

Supporting Information for

Carboxyethylsilanetriol-Functionalized Al-MIL-53-Supported Palladium Catalyst for Enhancing Suzuki-Miyaura Cross-Coupling Reaction

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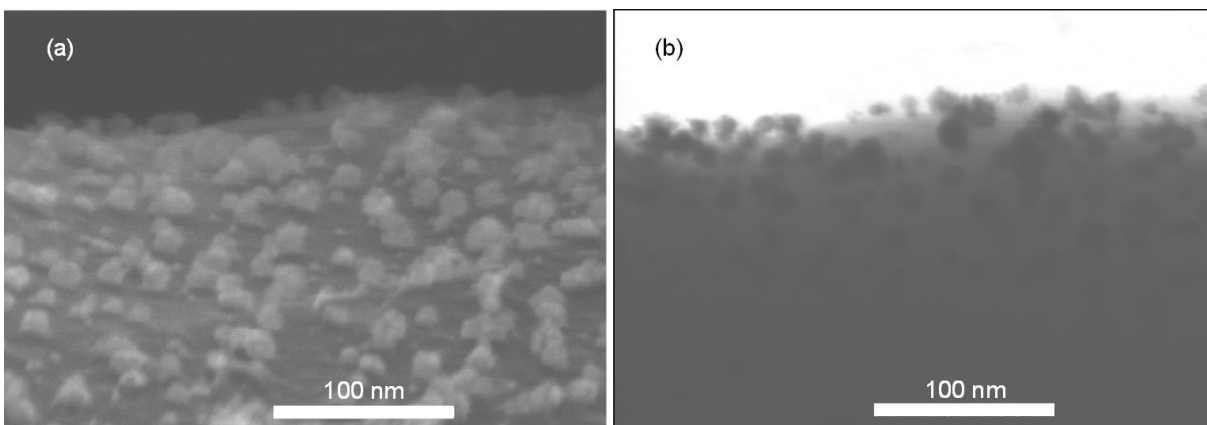


Figure S1. (a) SEM and (b) TEM images of sample Pd/Al-MIL-53 (6).

^1H NMR data for products

biphenyl (Table 2): ^1H -NMR (400 MHz, CDCl_3 , 25 °C): δ 7.61-7.58 (d, 4H), 7.47-7.42 (t, 4H), 7.37-7.33 (t, 2H).

