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Supplementary material for

Polyethylene glycol (PEG) as reusable solvent medium for organic synthesis; Application in Heck reaction

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Standard reaction conditions: A mixture of aryl bromide (1 mmol), olefin (1 mmol), PEG-2000 (2g), triethylamine (1 mmol) and $Pd(OAc)_2$ (0.05 mmol) was placed in a 10 mL round bottomed flask and stirred at 80^0C. After completion of the reaction (monitored by TLC) the reaction mixture was cooled and extracted with cold diethyl ether (3 x 10 mL) and purified by column chromatography.

***E*-Ethylcinnamate**
Data are in accordance with the data of a commercially available sample.

***E*-Stilbene**
Data are in accordance with the data of a commercially available sample.

***E* and *Z*-1-(2-butoxy-1-ethenyl) benzene**
Data are in accordance with literature (C-M. Anderson and A. Hallberg, *J. Org. Chem*. **1987**, *52*, 3529).

***E*-4-methoxy-ethylcinnamate**
Data are in accordance with literature (T. A. Engles, K. O. Latessa, R. Iyengar, W. Chai and K. Agrios, *Biorg . Med. Chem*. **1996**, *4*, 1755).

***E*-4-methoxystilbene**
Data are in accordance with literature (W. J. Ward, Jr., and W. E. Mc Ewen, *J. Org. Chem.* **1990**, *55*, 493).

***E* and *Z*-1-(2-butoxy-1-ethenyl)-4-methoxy-benzene**
(E/Z=70:30); ^{1}H NMR (200 MHz, $CDCl_3$): δ = 7.48-7.40 (m), 6.95-6.85 (m), 6.80 (d, J=13.0), 6.04 (d, J=7.1), 6.72 (d, J=13.0), 5.08 (d, J=7.1), 3.90-3.82 (m), 1.68-1.42 (m), 1.09-0.90 (m).

***E*-3,4-methylenedioxy ethylcinnamate**
Data are in accordance with literature (S. S. Bari, O. P. Vig, M. A. Satter, M. K. Sethi and A.K. Sharma, *J. Ind. Chem. Soc*. **1996**, *73*, 520).

***E*-3,4-methylenedioxystilbene**
^{1}H NMR (200 MHz, $CDCl_3$): δ = 7.52-7.20 (m, 5H), 7.06 (s, 1H), 7.02-6.75 (m, 4H), 5.98 (s, 2H); MS: 224 [M^+], 165, 141, 63, 43.

***E* and *Z*-1-(2-butoxy-1-ethenyl)-3,4-methylenedioxybenzene**
(E/Z=75:25); ^{1}H NMR (200 MHz, $CDCl_3$): δ = 6.95-6.88 (m), 6.74 (d, J=13.4), 6.04 (d, J=7.0), 6.0 (s), 5.75 (d, J= 13.4), 5.08 (d, J=7.0), 3.94-3.86 (m), 1.72-1.42 (m), 1.02-0.94 (m).

***E*-4-chloro-ethylcinnamate**
Data are in accordance with literature (Z-L. Zhou, Y-Z. Huang and L-L Shi, *Tetrahedron*, **1993**, *49*, 6821).

***E*-4-chlorostilbene**
Data are in accordance with literature (W. J. Ward, Jr., and W. E. Mc Ewen, *J. Org. Chem.* **1990**, *55*, 493).

1-(2-butoxy-(E)-1-ethenyl)-4-chloro-benzene
^{1}H NMR (200 MHz, $CDCl_3$): δ = 7.25-7.04 (m, 4H), 6.9 (d, J=13.4 Hz, 1H), 5.72 (d, J=13.4 Hz, 1H), 3.8 (t, J=6.7 Hz, 2H), 1.8-1.6 (m, 2H), 1.55-1.4 (m, 2H), 1.0 (t, J=6.7 Hz, 3H); MS: *m/z* 210 [M^+], 155, 141, 57, 43.

Ethyl 3-(4a,8a-dihydro-2-naphthalenyl)-(E)-2-propenoate
^{1}H NMR (200 MHz, $CDCl_3$): δ = 8.5 (d, J=15.6 Hz, 1H), 8.2 (d, J=8.9 Hz, 1H), 7.9-7.4 (m, 6H), 6.5 (d, J=15.6 Hz,1H), 4.3 (q, $J_{1,2}$=7.4 Hz, $J_{1,3}$=14.1 Hz, 2H), 1.4 (t, J=7.4 Hz, 3H); MS: *m/z* 226 [M^+].

1-(naphthyl)-2-phenyl(E)-1-ethene
Data are in accordance with literature (S- W. Li, Z-L. Zhou,Y-Z. Huang and L-L Shi, *J. Chem. Soc. Perkin Trans 1*, **1991**, 1099).

***E* and *Z*-1-(2-butoxy-1-ethenyl)-naphthalene**
Data are in accordance with literature (W. Cabri, I. Candiani and A. Bedeschi, *J. Org. Chem*. **1990**, *55*, 3654).