Supporting Information

Ruthenium-grafted triazine functionalized mesoporous polymer: A highly efficient and multifunctional catalyst for transfer hydrogenation and Suzuki–Miyaura cross-coupling reactions

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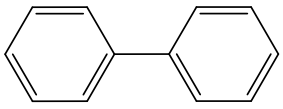
Average Molecular Weight of MPTAT-1

Average molecular weight of MPTAT-1 have been measured by using a MALDI-TOF MS analyzer (Bruker Daltonics FLEX-PC) with dithranol as a matrix and THF as a matrix solvent. Since MPTAT-1 is insoluble in all common solvents, there is some limitation in this analysis. Assuming this experimental limitation observed average molecular weight of MPTAT-1 was in the range 16400-19500.

Spectral data of the isolated product:

Suzuki cross-coupling reaction of aryl halides and arylboronic acids

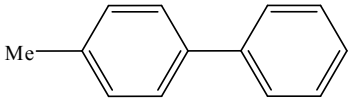
1. Biphenyl[1]



White solid**,** mp 69 ^{0}C (lit. mp[1a] 69–70 ^{0}C)

^{1}H NMR (300 MHz, $CDCl_3$): δ (ppm) 7.36 (m, 2H), 7.44 (m, 4H), 7.60 (m, 4H). GC-MS: m/z 152.

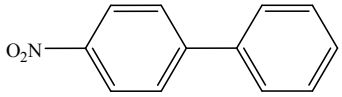
4-Methylbiphenyl[1]



White solid**,** mp 46–47 ^{0}C (lit. mp[1e] 44–46 ^{0}C)

^{1}H NMR (300 MHz, $CDCl_3$): δ (ppm) 2.42 (s, 3H), 7.24 (d, 2H), 7.30 (q, 1H), 7.45 (q, 2H), 7.48 (d, 2H), 7.57 (d, 2H). GC-MS: m/z 167.

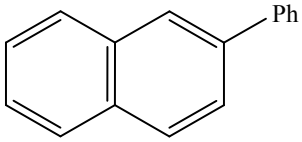
4-Nitrobiphenyl[1]



Yellow solid, mp 111 ^{0}C (lit. mp[1b] 112–114 ^{0}C)

^{1}H NMR (300 MHz, $CDCl_3$): δ (ppm) 7.40-7.51 (m, 3H), 7.60 (m, 2H), 7.76 (d, 2H), 8.32 (d, 2H). GC-MS: m/z 199.

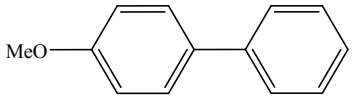
2-phenylnaphthalene[1]



White solid; m.p. 91-92 ^{o}C;

^{1}H NMR ($CDCl_3$, 400 MHz) *δ*: 8.04 (d, 1H), 7.96-7.83 (m, 3H), 7.74 (tt, 3H), 7.55-7.47 (m, 4H), 7.42-7.35 (m, 1H).

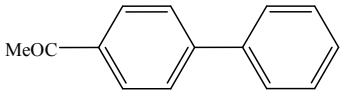
4-Methoxybiphenyl[1]



White solid**,** mp 85 ^{0}C (lit. mp[1c] 86 ^{0}C)

^{1}H NMR (300 MHz, $CDCl_3$): δ (ppm) 3.84 (s, 3H), 6.99 (d, 2H), 7.33 (d, 1H), 7.41 (t, 2H), 7.53 (d, 2H), 7.54 (d, 2H), GC-MS: m/z 183.

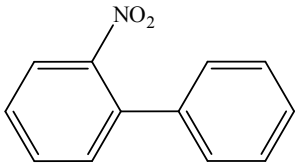
4-Acetylbiphenyl[1]



White solid, mp 118-119 ^{0}C (lit. mp[1d] 119–120 ^{0}C)

^{1}H NMR (300 MHz, $CDCl_3$): δ (ppm) 2.63 (s, 3H), 7.39-7.51 (m, 3H), 7.62 -7.72 (m, 4H), 8.04 (d, 2H). GC-MS: m/z 194.

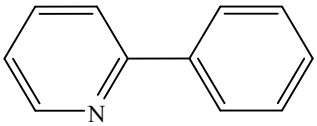
2-Nitro-biphenyl[1]



Pale yellow oil

^{1}H NMR (400 MHz, $CDCl_3$): δ (ppm) 7.32—7.31 (m, 2H), 7.51—7.41 (m, 5H), 7.84 (d, 1H), 7.62 (t, 1H). GC-MS: m/z 197.

2-Phenylpyridine[1]



Colorless liquid.

^{1}H NMR ($CDCl_3$, 200 MHz) δ (ppm) 8.61 (d, 1 H), 7.97 (d, 2 H), 7.66 (d, 1 H), 7.63 (dd, 1 H), 7.44 (dd, 2 H), 7.37 (dd, 1 H), 7.14 (dd,1H). GC-MS: m/z 154.

References

1. (a) S. D. Walker, T. E. Barder, J. R. Martinelli, S. L. Buchwald*, Angew. Chem. Int. Ed.*, 2004, **43**, 1871-1876. (b) D. A. Alonoso, C. Najera, M. C Pacheco, *J. Org.*

Chem., 2002, **67**, 5588-5594. (c) R. B. Bedford, C. S. Cazin, *J. Chem. Commun*., 2001, 1540-1541. (d) F. Y. Kwong, W. H. Lam, C. H. Yeung, K. S. Chan, A. S. C. Chan, *Chem. Commun*., 2004, 1922-1923. (e) J. H. Kim, J. W. Kim, M. Shokouhimehr, Y. S. Lee, *J. Org. Chem*., 2005, **70**, 6714. (f) J. F. Jensen, M. Johannsen, *Org. Lett*., 2003, **5**, 3025-3028.