Continuous-Flow Pd/C-Catalyzed Reductive Alkylation of Alcohols with Aldehydes

Results:

- 79% yield
- 68% yield
- 52% yield
- 43% yield

- 67% yield
- 58% yield
- 50% yield
- 46% yield

- 88% yield
- 59% yield
- 71% yield
- 57% yield

- 46% yield
- 35% yield
- 93% yield
- 57% yield

- 43% yield
- 43% yield
- 70% yield
- 55% yield

Significance: The authors have developed a continuous-flow system for the reductive alkylation of alcohols with aldehydes catalyzed by Pd/C in the presence of hydrogen, giving the corresponding ethers in 35–93% yield.

Comment: In the long-term flow reaction of butan-1-ol with octanal, butyl octyl ether was obtained in 50% yield after eight hours.