

Supporting Information for
Preparation, Characterization, and Antioxidant Activity of Novel Metal (Mn
(II), Ni (II), Pd (II), Pt (IV)) Complexes: Application of Pd Complex in
Suzuki-Miyaura Cross-Coupling Reaction

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Physical and spectroscopic data for target product

1,1'-Biphenyl (**Compound 1**): M.p.: 69-71 °C, IR (KBr), ν (cm^{-1}): 3032, 1566, 1476. ^1H NMR (400 MHz, CDCl_3): δ (ppm) 7.32-7.37 (2H, m), 7.44 (4H, triplet, $J = 7.1$ Hz), 7.60 (4H, doublet, $J = 8.1$ Hz). Note: The identification of compounds 2 and 3 were provided using melting point and FT-IR spectrum.

4-Methoxy-1,1'-biphenyl (**Compound 2**): M.p.: 88-90 °C, IR (KBr), ν (cm^{-1}): 3059, 3054, 2958, 1604, 1484, 1248, 1035. ^1H NMR (400 MHz, CDCl_3): δ (ppm) 3.84 (3H, singlet), 6.97 (2H, doublet, $J = 8.3$ Hz), 7.29 (1H, triplet, $J = 7.5$ Hz), 7.41 (2H, triplet, $J = 7.4$ Hz), 7.54 (4H, triplet, $J = 7.5$ Hz). Note: The identification of compounds 5 and 6 were provided using melting point and FT-IR spectrum.

2-Methoxy-1,1'-biphenyl (**Compound 3**): M.p.: oil like, IR (KBr), ν (cm^{-1}): 3058, 2931, 1596, 1480, 1258, 1027. ^1H NMR (400 MHz, CDCl_3): δ (ppm) 3.77 (3H, singlet), 6.97 (1H, doublet, $J = 8.6$ Hz), 7.01 (1H, triplet, $J = 8.7$ Hz), 7.27-7.33 (3H, multiplet), 7.39 (2H, triplet, $J = 7.1$ Hz), 7.52 (2H, doublet, $J = 5.1$ Hz). Note: The identification of compounds 8 and 9 were provided using melting point and FT-IR spectrum.

4-Phenylphenol (**Compound 4**), M.p.: 157-160 °C, IR (KBr), ν (cm^{-1}): 3405, 3035, 1602, 1485. ^1H NMR (400 MHz, CDCl_3): δ (ppm) 6.92 (2H, doublet, $J = 8.3$ Hz), 7.32 (1H, triplet, $J = 7.3$ Hz), 7.43 (2H, triplet, $J = 7.5$ Hz), 7.50 (2H, doublet, $J = 8.3$ Hz), 7.55 (2H, triplet, $J = 7.1$ Hz), 8.27 (1H, doublet, $J = 6.7$ Hz). Note: The identification of compounds 11 and 12 were provided using melting point and FT-IR spectrum.

4-Phenylbenzaldehyde (**Compound 5**), M.p.: 57-58 °C, IR (KBr), ν (cm^{-1}): 3065, 1709, 1587, 1475, 764, 690. ^1H NMR (400 MHz, CDCl_3) δ (ppm): 7.44 (1H, triplet, $J = 6.9$ Hz), 7.52 (2H, triplet, $J = 7.0$ Hz), 7.76 (2H, doublet, $J = 7.7$ Hz), 7.90 (2H, doublet, $J = 7.7$ Hz), 7.98 (2H, doublet, $J = 8.1$ Hz), 10.06 (1H, singlet, CHO). Note: The identification of compounds 14 and 15 were provided using melting point and FT-IR spectrum.

