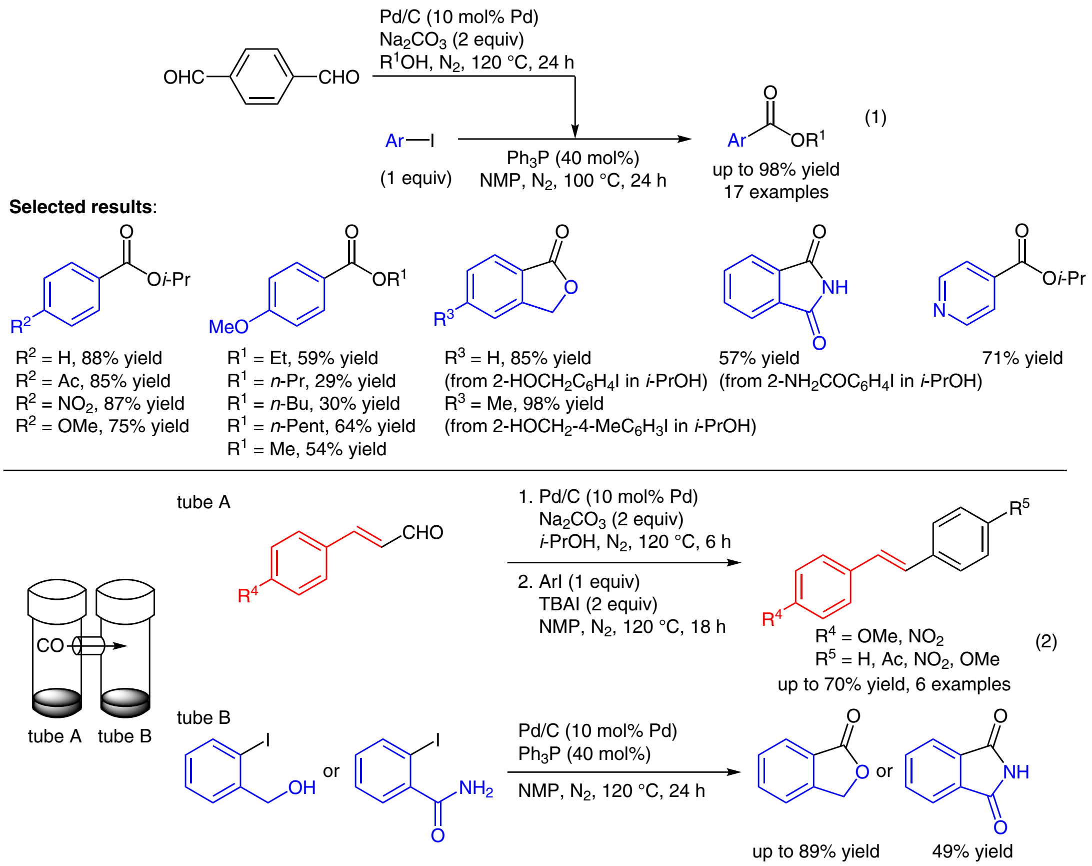
T. HATTORI, S. UEDA, R. TAKAKURA, Y. SAWAMA, Y. MONGUCHI*, H. SAJIKI* (GIFU PHARMACEUTICAL UNIVERSITY, JAPAN)

Heterogeneous One-Pot Carbonylation and Mizoroki–Heck Reaction in a Parallel Manner Following the Cleavage of Cinnamaldehyde Derivatives
Chem. Eur. J. **2017**, *23*, 8196–8202.

Parallel Carbonylation and Decarbonylative Heck Reaction on Palladium/Carbon

Category
Polymer-Supported Synthesis

Key words
carbonylation
Mizoroki–Heck reaction
cinnamaldehydes
palladium on carbon
palladium catalysis



Significance: Palladium on carbon (Pd/C) catalyzed the carbonylation of aryl iodides with terephthalaldehyde as a CO source to give the corresponding products in up to 98% yield (eq. 1; 17 examples). A simultaneous parallel decarbonylative Mizoroki–Heck reaction of cinnamaldehydes with iodobenzenes (tube A) and carbonylation of 2-iodobenzyl alcohol or 2-iodobenzamide with the CO generated in situ (tube B) were carried out in the presence of Pd/C in an H-shaped tube to give *trans*-stilbenes and a phthalide or phthalimide, respectively (eq. 2; 6 examples).

Comment: No recyclability of Pd/C was observed in the parallel decarbonylative Mizoroki–Heck reaction of 4-methoxycinnamaldehyde with iodobenzene and carbonylation of 2-iodobenzyl alcohol (first reuse: 4-methoxy-*trans*-stilbene: 0% yield; phthalide: trace).

SYNFACTS Contributors: Yasuhiro Uozumi, Go Hamasaka
Synfacts 2017, 13(09), 0989 Published online: 18.08.2017
DOI: 10.1055/s-0036-1591152; **Reg-No.:** Y10017SF