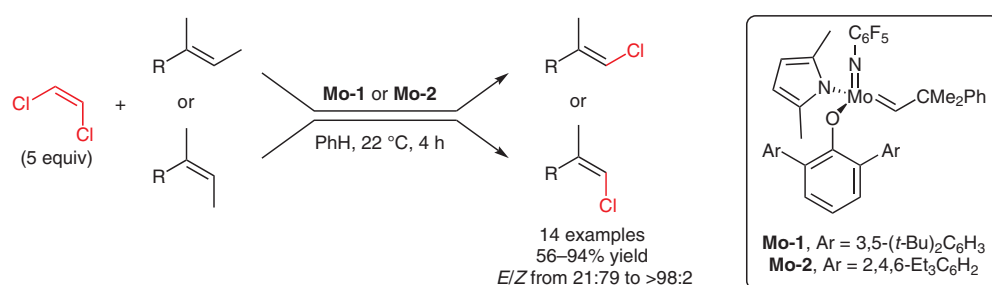
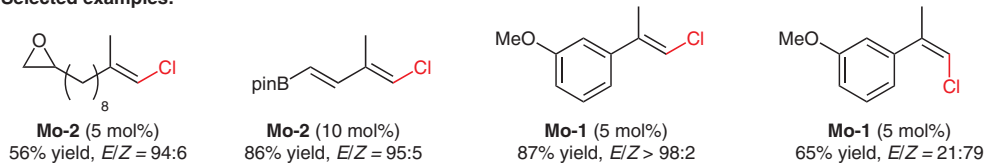


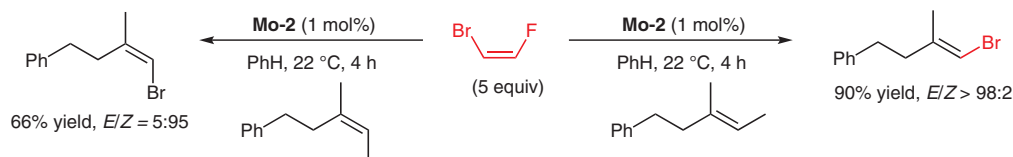
Stereoselective Synthesis of Trisubstituted Alkenes via Intermolecular Olefin Metathesis



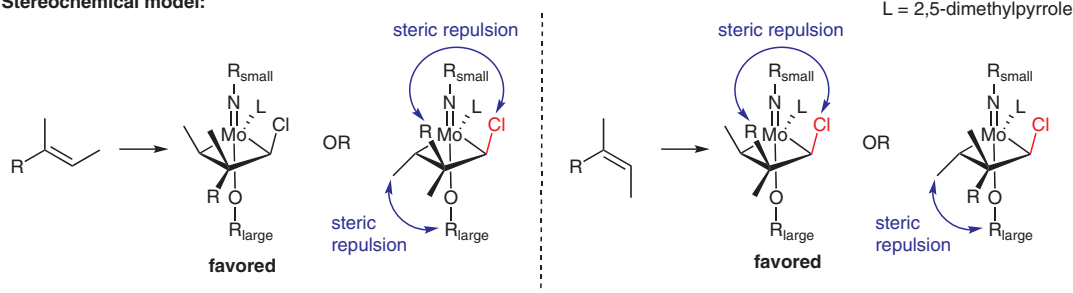
Selected examples:



Additional examples:



Stereochemical model:



Significance: Crossed olefin metathesis is a challenge in organic chemistry because of the prevalence of side reactions from homo-metathesis. Hoveyda and co-workers report a crossed metathesis with high *E/Z*-selectivity generating trisubstituted haloalkenes. The reaction shows good to excellent *E/Z*-selectivity and can generate either the *E* or *Z* product depending on the stereochemistry of the starting olefin.

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Comment: Alkenyl chloride products could be generated in good to excellent yields wherein the *trans* product was formed with higher *E/Z* ratios. Additionally, the alkenyl bromide products could be generated. The improved selectivity for the *trans*-olefin starting material was explained with the stereochemical model. In the case of the *Z*-olefin, the energy gap between the two potential pathways is less because steric repulsion is significant in both pathways, leading to lower *E/Z* ratios.