Concise Synthetic Approaches for the Laurencia Family: Formal Total Syntheses of (±)-Laurefucin and (±)-E- and (±)-Z-Pinnatifidenyne

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Formal Syntheses of (±)-Laurefucin and (±)-E- and (±)-Z-Pinnatifidenyne

Significance: (±)-Laurefucin and (±)-E- and (±)-Z-pinnatifidenyne are oxocanes belonging to the class of Laurencia haloethers. The authors implement a previously developed bromoetherification–ring-expansion sequence to obtain the stereochemically rich medium-sized rings present in the natural products.

Comment: Treatment of highly functionalized tetrahydrofuran substrates D and O with bromonium source E induces a haloetherification giving oxonium intermediates F and P. Subsequent intramolecular trapping by an internal nucleophile provides previously reported cyclic ethers G and R.

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