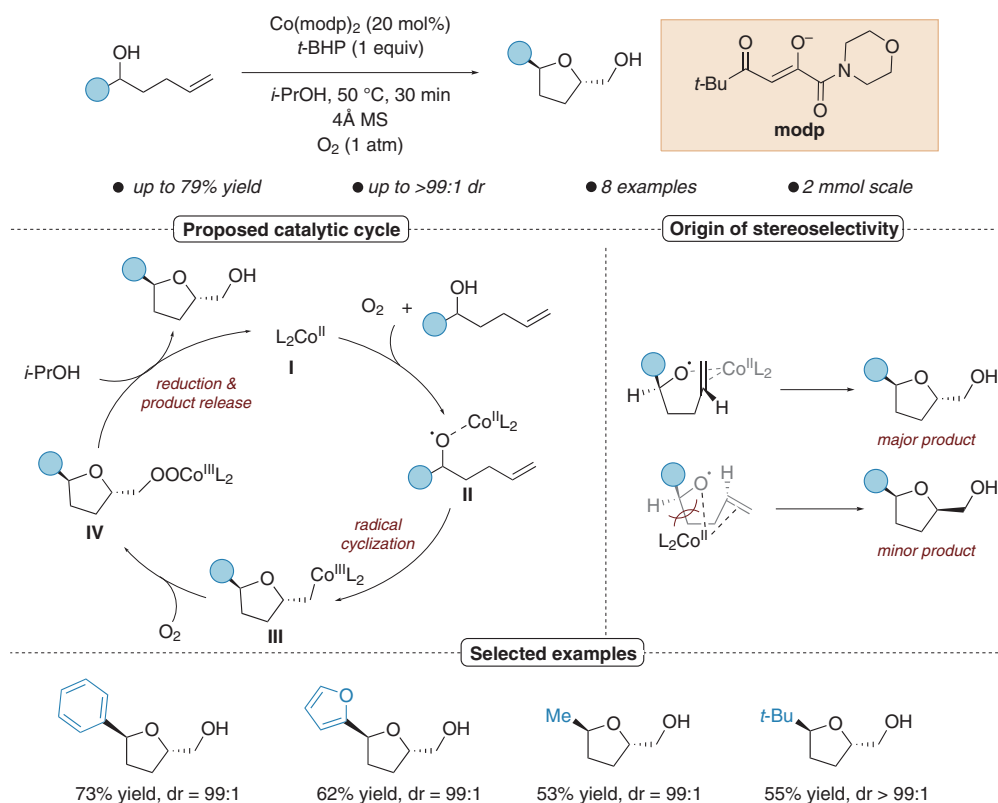


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A Convenient Method for the Stereoselective Preparation of *trans*-2-Hydroxymethyltetrahydrofurans by the Oxidative Cyclization of 5-Hydroxy-1-alkenes with Molecular Oxygen Catalyzed by Cobalt(II) Complex  
*Chem. Lett.* **1990**, *19*, 67–70, DOI: 10.1246/cl.1990.67.

## Cobalt-Mediated Intramolecular Cyclization of Bis-homoallylic Alcohols under Aerobic Conditions



**Significance:** Inoki and Mukaiyama report an intramolecular dioxygenation of bis-homoallylic alcohols to achieve a highly diastereoselective synthesis of *trans*-substituted tetrahydrofurans. These oxygenated motifs are found in a wide range of natural products. This methodology and developments have been applied to many synthetic efforts towards complex natural products.

**Comment:** Under non-optimized conditions Mukaiyama reported that hydroalkoxylation, rather than dioxygenation of the pendant alkene was observed as a significant byproduct via the reduction of **III**. Access to these reduced products and other highly functionalized tetrahydrofurans has been developed by Hartung and co-workers (see: *J. Am. Chem. Soc.* **2009**, *131*, 12918; *J. Am. Chem. Soc.* **2011**, *133*, 3906) using other radical acceptors.