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α'-Oxy Enones for Construction of All-Carbon Quaternary Stereogenic Centers: Azlactones as Pronucleophiles

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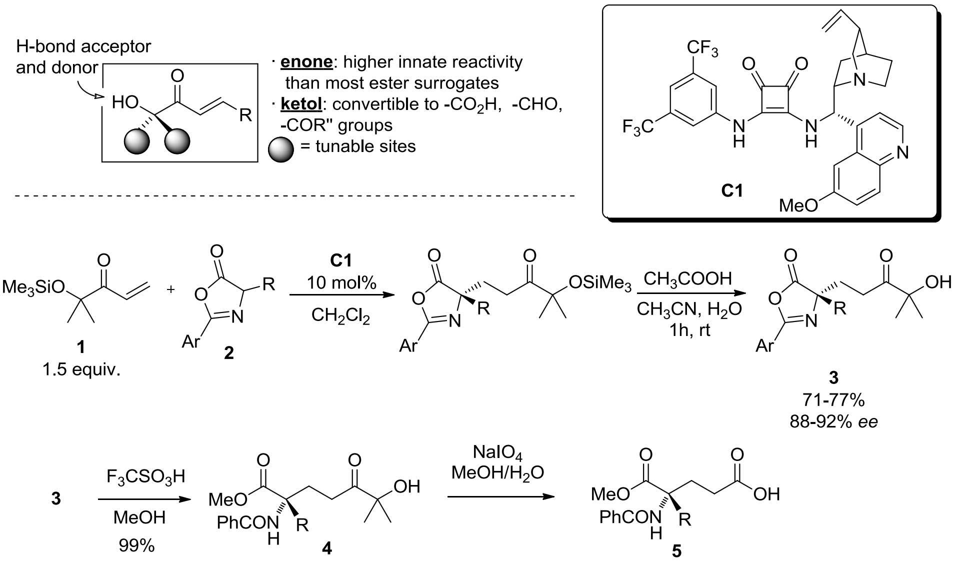
Studies in our group have shown that α'-oxy enones react in the presence of Brønsted base catalysts with 3-substituted oxindoles, cyanoesters, 5*H*-oxazol-4-ones, 1*H*-imidazol-4-(5*H*)-ones and azlactones to give the corresponding 1,5-dicarbonyl Michael adducts with a fully substituted carbon center in high enantioselectivity. For example, the reaction between azlactones **2** and enone **1** is efficiently promoted by catalyst **C1** to led, after desilylation, to the corresponding products **3** with good yields and *ee*'s. In each case, reactions proceed with high site selectivity and no products from reaction at the C2-possition of the azlactone ring are observed.[1]



Besides their utility for the installation of aldehyde and ketone functionality, α'-oxy enones, through simple oxidative cleavage of the ketol moiety in the resulting adducts, act as α-β-unsaturated carboxylic acid surrogates for which successful methodologies are notably deficient.

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[1] J. S. Fisk, R. A. Mosey, J. J. Tepe, *Chem. Soc. Rev.* **2007**, *36*, 1432-1440.