Synthesis of functionalized indoles under continuous flow conditions

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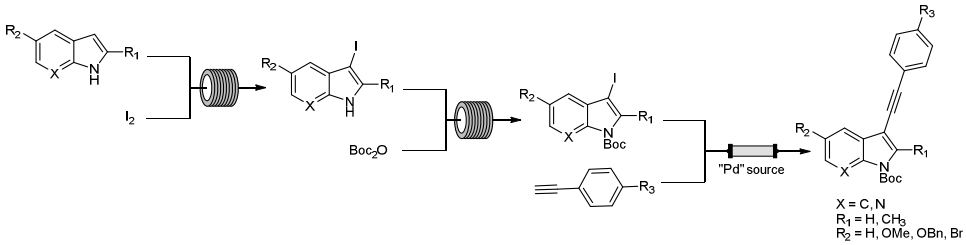
Indole is an aromatic heterocycle present in many structures of natural alkaloids and in a multitude of biologically and pharmacologically active compounds.[a] For example, it is found as the structural scaffold of signaling mediators or hormones such as melatonin.[b] Given the interest generated by this heterocyclic compound, it is not surprising that fast and efficient access to these derivatives remains of interest to the chemical community.

To functionalize indole and its derivatives, we were interested in the development of an innovative technology in organic chemistry, continuous flow synthesis. This eco-efficient system offers a variety of advantages like faster and cleaner reactions with less solvent[c] as well as the possible manipulation of short-lived and highly reactive species. Benefits also include diminished chemical exposure and easy scale-up to furnish larger amounts of product necessary for *in-vivo* studies.

The aim of this project is to transfer usual reactions of indole chemistry to continuous flow process. Thus, this communication will present this transposition for *C-3* iodination and NH protection with BOC group. Moreover, we investigated an original copper-free Sonogashira reaction in *C-3* position using supported Pd catalyst.



Bibliographic references:

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