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 \(\gamma\)-vinyl-\(\delta\)-valerolactons and \(\gamma\)-vinyl-\(\delta\)-valerolactams. The transformation is useful for the efficient synthesis of bioactive molecules.