz), 1.16-1.58 (m, 7H), 1.64-1.87 (m, 1H), 4.91 (dt, 1H, $J = 8.1, 2.6$ Hz), 6.33-6.48 (bs, 1H), 6.64 (t, 1H, $J = 7.3$ Hz), 6.75 (d, 1H, $J = 8.1$ Hz), 7.13-7.23 (m, 1H), 7.27 (d, 1H, $J = 7.7$ Hz), 7.89 (s, 1H); ^{13}C NMR (CD_3COCD_3 , 100 MHz) δ 14.3, 22.9, 25.0, 31.1, 35.6, 51.4, 114.8, 116.6, 118.4, 131.8, 132.0, 134.6, 141.9, 147.1; EIMS m/z 246, 175 (100), 129, 102. Anal. Calcd. for $\text{C}_{14}\text{H}_{18}\text{N}_2\text{O}_2$ (246.31): C, 68.27; H, 7.37; N, 17.37; Found: C, 68.54; H, 7.56; N, 17.17.

5c. Dark red solid: m.p. = 106-108°C; IR (Nujol) ν_{\max} 698, 752, 1033, 1155, 1251, 1316, 1361, 1505, 1557, 3029, 3062, 3360 cm^{-1} ; ^1H NMR (CD_3COCD_3 , 400 MHz) δ 6.07 (d, 1H, $J = 2.2$ Hz), 6.62-6.77 (m, 3H), 7.14-7.24 (m, 1H), 7.29-7.45 (m, 6H), 8.13 (s, 1H); ^{13}C NMR (CD_3COCD_3 , 100 MHz) δ 55.8, 114.4, 115.8, 118.5, 127.1, 129.1, 129.7, 132.3, 132.5, 135.0, 141.4, 143.8, 146.4; EIMS m/z 252, 132, 235, 204, 175 (100), 129. Anal. Calcd. for $\text{C}_{15}\text{H}_{12}\text{N}_2\text{O}_2$ (252.27): C, 71.42; H, 4.79; N, 11.10; Found: C, 71.28; H, 4.49; N, 11.31.

5d. Dark red solid: m.p. = 160-162°C; IR (Nujol) ν_{\max} 741, 826, 1124, 1206, 1310, 1377, 1568, 1633, 3376 cm^{-1} ; ^1H NMR (CD_3COCD_3 , 400 MHz) δ 6.09 (d, 1H, $J = 2.6$ Hz), 6.63-6.79 (m, 3H), 7.15-7.26 (m, 1H), 7.32-7.48 (m, 5H), 8.14 (s, 1H); ^{13}C NMR (CD_3COCD_3 , 100 MHz) δ 55.2, 114.5, 115.7, 118.8, 128.9, 129.7, 132.4, 132.7, 134.5, 135.1, 141.0, 142.6, 146.2; EIMS m/z 286, 239, 204, 175 (100), 129, 102, 75. Anal. Calcd. for $\text{C}_{15}\text{H}_{11}\text{ClN}_2\text{O}_2$ (286.72): C, 62.84; H, 3.87; N, 9.77; Found: C, 63.01; H, 3.99; N, 9.55.

5e. Dark red solid: m.p. = 141-143°C; IR (Nujol) ν_{\max} 750, 1030, 1116, 1198, 1251, 1317, 1376, 1569, 1633, 3351 cm^{-1} ; ^1H NMR (CD_3COCD_3 , 400 MHz) δ 0.81-1.93 (m, 11H), 4.81-4.87 (m, 1H), 6.34-6.50 (bs, 1H), 6.61 (dt, 1H, $J = 7.7, 1.1$ Hz), 6.76 (d, 1H, $J = 8.1$ Hz), 7.12-7.29 (m, 2H), 7.97 (s, 1H); ^{13}C NMR (CD_3COCD_3 , 100 MHz) δ 26.7, 26.9, 27.0, 27.6, 28.0, 45.3, 56.3, 114.3, 116.8, 118.1, 132.1, 132.4, 134.5, 139.8, 147.8; EIMS m/z 258, 175 (100), 129, 117, 102, 41. Anal. Calcd. for $\text{C}_{15}\text{H}_{18}\text{N}_2\text{O}_2$ (258.32): C, 69.75; H, 7.02; N, 10.84; Found: C, 69.94; H, 7.24; N, 10.65.

