

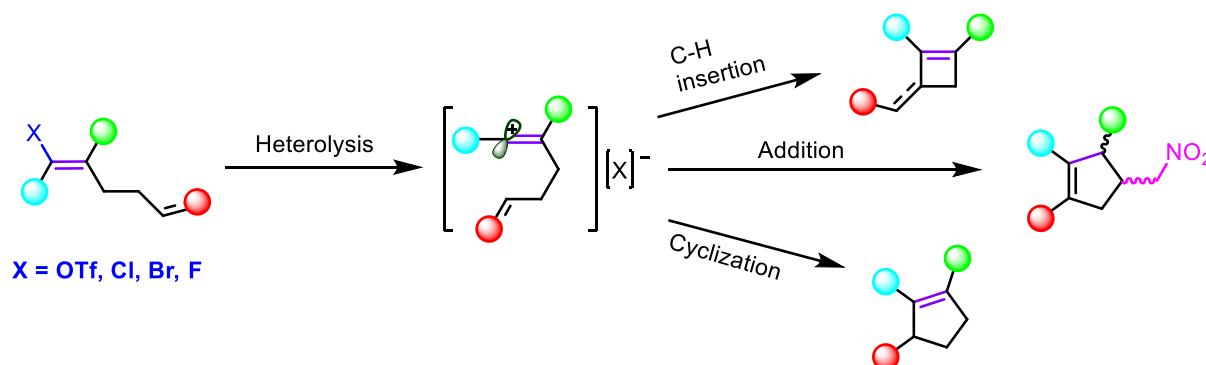
C-H INSERTION AND INTRAMOLECULAR CYCLIZATION VIA VINYL CATION



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In recent developments, the reactivity of vinyl cations has been harnessed to devise innovative reactions. Our subsequent investigations have underscored the potential of employing Weakly Coordinating Anion (WCAs) like $[\text{Al}(\text{ORF})_4]^-$ ($\text{RF} = \text{C}(\text{CF}_3)_3$) to promote bimolecular vinylation of aromatics via vinyl cation intermediate.¹ Nevertheless, generating vinyl cations with adequate electrophilicity through heterolytic $\text{Csp}^2\text{-X}$ ($\text{X} = \text{Cl}, \text{Br}, \text{F}, \text{OSO}_2\text{R} \dots$) cleavage remains a very challenging task. We assume that utilizing WCAs which exhibit even weaker coordinating properties than those utilized previously, we may enhance the reactivity of vinyl cations and overcome current limitations.



In this regard, we will present our investigation involving vinyl cations derived from triflate derivatives using inorganic bases (K_2CO_3 , $\text{Li}_2\text{CO}_3 \dots$) and salts of the WCAs $[\text{Al}(\text{ORF})_4]^-$ ($\text{RF} = \text{C}(\text{CF}_3)_3$) and $[\text{Al}(\text{OTeF}_5)_4]^-$, which demonstrate even weaker coordinating properties than their predecessors.

References

¹ Z. Li, V. Gandon, C. Bour, *Chem. Commun.* **2020**, 56, 6507 – 6510.