

Covalent attachment of 3-(aminomethyl)pyridine to graphene oxide: A new stabilizer for the synthesis of palladium thin film at oil–water interface as an effective catalyst for Suzuki–Miyaura reaction

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Suzuki–Miyaura Coupling Reaction Product Characterization Data

The following product was identified by comparison with previously reported spectroscopic data:

Biphenyl (1a).¹ White solid, mp: 66–69 °C (lit. mp 69–71 °C); FT-IR (KBr/cm⁻¹): 3058, 3032, 1568, 1479, 1424, 1344, 1168, 1090, 1040, 1005, 725, 696; ¹H NMR (400 MHz, CDCl₃): δ = 7.46 (m, 2H), 7.55 (m, 4H), 7.71 (m, 4H).

4-Methylbiphenyl (1b).² White solid, mp: 43–44 °C (lit. mp 44–47 °C); FT-IR (KBr/cm⁻¹): 3060, 2959, 2928, 1600, 1463, 1380, 1273, 1122, 1072, 1039; ¹H NMR (400 MHz, CDCl₃): δ = 2.45 (s, 3H, CH₃), δ = 7.33 (m, 2H), 7.37 (m, 1H), 7.5 9 (m, 2H), 7.76 (m, 2H), 7.88 (2H).

4-Methoxybiphenyl (1c).³ White solid, mp: 84–88 °C (lit. mp 86–90 °C); FT-IR (KBr/cm⁻¹): 3066, 3002, 2836, 1890, 1606, 1521, 1482, 1286; ¹H NMR (400 MHz, CDCl₃): δ = 7.53 (m, 4H), 7.40 (t, 2H), 7.28 (t, 1H), 6.96 (d, 2H), 3.84 (s, 3H).

4-Nitrobiphenyl (1d).⁴ Yellow solid, mp: 111–113 °C (lit. mp 113–115 °C); FT-IR (KBr/cm⁻¹): 3053, 2922, 1602, 1522, 1476, 1446, 1341, 1307, 1087, 1012, 846, 743; ¹H NMR (400 MHz, CDCl₃): δ = 7.47 (m, 3H), 7.67 (m, 2H), 7.77 (m, 2H), 8.46 (m, 2H).

4-Phenylbenzotrile (1e).⁵ White solid, mp: 84–86 °C (lit. mp 84–88 °C); FT-IR (KBr/cm⁻¹): 3076, 3023, 2930, 2924, 2250, 1660, 1493, 1441, 1179, 1024, 845, 700; ¹H NMR (400 MHz, CDCl₃): δ= 7.53 (m, 3H), 7.63 (m, 2H), 7.83 (m, 2H), 8.23 (m, 2H).

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2-Phenylpyridine (1f).⁴ Colorless oil, FT-IR (KBr/cm⁻¹): 3061, 3033, 1740, 1586, 1476, 1449, 1260, 1151, 1094, 1020, 799, 745, 687; ¹H NMR (400 MHz, CDCl₃): δ= 6.89 (m, 1H), 7.28 (m, 1H), 7.32 (m, 2H), 7.37 (m, 1H), 7.45 (m, 1H), 7.96 (m, 2H), 8.56 (m, 1H).

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