Cobalt-Mediated Asymmetric 1,6-Alkyne Addition to Conjugated Carbonyls

Significance: Asymmetric additions of acetylenes to conjugated $\pi$-systems have gained growing interest in recent years (Y. Watanabe et al. J. Org. Chem. 1985, 50, 565; M. Shirakura, M. Suginome Angew. Chem. Int. Ed. 2010, 49, 3827). Herein, a cobalt-catalyzed addition of TIPS-acetylene is described.

Comment: The presented method allows the asymmetric addition of TIPS-acetylene to $\alpha$,$\beta$,$\gamma$,$\delta$-unsaturated carbonyl compounds with high regio- and enantioselectivity.