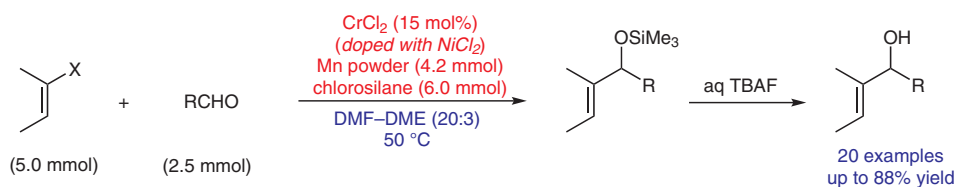


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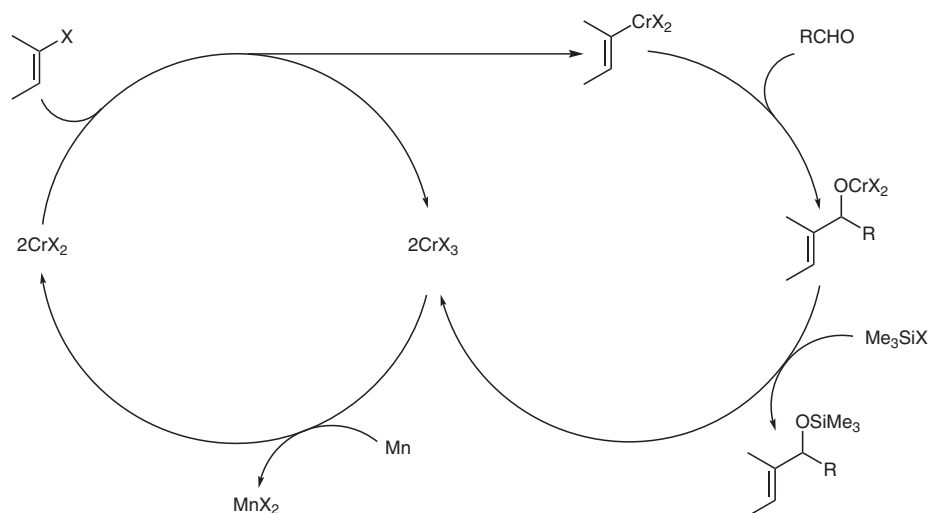
Nozaki–Hiyama–Kishi Reactions Catalytic in Chromium

J. Am. Chem. Soc. **1996**, *118*, 12349–12357, DOI: 10.1021/ja9625236.

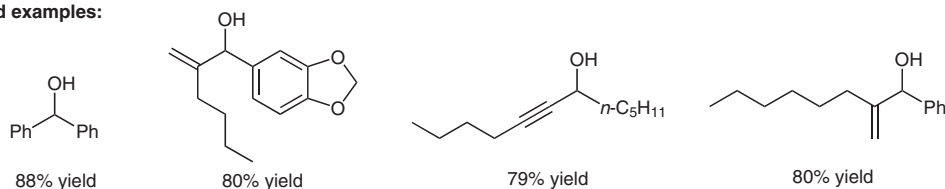
Chromium-Catalyzed Nozaki–Hiyama–Kishi Reaction



Proposed catalytic cycle:



Selected examples:



Significance: Fürstner and Shi reported a chromium-catalyzed Nozaki–Hiyama–Kishi reaction that is applicable to a broad substrate scope because it relates to both aldehydes and (pseudo) halides. It employs non-toxic manganese as a stoichiometric reductant to regenerate the active chromium(II) species and affords the products in good to excellent yields.

Comment: The authors noted that both CrCl₂ and CrCl₃ were effective in mediating the reaction. Attempts to further improve the catalytic turnover proved successful as the use of either chromocene (Cp₂Cr) or CpCrCl₂·THF as pre-catalysts proved successful even at catalytic loadings of ≤1.0 mol% of chromium.

Review: S. Shaw, J. D. White *Chem. Rev.* **2019**, *119*, 9381–9426.

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