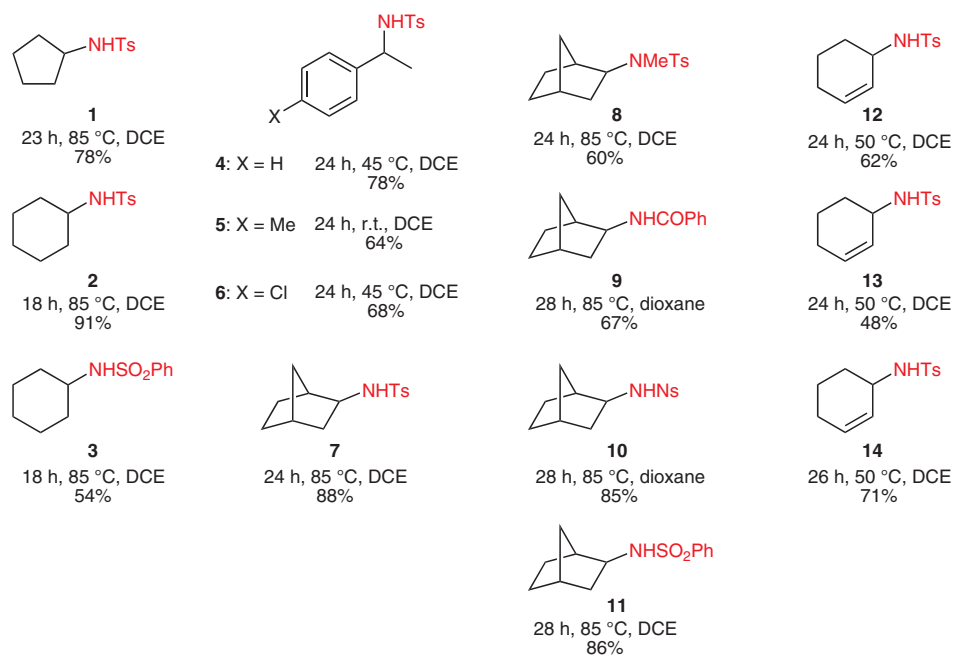
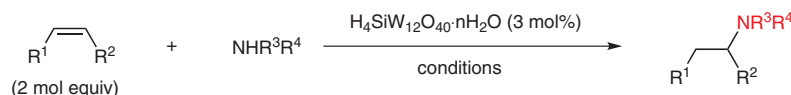


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Heteropoly Acids: A Green and Efficient Heterogeneous Brønsted Acidic Catalyst for the Intermolecular Hydroamination of Olefins

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Heteropoly Acid Catalyzed Hydroamination of Alkenes



Significance: Heteropoly acids (HPAs) catalyzed hydroamination of alkenes was described. Thus, the intermolecular hydroamination of alkenes (2 mol equiv) with amides or carbamates was performed in the presence of $H_4SiW_{12}O_{40} \cdot nH_2O$ (3 mol%) in dichloroethane (DCE) at r.t. to 85 °C to afford the corresponding products **1–14** in 48–91% isolated yield. The catalyst was reused twice with slight loss of catalytic activity (1st use = 78%, 2nd use = 74%, 3rd use = 62%).

Comment: $H_4SiW_{12}O_{40} \cdot nH_2O$ was the most efficient HPAs catalyst (**2**: 95%) compared with $H_3PW_{12}O_{40} \cdot nH_2O$ (**2**: 63%), $H_3PMo_{12}O_{40} \cdot nH_2O$ (**2**: 82%), $Na_3PMo_{12}O_{40}$ (no reaction), $(NH_4)_3PW_{12}O_{40}$ (**2**: trace) and $Ag_3PW_{12}O_{40}$ (**2**: trace). The catalyst was recycled via simple filtration and washing with DCE.

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