Mukaiyama Aldol Reaction Catalyzed by a MOF-Based Fe\textsuperscript{3+} Complex

**Significance:** A metal-organic framework (MOF) based Fe\textsuperscript{3+} catalyst was developed and applied to the Mukaiyama aldol reaction. Thus, the MOF-based Fe\textsuperscript{3+}, UMCM-1-AMFesal, was prepared by condensation of MOF composite UMCM-1-NH\textsubscript{2} with acid anhydride 1 followed by metalation with Fe(acac)\textsubscript{3}. The Mukaiyama aldol reaction of aldehydes 5a,b and a silyl ketene acetal 6 was carried out with UMCM-1-AMFesal (0.1 mol\% Fe) to give the corresponding \(\beta\)-hydroxy esters in 70±11\% yield (7a) and 53±18\% yield (7b). The catalyst was reused twice without loss of catalytic activity.

**Comment:** The preparation of UMCM-1-NH\textsubscript{2} (University of Michigan Crystalline Material-1-NH\textsubscript{2}), consisting of 4,4′,4″-benzene-1,3,5-trithiobenzolato (3), 2-amino-1,4-benzenedicarboxylic acid (4), and Zn(NO\textsubscript{3})\textsubscript{2}, was previously reported (Inorg. Chem. 2009, 48, 296). UMCM-1 was originally prepared by Matzger and co-workers (Angew. Chem. Int. Ed. 2008, 4, 677).