Iron(III) Tosylate Catalyzed Acylation of Alcohols, Phenols and Diols.


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Iron(III) \(p\)-toluenesulfonate (tosylate) is an efficient catalyst for acetylation of alcohols, phenols, and diols. The acetylation of 1\(^\circ\) and 2\(^\circ\) alcohols, diols, and phenols proceeded smoothly with 2.0 mol % of catalyst. However, the reaction worked only with a few 3\(^\circ\) alcohols. The methodology was also applicable to the synthesis of a few benzoate esters but required the use of 5.0 mol% catalyst. Iron(III) tosylate is an inexpensive and easy to handle, commercially available catalyst that is relatively non toxic and hence attractive from a green chemistry perspective.