Concise and Highly Stereoselective Synthesis of β,β-Disubstituted α,β-Unsaturated Esters

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Abstract

Building on our previously reported techniques, we developed a concise and highly stereoselective synthesis method for β,β-disubstituted α,β-unsaturated esters. This synthesis comprises 3 reactions: the aldol reaction of acetic ester derivatives with ketones, the acetylation of *tert*-alcohols, and an elimination reaction utilizing 1,8-diazabicyclo[5.4.0]undec-7-ene (DBU). During the acetylation process, acetic anhydride and 4-dimethylaminopyridine (DMAP) facilitated the smooth acetylation of bulky *tert*-alcohols; however, employing DBU as a base reduced the yields. Additionally, the removal of excess DMAP effectively suppressed the formation of unwanted byproducts during the elimination step.