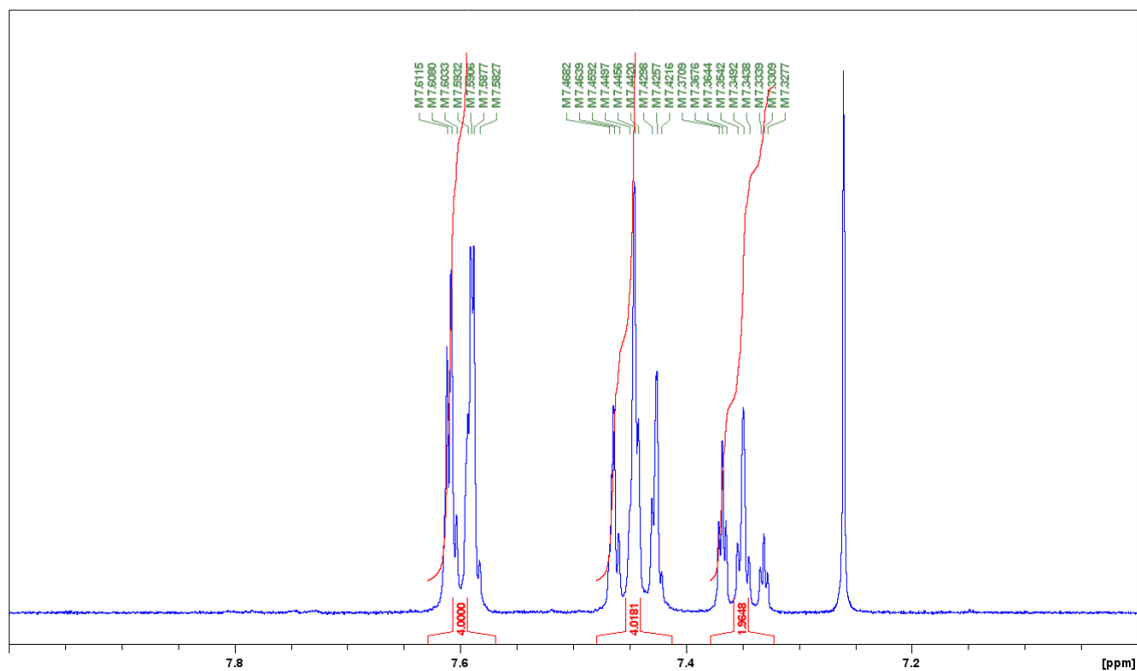


Figure S2. ^1H NMR of product biphenyl

4-nitrobiphenyl: ^1H NMR (400 MHz, CDCl_3 , 25 $^\circ\text{C}$): δ 8.32-8.29 (d, 2H), 7.75-7.73 (d, 2H), 7.64-7.62 (d, 2H), 7.52-7.45 (m, 3H).

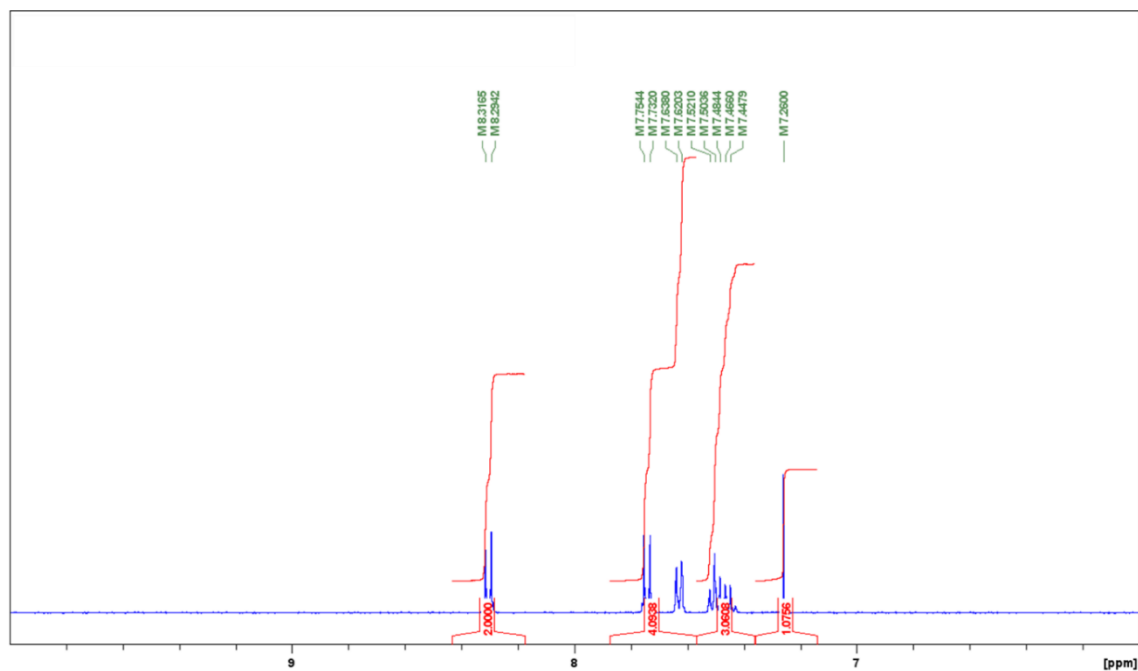


Figure S3. ^1H NMR of product 4-nitrobiphenyl

4-hydroxybiphenyl (biphenyl-4-ol): ^1H NMR (400 MHz, CDCl_3 , 25 $^\circ\text{C}$): δ 7.63-7.59 (d, 2H), 7.55-7.50 (d, 2H), 7.43-7.40 (t, 2H), 7.32-7.29 (t, 1H), 6.92-6.90 (d, 2H), 4.79 (s, 1H).

