

Synthesis of Iridium Pyridinyl *N*-Heterocyclic Carbene Complexes and Their Catalytic Activities on Reduction of Nitroarenes.

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Supporting Information

4-Bromoaniline.¹ ¹H NMR (CDCl₃, 400MHz): δ 7.21 (d, 2H, *J*=7.2Hz), 6.54 (d, 2H, *J*=7.2Hz).

4,4'-Dibromoazobenzene.² ¹H NMR (CDCl₃, 400MHz): δ 7.77 (d, 2H, *J*=9.2Hz), 7.63 (d, 2H, *J*=9.2Hz).

4-Methoxyaniline.³ ¹H NMR (CDCl₃, 400MHz): δ 6.72 (d, 2H, *J*=8.8Hz), 6.63 (d, 2H, *J*=8.8Hz), 3.73 (s, 6H, *OMe*).

4,4'-Dimethoxyazobenzene.⁴ ¹H NMR (CDCl₃, 400MHz): δ 7.86 (d, 2H, *J*=8.8Hz), 6.98 (d, 2H, *J*=8.8Hz), 3.87 (s, 6H, *OMe*). ¹³C NMR (CDCl₃, 100MHz): δ 160.9, 146.5, 124.0, 113.9, 55.7.

4-Aminobenzaldehyde ethylene glycol acetal.⁵ ¹H NMR (acetone-d₆, 400MHz): δ 7.12 (d, 2H, *J*=8.0Hz), 6.62 (d, 2H, *J*=8.0Hz), 5.54 (s, 1H, *CH*), 4.03-3.88 (m, 4H).

4,4'-Diformylazobenzene.⁶ ¹H NMR (acetone-d₆, 400MHz): δ 10.18 (s, 2H, *CHO*), 8.19-8.16 (m, 8H).

2-iodo-*p*-phenyldiamine. ¹H NMR (CDCl₃, 400MHz): δ 7.05 (d, 1H, *J*=2.8Hz), 6.57-6.55 (m, 2H).

1-Aminopyrene.⁷ . ¹H NMR (CDCl₃, 400MHz): δ 8.05 (d, 1H, *J*=6.8Hz), 8.03 (d, 1H, *J*=6.0Hz), 7.97-7.89 (m, 5H), 7.81 (d, 1H, *J*=9.2Hz), 7.33 (d, 1H, *J*=8.8Hz), 4.44 (br, 2H, NH₂). ¹³C NMR (CDCl₃, 100MHz): δ 140.4, 131.7, 131.2, 127.2, 125.6, 125.1, 123.8, 123.7, 123.3, 123.1, 119.8, 116.5, 113.6.

1,2-Bis(6-isopropoxypyridin-3-yl)diazene. ¹H NMR (CDCl₃, 400MHz): δ 8.71(d, 2H, *J*=3.2Hz), 8.07 (dd, 2H, *J*=3.2Hz, 9.2Hz), 6.74 (d, 2H, *J*=9.2Hz), 5.40 (septet, 2H, *J*=6.0Hz, OCHMe₂), 1.38 (d, 12H, *J*=6.0Hz, Me).

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