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Synthesis of Bioactive Indole Alkaloids

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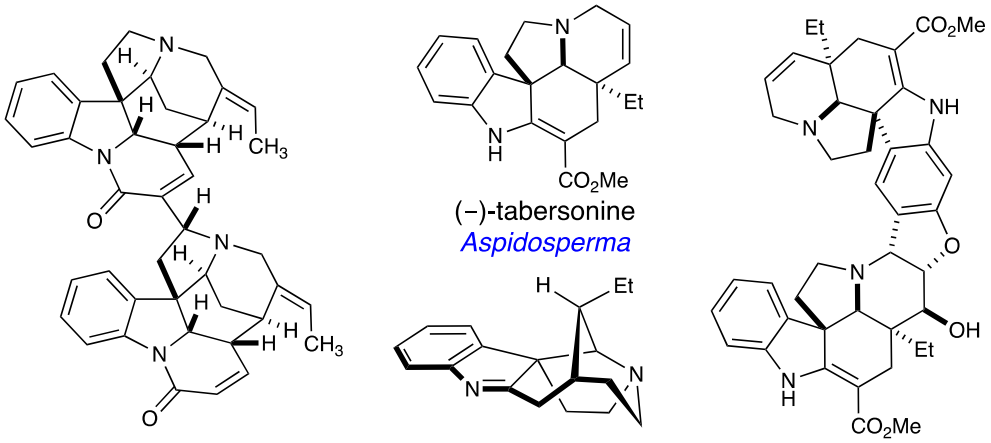
ABSTRACT

What is the most efficient way of accessing a natural product in terms of time, cost, and effort? This overarching question has served to guide our thinking about assembling complex target molecules. Since 2006, my laboratory has been interested in the development and application of novel synthetic methods that enable rapid access to complex natural products, particularly bioactive indole alkaloids. In 2013, we reported a novel domino Michael–Mannich annulation method and applied it toward the concise synthesis of *Aspidosperma* alkaloid (–)-tabersonine.[1,2] In addition, we have applied this method toward the first synthesis of *Aspidospermatan* alkaloid (+)-*epi*-condyfoline (unpublished). In 2016, we reported short syntheses of bis-*Strychnos* alkaloids (–)-sungucine, (–)-isosungucine, and (–)-strychnogucine B.[3,4] Finally, efforts toward the first synthesis of bis-*Aspidosperma* alkaloid (–)-melodinine K will be discussed.

GRAPHICAL ABSTRACT



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