

A Novel One-Pot Reaction: Zwitterionic Rhodium Complex-Catalyzed Hydroaminovinylation of Vinyl Sulfones and a Vinylphosphonate.

Lin, Yong-Shou; El Ali, Bassam; Alper, Howard. Center for Catalysis Research and Innovation
Department of Chemistry, University of Ottawa, Ottawa, ON, Can.
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Abstract

A new one-pot hydroaminovinylation reaction has been achieved for the synthesis of sulfonated and phosphonated enamines using the zwitterionic rhodium complex $\text{Rh}^+(\text{cod})(\eta^6\text{-PhBPh}_3)^-$ together with a chelating phosphine ligand as the catalyst. E.g., hydroaminovinylation of $\text{MeSO}_2\text{CH}=\text{CH}_2$ in the presence of syngas and Me_2CHNH_2 gave $\text{MeSO}_2\text{CMe}=\text{CHNHCHMe}_2$ and byproduct $\text{MeSO}_2\text{CH}_2\text{CH}_2\text{NHCHMe}_2$. The regio- and stereoselectivity of the reactions are often excellent.