ASLIB Abstract

Aziridinations of Tethered Allenes

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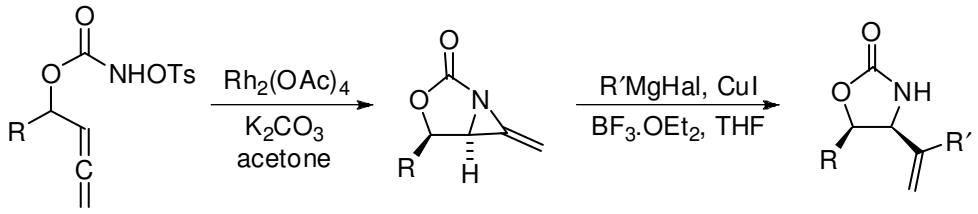
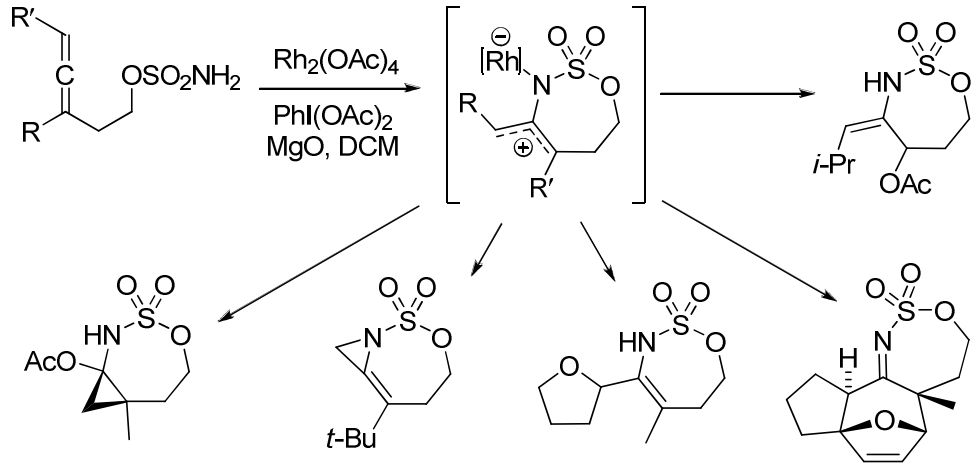
This thesis describes the synthesis and reactivity of previously unprecedented bicyclic methylene aziridines *via* rhodium(II)-catalysed cyclisation of α-allenic *N*-tosyloxycarbamates. These aziridines undergo reaction with organocuprates to give *cis*-disubstituted oxazolidinones by nucleophillic attack at the vinylic centre; plausible mechanisms for this process are discussed.



Similar rhodium(II)-catalysed cyclisations of β-allenic sulfamates afford cyclic enamines, aminocyclopropanes or bicyclic methylene aziridines; the product ratio depends on the allene substitution pattern. Suitably-designed substrates undergo trapping of the proposed intermediate amino-allyl cation by internal nucleophiles or by cycloaddition.



Finally, thermally-induced intramolecular cycloadditions of γ-allenic azides are described that give triazolines or [1,2,3]-triazoles.

