Synthesis of ent-Seragakinone A

Significance: Seragakinone A was isolated from an unidentified marine fungus, which is in symbiosis with rhodophyta Ceratoctyton spongiosum, and was shown to exhibit both antifungal and antibacterial properties. The relative structure was determined using X-ray crystal structure analysis and extensive spectroscopic studies; however, the absolute stereochemical configuration was not determined.

Comment: Installation of the stereogenic center at C5a (D → E) was obtained via a pinacol-type rearrangement, which proceeded rapidly in high yield and with efficient transfer of stereochemistry. The benzoin cyclization to afford ketol J installed the stereocenter at C* with excellent diastereoselectivity, which was verified by X-ray crystal structure analysis.