Total synthesis of indole alkaloid: Novel strategy toward the synthesis of 3,4-fused indole alkaloid.

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Abstract:
3,4-Fused indoles are usually prepared by the installation of additional ring(s) onto a preformed indole framework. Recently, the Söderberg lab has developed a carbon monoxide mediated palladium-catalyzed reductive N-heterocyclization to prepare indole species. Expanding on this work, several 3,4-fused indole natural products have been chosen as our target molecules. Herein, we will report some of the successful total syntheses of 3,4-fused indole alkaloids via our N-heterocyclization as a late-stage step. Key synthetic steps include stilled coupling reaction, mitsunobu reaction, acyliminium ion allylation, heck reaction, etc. Future work will also be discussed, wherein our N-heterocyclization will be applied in total synthesis of more complicate molecule.

References: