M. H. NGUYEN, K. T. O'BRIEN, A. B. SMITH, III* (UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, USA)

Design, Synthesis, and Application of Polymer-Supported Silicon-Transfer Agents for Cross-Coupling Reactions with Organolithium Reagents

J. Org. Chem. **2017**, *82*, 11056–11071.

Pd-Catalyzed Cross-Coupling Mediated by Polymer-Supported Siloxanes

Selected examples:

Significance: Polymer-supported siloxanes were developed as transfer agents for cross-coupling reactions involving organolithium reagents. For example, the polystyrene-supported siloxane **1** was treated with an aryl or alkenyl lithium **2**, and the resulting material was treated with an aryl halide **3** in the presence of PdCl_2 , Cul, and ligand **L** to give the corresponding product **4** in 68–97% yield.

Comment: The transfer agent **1** was recovered almost quantitatively by simple filtration and rinsing, and reused in the cross-coupling several times. No cross-contamination of the products **4** was detected in a series of ten reactions with recycled **1** and various combinations of organolithium reagents **2** and aryl halides **3**.

SYNFACTS Contributors: Yasuhiro Uozumi, Takuma Sato
Synfacts 2018, 14(01), 0095 Published online: 15.12.2017
DOI: 10.1055/s-0036-1591031; Reg-No.: Y17217SF