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Total Synthesis of (±)-Merrilactone A via Catalytic Nazarov Cyclization

J. Am. Chem. Soc. 2007, 129, 498-499.

Synthesis of (±)-Merrilactone A

Significance: Merrilactone A is a sesquiterpene dilactone isolated from *Illicium merrillianum*. The complex tricyclic system containing three quaternary centers was synthesized using a Nazarov and radical cyclization.

Review: For a review of Nazarov cyclizations, see: Some New Nazarov Chemistry M. A. Tius Eur. J. Org. Chem. **2005**, 2193-2206.

Comment: Silyloxyfuran D underwent a catalytic Nazarov cyclization, where the cationic intermediate was quenched by the silylenol ether resulting in unsaturated bicyclic lactone F and two quaternary centers. A selective deprotection of the TMS group followed by radical cyclization of F gave G and the third quarternary center in the highly complex core of merrilactone.

SYNFACTS Contributors: Philip Kocienski, Stewart Eccles Synfacts 2007, 7, 0669-0669 Published online: 22.06.2007 **DOI:** 10.1055/s-2007-968603; **Reg-No.:** K06807SF

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