5f. Dark red waxy solid; IR (Neat) ν_{\max} 748, 1155, 1206, 1265, 1317, 1366, 1570, 1637, 3026, 3061, 3400 cm^{-1} ; ^1H NMR (CD_3COCD_3 , 400 MHz) δ 1.80-1.98 (m, 1H), 2.05-2.25 (m, 1H), 2.77 (t, 2H, $J = 7.7$ Hz), 4.27-4.36 (bs, 1H), 4.95 (dt, 1H, $J = 8.4, 2.9$ Hz), 6.35 (d, 1H, $J = 8.1$ Hz), 6.70 (t, 1H, $J = 7.4$ Hz), 7.11-7.39 (m, 7H), 7.83 (s, 1H); ^{13}C NMR (CD_3COCD_3 , 100 MHz) 31.6, 35.9, 51.6, 114.3, 116.2, 118.8, 126.4, 128.4, 128.9, 131.3, 131.5, 133.9, 141.1, 141.3, 144.9; EIMS m/z 280, 175 (100), 129, 102. Anal. Calcd. for $\text{C}_{17}\text{H}_{16}\text{N}_2\text{O}_2$ (280.33): C, 72.84; H, 5.75; N, 9.99; Found: C, 73.04; H, 5.83; N, 9.71.

5g. Yellow solid: m.p. = 92-94°C; IR (Nujol) ν_{\max} 693, 754, 1002, 1069, 1121, 1192, 1343, 1377, 1569, 1649, 3006, 3030, 3071 cm^{-1} ; ^1H NMR (CD_3COCD_3 , 400 MHz) δ 6.07 (d, 1H, $J = 2.2$ Hz),

6.62-6.77 (m, 3H), 7.14-7.24 (m, 1H), 7.29-7.45 (m, 6H), 8.13 (s, 1H); ^{13}C NMR (CD_3COCD_3 , 100 MHz) δ 74.4, 117.3, 118.8, 122.9, 127.5, 129.2, 129.7, 129.8, 131.2, 134.6, 137.4, 141.6, 153.7; EIMS m/z 253, 236, 207 (100), 178, 105. Anal. Calcd. for $\text{C}_{15}\text{H}_{11}\text{NO}_3$ (253.26): C, 71.14; H, 4.38; N, 5.53; Found: C, 70.98; H, 4.16; N, 5.74.

5h. Yellow oil; IR (Neat) ν_{max} 761, 1114, 1198, 1326, 1380, 1508, 1570, 1648, 3073 cm^{-1} ; ^1H NMR (CD_3COCD_3 , 400 MHz) δ 0.88 (t, 3H, $J = 7.8$ Hz), 1.24-1.59 (m, 4H), 1.60-1.69 (m, 1H), 1.79-1.90 (m, 1H), 5.51 (dd, 1H, $J = 9.8$, 3.1 Hz), 6.94 (d, 1H, $J = 8.6$ Hz), 7.00 (t, 1H, $J = 7.8$ Hz), 7.26 (dd, 1H, $J = 7.8$, 1.6 Hz), 7.35 (dt, 1H, $J = 7.8$, 1.6 Hz), 7.78 (s, 1H); ^{13}C NMR (CD_3COCD_3 , 100 MHz) δ 14.1, 22.3, 27.2, 32.3, 73.3, 117.5, 118.6, 122.6, 128.4, 130.5, 134.2, 143.0, 153.6; EIMS m/z 233, 176 (100), 130, 115, 102, 77. Anal. Calcd. for $\text{C}_{13}\text{H}_{15}\text{NO}_3$ (233.27): C, 66.94; H, 6.48; N, 6.00; Found: C, 67.13; H, 6.71; N, 5.87.

5i. Yellow oil; IR (Neat) ν_{max} 760, 1112, 1200, 1329, 1376, 1510, 1568, 1644, 3070 cm^{-1} ; 0.87 ^1H NMR (CD_3COCD_3 , 400 MHz) δ (t, 3H, $J = 7.0$ Hz), 1.20-1.69 (m, 7H), 1.78-1.89 (m, 1H), 5.51 (dd, 1H, $J = 9.4$, 2.7 Hz), 6.94 (d, 1H, $J = 8.2$ Hz), 7.00 (dt, 1H, $J = 7.8$, 0.8 Hz), 7.27 (dd, 1H, $J = 7.8$, 2.0 Hz), 7.35 (dt, 1H, $J = 7.8$, 1.6 Hz), 7.77 (s, 1H); ^{13}C NMR (CD_3COCD_3 , 100 MHz) δ 14.1, 22.6, 24.7, 31.3, 32.5, 73.3, 117.5, 118.6, 122.6, 128.4, 130.5, 134.1, 143.0, 153.6; EIMS m/z 247, 176 (100), 130, 115, 102. Anal. Calcd. for $\text{C}_{14}\text{H}_{17}\text{NO}_3$ (247.29): C, 68.00; H, 6.93; N, 5.66; Found: C, 68.31; H, 7.10; N, 5.49.

