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Catalytic Asymmetric Allylation of Aldehydes with Alkenes through Allylic C(sp³)-H Functionalization Mediated by Organophotoredox and Chiral Chromium Hybrid Catalysis
Chem. Sci. 2019, DOI: 10.1039/c8sc05677c.

Chromium-Catalyzed Asymmetric Allylation

**Significance:** The authors describe a chromium-photoredox hybrid-catalyzed asymmetric allylation reaction of various aldehydes using unactivated alkenes. A catalytic system consisting of an acridinium-based photocatalyst and a chiral chromium complex enables the required C–H activation, leading to the formation of homo-allylic alcohols with very high enantioselectivities.

**Comment:** To shed light on the reaction mechanism, various experiments were carried out. For instance, the addition of TEMPO to a standard setup completely inhibits the reaction. Moreover, an adduct of the radical trap and the alkene was detected, which underlines the proposed generation of allylic radicals during the reaction.