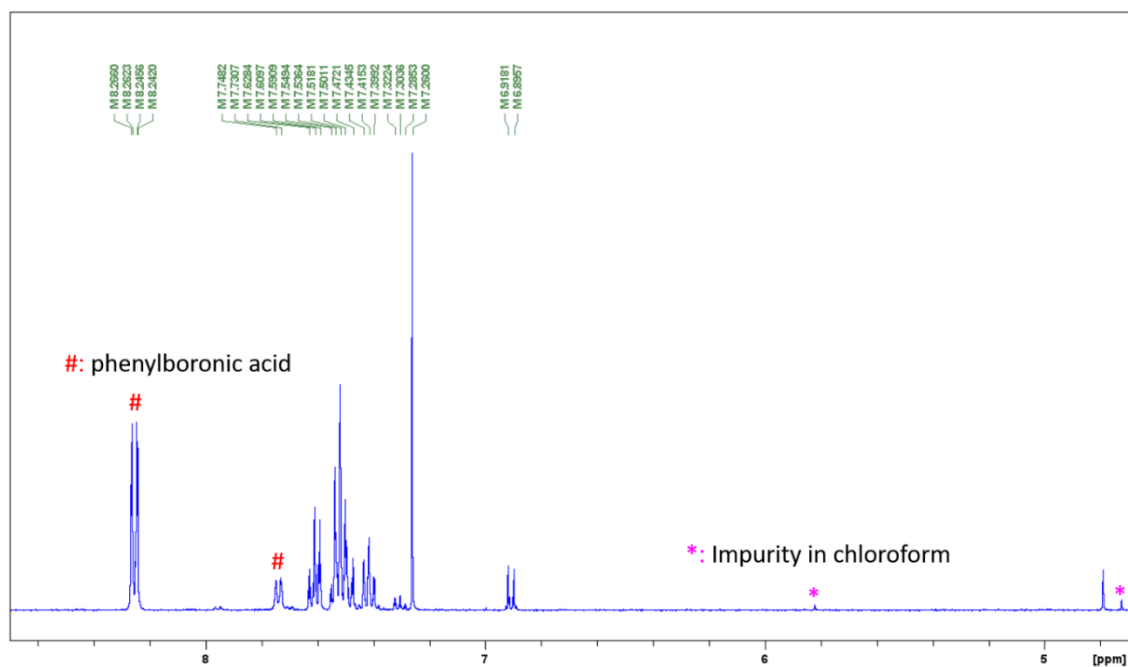


Figure S4. ^1H NMR of product 4-hydroxybiphenyl

4-phenylbenzaldehyde: ^1H NMR (400 MHz, CDCl_3 , 25 $^\circ\text{C}$): δ 10.06 (s, 1H), 7.97-7.95 (d, 2H), 7.77 - 7.75 (d, 2H), 7.66-7.63 (d, 2H), 7.51-7.40 (m, 3H).