5j. Yellow solid: m.p. = 66-68°C; IR (Nujol) ν_{max} 696, 761, 1048, 1117, 1159, 1201, 1325, 1374, 1567, 1646, 3020, 3081 cm^{-1} ; ^1H NMR (CD_3COCD_3 , 400 MHz) δ 1.95-2.06 (m, 1H), 2.11-2.23 (m, 1H), 2.75-2.85 (m, 1H), 2.86-2.96 (m, 1H), 5.53 (dd, 1H, $J = 10.2$, 3.1 Hz), 6.95 (d, 1H, $J = 8.2$ Hz), 7.02 (t, 1H, $J = 7.4$ Hz), 7.16-7.23 (m, 3H), 7.25-7.32 (m, 3H), 7.38 (t, 1H, $J = 7.4$ Hz), 7.80 (s, 1H); ^{13}C NMR (CD_3COCD_3 , 100 MHz) δ 31.3, 33.9, 72.6, 117.6, 118.6, 122.8, 126.4, 128.6, 128.7, 130.6, 134.3, 137.2, 140.7, 142.7, 153.4; EIMS m/z 281, 233, 176 (100), 130, 115, 102, 91, 77, 65. Anal. Calcd. for $\text{C}_{17}\text{H}_{15}\text{NO}_3$ (281.31): C, 72.58; H, 5.37; N, 4.98; Found: C, 72.74; H, 5.51; N, 4.77.

5k. Yellow waxy solid; IR (Nujol) ν_{max} 766, 978, 1070, 1120, 1196, 1321, 1377, 1505, 1569, 1651, 2226, 3086 cm^{-1} ; ^1H NMR (CD_3COCD_3 , 400 MHz) δ 6.61 (s, 1H), 6.89 (d, 1H, $J = 8.4$ Hz), 7.04 (dt, 1H, $J = 7.2$, 0.8 Hz), 7.32-7.39 (m, 2H), 7.49 (d, 2H, $J = 8.8$ Hz), 7.62 (d, 2H, $J = 8.4$ Hz), 8.08 (s, 1H); ^{13}C NMR (CD_3COCD_3 , 400 MHz) δ 73.5, 113.5, 117.4, 117.7, 118.4, 123.3, 127.9, 130.2, 130.9, 133.0, 135.0, 140.4, 141.9, 153.3; EIMS m/z 278, 261, 232 (100), 203, 176, 151, 130, 102, 75, 63, 51. Anal. Calcd. for $\text{C}_{16}\text{H}_{10}\text{N}_2\text{O}_3$ (278.26): C, 69.06; H, 3.62; N, 10.07; Found: C, 68.88; H, 3.48; N, 10.25.

5l. Yellow solid: m.p. = 154-155°C; IR (Nujol) ν_{max} 700, 757, 1004, 1066, 1124, 1195, 1348, 1372, 1566, 1645, 3008, 335, 3074 cm^{-1} ; ^1H NMR (CD_3COCD_3 , 400 MHz) δ 3.76 (s, 3H), 6.57 (s, 1H), 6.84 (d, 1H, $J = 8.2$ Hz), 6.89 (d, 2H, $J = 8.6$ Hz), 7.06 (dt, 1H, $J = 7.4$, 1.2 Hz), 7.34-7.40 (m, 3H), 7.59 (dd, 1H, $J = 7.4$, 1.6 Hz), 8.28 (s, 1H); ^{13}C NMR (CD_3COCD_3 , 100 MHz) δ 55.4, 74.4, 114.8, 117.7, 119.2, 123.1, 129.3, 129.7, 129.9, 131.5, 134.8, 142.1, 154.0, 161.3; EIMS m/z 283, 237 (100), 222, 194, 165. Anal. Calcd. for $\text{C}_{16}\text{H}_{13}\text{NO}_4$ (283.28): C, 67.84; H, 4.63; N, 4.94; Found: C, 68.08; H, 4.81; N, 4.76.