

SUPPORTING INFORMATION

Title: Superacidic Activation of Maleimide and Phthalimide and Their Reactions with Cyclohexane and Arenes

Author(s): Konstantin Yu. Koltunov,* G. K. Surya Prakash, Golam Rasul, and George A. Olah

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N-phenylsuccinimide (5). ^1H NMR (CDCl_3): δ = 2.89 (s, 4H), 7.27–7.51 (m, 5H).^[30] ^{13}C NMR (CDCl_3): δ = 28.4, 126.5, 128.6, 129.2, 131.9, 176.1.^[30]

1,5-Dihydro-5,5-diphenylpyrrol-2-one (7). ^1H NMR (CDCl_3): δ = 6.15 (dd, J = 6.4, 1.6 Hz, 1H), 7.25–7.35 (m, 10H), 7.48 (dd, J = 6.4, 1.8 Hz, 1H), 7.5 (br s, 1H). ^{13}C NMR (CDCl_3): δ = 72.9, 123.9, 125.2, 125.9, 126.7, 126.8, 127.4, 127.8, 127.9, 128.6, 128.7, 129.3, 141.1, 154.3, 154.8, 173.7.

3-Phenylsuccinimide (8). ^1H NMR (CDCl_3): δ = 2.84 (dd, J = 18.4, 5.4 Hz, 1H), 3.21 (dd, J = 18.4, 9.6 Hz, 1H), 4.05 (dd, J = 9.6, 5.4 Hz, 1H), 7.2–7.4 (m, 5 H), 9.5 (br s, 1H).^[29b] ^{13}C NMR (CDCl_3): δ = 38.5, 47.5, 127.6, 128.3, 129.5, 136.9, 176.7, 178.4.

3-(4-Methylphenyl)-succinimide (9). ^1H NMR (CDCl_3): δ = 2.35 (s, 3H), 2.84 (dd, J = 18.4, 5.2 Hz, 1H), 3.22 (dd, J = 18.4, 9.6 Hz, 1H), 4.32 (dd, J = 9.6, 5.2 Hz, 1H), 7.15 (d, J = 8.6 Hz, 2 H), 7.19 (d, J = 8.6 Hz, 2 H), 9.1 (br s, 1H). ^{13}C NMR (CDCl_3): δ = 21, 38.2, 46.9, 127.2, 129.8, 133.6, 137.8, 176.7, 178.6.

3-(3,4-Dichlorophenyl)-succinimide (10). ^1H NMR (CDCl_3): δ = 2.83 (dd, J = 18.6, 5.4 Hz, 1H), 3.27 (dd, J = 18.6, 9.6 Hz, 1H), 4.07 (dd, J = 9.6, 5.4 Hz, 1H), 7.11 (dd, J = 8.4, 2.4 Hz, 1H), 7.38 (d, J = 2.4 Hz, 1H), 7.47 (d, J = 8.4 Hz, 1H), 8.3 (br s, 1H). ^{13}C NMR (CDCl_3): δ = 37.7, 46.2, 126.8, 129.6, 131.1, 132.3, 133.2, 136.4, 176.1, 177.5.

Phthalimidine (11). ^1H NMR (CDCl_3): δ = 4.48 (s, 2H), 7.4 (br s, 1H), 7.4–7.5 (m, 2H), 7.58 (t, J = 7.2 Hz, 1H), 7.88 (d, J = 8.1 Hz, 1H).^[31] ^{13}C NMR (CDCl_3): δ = 45.9, 123.4, 124, 128.3, 132, 132.3, 143.8, 172.1.

1-Hydroxy-3,3-diphenylisoindolenine hydrobromide. ^1H NMR (CDCl_3): $\delta = 7.2\text{--}7.4$ (m, 10 H), 7.57 (d, $J = 7.8$ Hz, 1H), 7.72 (t, $J = 7.8$ Hz, 1H), 7.85 (t, $J = 7.8$ Hz, 1H), 9.22 (d, $J = 7.8$ Hz, 1H), 11.6 (br s, 1H), 12.3 (br s, 1H). ^{13}C NMR (CDCl_3): $\delta = 103.8, 123.9, 124.1, 127.4, 129, 129.1, 129.9, 131, 136.8, 137.9, 151.7, 173.8$.

3,3-Diphenylphthalimidine (12). ^1H NMR (CDCl_3): $\delta = 7.3\text{--}7.37$ (m, 10 H), 7.45 (t, $J = 7.5$ Hz, 1H), 7.48 (d, $J = 7.5$ Hz, 1H), 7.56 (t, $J = 7.5$ Hz, 1H), 7.82 (br s, 1H), 7.87 (d, $J = 7.5$ Hz, 1H). ^{13}C NMR (CDCl_3): $\delta = 71.1, 124.3, 124.5, 127.1, 127.8, 128.4, 128.6, 130.8, 132.2, 142.8, 150.1, 170.1$.