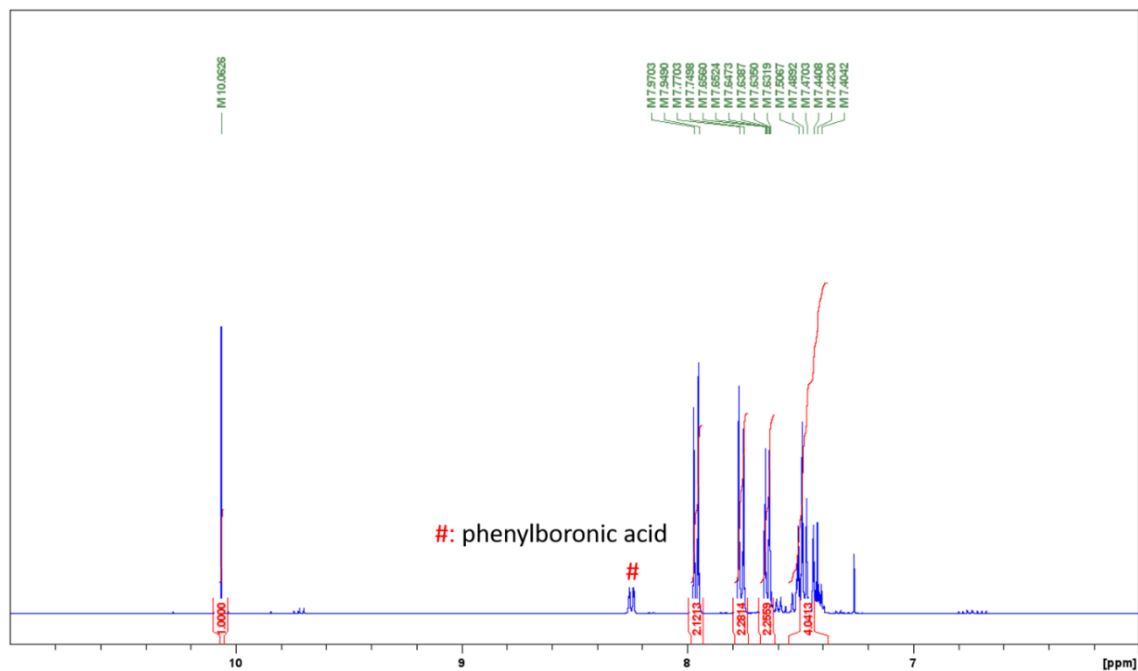


Figure S5. ^1H NMR of product 4-phenylbenzaldehyde

4-methoxybiphenyl: ^1H NMR (400 MHz, CDCl_3 , 25 $^\circ\text{C}$): δ = 7.56-7.52 (m, 4H), 7.43-7.40 (m, 2H), 7.32-7.28 (m, 1H), 6.99-6.97 (d, 2H), 3.86 (s, 3H).

