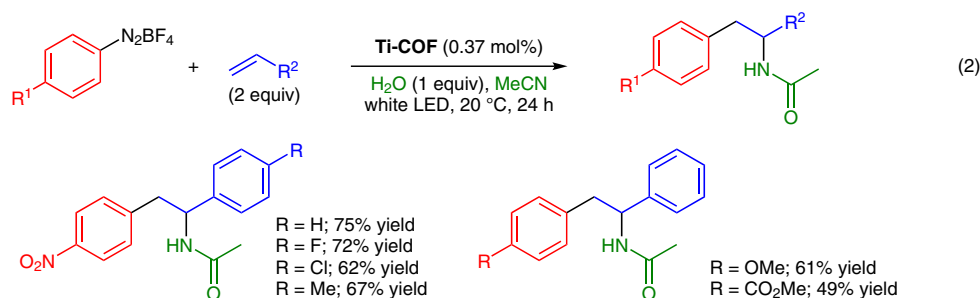
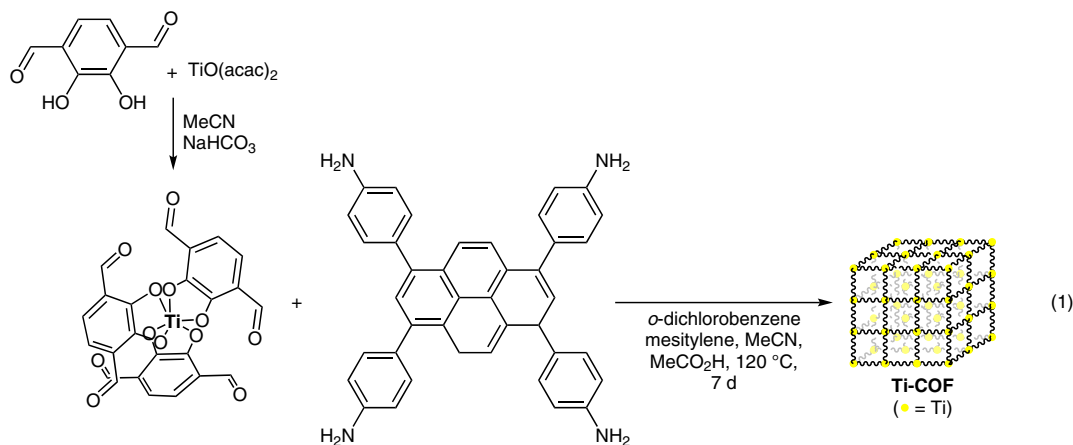


H.-S. LU, W.-K. HAN, X. YAN, C.-J. CHEN, T. NIU*, Z.-G. GU* (JIANGNAN UNIVERSITY, WUXI, P. R. OF CHINA)

A 3D Anionic Metal Covalent Organic Framework with soc Topology Built from an Octahedral Ti^{IV} Complex for Photocatalytic Reactions

Angew. Chem. Int. Ed. 2021, 60, 17881–17886, DOI: 10.1002/anie.202102665.

Photochemical Meerwein Arylation By Using a Titanium(VI)-Based Covalent Organic Framework



Significance: A titanium (VI)-based three-dimensional covalent organic framework (**Ti-COF**), prepared according to Equation 1, catalyzed the Meerwein arylation of alkenes in MeCN–H₂O under white LED irradiation to afford the corresponding Meerwein addition products in ≤75% yield (eq. 2).

Comment: The Ti-COF catalyst was characterized by means of FTIR, ¹³C CP/MAS NMR, UV/Vis DRS, XPS, PXRD, TGA, N₂ adsorption/desorption isotherms, BET, SEM, TEM, HRTEM, STEM, EDX, and elemental analyses. In the Meerwein addition reaction of 4-nitrobenzenediazonium tetrafluoroborate and styrene, the catalyst was recovered and reused four times without significant loss of its catalytic activity.