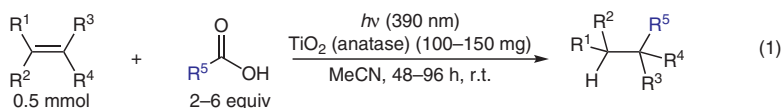
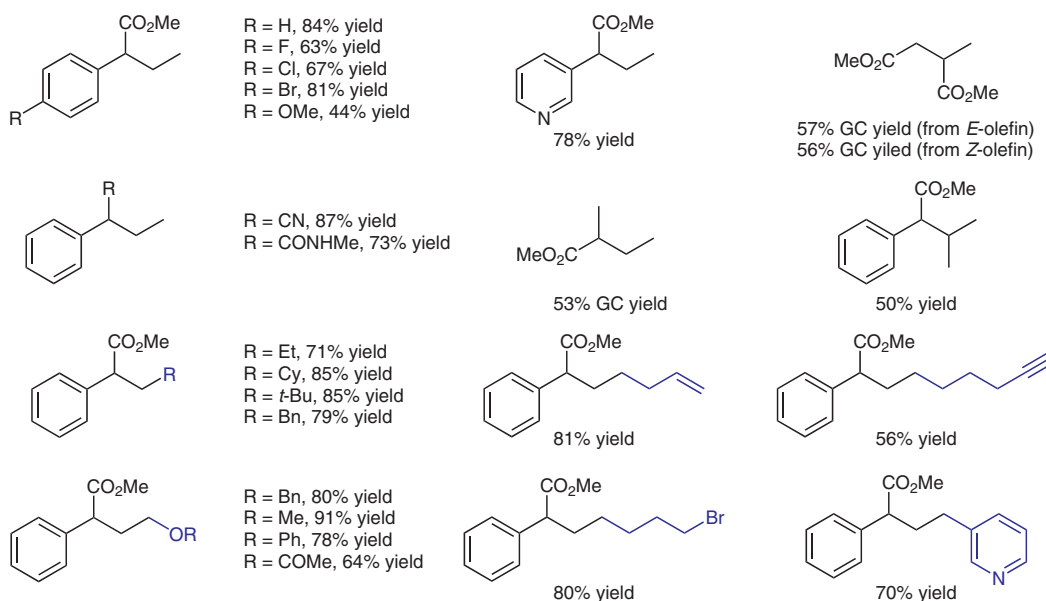


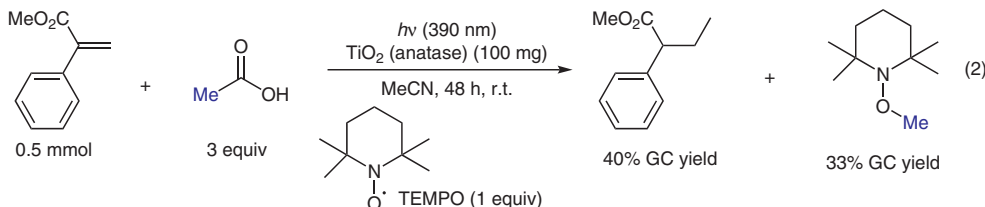
## Titania-Promoted Hydroalkylation of Electron-Deficient Olefins



### Selected examples:



### Mechanistic experiment:



**Significance:** Commercially available anatase TiO<sub>2</sub> nanoparticles promoted the hydroalkylation of alkenes bearing electron-withdrawing groups with carboxylic acids under 390 nm light irradiation to give the corresponding hydrocarbons in up to 91% yield (eq. 1).

**Comment:** Mechanistic studies indicated that alkyl radicals were generated by decarboxylation of the carboxylic acids promoted by TiO<sub>2</sub> (eq. 2). The catalytic activity of TiO<sub>2</sub> was superior to that of various heterogeneous semiconducting photocatalysts such as ZnO, WO<sub>3</sub>, or CdS.