α,β-Unsaturated Diazoketones as Useful Platforms in the Synthesis of Pyrrolidine, Piperidine and Indolizidine Alkaloids

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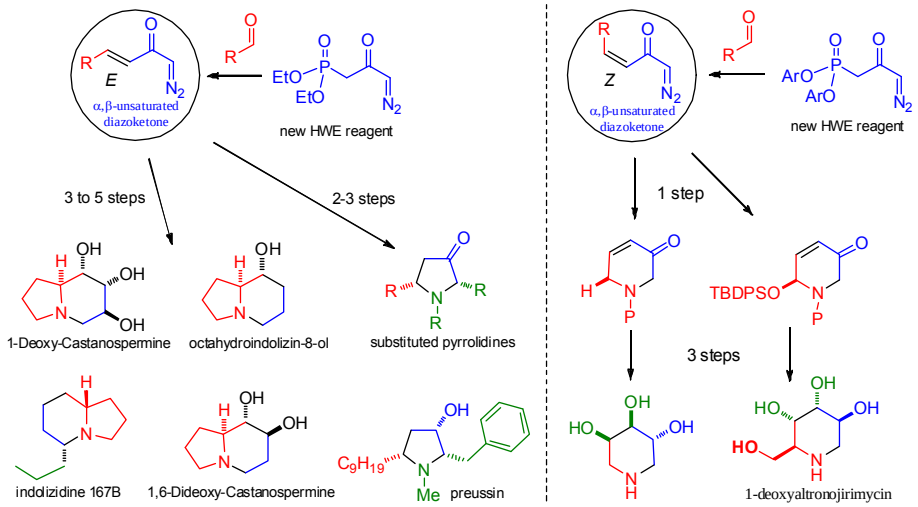
Abstract Speech

Diazocompounds[1] are a very interesting class of compounds that can promote a wide range of reactions, such as cyclopropanations, insertion reactions, ylide formation, dimerization, elimination reactions and formation of ketenes by the Wolff rearrangement. An interesting class of these diazocompounds is the α,β-unsaturated diazoketones,[2] which has received little attention when compared to the saturated ones due to the difficulty of its preparation by the usual existing methods. Herein, we would like to describe two methodologies for the preparation of α,β-unsaturated diazoketones with *E* and *Z* geometry employing new Horner-Wadsworth-Emmons reagents and their use as efficient platforms in the direct synthesis of pyrrolidines,[2] indolizidines[3,4] and piperidines[5] (Scheme 1).



Scheme 1: α,β-unsaturated diazoketones as platforms in the synthesis of alkaloids.

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