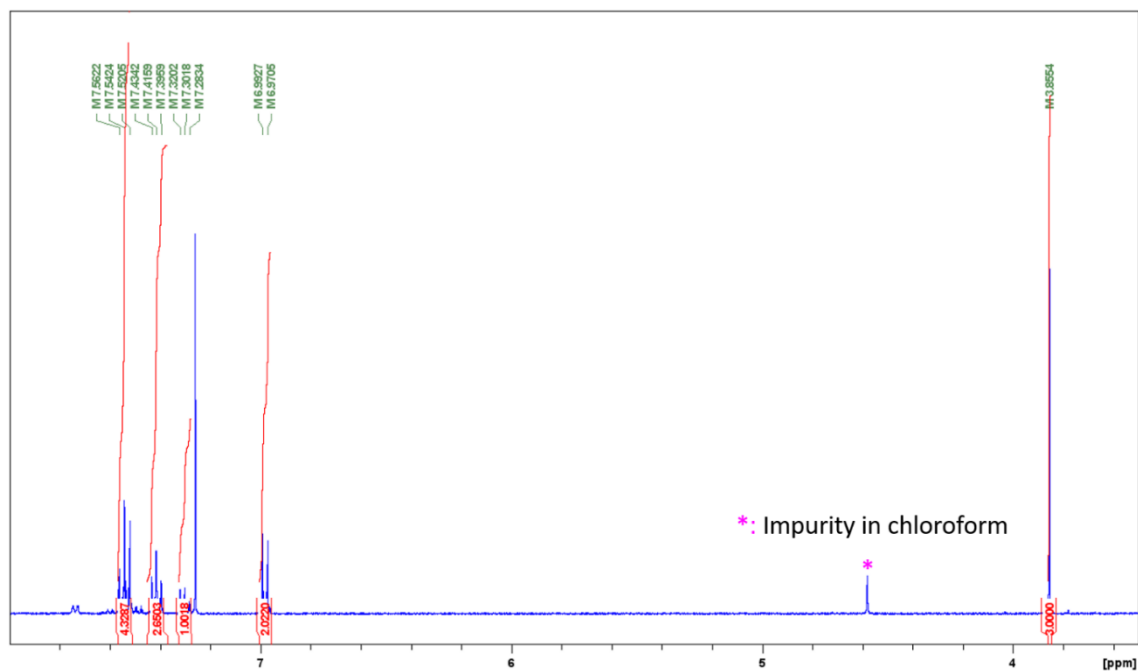


Figure S6. ^1H NMR of product 4-methoxybiphenyl

4-methylbiphenyl: ^1H NMR (400 MHz, CDCl_3 , 25 $^\circ\text{C}$): δ = 7.59-7.57 (d, 2H), 7.51-7.49 (d, 2H), 7.44-7.41 (t, 2H), 7.34-7.32 (t, 1H), 7.24 (d, 2H), 2.40 (s, 3H).

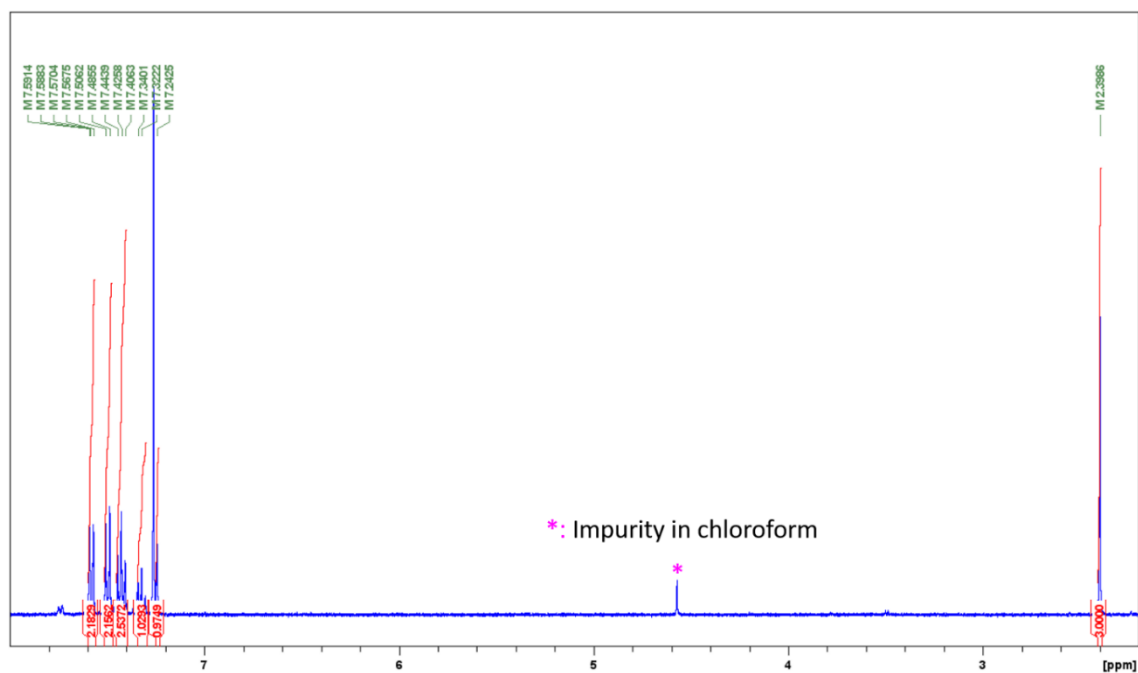


Figure S7. ^1H NMR of product 4-methylbiphenyl