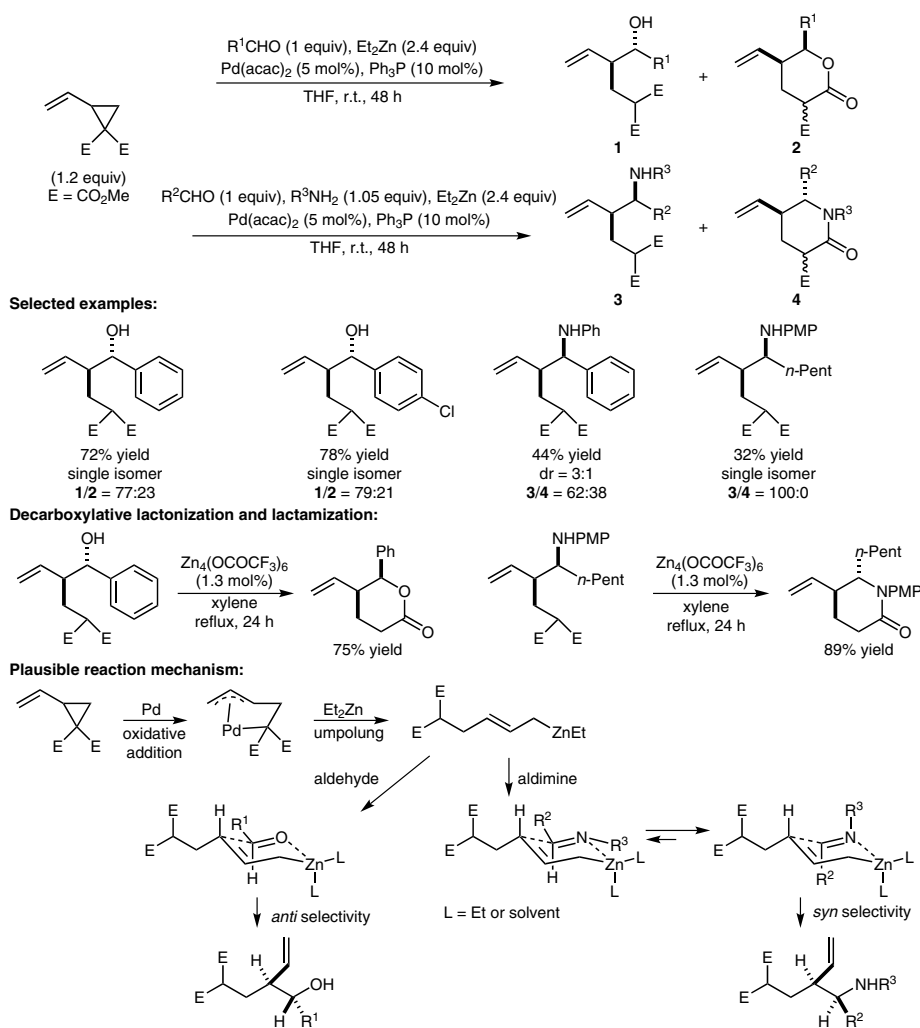


Palladium-Catalyzed Nucleophilic Allylation of Aldehydes or Aldimines



Significance: Ring-expansion reactions of vinylcyclopropanes are powerful tools for organic synthesis. The authors describe the palladium-catalyzed nucleophilic allylation of aldehyde and aldimines with vinylcyclopropane in the presence of dimethylzinc.

Comment: The allylation of aldehydes with vinylcyclopropane and diethylzinc proceeded to provide homoallyl alcohols with *anti* stereoselectivity. Aldimines prepared from aldehyde and primary amines in situ underwent a similar allylation to give homoallylamines with *syn* stereoselectivity. The products can be converted by reaction with a tetranuclear zinc cluster into γ -vinyl- δ -valerolactones and γ -vinyl- δ -valerolactams. The transformation is useful for the efficient synthesis of bioactive molecules.