Oxidative Transformations of Alkenes Using Environmentally Benign Reagents

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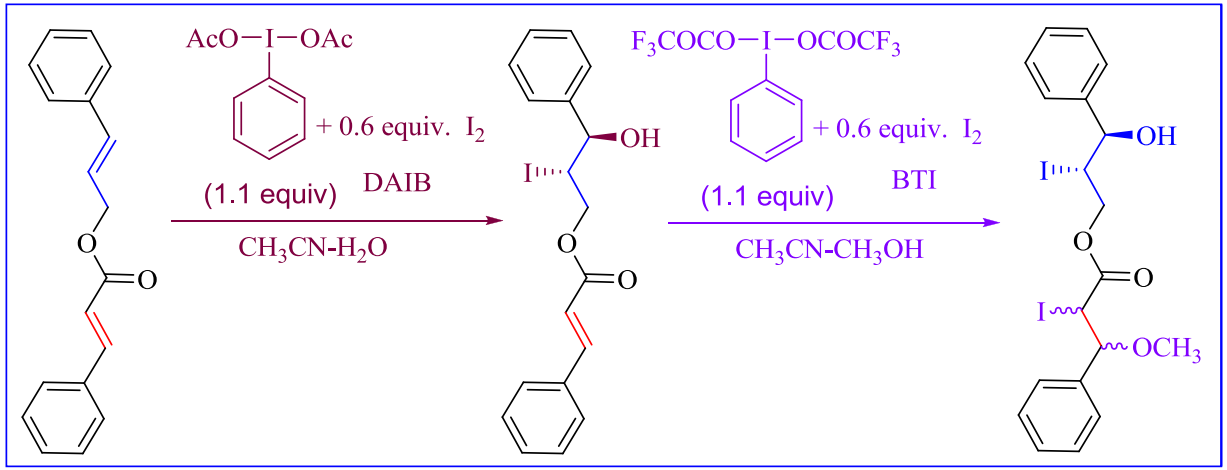
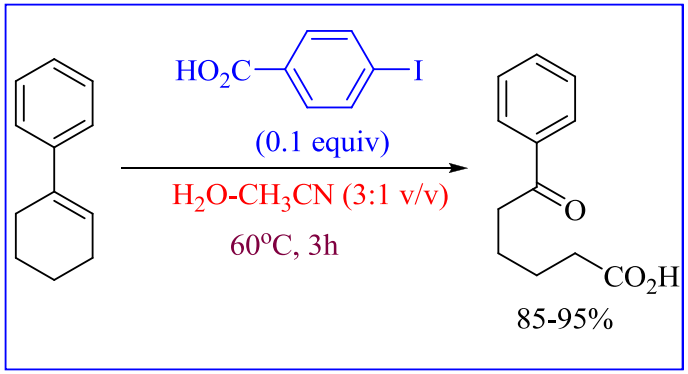
Selective and differential functionalization of the two double bonds in dienes



Sequential use of DAIB and BTI as oxidants for elemental iodine have allowed us to selectively and differentially functionalize two double bonds in dienes. The differences in the elctrophilic nature of iodine atom in the in –situ generated acetyl hypoiodite and trifluoroacetyl hypoidite accounts for the noted difference in reactivities.

Development of a green chemistry experiment for undergraduate curriculum



Experimental demonstration of oxidative cleavage of alkenes is not a common exercise in any undergraduate curriculum. Based on our previously reported procedure, we have now developed and optimized an experiment for oxidative cleavage of alkenes demonstrating several green chemistry principles including the use of safer solvents and catalytic use of reagents.