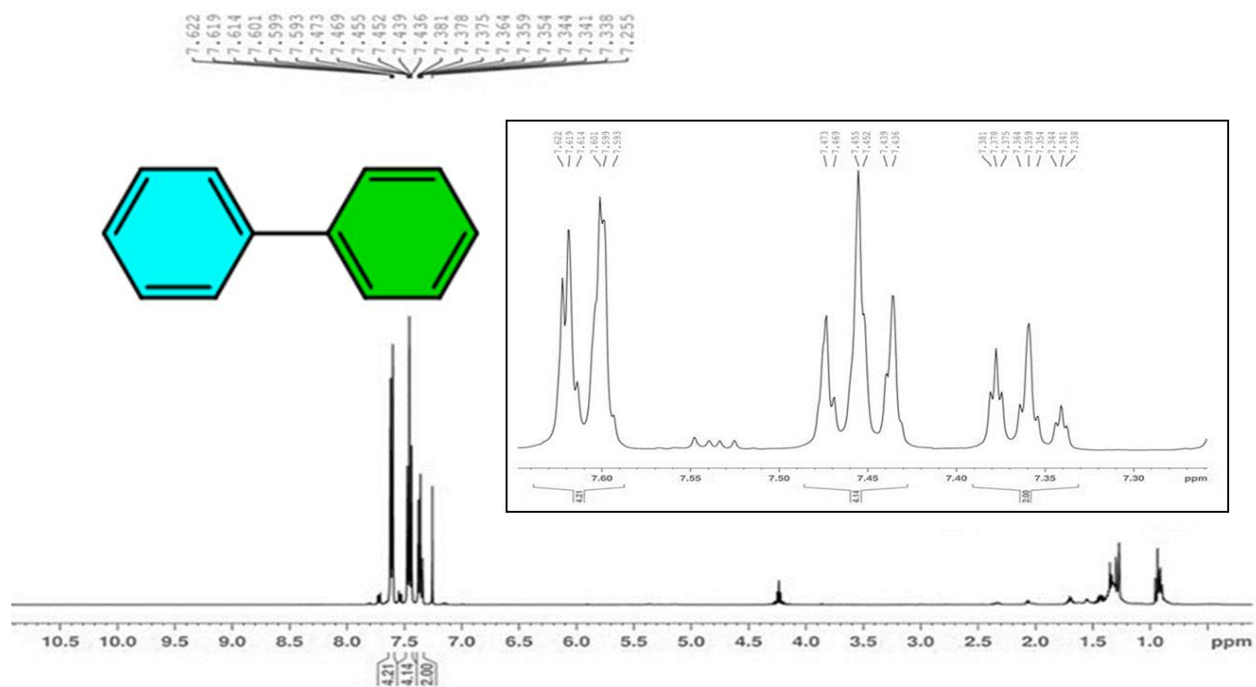


Figure S1. ¹H NMR spectra of (Table 8, entry 1))

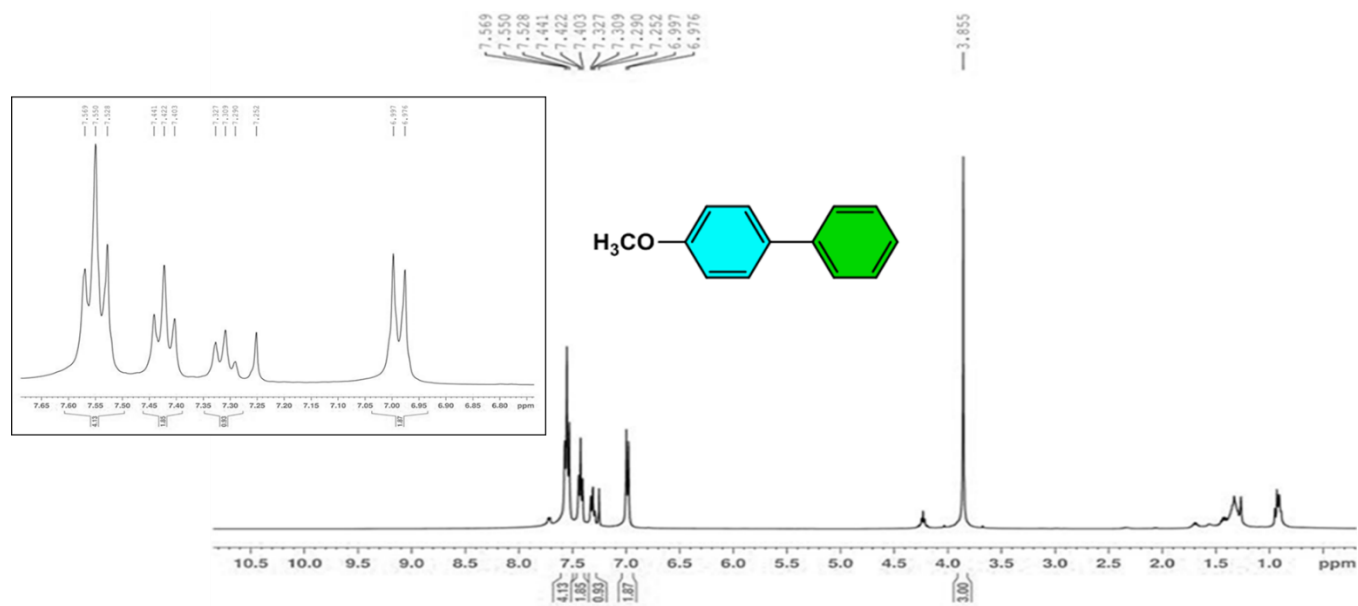


Figure S2. ¹H NMR spectra of (Table 8, entry 4))

