

## Direct Palladium-Catalyzed Selective N-Allylation of 2,3-Disubstituted Indoles with Allylic Alcohols in Water

**Authors :** Bai-Jing Peng, Shyh-Chyun Yang

**Abstract :** Organic reactions in water have recently attracted much attention, not only because unique reactivity is often observed in water but also because water is a safe and economical substitute for conventional organic solvents. Thus, development of environmental safe, atom-economical reactions in water is one of the most important goals of synthetic chemistry. The recent paper has documented renewed interest in the use of allylic substrates in the synthesis of new C–C, C–N, and C–O bonds. We have reported our attempts and some successful applications of a process involving the C–O bond cleavage catalyzed by palladium or platinum complexes in water. Because of the importance of heterocycle indole derivatives, much effort has been directed toward the development of methods for functionalization of the indole nucleus at N1 site. In our research, the palladium-catalyzed 2,3-disubstituted indoles with allylic alcohols was investigated under different conditions. Herein, we will establish a simple, convenient, and efficient method, which affords high yields of allylated indoles.

**Keywords :** palladium-catalyzed, allylic alcohols, indoles, water, allylation

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