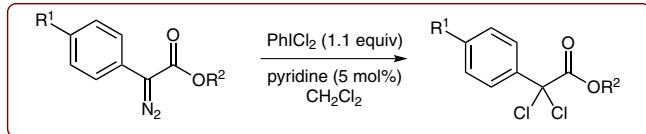
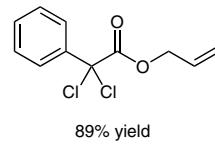
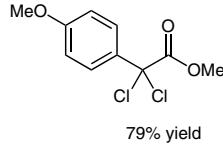
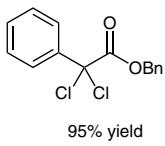
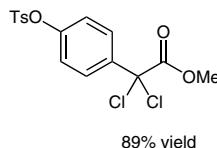
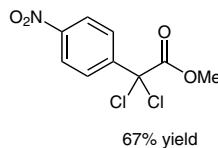
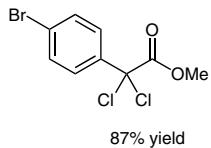


Hypervalent Iodine for α,α -Dihalogenation

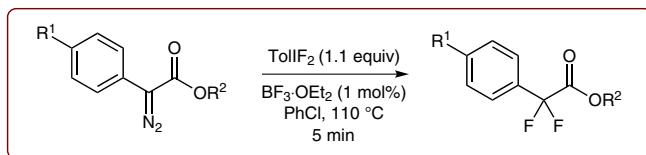
Chlorination:



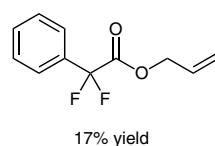
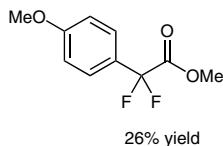
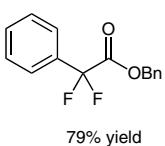
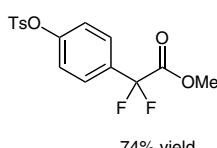
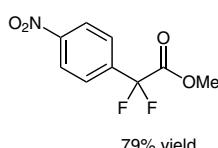
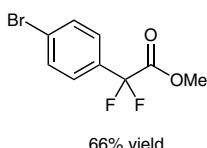
Selected examples:



Fluorination:



Selected examples:



Significance: Functionalization at the α -position of carbonyls represents one of the most versatile and useful types of transformations in organic chemistry. In this paper, the authors describe the use of a hypervalent iodine species to doubly halogenate the α -position of esters with either chlorine or fluorine.

Comment: While the chlorination procedure was shown to be broadly functional group tolerant, the need for $\text{BF}_3\text{-OEt}_2$ in the case of fluorination limits the possible functionality in the starting material. The authors report that substrates with labile moieties such as OMe or NHAc decompose upon heating with $\text{BF}_3\text{-OEt}_2$.