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## SYNFACTS Highlights in Current Synthetic Organic Chemistry

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Y. NUMAJIRI, B. P. PRITCHETT, K. CHIYODA, B. M. STOLTZ\* (CALIFORNIA INSTITUTE OF TECHNOLOGY, PASADENA, USA) Enantioselective Synthesis of α-Quaternary Mannich Adducts by Palladium-Catalyzed Allylic Alkylation: Total Synthesis of (+)-Sibirinine *J. Am. Chem. Soc.* **2015**, *137*, 1040–1043.

## Palladium-Catalyzed Asymmetric Synthesis of α-Quaternary Mannich Products



Significance: The authors present a palladiumcatalyzed enantioselective decarboxylative allylic alkylation of five-, six-, and seven-membered ketones, lactams, and other heterocyclic systems. A series of  $\alpha$ -quaternary Mannich-type products were prepared with excellent yields (up to 99%) and enantioselectivities (up to 99% ee).

**SYNFACTS Contributors:** Hisashi Yamamoto, Masahiro Sai Synfacts 2015, 11(4), 0405 Published online: 18.03.2015 **DOI:** 10.1055/s-0034-1380478; **Reg-No.:** H03015SF

Category

Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

## Key words

Mannich reaction allylic alkylation palladium

**Comment:** The two-step sequence of (1) Mannich reaction followed by (2) enantioselective decarboxylative allylic alkylation serves as a novel strategy for the facile access to asymmetric Mannich adducts, possessing additional enolizable positions and acidic protons. This method was applied to the total synthesis of (+)-sibirinine.