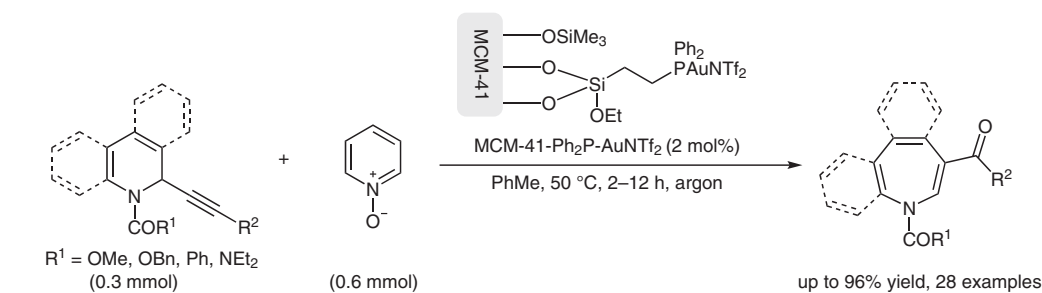


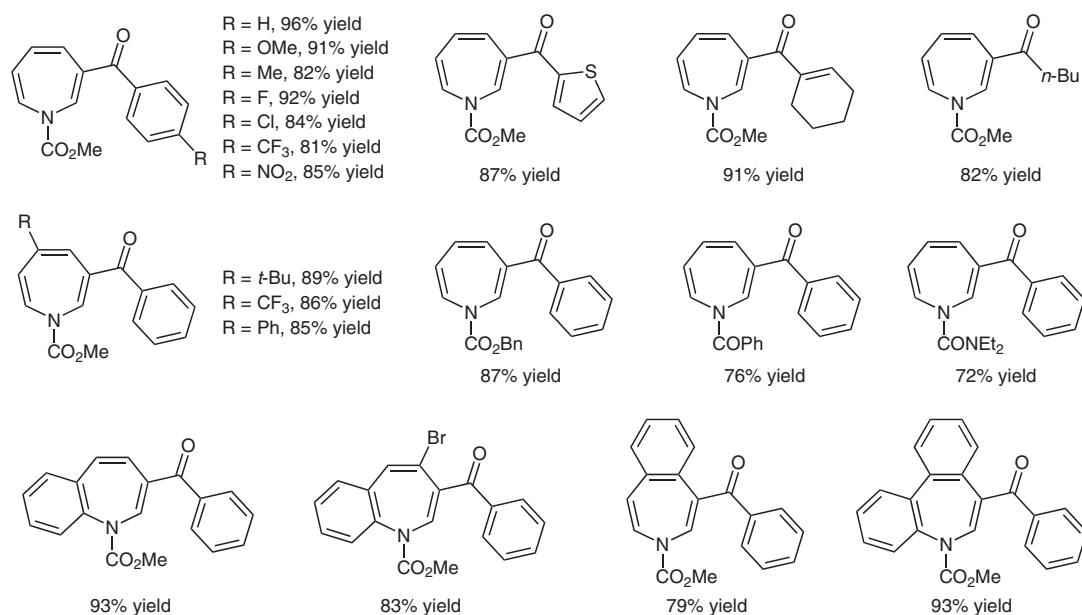
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Heterogeneous Gold(I)-Catalyzed Oxidative Ring Expansion of 2-Alkynyl-1,2-Dihydropyridines or -Quinolines Towards Functionalized Azepines or Benzazepines  
*Adv. Synth. Catal.* **2019**, *361*, 4065–4074.

## Ring Expansion of 2-Alkynyl-1,2-Dihydropyridines with Pyridine *N*-Oxide on a Silica-Supported Au Complex



### Selected examples:



**Significance:** A gold complex immobilized on a mesoporous silica (MCM-41) bearing diphenylphosphine functional groups (MCM-41-Ph<sub>2</sub>P-AuNTf<sub>2</sub>) catalyzed the oxidative ring expansion of 2-alkynyl-1,2-dihydropyridines or -quinolines with pyridine *N*-oxide to give the corresponding azepines in ≤96% isolated yield.

**Comment:** The authors have previously reported the preparation of MCM-41-Ph<sub>2</sub>P-AuNTf<sub>2</sub> and its use in the hydroamination of alkynes with anilines (*Adv. Synth. Catal.* **2018**, *360*, 3940). In the oxidative ring expansion of methyl 2-(phenylethynyl)pyridine-1(*2H*)-carboxylate with pyridine *N*-oxide, the catalyst was recovered and reused seven times without significant loss of its catalytic activity (fresh: 96% yield; seventh reuse: 93%).

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