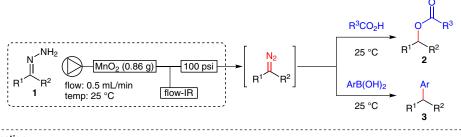
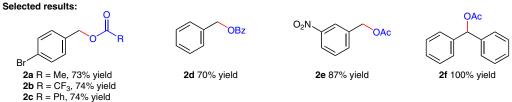
D. N. TRAN, C. BATTILOCCHIO, S.-B. LOU, J. M. HAWKINS, S. V. LEY* (UNIVERSITY OF CAMBRIDGE, UK; PFIZER WORLDWIDE RESEARCH AND DEVELOPMENT, GROTON, USA) Flow Chemistry as a Discovery Tool to Access sp²–sp³ Cross-Coupling Reactions via Diazo Compounds *Chem. Sci.* **2015**, *6*, 1120–1125.

Flow-Generated Diazo Compounds and Their Use in Cross-Coupling



Esterification:



Coupling reaction:

Selected results:

Significance: Unstable diazo compounds were generated as reactive intermediates in a flow system using a MnO₂-packed cartridge with Hünig's base. The resulting diazo compounds reacted with carboxylic acids and arylboronic acids under flow conditions to give the corresponding esters **2a-f** in 72–100% yield and the C–C coupling products **3a-f** in 67–95% yield, respectively.

Comment: The generated diazo compounds were detected and titrated by in-line IR spectroscopy. The MnO₂-packed cartridge was regenerated by flowing *tert*-butyl hydroperoxide in dichloromethane and reused twice with a slight loss of activity.

Category

Polymer-Supported Synthesis

Key words

diazo compounds flow reaction cross-coupling manganese oxide



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