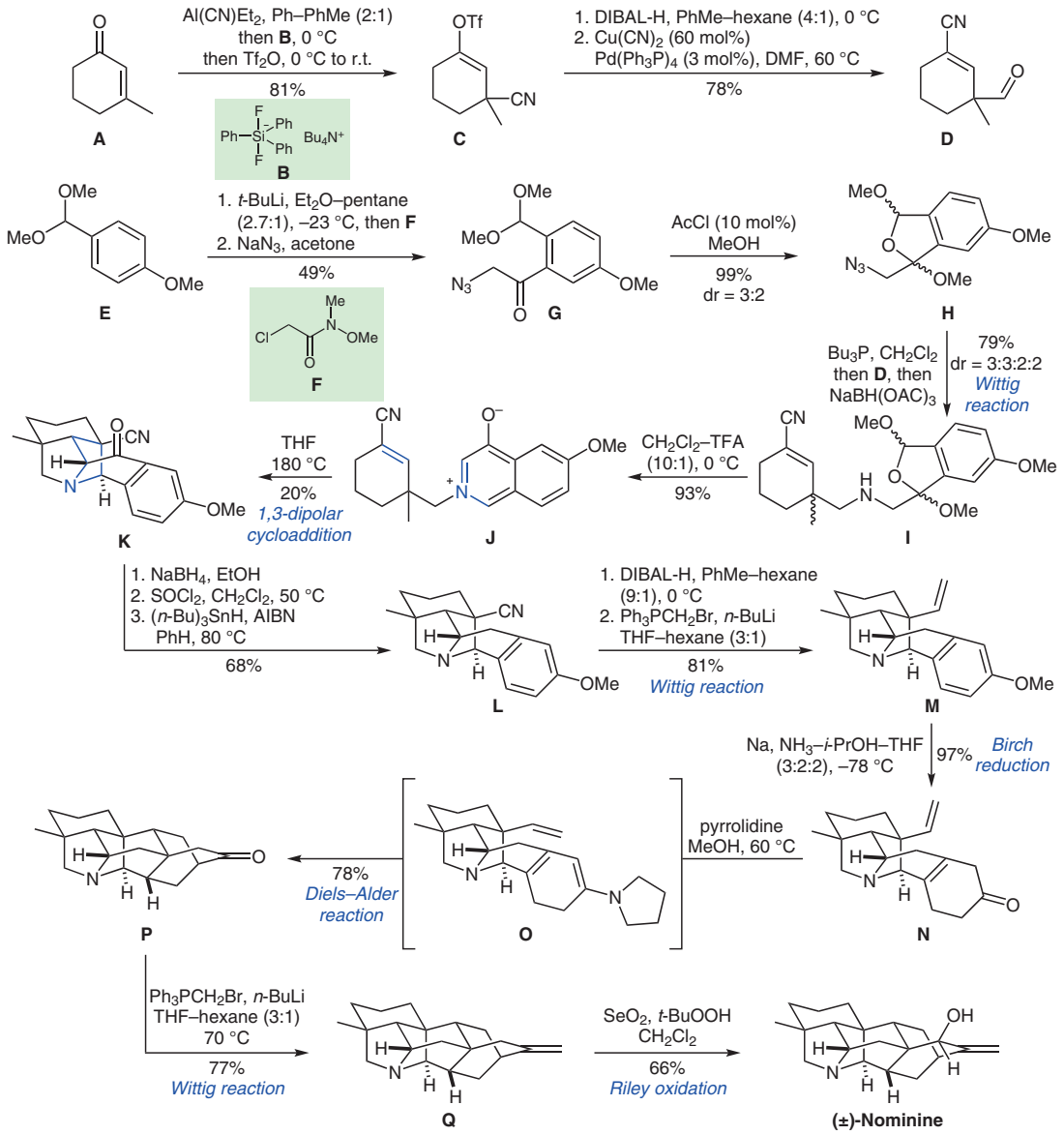
K. M. PEESE, D. Y. GIN* (UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN, USA)

Efficient Synthetic Access to the Hetisine C_{20}-Diterpenoid Alkaloids. A Concise Synthesis of Nominine via Oxidoisoquinolinium-1,3-Dipolar and Dienamine-Diels–Alder Cycloadditions
J. Am. Chem. Soc. **2006**, *128*, 8734–8735, DOI: 10.1021/ja0625430.

Synthesis of (±)-Nominine



Significance: In 2006, Gin and co-workers reported a total synthesis of the diterpenoid alkaloid (±)-nominine. Key to their approach is a 1,3-dipolar cycloaddition to construct the pyrrolidine ring and a Diels–Alder reaction to construct the bicyclo-[2.2.2]octane of the natural product.

Comment: The 1,3-dipolar cycloaddition reaction to pyrrolidine **K** demonstrates a 20% yield due to the emergence of an isomeric side product. This side product can undergo thermal re-equilibration to eventually yield the desired isomer **K**, thus minimizing loss of material.

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