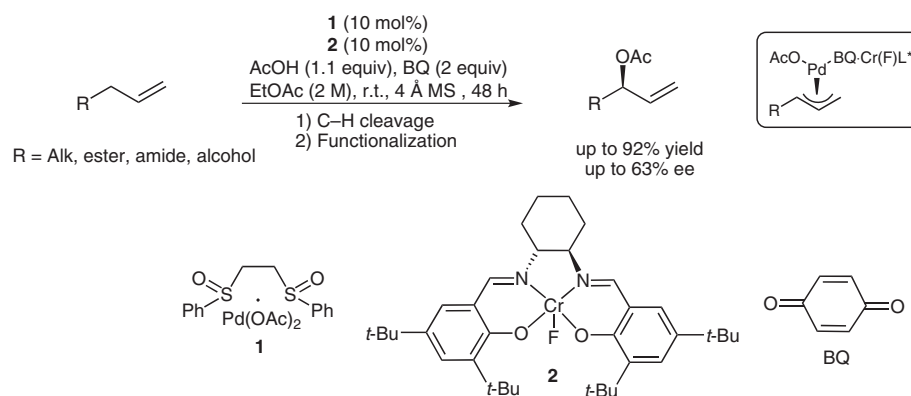
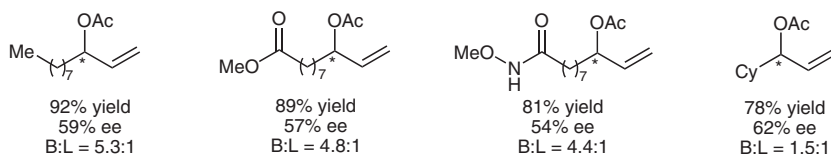


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# Asymmetric Allylic C–H Oxidation of Terminal Olefins



## Selected examples:



**Significance:** A novel Lewis acid strategy for the asymmetric allylic C–H oxidation of terminal olefins is developed. This work represents one of the most efficient and innovative approaches for this transformation. For previous work see: M. C. White and co-workers *J. Am. Chem. Soc.* **2005**, *127*, 6970.

**Comment:** The chiral chromium(III) Lewis acid generates an asymmetric environment in the organopalladium intermediate, and induces asymmetry in the C–O bond-forming step. The Lewis acid is coordinated to the carbonyl group of the 1,4-benzoquinone (BQ), increases the  $\pi$ -acidity of the metal ligand accelerating the C–O bond formation, and controls the selectivity in the reductive elimination of the acetate. Therefore, the presence of BQ is necessary to achieve the functionalization. A variety of functional groups are tolerated in this transformation, including free and protected alcohols, amides and esters. Hindered groups in the allylic position do not effect the enantioselectivity, while the regioselectivity decreases (R = Cy, B:L = 1.5:1).