

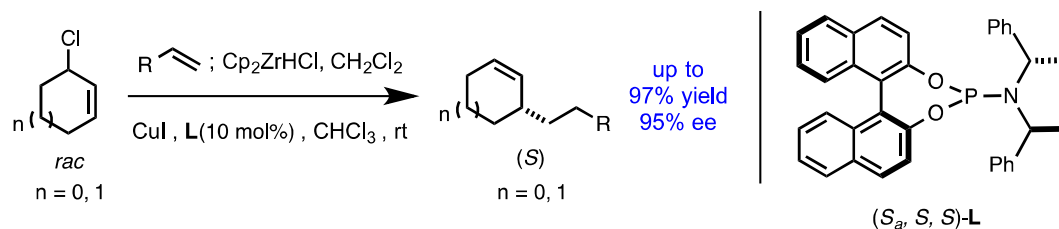
## Non-stabilized Nucleophiles in Copper-Catalyzed Dynamic Kinetic Asymmetric Allylic Alkylation

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The development of reliable asymmetric methods to construct stereogenic centres from racemic starting materials would be powerful in synthetic organic chemistry. Over the past decades, the use of stabilized nucleophiles in dynamic kinetic asymmetric carbon-carbon formations, where both enantiomers of a starting material are converted to a single product, has proven to be a fruitful method.<sup>1,2</sup> There have been significant difficulties in using non-stabilized nucleophiles in such processes, and this remains a key challenge.<sup>3,4</sup>

Recently, we described a copper-catalysed enantioselective addition of alkyl zirconium reagents to racemic cyclic allylic chlorides (Figure 1). The reaction uses readily available starting materials and catalysts, tolerates a variety of functional groups and operates under convenient conditions.<sup>5</sup> Here we will describe experimental work aimed at better understanding the mechanism of these reactions and at extending the scope of this chemistry.



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