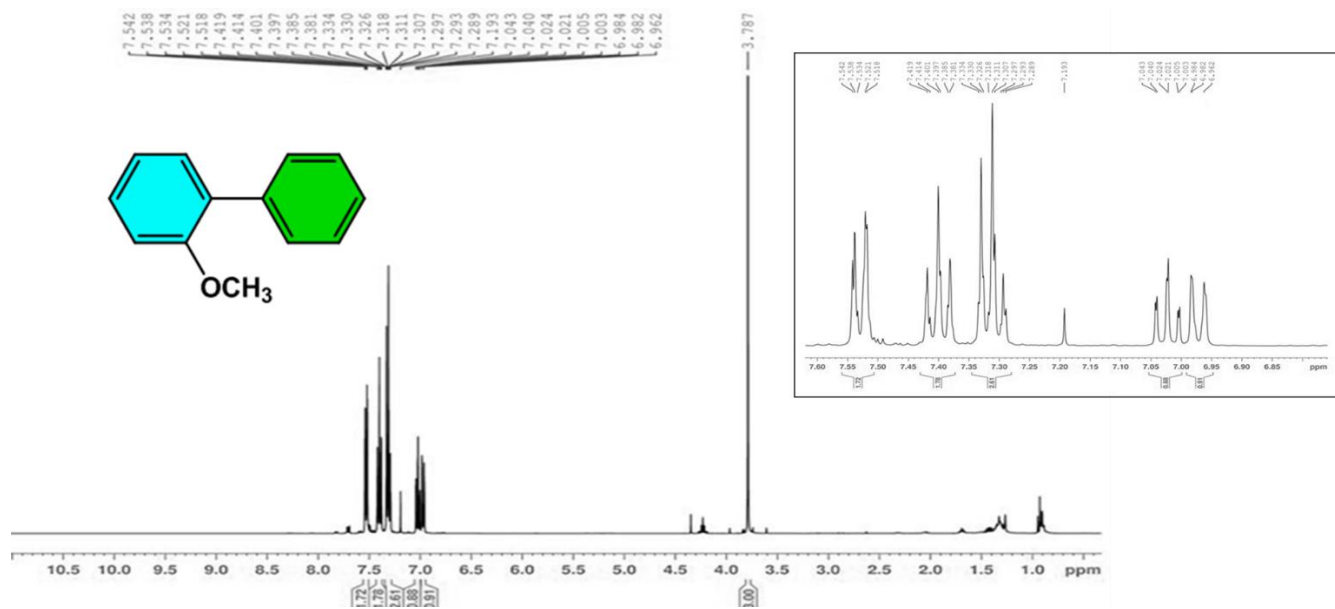


Figure S3. ¹H NMR spectra of (Table 8, entry 7))

