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Total Synthesis and Structural Reassignment of (+)-Dictyosphaeric Acid A: A Tandem Intramolecular Michael Addition/Alkene Migration Approach


Synthesis of (+)-Dictyosphaeric Acid A

Significance: (+)-Dictyosphaeric acid A was isolated by Ireland and co-workers in 2004 from the green alga Dictyosphaeria versluyii. It was found to exhibit antibacterial activity against MRSA, Enterococcus faecium, and Candida albicans.

Comment: The key step of the synthesis is an intramolecular Michael addition followed by alkene migration to give H. The total synthesis allowed for the structural reassignment of the natural product and confirmation of the absolute configuration.