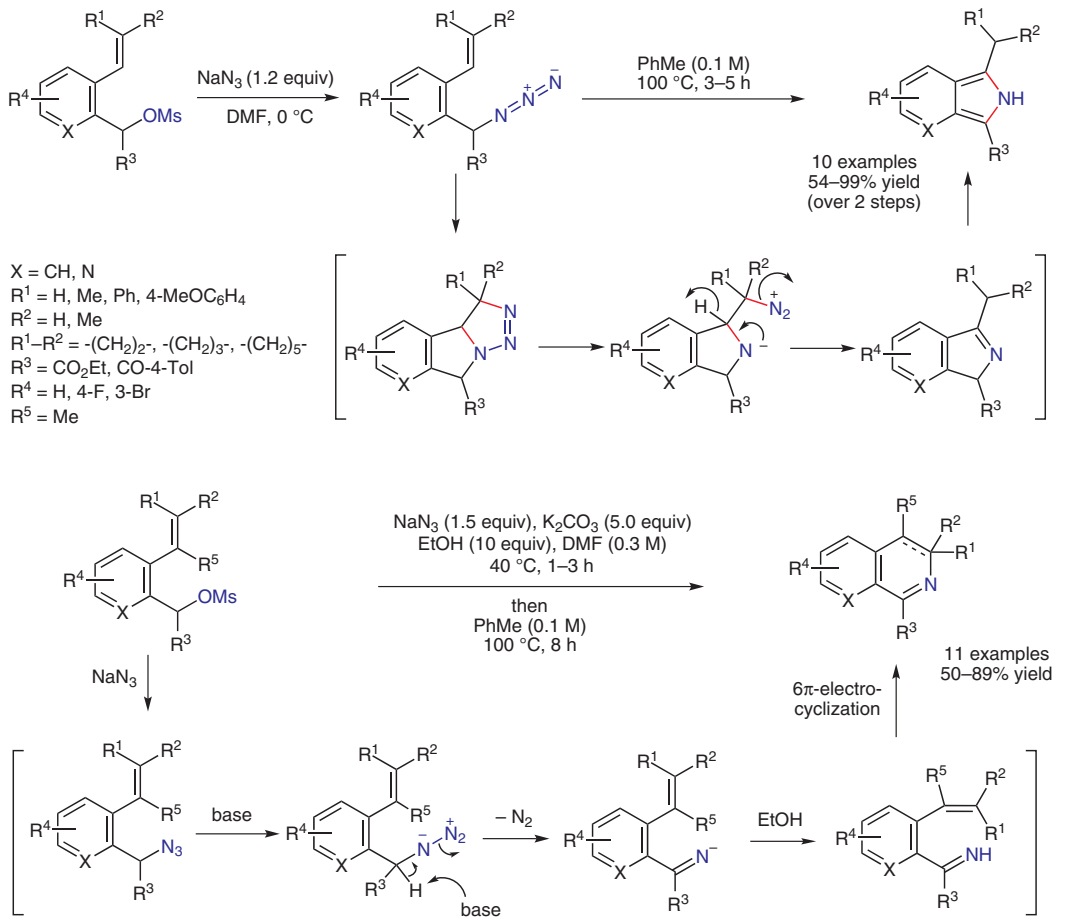
B. W.-Q. HUI, S. CHIBA* (NANYANG TECHNOLOGICAL UNIVERSITY, SINGAPORE)
Orthogonal Synthesis of Isoindole and Isoquinoline Derivatives from Organic Azides
Org. Lett. **2009**, *11*, 729-732.

Synthesis of Isoindoles and Isoquinolines via 1,3-Dipolar Cycloaddition and Electrocyclization



Significance: Reported is a two-step sequence for the synthesis of isoindoles from α-azido carbonyl compounds containing a 2-alkenylaryl unit via 1,3-dipolar cycloaddition of azide onto the tethered alkene. It was also realized that the synthesis of dihydroisoquinolines can be achieved from the same starting mesylate by reacting it with NaN_3, then with base (K_2CO_3) in EtOH (as proton source) followed by 6π-electrocyclization under dilution in toluene. Some of the dihydroisoquinolines gave the corresponding isoquinoline derivatives under aerial oxidation.

Comment: Due to their high fluorescent and electroluminescent properties, isoindoles and their derivatives are important for light-emitting devices (B.-X. Mi et al. *Chem. Mater.* **2003**, *15*, 3148). They also serve as highly reactive dienophiles for cycloaddition reactions (S. Duan, D. K. Sinha-Mahapatra, J. W. Herndon *Org. Lett.* **2008**, *10*, 1541). The substitution pattern is very well studied, but the starting material (mesylate) was prepared through a four-step sequence which could be a drawback of this method.

SYNFACTS Contributors: Victor Snieckus, Jignesh P. Patel
Synfacts 2009, 5, 0479-0479 Published online: 22.04.2009
DOI: 10.1055/s-0029-1216613; **Reg-No.:** V04409SF

2009 © THIEME STUTTGART • NEW YORK

Category
Synthesis of Heterocycles

Key words
isoindoles
isoquinolines
azides
1,3-dipolar cycloaddition
electrocyclization