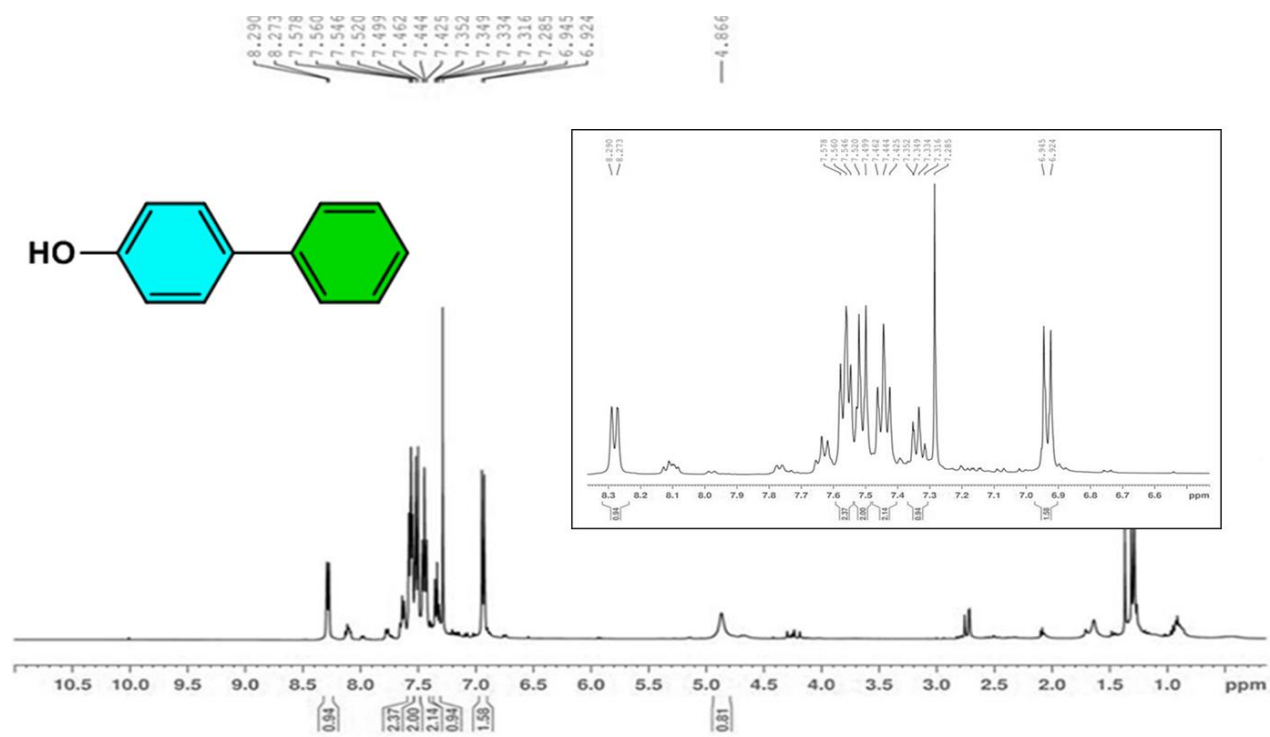


Figure S4. ¹H NMR spectra of (Table 8, entry 10))

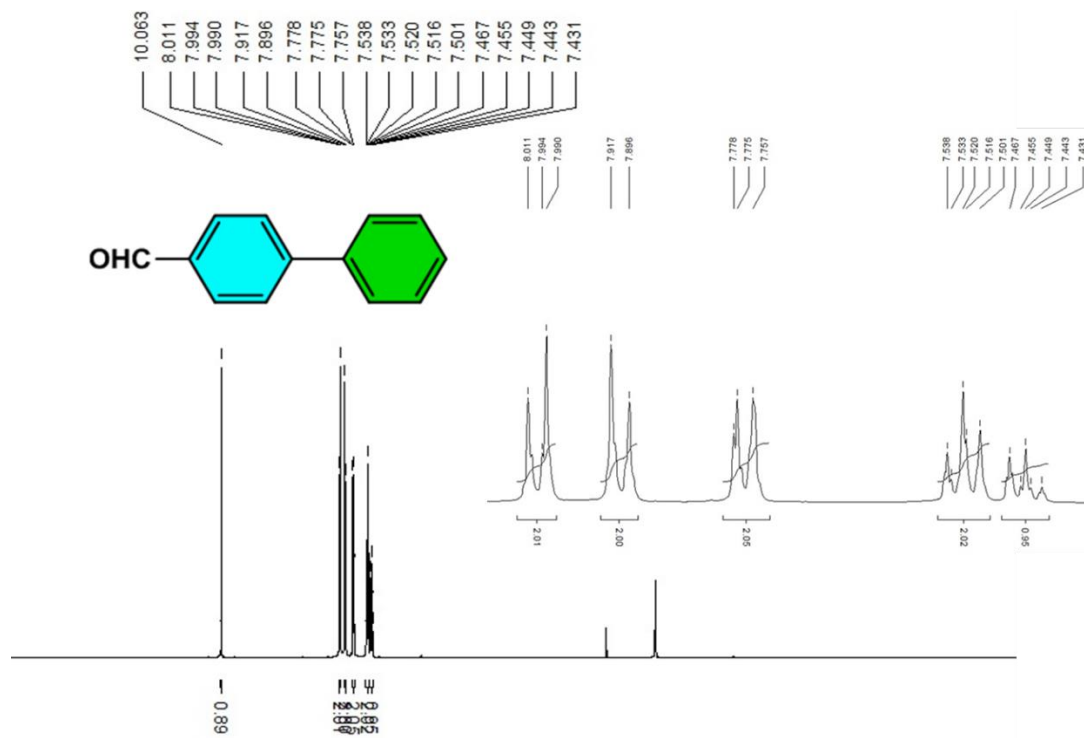


Figure S5. ¹H NMR spectra of (Table 8, entry 13)