The Corey–House Reaction: An Early Transition-Metal-Mediated Cross-Coupling

**Significance:** In 1967, Corey and Posner reported a simple method for carbon–carbon cross-coupling using the previously reported Gilman cuprates of type $R_2CuLi$. In Corey's original publication $Me_2CuLi$ was generated by adding $MeLi$ to cuprous halides. The resulting dimethylcuprate was used for cross-couplings with alkyl, alkenyl, aryl bromides and iodides to form the corresponding methylated products. *trans*-1-Bromo-2-phenylethylene was stereospecifically converted into *trans*-1-phenylpropene. In a similar fashion formation of *cis*-1-phenylpropene was observed from *cis*-1-bromo-2-phenylethylene.

**Comment:** In 1969 Whitesides, House, and co-workers contributed significantly to the scope of the coupling reaction by using lithium aryl-, sec-alkyl and tert-alkyl cuprates as coupling partners for the organic halides (G. M. Whitesides, W. F. Fischer Jr., J. San Filippo Jr., R. W. Bashe, H. O. House *J. Am. Chem. Soc.* 1969, 91, 4871). Thus, the cross-coupling reaction of Gilman cuprates with organyl halides is known as the Corey–House reaction. Variations of the name including Whitesides and Posner are also in use.